PLANNED DEVELOPMENT GENERAL PLAN AMENDMENT, ZONING CODE AMENDMENT, & ALEXAN FOOTHILLS SPECIFIC PLAN

SCH No. 2018101058

PUBLIC DRAFT



EIR, Volume I
September 2019

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EIR, Volume I
September 2019

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Trammell Crow Residential

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1. INTRODUCTION

Overview

The City of Monrovia (City) is the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and has prepared this Draft Environmental Impact Report (DEIR) for a proposed 9.63-acre Planned Development (PD) General Plan Amendment (GPA) and Planned Development Zoning Code Amendment (ZCA), as well as a proposed 6.77-acre Alexan Foothills Specific Plan (Specific Plan) within a portion of the area proposed for the GPA and ZCA (i.e., ZCA Area B). This Environmental Impact Report (EIR) includes a program-level review of the proposed GPA and ZCA and a project-level analysis of the Alexan Foothills Specific Plan.

The City is in the San Gabriel Valley region of Los Angeles County. The Project comprises one City block on approximately 9.63 acres. The City block is bounded by West Evergreen Avenue to the north, South Magnolia Avenue to the east, South Mayflower Avenue to the west, and the METRO Gold Line to the south (Figure 1-1). The 6.77-acre Alexan Foothills Specific Plan area is located at 1625 Magnolia Avenue, Monrovia, California and depicted in yellow on Figure 1-2.

Adoption of a GPA and ZCA, and adoption and implementation of the Alexan Foothills Specific Plan are collectively defined as a "Project" subject to review under the CEQA (Public Resources Code, Section 21000 et seq.) and the State CEQA Guidelines (CEQA Guidelines) (California Code of Regulations, Section 15000 et seq.). Accordingly, the City has prepared this EIR to assess the short-range, long-range, and cumulative environmental consequences that could result from adoption of a GPA and ZCA and approval of the project development within the Alexan Foothills Specific Plan. This EIR has also been prepared in accordance with the City's rules and procedures for implementing CEQA.

The City is proposing the GPA and ZCA while Trammell Crow Residential proposes to implement and develop residential uses consistent with the Alexan Foothills Specific Plan, which requires adoption of both a proposed GPA and ZCA as well as the Specific Plan. The City is the Lead Agency for the preparation of this EIR, as defined by CEQA (Public Resources Code, Section 21067) because the City has primary discretionary authority with respect to adoption of the Project. The content of this document reflects the independent judgment of the City.

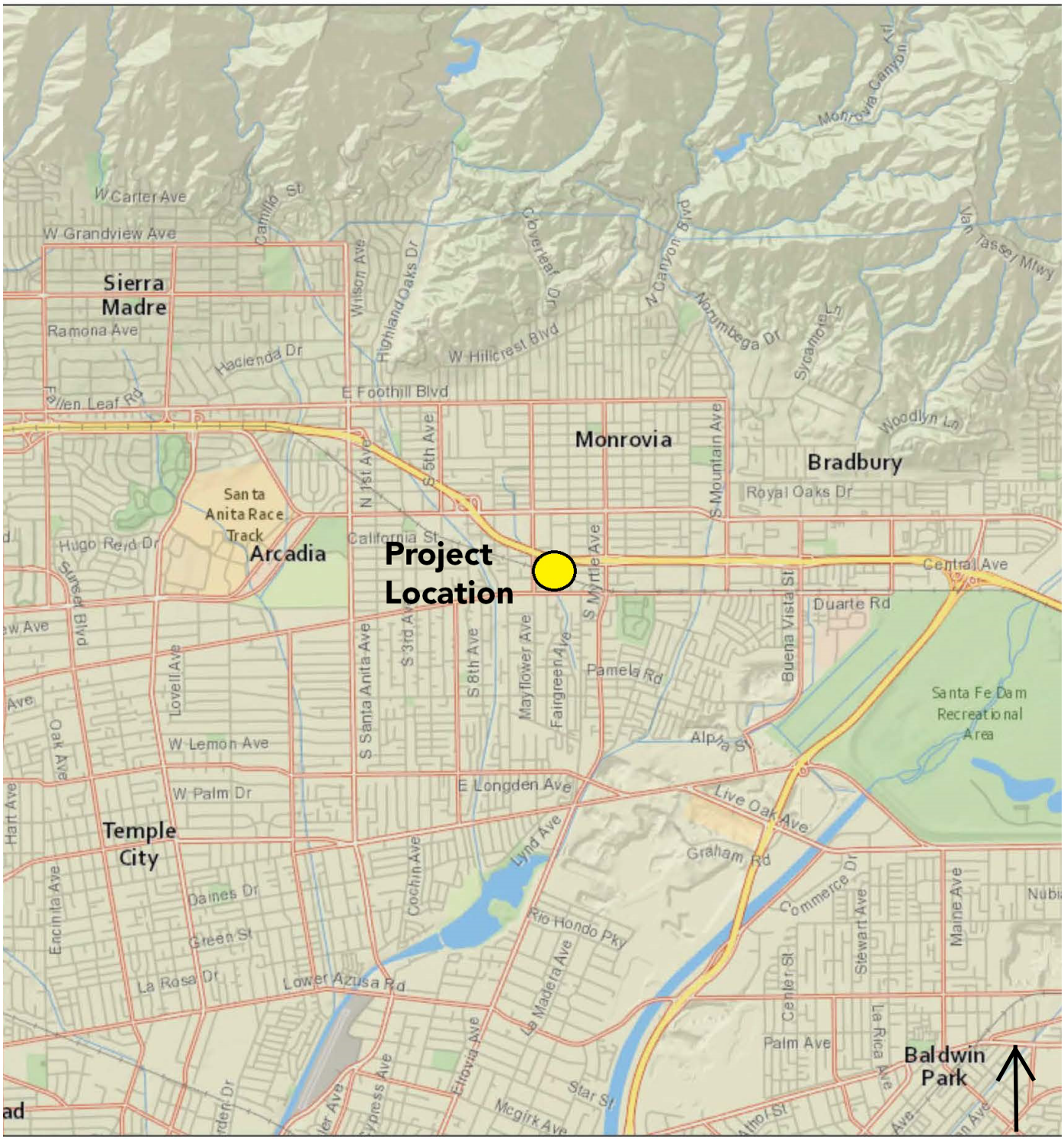
Upon preliminary review of the Project, the City determined that the Project could have substantial adverse environmental impacts and that preparation of an EIR would be required for the Project (CEQA Guidelines Section 15060[d]).

California Environmental Quality Act

The body of State Law known as "CEQA" was originally enacted in 1970. The legislative intent is set forth in Section 21000 of the California Public Resources Code:

> "The Legislature finds and declares as follows:
>
> (a) The maintenance of a quality environment for the people of this State now and in the future is a matter of Statewide concern.

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Source: ©2019 Google

Figure 1-1 Project Location Map

PD GPA, PD ZCA, & Alexan Foothills Specific Plan Project

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Source: ©2019 Google

Project Area

Figure 1-2 Project Area Map

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(b) It is necessary to provide a high-quality environment that at all times is healthful and pleasing to the senses and intellect of man.

(c) There is a need to understand the relationship between the maintenance of high-quality ecological systems and the general welfare of the people of the State, including their enjoyment of the natural resources of the State.

(d) The capacity of the environment is limited, and it is the intent of the Legislature that the Government of the State take immediate steps to identify any critical thresholds for the health and safety of the people of the State and take all coordinated actions necessary to prevent such thresholds being reached.

(e) Every citizen has a responsibility to contribute to the preservation and enhancement of the environment.

(f) The interrelationship of policies and practices in the management of natural resources and waste disposal requires systematic and concerted efforts by public and private interests to enhance environmental quality and to control environmental pollution.

(g) It is the intent of the Legislature that all agencies of the State Government which regulate activities of private individuals, corporations, and public agencies which are found to affect the quality of the environment, shall regulate such activities so that major consideration is given to preventing environmental damage, while providing a decent home and satisfying living environment for every Californian."

The Legislature has further declared, in Section 21001, that it is the policy of the State to:

(1) Develop and maintain a high-quality environment now and in the future, and take all action necessary to protect, rehabilitate, and enhance the environmental quality of the State.

(2) Take all action necessary to provide the people of this State with clean air and water, enjoyment of aesthetic, natural, scenic, and historic environmental qualities, and freedom from excessive noise.

(3) Prevent the elimination of fish or wildlife species due to man's activities, ensure that fish and wildlife populations do not drop below self-perpetuating levels, and preserve for future generations representations of all plant and animal communities and examples of the major periods of California history.

(4) Ensure that the long-term protection of the environment, consistent with the provision of a decent home and suitable living environment for every Californian, shall be the guiding criterion in public decisions.

(5) Create and maintain conditions under which man and nature can exist in productive harmony to fulfill the social and economic requirements of present and future generations.

(6) Require Governmental agencies at all levels to develop standards and procedures necessary to protect environmental quality.

(g) Require Governmental agencies at all levels to consider qualitative factors as well as economic and technical factors and long-term benefits and costs, in addition to short-term benefits and costs and to consider alternatives to proposed actions affecting the environment.

A concise statement of legislative policy, with respect to public agency consideration of projects for approval, is found in Section 21002.

> "The Legislature finds and declares that it is the policy of the State that public agencies should not approve projects as proposed if there are feasible alternatives or feasible mitigation measures available which would substantially lessen the significant environmental effects of such projects, and that the procedures required by this division are intended to assist public agencies in systematically identifying both the significant effects of proposed projects and the feasible alternatives or feasible mitigation measures which will avoid or substantially lessen such significant effects. The Legislature further finds and declares that in the event specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, individual projects may be approved in spite of one or more significant effects thereof."

1.1 PURPOSE AND SCOPE

General Plan Amendment and Zoning Code Amendment

The GPA and ZCA would modify the City's long-range planning program (General Plan) and implementation tool (Zoning Code) that guide orderly growth and development of the 9.63-acre Project area. The City's General Plan guides the City's vision of its future and establishes a policy framework to govern decision-making concerning the physical development of the community, including assurances that the community at large will be supported by an adequate range of public services and infrastructure systems. The Zoning Code establishes development standards for different land use types.

Alexan Foothills Specific Plan

A Specific Plan is a policy document that guides the proposed transition and development of an area. The Alexan Foothills Specific Plan is being prepared consistent with the requirements set forth in Article 8, Chapter 3 of the California Government Code. Specifically, the Alexan Foothills Specific Plan contains the following required detail:

(1) The distribution, location, and extent of the uses of land, including open space, within the area covered by the plan.

(2) The proposed distribution, location, and extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities proposed to be located within the area covered by the plan and needed to support the land uses described in the plan.

(3) Standards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable.

(4) A program of implementation measures including regulations, programs, public works projects, and financing measures necessary to carry out paragraphs (1), (2), and (3).

In addition, the Alexan Foothills Specific Plan would include a statement of the relationship of the Specific Plan to the City's General Plan.

1.2 ORGANIZATION OF THE EIR

The Draft EIR is divided into three volumes. Volume I contains the primary analysis of potential environmental impacts discussed in the following Chapters:

Chapter 1:	Introduction – A review of the overall document
Chapter 2:	Summary – Describes the Project and summarizes Project impacts and mitigation measures
Chapter 3:	Project Description – Provides a detailed description of the Project
Chapters 4 to 20:	Environmental Impact Analysis – Considers Project impacts and identifies mitigation measures for each issue of concern, as applicable
Chapter 21:	Alternatives – Provides an analysis of alternatives to the Project
Chapter 22:	CEQA Mandated Sections – Provides an analysis of cumulative impacts, growth-inducing impacts, and significant irreversible environmental impacts, and identifies areas of no significant impact
Chapter 23:	Preparers – Provides a list of professional and qualified consultants responsible for preparing the EIR

Volumes II and III include the EIR appendices, including documentation of the EIR scoping process and Notice of Preparation (NOP). The 13 appendices include:

- Appendix A: Notice of Preparation (NOP)
- Appendix B: NOP Distribution List and Scoping Comments
- Appendix C: Air Quality Impact Analysis Report
- Appendix D: Biological Resources Documentation
- Appendix E: Cultural Resources Documentation
- Appendix F: Geotechnical Report
- Appendix G: Hazardous Waste Investigation and Hazards Reports
- Appendix H: Hydrology & LID Report
- Appendix I: Noise Study

- Appendix J: Traffic and Circulation
- Appendix K: Utilities Documentation
- Appendix L: Persons and Agencies Contacted
- Appendix M: Plan Set, 3D Renderings, Shade & Shadow Analysis, and View Simulations

In compliance with Public Resources Code Section 21081.6, a Mitigation Monitoring Reporting Program (MMRP) will be prepared as a separate document that will be adopted in conjunction with the certification of the Final EIR. The MMRP, responses to public comments, any revisions to the Draft EIR, and Findings will be included as Volume IV.

1.3 APPROACH TO EIR ANALYSIS

The approach to the analysis presented in this EIR is both programmatic and project-specific in nature given the different scopes associated with adoption of a GPA and ZCA and approval of the Alexan Foothills Specific Plan.

Programmatic Analysis

The CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR includes a programmatic analysis of the GPA and ZCA consistent with Section 15168 of the CEQA Guidelines. In a program EIR, later activities in the program must be examined in light of the program EIR to determine whether an additional environmental document must be prepared. If a later activity would have effects that were not examined in the program EIR, a new Initial Study would need to be prepared, leading to either an EIR or a Negative Declaration. That later analysis may tier from the program EIR as provided in Section 15152 of the CEQA Guidelines.

Project Level Analysis

This EIR has also been prepared as a project-level EIR as defined by Section 15161 of the CEQA Guidelines for the Alexan Foothills Specific Plan. Specifically, Section 15161 of the CEQA Guidelines indicates that a project-level EIR is the most common type of EIR and examines the environmental impacts of a specific development proposal. This type of EIR focuses primarily on the changes in the environment that could result from the development of a project. This EIR examines all phases of buildout of the Alexan Foothills Specific Plan including planning, construction, and operation.

Environmental Analysis

Each environmental issue is analyzed in the same manner, starting with a discussion of the existing environmental setting, including physical conditions and pertinent planning and regulatory framework. Thresholds of significance are then defined and are used to measure the potential impact to the environment. Thresholds of significance are based on a list of questions and impact topics set forth in Appendix G of the CEQA Guidelines. The impact analysis then examines both the broad, long-term environmental effects resulting from implementation of a GPA and ZCA, and the localized, project-level effects of the Alexan Foothills Specific Plan. If the analysis indicates that a significant impact could occur, mitigation measures are provided.

1.4 SCOPING AND PUBLIC REVIEW

To define the scope of the investigation of the EIR, the City distributed a Notice of Preparation (NOP) (included in Appendix A of Volume II of this EIR) to City, County, and State Agencies; other public agencies; and interested private organizations and individuals. The NOP review period ran from October 22, 2018 through November 26, 2018. The purpose of the NOP was to identify agency and public concerns regarding potential impacts of the Project, and to request suggestions to avoid significant impacts (CEQA Guidelines Section 15082).

Six written comments were received during the scoping period for the NOP by the South Coast Air Quality Management District (SCAQMD), Native American Heritage Commission (NAHC), Caltrans, Southern California Association of Governments (SCAG), County Sanitation Districts of Los Angeles County, and Southwest Regional Council of Carpenters. They are included in Appendix B of Volume II of this EIR and summarized in Table 1-1 below.

Table 1-1 Summary of Scoping Comments

Commenting Entity	Summary of Comment	Section in EIR where Addressed
South Coast Air Quality Management District (SCAQMD)	Requested electronic copies of all models used in the analyses and a hard copy of the full EIR and Appendices sent to SCAQMD directly.	Mailing of Public Draft EIR
	Requested a Health Risk Assessment due to proximity of Project to Interstate-210.	Chapter 7, Air Quality, and Appendix C
Native American Heritage Commission (NAHC)	Reminder of the Assembly Bill (AB) 52 and Senate Bill (SB) 18 requirements and process.	City's AB 52 and SB 18 consultation process is summarized in Chapter 9, Cultural Resources
Caltrans District 7	Evaluate project trips on the eastbound I-210 on/off-ramps from Myrtle Avenue/West Evergreen Avenue and westbound I-210 on/off-ramps from Myrtle Avenue/East Central Avenue. Analyze operations of freeway segments in the vicinity of the Project.	Chapter 19, Transportation and Circulation
Southern California Association of Governments (SCAG)	Encouraged an evaluation of the Project's consistency with the goals and population projections of the 2016 Regional Transportation Plan/Sustainable Community Strategies (RTP/SCS).	Chapter 14, Land Use and Planning
County Sanitation Districts of the Los Angeles County	Estimated the projected wastewater that would be generated by the Alexan Foothills Specific Plan using the District's wastewater generation factors and reported the current capacity of the District's nearest sewer main and wastewater treatment plant.	Chapter 20, Utilities
Southwest Regional Council of Carpenters	Project Description needs to discuss whether relocation of cell towers is proposed under current Project description or under Project alternatives.	Clarified in Chapter 3, Project Description
	EIR should evaluate impacts associated with full buildout of the Project, including the GPA, ZCA, and Alexan Foothills Specific Plan subject to a program-level of review.	Chapters 5 through 20
	EIR should consider impacts on energy conservation and growth inducing impacts.	Chapter 11, Greenhouse Gas Emissions & Energy

Table 1-1 Summary of Scoping Comments

Commenting Entity	Summary of Comment	Section in EIR where Addressed
		Consumption, and Chapter 22, CEQA-Mandated Sections
	The City should analyze cumulative impacts on air quality and global climate change and greenhouse gas emissions utilizing appropriate thresholds of significance.	Contained in Chapters 7, Air Quality, and Chapter 11, Greenhouse Gas Emissions & Energy Consumption
	The EIR should analyze the potential for exposure of humans to hazards and hazardous waste given the existing and past uses at the Project site.	Chapter 12, Hazards and Hazardous Materials

Pursuant to Section 15085 of the CEQA Guidelines, a Notice of Completion (NOC) was filed with the State Office of Planning and Research (OPR) on September 26, 2019, and the Draft EIR will be circulated for public and agency review for a period of 45 days ending on November 10, 2019. A copy of the Draft EIR will be posted at the City of Monrovia's Community Development Department at 415 South Ivy Avenue, Monrovia, CA 91016 as well as on the City's Community Development Department website. Copies of the Draft EIR will be sent to responsible agencies, local agencies, and concerned agencies and individuals, as requested. Public Hearings on the Draft EIR will be held in conjunction with the decision-maker review of the Project.

Comments from all agencies and individuals are invited regarding the information contained in the Draft EIR. Such comments should explain any perceived deficiencies in the assessment of impacts, provide the information that is purportedly lacking in the Draft EIR or indicate where the information may be found. All comments on the Draft EIR are to be submitted to:

John Mayer, Senior Planner
City of Monrovia
Community Development Department
415 South Ivy Avenue, Monrovia CA 91016
jmayer@ci.monrovia.ca.us

Following a 45-day period of circulation and review of the Draft EIR, all comments and the City's responses to the comments will be incorporated into a Final EIR prior to certification of the document by the City.

1.5 CITATION

Information from many sources, including the appendix materials previously listed and numerous other references, were used to conduct the impact analysis in this EIR. Pursuant to Section 15148 of the CEQA Guidelines, citations from the appendix materials and other sources are provided throughout the EIR. Citations are provided in parenthesis when used and are inclusive to each environmental impact topic. References cited are included at the end of each Chapter. Per Section 15150 of the CEQA Guidelines, the Land Use Element of the General Plan for the City of Monrovia (City of Monrovia 2018) and the EIR for revisions to the Land Use

and Circulation Elements of the General Plan (City of Monrovia 2008) are incorporated herein by reference.

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
AB	Assembly Bill
CEQA	California Environmental Quality Act
DEIR	Draft Environmental Impact Report
EIR	Environmental Impact Report
GPA	General Plan Amendment
METRO	Los Angeles County Metropolitan Transportation Authority
MMRP	Mitigation and Monitoring Reporting Program
NOC	Notice of Completion
NAHC	Native American Heritage Commission
NOP	Notice of Preparation
OPR	Office of Planning Research
PD	Planned Development
SB	Senate Bill
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
RTP/SCS	Regional Transportation Plan/Sustainable Community Strategies
ZCA	Zoning Code Amendment

References Cited

City of Monrovia
2008 Monrovia General Plan Proposed Land Use and Circulation Elements, Environmental Impact Report (EIR) SCH No. 2007021135. Monrovia, CA. January.
2018 General Plan, Land Use Element. September.

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2. SUMMARY

This EIR chapter provides a summary description of the Project, a list of associated environmental issues to be resolved, a summary of significant impacts and mitigation measures, and a summary of alternatives to the Project (pursuant to CEQA Guidelines Section 15123, Summary).

2.1 PROPOSED PROJECT

The City of Monrovia (City) is the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and has prepared this Draft Environmental Impact Report (DEIR) for a proposed 9.63-acre Planned Development (PD) General Plan Amendment (GPA) and Planned Development Zoning Code Amendment (ZCA), as well as a proposed 6.77-acre Alexan Foothills Specific Plan (Specific Plan) within a portion of the area proposed for the GPA and ZCA (ZCA Area B). This Environmental Impact Report (EIR) includes a program-level review of the proposed GPA and ZCA and a project-level analysis of the Alexan Foothills Specific Plan.

The City is in the San Gabriel Valley region of Los Angeles County. The Project comprises one City block on approximately 9.63 acres. The City block is bounded by West Evergreen Avenue to the north, South Magnolia Avenue to the east, South Mayflower Avenue to the west, and the METRO Gold Line to the south. The 6.77-acre Alexan Foothills Specific Plan area is located at 1625 Magnolia Avenue, Monrovia, California.

General Plan Amendment

The GPA area encompasses the entire Project area. Current land uses within the 9.63-acre GPA area include a mix of residential, industrial, and institutional uses, which are described in more detail below under the ZCA area heading.

Zoning Code Amendment

The ZCA area encompasses the same 9.63 acres as the GPA area.

The Project area is currently developed with a mix of light industrial (approximately 70,750 square feet) and warehouse (approximately 10,120 square feet) uses with five single-family residences, an institutional place of worship (approximately 6,630 square feet), and an office. The Project area also contains private surface parking throughout the area and two cellular towers.

Three areas have been defined with the ZCA area, referred to as Areas A, B, and C, which are described as follows:

- Area “A” encompasses 2.30 acres in the western portion of the Project area where there is a mix of residential and commercial/industrial buildings;

- Area “B” encompasses the middle 6.77-acre portion (the Alexan Foothills Specific Plan area). This area is developed with three light industrial structures, one residential unit, the institutional place of worship and associated trailers, the commercial office building,

and one asphalt covered storage lot, all constructed between 1942 and 1987. The following parcels are within the Alexan Foothills Specific Plan boundaries (Assessor Parcel Numbers [APNs] 8507-006-016, -022, -024, -035, -041, -042, -043, and -044); and

- Area "C" encompasses the 0.56-acre northeastern portion of the Project area and is developed with three commercial/industrial buildings.

The ZCA will establish a Planned Development Area (PD-27: Station Square West [PD-27]) for the entire 9.63-acre Project area in order to be consistent with the GPA. A zone change for 2.86 acres is proposed from Manufacturing to a Planned Development Area to include high density residential development as well as other uses identified in PD-27 for Areas A and C (ZCA Areas A and C). The Alexan Foothills Specific Plan would comprise ZCA Area B.

While a new zoning designation is proposed for ZCA Areas A and C, the existing uses and structures, would be allowed to remain as legal conforming uses. Although a specific development plan is neither being proposed nor considered at this time for these two areas, the redesignation of PD-27 ZCA Areas A and C could eventually result in development of an additional 82 dwelling units in Area A (based on the 54 dwelling units/acre permitted land use density within the overall 9.63-acre GPA area).

Alexan Foothills Specific Plan

The Alexan Foothills Specific Plan would allow a 436-unit, five-story apartment complex and an eight-level (seven stories) parking structure, containing 798 stalls. The apartment complex would include two pools and several tenant amenity courtyards. The Magnolia Avenue street frontage proposes a two-story lobby, fitness room, and four live-work units, all with apartments above. Three outdoor/rooftop amenity decks are planned on top of the apartment complex's fourth level; two rooftop decks face the San Gabriel Mountains to the north, and the other faces west. Other tenant amenities include a pet spa, bike "kitchen" (i.e., bicycle repair area), tenant lounge, centralized mail/package delivery room, and a golf simulation room. No offsite improvements to utilities are proposed under the Specific Plan.

Project Objectives

The objectives for the PD GPA are as follows:

Objective GPA-1. Create a cohesive and complementary land use plan that provides additional opportunities for transit oriented development opportunities to support Station Square Transit Village (PD-12).

The objectives for the PD ZCA are as follows:

Objective ZCA-1. Provide flexibility in land use types and intensities that will allow future development to respond to changes in the marketplace over time.

Objective ZCA-2. Provide land use guidance for three distinct areas (Areas A, B, and C) within the Planned Development Area PD-27: Station Square West area.

The objectives for the Alexan Foothills Specific Plan are as follows:

Objective SP-1. Provide more opportunities for high-density housing near transit within Area B and the City by increasing density to 54 units per acre to meet the goals of the City's Housing Element.

Objective SP-2. Broaden the type of housing options in the City by creating opportunities for modern, attractive, multi-family residential development.

Objective SP-3. Accommodate a walkable urban form in the City by improving the pedestrian environment with active, small-format ground-floor public spaces, accessible sidewalks and pathways, and pedestrian amenities.

Objective SP-4. Improve multi-modal accessibility, connectivity, and safety by providing public parking for METRO's Monrovia Gold Line Station, providing accessible pathways to enable safe access to the METRO station, and by promoting bicycle use by providing convenient bicycle amenities and storage options.

Objective SP-5. Improve the physical character and aesthetic appeal of the area with the gradual introduction of new developments that include attractive architectural styles, landscaping, connectivity and walkability, public art, and welcoming and unified gateway elements.

Objective SP-6. Integrate open space and resident amenities by integrating plazas and small gathering spaces, such as rooftop decks.

Implementation of the Project would require the following City actions:

- Approval of a GPA from Manufacturing to Planned Development Area PD-27: Station Square Area West for the 9.63-acre Project area;
- Approval of a ZCA from Manufacturing to Planned Development (PD) for 2.86 acres (Areas A and C) within Planned Development Area PD-27: Station Square Area West;
- Adoption of the Alexan Foothills Specific Plan for 6.77 acres (Area B) within Planned Development Area PD-27: Station Square Area West;
- Approval of a Conditional Use Permit (CUP) to authorize the construction of a 436-unit apartment complex within the Alexan Foothills Specific Plan area; and
- Approval of a Vesting Parcel Map to consolidate eight lots into one lot for the Alexan Foothills Specific Plan area.

2.2 ENVIRONMENTAL ISSUES

As required by the CEQA Guidelines, this EIR addresses the following areas of potential environmental impact or controversy known to the Lead Agency (the City), including those

issues and concerns identified by the City and other agencies, organizations, and individuals during circulation of the Notice of Preparation (NOP) for this EIR (dated October 22, 2018). These environmental concerns relate to the following topics (listed in the order that they are addressed in this EIR):

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

2.3 SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

For each of the environmental topics listed above, any "significant" project or cumulative impact and associated mitigation measure or measures identified in this EIR are summarized in Table 2-1 below. More detailed impact discussions are contained in Chapters 5 through 20 of this EIR. The chart is arranged in four columns: (1) identified impacts; (2) recommended mitigation measures; (3) significance without mitigation; and (4) the level of impact significance after implementation of the mitigation measure(s).

Table 2-1 Summary of Impacts

Impacts	Mitigation Measures and Standard Conditions	Significance Without Mitigation	Significance With Mitigation
Aesthetics and Visual Resources			
Impact AES-1 Impacts on Scenic Vistas	NA	LS	NA
Impact AES-2 Impacts on Scenic Resources	NA	LS	NA
Impact AES-3 Impacts on Visual Character	**MM AES-1: Neighborhood Compatibility Design Review.** To ensure compatibility with the surrounding residential neighborhood, all future development in the PD-27 area, including non-residential development, shall undergo the Neighborhood Compatibility Design Review process outlined in Section 17.12.005 of the Residential Development Standards in the Monrovia Zoning Code. **Plan Requirements and Timing:** Prior to construction of future development in the PD-27 area, the development must complete the Neighborhood Compatibility Design Review process as outlined in Section 17.12.005 of the Monrovia Zoning Code. **Monitoring:** City staff shall ensure completion of the Design Review process prior to granting land use clearance for future development. **MM AES-2: Maintenance of Construction Barriers.** Prior to issuance of any construction permits, the City of Monrovia (City) Community Development Director, or designee, shall verify that all construction plans include the following note: "During construction, the Construction Contractor shall ensure, through appropriate postings and daily visual inspections, that no unauthorized materials are posted on any temporary construction barriers or temporary pedestrian walkways, and that any such temporary barriers and walkways are maintained in a visually attractive manner. In the event that unauthorized materials or markings are discovered on any temporary construction barrier or temporary pedestrian walkway, the Construction Contractor shall remove such items within 48 hours." **Requirements and Timing:** Measure shall be printed on all	S	LS

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LS = Less than significant
SU = Significant and unavoidable impact
NA = Not applicable
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SC = Standard Condition

	construction drawings. **Monitoring:** City staff shall conduct periodic site inspections during construction.		
Impact AES-4 Light, Glare, Shade and Shadows	Refer to mitigation measure MM AES -1. **MM AES-3:** Lighting shall be directed and shielded to focus illumination onto the desired areas only and avoid light trespass into adjacent areas. Reflective glass, metallic, and other highly reflective and glare producing materials, shall not be used in new building construction. **Requirements and Timing:** Measure shall be printed on all construction drawings. **Monitoring:** City staff shall conduct periodic site inspections during construction. **MM AES-4: Comprehensive Lighting Plan.** Prior to issuance of a building permit, the applicant shall submit a comprehensive lighting plan for review and approval by the City Community Development Director, or designee. The lighting plan shall be prepared by a qualified engineer (i.e., an engineer who is an active member of the Illuminating Engineering Society of North America [IESNA]) and shall be in compliance with applicable standards of the City's Municipal Code. The lighting plan shall address all aspects of lighting, including infrastructure, onsite driveways, recreation, safety, signage, and promotional lighting, if any. The lighting plan shall include the following in conjunction with other measures, as determined by the illumination engineer: • Exterior onsite lighting shall be shielded and confined within site boundaries. • No direct rays or glare are permitted to shine onto public streets, freeways or adjacent sites. • Lighting fixtures that blink, flash, or emit unusual high intensity or brightness shall not be permitted. • The site shall not be excessively illuminated based on the illumination recommendations of the IESNA.	S	LS

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	Requirements and Timing: The Lighting Plan shall be reviewed and approved prior to issuance of building permits. **Monitoring:** The City's Community Development Director, or designee, shall review and approve the Lighting Plan prior to issuance of building permits.		
Air Quality			
Impact AIR-1 Consistency with the SCAQMD AQMP	NA	LS	NA
Impact AIR-2 Result in Cumulatively Considerable Increase in Criteria Pollutants	**SC AIR-1:** Comply with South Coast Air Quality Rule 1113 to reduce VOC emissions from architectural coating applications. Prior to the issuance of a building permit for the development, the applicant shall submit, to the satisfaction of the Planning Division, a Coating Restriction Plan (CRP), consistent with South Coast Air Quality Management District (SCAQMD) guidelines. The applicant shall include in any construction contracts, and/or subcontracts, a requirement that contractors adhere to the requirements of the CRP. The CRP shall include a requirement that all interior and exterior residential and non-residential architectural coatings used in construction meet the SCAQMD "super compliant" coating VOC content standard of less than 10 grams of VOC per liter of coating. The CRP shall also specify the use of high-volume, low pressure spray guns during coating applications to reduce coating waste. **Requirements and Timing**: Applicant shall receive Planning Division approval of a Coating Restriction Plan (CRP) prior to receipt of building permits. **Monitoring**: City staff shall conduct site inspections to ensure that the CRP is followed during construction. **SC AIR-2:** Comply with South Coast Air Quality Management District Rule 403, Fugitive Dust, by incorporating best available control measures during construction. **Requirements and Timing**: Standard condition shall be printed on construction drawings and included as a requirement in the construction contract. **Monitoring**: City staff shall conduct site inspections during construction to ensure that the standard condition is adhered to. **SC AIR-3. Natural Gas Fireplaces.** All residential fireplaces installed shall be fueled by natural gas. Wood stoves and wood burning fireplaces shall be prohibited. (Consistent with General Plan EIR Mitigation Measure AIR-	S	LS

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	D). **Requirements and Timing**: Standard condition shall be printed on construction drawings. **Monitoring**: City staff shall conduct site inspections during construction to confirm condition is adhered to. **MM AIR-1: Idling Restrictions.** Idling of diesel-powered vehicles and equipment shall not be permitted during periods of non-active vehicle use. Diesel-powered engines shall not be allowed to idle for more than 5 consecutive minutes in a 60-minute period when the equipment is not in use, occupied by an operator, or otherwise in motion, except as follows: • When equipment is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control; • When it is necessary to operate auxiliary systems installed on the equipment, only when such system operation is necessary to accomplish the intended use of the equipment; • To bring the equipment to the manufacturer's recommended operating temperature; • When the ambient temperature is below 40 degrees F or above 85 degrees F; or • When equipment is being repaired. **Requirements and Timing:** Mitigation measure shall be printed on construction drawings and included as a requirement in the construction contract. **Monitoring:** City staff shall conduct site inspections during construction to ensure that the mitigation measure is adhered to.		
Impact AIR-3 Exposure of Sensitive Receptors to Substantial Pollutant Concentrations	**MM AIR-2:** For all new residential units in the Project area, the developer shall install, and owner maintain, HVAC systems with air filters meeting or exceeding the most current California Building Standards Code requirement for an ASHRAE Standard 52.2 Minimum Efficiency Rating Value (MERV) of 13 (a Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size). Air filters shall be	S	LS

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	replaced at a minimum of two times per year, or more, as needed, by the owner. **Requirements and Timing**: This measure shall be printed on construction drawings and included as a requirement of the construction contract for new residential buildings. This measure shall also be recorded in a Notice to Property Owner, which shall be provided to all occupants of the Alexan Specific Plan units and for each new residential property within the Project area. **Monitoring**: City staff shall confirm that HVAC units and MERV-13 filters (or better) are installed in accordance with this measure prior to final sign off on construction for all new residential units. City staff shall also review and approve of the Notice to Property Owner language and ensure recordation prior to final sign-off on construction of new residential units in the Project area.		
Impact AIR-4 Odors	NA	LS	NA
	Biology		
Impact BIO-1 Nesting Birds	**MM BIO-1: Nesting Bird Protection.** If vegetation removal is scheduled during the nesting season (typically February 1 to September 1), then a focused survey for active nests shall be conducted by a qualified biologist (as determined by a combination of academic training and professional experience in biological sciences and related resource management activities) no more than five (5) days prior to the beginning of excavation, grading and/or vegetation removal. Surveys shall be conducted in proposed work areas, staging and storage areas, along equipment transportation routes, and soil, equipment, and material stockpile areas. For passerines and small raptors, surveys shall be conducted within a 250-foot radius surrounding the work area (in non-developed areas and where access is feasible). For larger raptors, such as those from the genus Buteo, the survey area shall encompass a 500-foot radius. Surveys shall be conducted during weather conditions suited to maximize the observation of possible nests and shall concentrate on areas of suitable habitat. If a lapse in project-related work of five (5) days or longer occurs, an additional nest survey shall be required before work can be reinitiated. If active nests are found during any preconstruction survey, a qualified biologist shall establish an appropriate buffer between the nest and active construction. The qualified biologist shall clearly mark the established	S	LS

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	buffer. The applicant shall maintain the buffer until young have fledged and are foraging independently. The qualified biologist shall document pre-construction baseline monitoring of the nest to characterize "normal" bird behavior. The qualified biologist shall monitor the nesting birds daily during construction activities and shall increase the buffer if birds are showing signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and flying away from the nest). If this is not possible, work shall cease in the area until young have fledged and the nest is no longer active (e.g. young have fledged, predation, or other non-anthropogenic nest failure). **Requirements and Timing**: Measure shall be printed on all construction drawings. **Monitoring**: City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to.		
Impact BIO-2 Potential Adverse Effects on Jurisdictional Waters	**MM BIO-2a: Avoidance and Minimization Measures for Channel.** Applicant shall implement the following standard construction and post-construction measures to minimize impacts to the drainage channel in the Project area: • Use standard Best Management Practices (BMPs) to minimize impacts during construction. • Construction-related equipment shall be stored in upland areas, outside of the channel except as required by project design (restoration, trash removal, etc.). • Source control and treatment control BMPs shall be implemented to minimize the potential contaminants that are generated during and after construction. Source control BMPs may include landscape planning, roof runoff controls, trash storage areas, use of alternative building materials, and education of future tenants and residents. Treatment control BMPs may include detention basins, vegetated swales (bio-swales), drain inlets, and vegetated buffers. Water quality BMPs shall be implemented throughout the project site to capture and treat contaminants. • To avoid attracting predators during construction, the project shall be kept clean of debris to the extent possible. All food-related trash items shall be enclosed in sealed containers and regularly removed	S	LS

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	from site. • Employees shall strictly limit their activities, vehicles, equipment, and construction material to the proposed project footprint, staging areas, and designated routes of travel. • Construction limits shall be fenced with orange snow screen and exclusion fencing should be maintained until the completion of construction activities. **Requirements and Timing:** This measure shall be printed on all drawings. **Monitoring:** City staff shall confirm that measures are printed on all drawings and adhered to during construction. **MM BIO-2b: Obtain USACE 404 Permit.** If any alterations of, or discharges into, waters of the United States, including Section 404 wetlands are proposed, these alterations must be in conformance with the Sections 404 and 401 of the CWA via certification and permitting prior to any grading or construction that may impact jurisdictional area(s), as applicable. Activities that usually involve a regulated discharge of dredged or fill materials include (but are not limited to) grading, placing of riprap for erosion control, pouring concrete, laying sod, preparing soil for planting (e.g., turning soil over, adding soil amendments), stockpiling excavated material, mechanized removal of vegetation, and driving of piles for certain types of structures. If avoidance of federally protected wetlands is not feasible, securing 404 and 401 permits under the Clean Water Act and compliance with the federal and state "no net loss of wetlands" policy will be required in accordance with USACE and RWQCB regulations. The terms and conditions of these permits are anticipated to require mitigation consistent with Compensatory Mitigation for Losses of Aquatic Resources; Final Rule (USACE, United States Environmental Protection Agency [EPA], Federal Register, April 10, 2008). Prior to initiation of ground disturbance activities within waters of the U.S., the applicant shall submit a jurisdictional delineation of waters of the U.S. to the USACE to request a formal verification of the limits of their jurisdiction and to identify potential impacts to waters of the U.S. If the USACE determines that jurisdictional waters of the U.S. will be impacted, the		

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	appropriate CWA Section 404 permit shall be acquired by the applicant for the construction of the development. In addition, the applicant shall be required to submit a Section 401 Water Quality Certification application to the Los Angeles RWQCB. If the USACE does not assert regulatory jurisdiction, then the applicant may be required to submit a Notice of Intent to the RWQCB for their General Permit R6T-2003-0004 for minor impact projects. If required, all regulatory permits will be obtained, and all conditions will be agreed upon to prior to project implementation. The applicant shall be responsible for complying with all conditions outlined in the applicable USACE, and/or RWQCB permit. Impact minimization measures associated with permit conditions of approval may include implementation of best management practices (i.e., erosion and sediment control measures) and seasonal work restrictions, as appropriate. Impacts to jurisdictional features shall not occur until the permits are received from the appropriate regulatory agencies, or correspondence is received from the agencies indicating that a permit is not required. **Requirements and Timing:** This measure shall be printed on all drawings. A Section 404 permit and Section 401 Water Quality Certification or Waiver shall be obtained prior to issuance of demolition or building permits for any portion of the development resulting in the discharge of dredged or fill material into the drainage. **Monitoring:** For developments resulting in the discharge of dredged or fill materials into the drainage in the Project area, City staff shall confirm that any required Section 404 permit and Section 401 Water Quality Certification or Waiver is obtained prior to issuance of demolition or building permits for the portion of the development impacting the jurisdictional drainage. **MM BIO-2c: Consult CDFW on Section 1602 Requirements.** If waters of the State subject to CDFW's jurisdiction cannot be feasibly avoided, the applicant shall submit to CDFW a Section 1602 Notification regarding the potential need for a Lake and Streambed Alteration Agreement (LSAA) to authorize work in CDFW jurisdictional areas. If an LSAA is required, the applicant shall be responsible for complying with all conditions outlined in the LSAA, which may include wildlife habitat and streambed impact avoidance, minimization, and mitigation measures consistent with CDFW requirements for LSAAs. Impacts to development in Project areas subject to CDFW's jurisdiction shall not occur unless an LSAA is received from		

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	CDFW, correspondence is received indicating that an LSAA is not required, or the work is authorized by "operation of law" pursuant to the Fish and Game Code. **Requirements and Timing:** This measure shall be printed on all drawings. Prior to issuance of demolition or building permits for any portion of the development impacting areas subject to CDFW's jurisdiction, either the applicant receives from CDFW an LSAA or correspondence that an LSAA is not required, or the work is authorized by "operation of law" pursuant to the Fish and Game Code. **Monitoring:** For developments disturbing areas subject to CDFW's jurisdiction, City staff shall confirm that an LSAA has been obtained, if required, prior to issuance of demolition or building permits for those portions of the development subject to CDFW's jurisdiction. **MM BIO-2d: Habitat Mitigation Plan.** Preparation of a habitat mitigation plan may be required by the CDFW as part of an LSAA process or by the USACE and the RWQCB for permitting of discharges to waters of the United States, if required. The mitigation plan would address protection measures for the jurisdictional drainage and any protected trees retained onsite, quantify the total acreage of impacts to each sensitive resource, describe creation/replacement ratio for acres impacted (typically at least 1:1), identify potential mitigation sites, provide a planting plan, and outline monitoring and maintenance requirements. The amount of compensatory acreage shall be based on the functions and values of the impacted drainage and riparian habitat. If required, the plan would be prepared by a qualified biologist pursuant to, and through consultation with, CDFW. As an alternative, equivalent mitigation credits may be purchased at a mitigation bank to offset impacts to jurisdictional resources. The mitigation plan would provide detailed information about the bank and how the purchase of credits will result in no net loss of these protected resources. Purchase of mitigation credits would be subject to approval and verification by CDFW. **Requirements and Timing:** Measure shall be printed on all drawings. If required by the permitting resource agencies (i.e., USACE, RWQCB, or CDFW), a Habitat Mitigation Plan shall be prepared and approved by the City and other responsible natural resource agencies prior to issuance of demolition or building permits for the portion of the development impacting the drainage. **Monitoring:** City staff and the City Engineer shall review and approve of the Habitat Mitigation Plan, if one is required by resource		

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	agencies, prior to issuance of demolition or building permits for the portion of the development impacting the drainage.		
Impact BIO-3 Impact on Sensitive Natural Vegetation Communities	Refer to mitigation measures BIO-2a through BIO-2d.	S	LS
Impact BIO-4 Impact on Wildlife Corridors	NA	LS	NA
Impact BIO-5 Impact on Other Special-Status Species	NA	LS	NA
Impact BIO-6 Conflict with Local Policies or Ordinances or Conservation Plans	**SC BIO-1:** Compliance with the City of Monrovia Oak Tree Preservation Ordinance (87-11), Municipal Code Section 17.20.40 is required for disturbance to protected coast live oak trees that are greater than or equal to 10" in diameter at least 2 feet above the ground. **Requirements and Timing:** This measure shall be printed on all construction drawings. Any planned removal or encroachment upon oak trees shall be shown on proposed demolition plans, site plans and grading plans, including the number and size of each oak tree, as well as the limits of the dripline of each oak tree. **Monitoring:** City staff shall review and approve the demolition plans, site plans and grading plans prior to issuance of any demolition, grading and building permits to confirm that the Oak Tree Preservation Ordinance is adhered to.	LS	LS
Cultural Resources and Tribal Cultural Resources			
Impact CUL-1 Historic Structures	NA	LS	NA
Impact CUL-2 Archaeological Resources	**MM CUL-1. Conduct Archaeological Sensitivity Training for Construction Personnel.** The applicant shall retain a qualified professional archaeologist who meets U.S. Secretary of the Interior's Professional Qualifications and Standards to conduct an archaeological sensitivity training for construction personnel prior to commencement of excavation activities. The training session shall include a handout and focus on how to identify archaeological resources that may be encountered during earthmoving activities; the procedures to be followed in such an event, the duties of archaeological monitors, and the general steps a qualified	S	LS

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	professional archaeologist would follow in conducting a salvage investigation, if one is necessary. **Requirements and Timing:** This measure shall be printed on all construction drawings and grading plans. The archaeologist shall obtain signatures from each worker receiving the training and shall submit the list to the City following completion of construction. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to. **MM CUL-2. Cease Ground-Disturbing Activities and Implement Treatment Plan if Archaeological Resources Are Encountered.** If archaeological resources are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 50 feet shall be established around the find where construction activities will not be allowed to continue until a qualified archaeologist has examined the newly discovered artifact(s) and has evaluated the area of the find. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by construction activities shall be evaluated by a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards. Should the newly discovered artifacts be determined to be prehistoric, Native American Tribes/Individuals shall be contacted and consulted, and Native American construction monitoring shall be initiated. The applicant and City shall coordinate with the archaeologist to develop an appropriate treatment plan for the resources. The plan may include implementation of archaeological data recovery excavations to address treatment of the resource along with subsequent laboratory processing and analysis. **Requirements and Timing**: This measure shall be printed on all construction drawings and grading plans. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to. **MM CUL-3. Conduct Periodic Archaeological Resources Spot Checks during grading and earth-moving activities in Younger Alluvial Sediments.** The applicant shall retain a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards to conduct periodic Archaeological Spot		

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	Checks beginning at depths below three (3) feet to determine if construction excavations have exposed or have a high probability of exposing archaeological resources. After the initial Archaeological Spot Check, further periodic checks will be conducted at the discretion of the qualified archaeologist. If the qualified archaeologist determines that construction excavations have exposed or have a high probability of exposing archaeological artifacts, ongoing construction monitoring for archaeological resources will be required. For the ongoing monitoring, the applicant shall retain a qualified archaeological monitor and Native American monitor, who will work under the guidance and direction of a professional archaeologist, who meets the qualifications set forth by the U.S. Secretary of the Interior's Professional Qualifications and Standards. The archaeological monitor and Native American monitor shall be present during all construction excavations (e.g., grading, trenching, or clearing/grubbing) into non-fill younger Pleistocene alluvial sediments. Multiple earth-moving construction activities may require multiple archaeological monitors. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus artificial fill soils), the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections as directed by the Project archaeologist. **Requirements and Timing**: This measure shall be printed on all construction drawings and grading plans. **Monitoring**: City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to. **MM CUL-4. Prepare Report Upon Completion of Monitoring Services.** The archaeological monitor, under the direction of a qualified professional archaeologist who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards, shall prepare a final report at the conclusion of archaeological monitoring (if required). The report shall be submitted to the applicant, the South Central Coastal Information Center, the City, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of construction activities and required mitigation measures. The report shall include a description of resources unearthed, if any, evaluation of the resources with respect to the California Register and		

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	CEQA, and treatment of the resources. **Requirements and Timing:** This measure shall be printed on all construction drawings. An archaeological monitoring report shall be prepared and submitted for City review and approval prior to final sign off on construction. **Monitoring:** City staff shall review and approve the archaeological monitoring report prior to final sign off on construction.		
Impact CUL-3 Human Remains	**MM CUL-5. Cease Ground-Disturbing Activities and Notify County Coroner If Human Remains Are Encountered.** If human remains are unearthed during construction, the City of Monrovia and the applicant shall comply with State Health and Safety Code Section 6050.5. The City of Monrovia and the applicant shall immediately notify the County Coroner and no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). After the MLD has inspected the remains and the site, they have 48 hours to recommend to the landowner the treatment and/or disposal, with appropriate dignity, of the human remains and any associated funerary objects. Upon the reburial of the human remains, the MLD shall file a record of reburial with the NAHC and the Project archaeologist shall file a record of the reburial with the CHRIS-SCCIC. If the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. **Requirements and Timing**: This measure shall be printed on all construction drawings and grading plans. **Monitoring**: City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to.	S	LS
Impact CUL-4 Tribal Cultural Resources	Refer to mitigation measures MM CUL-1 through MM CUL-5.	S	LS

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Geology and Soils			
Impact GEO-1 Seismic Hazards	**MM GEO-1**. Prior to the issuance of grading and building permits for all proposed development, the applicant shall retain a California registered and licensed geotechnical engineer to prepare a Geotechnical Report to provide construction and design recommendations for the proposed facilities to withstand probable seismically induced ground shaking The Geotechnical Report shall provide specific recommendations for structural foundations and specifications and procedures for grading, including the suitability of onsite materials for use as fill. All grading, drainage, and building plans shall include all recommendations of the final Geotechnical Report for the development. **Requirements and Timing:** The Geotechnical Report shall be reviewed and approved by the City Department of Public Works prior to issuance of grading and permits. In addition, the geotechnical engineers for the development shall sign a title block on the grading, drainage, and building plans stating that the recommendations of the development's Geotechnical Report have been followed in the approved plans that he or she is signing. **Monitoring:** City Department of Public Works staff shall review and approve of the Geotechnical Report, and that grading, drainage, and building plans are signed by the geotechnical engineer, prior to issuance of grading and building permits.	S	LS
Impact GEO-2 Erosion	NA	LS	NA
Impact GEO-3 Landslides, Subsidence, and Liquefaction	NA	LS	NA
Impact GEO-4 Expansive Soils	NA	LS	NA
Impact GEO-5 Septic Tanks or Alternative Wastewater Disposal	NA	LS	NA
Impact GEO-6 Paleontological Resources	**MM GEO-2. Conduct Paleontological Sensitivity Training for Construction Personnel.** The applicant shall retain a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology and shall conduct a paleontological sensitivity training for construction personnel prior to commencement of excavation activities. The training shall include a handout and shall focus on how to	S	LS

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	identify paleontological resources that may be encountered during earthmoving activities and the procedures to be followed in such an event, the duties of paleontological monitors, notification and other procedures to follow upon discovery of resources, and the general steps a qualified professional paleontologist would follow in conducting a salvage investigation if one is necessary. **Requirements and Timing:** This measure shall be printed on all grading and construction drawings. The paleontologist shall obtain signatures from each worker receiving the training and shall submit the list to the City following completion of construction. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to. **MM GEO-3. Conduct Periodic Paleontological Spot Checks during Grading and Earth-moving Activities**. The applicant shall retain a professional paleontologist who meets the qualifications set forth by the Society of Vertebrate Paleontology and shall conduct periodic Paleontological Spot Checks beginning at depths below six feet to determine if construction excavations have extended into older Quaternary deposits. After the initial paleontological spot check, further periodic checks shall be conducted at the discretion of the qualified paleontologist. If the qualified paleontologist determines that construction excavations have extended into the older Quaternary deposits, construction monitoring for paleontological resources shall be required. The applicant shall retain a qualified paleontological monitor, who will work under the guidance and direction of a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology. The paleontological monitor shall be present during all construction excavations (e.g., grading, trenching, or clearing/grubbing) into the older Pleistocene alluvial deposits. Multiple earth- moving construction activities may require multiple paleontological monitors. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known paleontological resources and/or unique geological features, the materials being excavated (native versus artificial fill soils), and the depth of excavation, and if found, the abundance and type of paleontological resources and/or unique geological features encountered. Full-time monitoring can be reduced to part-time inspections if directed by the qualified professional paleontologist. **Requirements and Timing:** This		

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	measure shall be printed on all grading and construction drawings. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to. **MM GEO-4. Cease Ground-Disturbing Activities and Implement Treatment Plan if Paleontological Resources Are Encountered.** If paleontological resources and/or unique geological features are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 50 feet shall be established around the find where construction activities shall not be allowed to continue until appropriate paleontological treatment plan has been approved by the applicant and the City. Work shall be allowed to continue outside of the buffer area. The applicant and City shall coordinate with a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology, to develop an appropriate treatment plan for the resources. Treatment may include implementation of paleontological salvage excavations to remove the resource along with subsequent laboratory processing and analysis or preservation in place. At the paleontologist's discretion and to reduce construction delay, the grading and excavation contractor shall assist in removing rock samples for initial processing. **Requirements and Timing:** This measure shall be printed on all grading and construction drawings. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to. **MM GEO-5. Report Upon Completion of Monitoring Services.** Upon completion of the above activities, the professional paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted to the applicant, the City, the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of construction and required mitigation measures. **Requirements and Timing:** This measure shall be printed on all construction drawings. An archaeological monitoring report shall be prepared and submitted for City review and approval prior to final sign off		

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	on construction. **Monitoring:** City staff shall review and approve the archaeological monitoring report prior to final sign off on construction.		
Greenhouse Gas Emissions and Energy Consumption			
Impact GHG-1 Generation of Greenhouse Gas Emissions	NA	LS	NA
Impact GHG-2 Plan Consistency	NA	LS	NA
Impact GHG-3 Energy Consumption	NA	LS	NA
Hazards and Hazardous Materials			
Impact HAZ-1 Hazardous Materials Management	NA	LS	NA
Impact HAZ-2: Hazardous Waste	**MM HAZ-1**: To the extent required under law based on the concentrations detected at the Project, the Department of Toxic Substances Control (DTSC), or another regulatory agency delegated authority by DTSC to investigate and remediate the contaminated property (i.e., the Los Angeles County Fire Department's Health Hazardous Materials Division's Site Mitigation Unit) (herein referred to as designee), shall be notified of the results of the Phase I Environmental Site Assessments (ESA) and Phase II (ESA) prepared for the Alexan Foothills Specific Plan. All requirements of DTSC, or its designee, shall be complied with prior to issuance of grading and demolition permits for the portion of the development subject to CERCLA or California Health and Safety Code Division 20, Chapter 6.8. The TBA-impacted soil will be excavated for off-site disposal at a licensed disposal facility, in accordance with all applicable laws. In addition, soil sampling will be performed in the vicinity of the trichlorofluoromethane impacts to soil vapor and, if the source of trichlorofluoromethane in soil is identified, the trichlorofluoromethane-affected soil will also be excavated for off-site disposal at a licensed disposal facility, in accordance with all applicable laws. **Requirements and Timing:** The measures specified above shall be performed prior to grading and demolition in the portions of the development subject to CERCLA or California Health and Safety Code	S	LS

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	Division 20, Chapter 6.8 **Monitoring:** To the extent that contaminant concentrations are detected at levels exceeding prescribed volumetric thresholds, prior to issuance of grading and demolition permits for any portion of the development subject to CERCLA or California Health and Safety Code Division 20, Chapter 6.8, City staff shall obtain documentation that DTSC, or its designee, signs off and approves of the development to commence grading and demolition. **MM HAZ-2.** Prior to receipt of land use clearance for developments involving ground disturbance in ZCA Area A and C, a Phase I Environmental Site Assessment (ESA) must be performed in accordance with ASTM standards to determine the potential for contamination at the project site and need for further investigation or cleanup. If results of the Phase I ESA conclude that a subsurface investigation is warranted, a Phase II ESA shall be performed to further determine the nature and extent of contamination. If contaminants are detected at levels exceeding applicable prescribed volumetric thresholds, the reports shall be forwarded to the DTSC, or another regulatory agency delegated authority by DTSC to investigate and remediate the contaminated property (e.g., the Los Angeles County Fire Department's Health Hazardous Materials Division's Site Mitigation Unit) (herein referred to as designee). If a Phase II ESA is required by DTSC or designee, all requirements of DTSC, or its designee, shall be complied with prior to issuance of grading and demolition permits for the portion of the development subject to CERCLA and the California Health and Safety Code. **Requirements and Timing:** The measures specified above shall be performed prior to grading and demolition in the portions of the development subject to CERCLA and California Health and Safety Code Division 20, Chapter 6.8. **Monitoring:** Prior to issuance of grading and demolition permits for any portion of the development subject to CERCLA and California Health and Safety Code, City staff shall obtain documentation that DTSC, or its designee, signs off and approves of the development to commence grading and demolition. **MM HAZ-3**. Prior to demolition of structures older than 1950 in the Project area, a survey for lead-based paint (LBP) and asbestos containing material (ACM) shall be performed. Prior to issuance of building permits, copies of the survey report(s) shall be submitted to the City of Monrovia for review		

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	and sign off. Prior to the start of construction, the Project Applicant shall provide the City with copies of all notifications submitted to the South Coast Air Quality Management District (SCAQMD) for proposed demolition, as well as documentation of agency sign off on any abatement activities completed. **Requirements and Timing:** A LBP and ACM survey report shall be submitted to the City for review and approval prior to issuance of building permits. Notifications shall also be submitted to the SCAQMD prior to issuance of building permits. Documentation of signoff by the SCAQMD on any abatement activities performed shall be provided prior to City sign off on construction. **Monitoring:** City staff shall review and approve of LBP and ACM reports and shall confirm notifications are made to the SCAQMD prior to issuance of building permits. City staff shall confirm that the SCAQMD has signed off on any abatement activities prior to City sign off on construction.		
Impact HAZ-3 Radiofrequency Radiation	NA	LS	NA
Impact HAZ-4 Airports	NA	LS	NA
Hydrology			
Impact HYD-1 Surface Hydrology and Water Quality	**SC HYD-1:** Based upon the requirements of the City's Stormwater Management Ordinance, MMC 12.36 and the Los Angeles County Municipal Storm Water National Pollutant Discharge Elimination System (MS4 NPDES) Permit issued by California Regional Water Quality Control Board, Los Angeles Region, the following shall be incorporated into development applications: • Minimize impacts from storm water runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under the California Environmental Quality Act (California Public Resources Code Section 21100), Section 13369 of the California Water Code, Sections 319, 402(p), and 404 of the Clean Water Act, Section 6217(g) of the Coastal Zone Act Reauthorization Amendments, Section 7 of the Environmental Protection Act, and local governmental ordinances.	LS	NA

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	• Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground. • Minimize the amount of storm water directed to impermeable surfaces. • Minimize pollution emanating from parking lots through the use of appropriate treatment control using best management and good housekeeping practices. • The applicant shall integrate Best Management Practices to ensure compliance with NPDES guidelines and the City's Stormwater Management Ordinance, MMC 12.36 to the satisfaction of the City Engineer, prior to the issuance of the grading permit. The design, implementation, construction activities and maintenance of the management devices shall mitigate and reduce pollutants in storm water discharges to the maximum extent practicable and shall be identified as on a "site specific mitigation plan." Site Specific Mitigation Plan must specifically address and provide best management practices (BMPs) either structural or non-structural to mitigate pollutants. • The applicant or any successor in interest shall conduct annual maintenance inspections by the manufacturer or by a City approved inspector of all structural and/or treatment control storm water devices by following best management practices which shall also verify the legibility of all required stencils and signs which shall be repainted and labeled as necessary. Proof of such inspection shall be retained by the applicant or any successor in interest and a copy submitted to the City of Monrovia on a yearly basis.		
Impact HYD-2 Flooding and Other Hydrologic Hazards	NA	LS	NA
Land Use and Planning			
Impact LUP-1 Physically Divide an Established Community	NA	LS	NA

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Impact LUP-2 Conflict with any Applicable Land Use Plan, Policy, or Regulation	NA	LS	NA
Noise and Vibration			
Impact NOI-1: Exposure to or Generation of Noise Levels that Exceed Standards	**MM NOI-1: Confirm Compliance with Applicable Interior Noise Standard Requirements.** Prior to the issuance of a building permit for any development in the Project area, the City shall review and approve an acoustical analysis, prepared by or on behalf of the applicant, and based on the final design, that: 1) Identifies the exterior noise levels at: a. Exterior building facades that face West Evergreen Avenue/I-210, South Magnolia Avenue, and the Metro Gold Line ROW; and b. Exterior recreation areas, including patios, that face and have a line of sight to West Evergreen Avenue/I-210, South Magnolia Avenue, and the METRO Gold Line ROW. 2) Identifies the final site and building design features that would: a. a.Attenuate exterior building façade noise levels to interior levels that do not exceed 45 CNEL in habitable rooms and 50 dBA Leq (1-hour) in other occupied rooms. Potential noise insulation site and building design features capable of achieving this requirement may include, but are not limited to: • Sound barriers • Enhanced exterior wall construction/noise insulation design • Use of enhanced window, door, and roof assemblies with above average sound transmission class (STC) or outdoor/indoor transmission class (OITC) values • Use of mechanical, forced air ventilation systems to permit a windows closed condition in residential units. **Requirements and Timing**: An acoustical report shall be submitted to City Planning for review and approval prior to the issuance of building permits, documenting that actual interior and exterior noise level at the locations	S	LS

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	indicated in this measure, meet City and State standards. **Monitoring:** City staff shall approve the acoustical analysis prior to issuance of building permits.		
Impact NOI-2: Substantial Permanent Increases in Ambient Noise Levels	NA	LS	NA
Impact NOI-3: Substantial Temporary or Periodic Increases in Ambient Noise Levels	**MM NOI-2:** To reduce temporary construction noise impacts on adjacent land uses, the applicant or the applicant's construction contractor shall implement the following construction-period noise abatement measures for any development within the Project area: • *Construction Activity Notification.* All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule for the proposed development. A sign, legible at a distance of 50 feet shall also be posted at the construction site. All notices and signs shall indicate the dates and duration of construction activities, as well as provide a telephone number where residents can enquire about the construction process and register complaints. • *Noise Disturbance Coordinator.* A "noise disturbance coordinator" shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved. All notices that are sent to residential units within 500 feet of the construction site and all signs posted at the construction site shall list the telephone number for the disturbance coordinator. • *Construction Traffic.* Route all construction traffic to and from the construction site via designated truck routes to the maximum extent feasible. Prohibit construction-related heavy truck traffic in residential areas where feasible. • *Equipment Noise Controls:* The applicant and/or its construction contractor shall implement the following equipment noise control	S	LS

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	measures during all phases of construction: ○ *Mufflers*. All construction equipment shall be equipped with muffles and other suitable noise attenuation devices (e.g., engine shields). ○ *Equipment Selection.* Grading and construction contractors shall use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment), to the maximum extent feasible. ○ *Provide Electric Hook-Ups.* If feasible, electric hook-ups shall be provided to avoid the use of generators. If electric service is determined to be infeasible for the site, only whisper-quiet generators shall be used (i.e., inverter generators capable of providing variable load • *Temporary Barriers.* During all demolition and construction activities, one or more physical barriers capable of achieving a minimum reduction in predicated noise levels by 11 dB shall be installed between future development and Magnolia Avenue and Mayflower Avenue, and between the western boundary of the Alexan Foothills Specific Plan and ZCA Area A. Potential options for achieving this level of attenuation can include, but are not limited to: ○ A concrete, wood, or other barrier installed at-grade (or mounted to structures located at-grade, such as K-Rail) along the property line. Such a wall/barrier shall consist of material that has a minimum rated transmission loss value of 21 dB (or equivalent rating) and shall contain no gaps in the structure through which noise may pass. ○ Commercially available acoustic panels or other products such as acoustic barrier blankets installed along the property line, building envelope or, if feasible and necessary, at or near sensitive residential receptor areas. ○ Any combination of noise barriers and commercial products capable of achieving an 11-dB reduction in construction noise levels at sensitive receptor locations. **Requirements and Planning:** This measure shall be printed on all construction drawings and included in construction contracts. **Monitoring:** City staff shall ensure that this measure is located on final construction		

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	drawings. City staff shall conduct inspections during construction to ensure that measures are implemented.		
Impact NOI-4: Expose People to or Generate Excessive Groundborne Vibration or Noise	NA	LS	NA
Impact NOI-5: Airport-related Noise Levels	NA	LS	NA
Population and Housing			
Impact POP-1: Induce Substantial Unplanned Population Growth	NA	LS	NA
Impact POP-2: Displace People or Housing	NA	LS	NA
Public Services and Recreation			
Impact PS-1: Fire Services	**SC PS-1:** Prior to the issuance of building permits, a Project applicant shall pay a fire impact fee, as required by Municipal Code Section 3.46.040, Schedule of Fees and Service Charges, or a CFD shall be established along with the approval of the special tax set at the amount established by the City. This fee shall either be paid directly to the City, be incorporated into a Communities Facilities District (CFD) fee to be paid by the applicant. **Requirement and Timing:** Development impact fees shall be paid to the City, or the establishment of the CFD along with the approval of the special tax set at the amount established by the City shall occur prior to issuance of building permits. **Monitoring:** City staff shall confirm payment of development impact fees or the establishment of the CFD and approval of the special tax have occurred prior to issuance of building permits.	LS	LS
Impact PS-2: Police Services	NA	LS	NA

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Impact PS-3: School Services	**SC PS-2:** Prior to the issuance of building permits, the applicant shall pay school facility development impact fees to the Monrovia Unified School District. Proof of payment shall be provided to the City of Monrovia. **Requirement and Timing**: Development impact fees shall be paid prior to issuance of building permits. **Monitoring**: City staff shall confirm payment of development impact fees prior to issuance of building permits.	LS	LS
Impact PS-4 Parks and Recreation	**MM PS-1: Parkland Dedication Fee.** Prior to the issuance of building permits, the applicant shall pay an in-lieu park impact fee to provide for parkland resources consistent with General Plan policy of three acres of parkland per 1,000 residents, or a CFD shall be established along with the approval of the special tax set at the amount established by the City. This fee either shall be paid directly to the City or shall be incorporated into a Community Facilities District fee to be paid by the applicant. **Requirement and Timing:** The in-lieu fee shall be paid to the City, or the establishment of the CFD along with the approval of the special tax set at the amount established by the City shall occur prior to issuance of building permits. **Monitoring:** City staff shall confirm payment of the in-lieu fee or the establishment of the CFD and the approval of the special tax prior to issuance of building permits or the recording of the final parcel map.	S	LS
Impact PS-5 Library Services	NA	LS	NA
Impact PS-6 Wildfire Management	NA	LS	NA
Transportation and Circulation			
Impact T-1 Alexan Foothills Specific Plan Intersection Analysis	**MM T-1:** The City of Monrovia has conducted an Area Traffic Study and is devising a Development Impact Fee (DIF) program to address the cumulative effects of major development projects on the transportation system in the vicinity of the Monrovia Gold Line Station. The DIF will include each project's fair share cost of the traffic study and the recommended mitigation measure(s) identified for that project's specific impact(s). If the City Council adopts the DIF, it shall be paid prior to recording the Final Map or the amount of the DIF included in the bonds. Payment or bonding of the DIF shall fully satisfy the project's mitigation obligation for those improvements covered by the DIF. If the City Council does not adopt a DIF	S	LS

S = Significant
LS = Less than significant
SU = Significant and unavoidable impact
NA = Not applicable
MM = Mitigation Measure
SC = Standard Condition

	but does approve an Area Traffic Study that commits future applicants to pay fair share fees and obligates the City to spend those fees on specified improvements, the project will not pay a DIF, but will be responsible for their fair share as a fee in-lieu of improvements for mitigating the specific impacts identified in the project's Traffic Study. **Requirements and Timing**: The costs of those improvements or fee-in-lieu-of mitigation shall be paid prior to the Final Map recording, or a bond equal to the determined amount shall be posted prior to the Final Map recording. **Monitoring:** City staff shall confirm payment of either the costs of those improvements or fee-in-lieu of mitigation prior to recordation of the Final Map.		
Impact T-2 Alexan Foothills Specific Plan Ramp Intersection Analysis	Refer to mitigation measure MM T-1 above.	LS	NA
Impact T-3 Full Project Road Segment Analysis	NA	LS	NA
Impact T-4 Off-Ramp Queuing Analysis	NA	LS	NA
Impact T-5 Alternative Mobility Modes	NA	LS	NA
Impact T-6 Consistency with CEQA Guidelines Section 15064.3(B)	NA	LS	NA
Impact T-7 Hazards and Emergency Access	NA	LS	NA
Utilities and Service Systems			
Impact UT-1 Wastewater Collection and Treatment	**MM UT-1.** Prior to issuance of building permits or the approval of a final map, whichever occurs first, the applicant shall agree to the conditions as outlined herein and provide the following: a) provide a "Can and Will Serve" letter by the City of Monrovia's Department of Public Works to provide wastewater service to the development indicating the feasibility and conditions of providing service to the development, and b) identify and show on the site plans and tentative map the proposed layout and design of the	S	LS

S = Significant
LS = Less than significant
SU = Significant and unavoidable impact
NA = Not applicable
MM = Mitigation Measure
SC = Standard Condition

	development and how it will accomplish City Department of Public Works' conditions of approval for the development. **Requirements and Timing:** A Can and Will serve letter for wastewater service shall be obtained prior to issuance of building permits or approval of a final map, whichever occurs first. **Monitoring:** City staff shall confirm issuance of the Can and Will Serve letter for wastewater service prior to issuance of building permits or approval of a final map, whichever occurs first.		
Impact UT-2 Water Supply and Groundwater Resources	**MM UT-2.** The applicant for development shall pay fair-share in-lieu fees for completion of upgrades to the nearby water system to support the development. Improvements will include the addition of one booster pump and upgrade of 980 feet of pipeline along Magnolia Avenue between Duarte Road and Evergreen Avenue. **Requirement and Timing:** In lieu fees shall be paid prior to issuance of building permits. **Monitoring:** City staff shall confirm payment of in lieu fees prior to issuance of building permits. **MM UT-3.** Prior to issuance of building permits or the approval of a final map, whichever occurs first, the applicant shall agree to the conditions as outlined herein and provide the following: a) provide a "Can and Will Serve" letter by the City of Monrovia's Department of Public Works to provide water service to the development indicating the feasibility and conditions of providing service to the development, and b) identify and show on the site plans and tentative map the proposed layout and design of the development and how it will accomplish City Department of Public Works' conditions of approval for the development. **Requirements and Timing:** A Can and Will serve letter for water service shall be obtained prior to issuance of building permits or approval of a final map, whichever occurs first. **Monitoring:** City staff shall confirm issuance of the Can and Will Serve letter for water service prior to issuance of building permits or approval of a final map, whichever occurs first.	S	LS
Impact UT-3 Solid Waste	**SC UT-1:** Applicants shall comply with the City of Monrovia Construction and Demolition (C&D) Disposal and Recycling Program. The Program includes submitting a C&D Recycling Program Permit Application and a Waste Management Plan to the Public Works Department Environmental Services Division and diverting 50 percent of the total construction and demolition debris generated by the development. **Requirements and**	LS	LS

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NA = Not applicable
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SC = Standard Condition

	Timing: Applicants shall submit Waste Management Plans to the City Department of Public Works Environmental Services Division for review and approval prior to issuance of demolition permits. The Waste Management Plan shall be implemented and adhered to throughout construction. **Monitoring:** City Department of Public Works Environmental Services Division shall review and approve of Waste Management Plans prior to issuance of demolition permits; City staff shall confirm approval of the Waste Management Plan prior to issuance of building permits and shall confirm compliance with the Waste Management Plan prior to sign off on construction.		

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LS = Less than significant
SU = Significant and unavoidable impact
NA = Not applicable

MM = Mitigation Measure
SC = Standard Condition

2.4 SUMMARY OF ALTERNATIVES

To provide a basis for further understanding of the environmental effects of a proposed Project and possible approaches to reducing its identified significant impacts, the CEQA Guidelines require an EIR to also "…describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project, but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." Chapter 21 identifies and evaluates the following three alternatives to the Project:

2.4.1 Identified Alternatives

Alternative 1: No Project

According to Section 15126.6(e)(2) of the CEQA Guidelines, the evaluation of alternatives in an EIR shall include a "no project" scenario. A "no project" scenario consists of the existing physical setting and "...what is reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

Under Alternative 1: No Project, the GPA nor ZCA would not occur, and the Alexan Foothills Specific Plan would not be adopted. The Project area would continue with a land use designation of Manufacturing under the City's Land Use Element. This land use designation allows for light manufacturing and limited heavy manufacturing uses. Additionally, under the current zoning, the entire Project area would continue to be designated as Manufacturing where industrial uses are allowed in this zone (with some uses requiring a conditional use permit). Office and institutional uses are also allowed in this zone, with the exception of cemeteries and government buildings. Under this zoning, the only residential uses that are allowed are mobile home parks with a conditional use permit.

Under this alternative, no buildout would occur in the Alexan Foothills Specific Plan area and all existing structures would remain. Specifically, three light industrial structures, one legal non-conforming residential unit, one religious building and associated trailers, one commercial office building, and one asphalt covered storage lot, all constructed between 1942 and 1987, would remain.

Alternative 1 would not incorporate the smart growth guiding principles or objectives of the proposed Project directed at developing a sustainable community by increasing walkability and accessibility for bicyclists, providing a greater range of transportation and housing choices through transit oriented development and mixed-use development, and prioritizing infill and redevelopment rather than development of open space. These guiding principles and objectives help mitigate overall impacts on air quality, global climate change, and transportation and circulation within the City. Also, existing structures would remain on the property and would therefore not include current techniques in achieving sustainability such as modern fixtures for water conservation and use of green building technology.

Alternative 2: Buildout of Alexan Foothills Specific Plan Area Under Current Zoning

Alternative 2 would involve a slight variation of the "no project" scenario presented under Alternative 1, whereby the Alexan Foothills Specific Plan area would be built out under existing land use and zoning.

Under this alternative, exactly as under Alternative 1, the GPA and ZCA would not occur. The Project area would continue with a land use designation of Manufacturing under the City's Land Use Element. This land use designation allows for light manufacturing and limited heavy manufacturing uses. Additionally, under the current zoning, the entire Project area would continue to be designated as Manufacturing where industrial uses are allowed in this zone (with some uses requiring a conditional use permit). Office and institutional uses are also allowed in this zone, with the exception of cemeteries and government buildings. Under this zoning, the only residential uses that are allowed are mobile home parks with a conditional use permit.

Under this alternative, the 6.77-acre property proposed for the Alexan Foothills Specific Plan could be built out under the current Manufacturing land use designation and zone. Under this alternative, incremental development of manufacturing, office, and residential uses could still occur within the entire Project area under the existing land use designation and zoning. The current land uses within this area include a mix of light industrial, warehouse/storage, office, single family residential, private surface parking, and two cellular towers. Development of a limited number of mobile homes could be developed in the Project area, but much less than the 518 residential units possible under the Project because mobile homes are one-story structures. Development of the area would likely primarily involve remodels or demolition and rebuild of industrial or office uses.

Alternative 2 would not incorporate the smart growth guiding principles or objectives of the Project directed at developing a sustainable community by increasing walkability and accessibility for bicyclists, providing a greater range of transportation and housing choices through transit oriented development and mixed-use development, and prioritizing infill and redevelopment rather than development of open space. These guiding principles and objectives help mitigate overall impacts on air quality, global climate change, and transportation and circulation within the City.

Under Alternative 2, Objective 1, to achieve a residential density of 54 units per acre in the Project area, would not be met. Other Project objectives could be met under future proposals but likely not as well given the Manufacturing land use designation and zone. For example, future developments in the Manufacturing zone could still implement pedestrian and accessibility improvements, which would fulfill Objectives 3 and 4, but these kinds of improvements are more-often associated with residential and retail development. New manufacturing development also has the potential to improve the aesthetic appeal of the area, fulfilling Objective 5, though manufacturing project design typically focuses more on function than aesthetics.

Alternative 2 may not necessarily result in less overall development as the Project as well. Development of industrial or office uses of the same or greater size would still be feasible in the Project area under this alternative, especially if the property currently held by Trammell Crow Residential is sold to one owner.

Alternative 3: Reduced Project

Alternative 3 would involve development of 400 multi-family residential units in ZCA Area B under the Alexan Foothills Specific Plan. Under this alternative, 36 units would be subtracted from the top floor of the apartment complex to minimize the height of the buildings.

Under this alternative, Project amenities would remain such as the bike repair shop, swimming pools, public plazas and rooftop decks. However, the parking garage would be scaled back in size commensurate with the reduction in 36 residential units, and no public parking for METRO's Monrovia Gold Line Station would be provided.

Square footages and heights of new structures in the 6.77-acre Alexan Foothills Specific Plan area would be reduced; however, they would likely continue to be multi-story buildings given the size of the property.

Under a Reduced Project alternative, only the minimum project objectives would be met and several project features would be reduced.

2.4.2 Environmentally Superior Alternative

The CEQA Guidelines (Section 15126[e][2]) stipulate, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Alternative 1 would result in the least environmental impacts but would not meet any of the Project objectives. Alternative 2 would likely result in equal or greater impacts to most issue areas than the Project, with the exception of public services and recreation and utilities.

Alternative 3 would involve an overall lower level of development and would meet the Project objectives, but to a lesser extent than the Project. Alternative 3 would, therefore, be the environmentally superior alternative. This alternative, however, would only result in a slight reduction in building square footages, site coverage, and number of vehicle trips compared with the Project, resulting in similar impacts on most issue areas with the exception of public services and recreation and utilities where there would be clearly less impacts. In addition, under Alternative 3, less housing would occur, resulting in a greater impact on population and housing and land use and planning due to the current deficit of housing in California. Alternative 3 would be less effective at meeting the goals of the City's Housing Element. In addition, the benefits associated with maximizing in-fill residential development, increasing transit oriented development, and increasing mixed uses would be less under Alternative 3 than the Project. This would result in less benefits to air quality, greenhouse gas emissions, and noise under Alternative 3 compared with the Project. Therefore, Alternative 3 is identified as the Environmentally Superior Alternative.

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
ASTM	American Society for Testing and Materials
BMPs	Best Management Practices
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CHRIS-SCCIC	South Central Coastal Information Center
CNEL	Community Noise Equivalent Level
CRP	Coating Restriction Plan
CUP	Conditional Use Permit
CWA	Clean Water Act
dB	Decibels
dBA	Decibels, A-Weighted
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
GPA	General Plan Amendment
GP/ZCA	General Plan and Zoning Code Amendment
LBP	lead-based paint
LSAA	Lake and Streambed Alteration Agreement
METRO	Los Angeles County Metropolitan Transportation Authority
MLD	most likely descendent
MS4 NPDES	Municipal Storm Water National Pollutant Discharge Elimination System
NAHC	Native American Heritage Center
NOP	Notice of Preparation
OITC	Outdoor/Indoor Transmission Class
PD	Planned Development
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District
STC	Sound Transmission Class
USACE	U.S. Army Corps of Engineers
VOC	volatile organic compound
ZCA	Zoning Code Amendment

3. PROJECT DESCRIPTION

3.1 BACKGROUND

The City of Monrovia (City) is proposing a new Planned Development Area (PD-27: Station Square West) within a 9.63-acre Project area. Within this Project area, a General Plan Amendment (GPA) and Zoning Code Amendment (ZCA) are proposed. In addition, the Alexan Foothills Specific Plan (Specific Plan) is proposed for a 6.77-acre portion of the ZCA area.

Under California law (Government Code Section 65300 et seq.), every City and County is required to have a General Plan that functions as the overarching, comprehensive, and long-range policy document for land use planning. For cities, the General Plan guides the physical development of the incorporated City and any land outside City boundaries (i.e., City limits) that has a relationship to the City's future growth and development. A City's Zoning Code contains development standards to ensure that buildout of the City is consistent with General Plan policies and objectives.

Specific Plans identify the long-term vision and objectives for private development and public improvements within a specified planning area. A Specific Plan establishes land use, transportation, infrastructure, and urban design strategies to provide opportunities for local commercial and residential uses to thrive.

3.2 PROJECT LOCATION AND ENVIRONMENTAL SETTING

The City of Monrovia (City) is in the San Gabriel Valley region of Los Angeles County. The Project area comprises one City block on approximately 9.63 acres (Figure 3-1). The block is bounded by West Evergreen Avenue to the north, South Magnolia Avenue to the east, South Mayflower Avenue to the west, and the METRO Gold Line light rail to the south. The Project area is located primarily within an urbanized industrial area.

General Plan Amendment Area

The GPA area encompasses the entire Project area. Current land uses within the 9.63-acre GPA area include a mix of residential, industrial, and institutional uses, which are described in more detail below under the Zoning Code Amendment area heading.

Zoning Code Amendment Area

The ZCA area encompasses the same 9.63 acres as the GPA area.

The Project area is currently developed with a mix of light industrial (approximately 70,750 square feet) and warehouse (approximately 10,120 square feet) uses with five single-family residences, an institutional place of worship (approximately 6,630 square feet), and an office. The Project area also contains private surface parking throughout and two cellular towers.

Three areas have been defined with the ZCA area, referred to as Areas A, B, and C (Figure 3-2), which are described as follows:

- Area "A" encompasses 2.30 acres in the western portion of the Project area where there is a mix of residential and commercial/industrial buildings;

- Area “B” encompasses the middle 6.77-acre portion. This area is developed with three light industrial structures, one residential unit, the institutional place of worship and associated trailers, the commercial office building, and one asphalt covered storage lot, all constructed between 1942 and 1987. The following parcels are within the Alexan Foothills Specific Plan boundaries (Assessor Parcel Numbers [APNs] 8507-006-016, -022, -024, -035, -041, -042, -043, and -044); and

- Area “C” encompasses 0.56 acres in the northeastern portion of the Project area and is developed with three commercial/industrial buildings.

3.3 TRANSIT PRIORITY AREA

The proposed GPA, ZCA, and Alexan Foothills Specific Plan qualify as a “Transit Priority Area (TPA)” as defined in Section 21099(a)(7) of CEQA, as well as a “High Quality Transit Area” (HQTA) defined by the Southern California Association of Governments (SCAG) in their 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2016). TPAs and HQTAs are defined as areas within one-half mile of a major transit stop that are existing or planned where a “major transit stop” is a “site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods” (Section 21064.3 of CEQA).

TPAs and HQTAs are areas where people benefit from increased mobility, more active lifestyles, increased economic opportunity, and an overall higher quality of life (SCAG 2016). High density development in TPAs and HQTAs result in increased ridership on important public transit and result in increased pedestrian and bike infrastructure. Housing near transit helps to increase connectivity to employment opportunities and reduce reliance on automobile ownership. HQTAs account for only three percent of total land area in SCAG region and two percent of the developable land in the region (SCAG 2016). However, these areas are planned and projected to accommodate 46 percent of the region’s future household growth and 55 percent of the future employment growth (SCAG 2016).

Development of residential projects, employment centers, or mixed-use projects in TPAs in the region, that are consistent with a specific plan for which an Environmental Impact Report has been certified, can proceed without further CEQA review assuming that they are consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in the SCS (Section 21155.4 of CEQA).

3.4 EXISTING GENERAL PLAN AND ZONING DESIGNATIONS

The Project area has a General Plan land use designation of Manufacturing and a zone classification of Manufacturing (City of Monrovia 2019). Figure 3-3 shows the existing zoning for the Project area and surrounding areas (City of Monrovia 2019).

3.5 PROJECT COMPONENTS

The Project includes the following components: GPA, ZCA, and the Alexan Foothills Specific Plan. Each component is described separately in more detail in Sections 3.6, 3.7, and 3.8, respectively. The Project also includes approval of a Vesting Parcel Map to consolidate eight lots into one lot for the Alexan Foothills Specific Plan area.



Source: ©2019 Google

Project Area

Figure 3-1 Project Area

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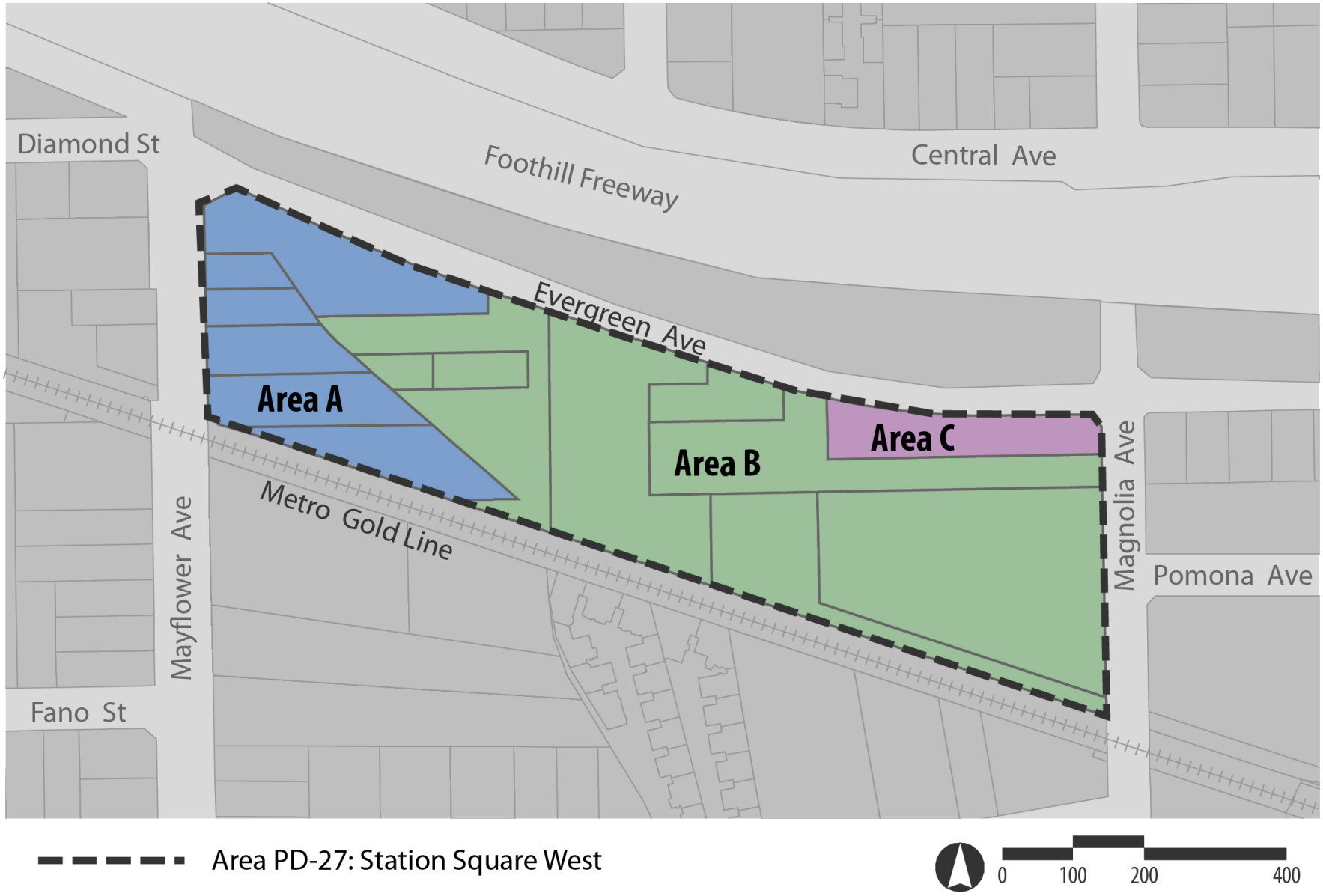
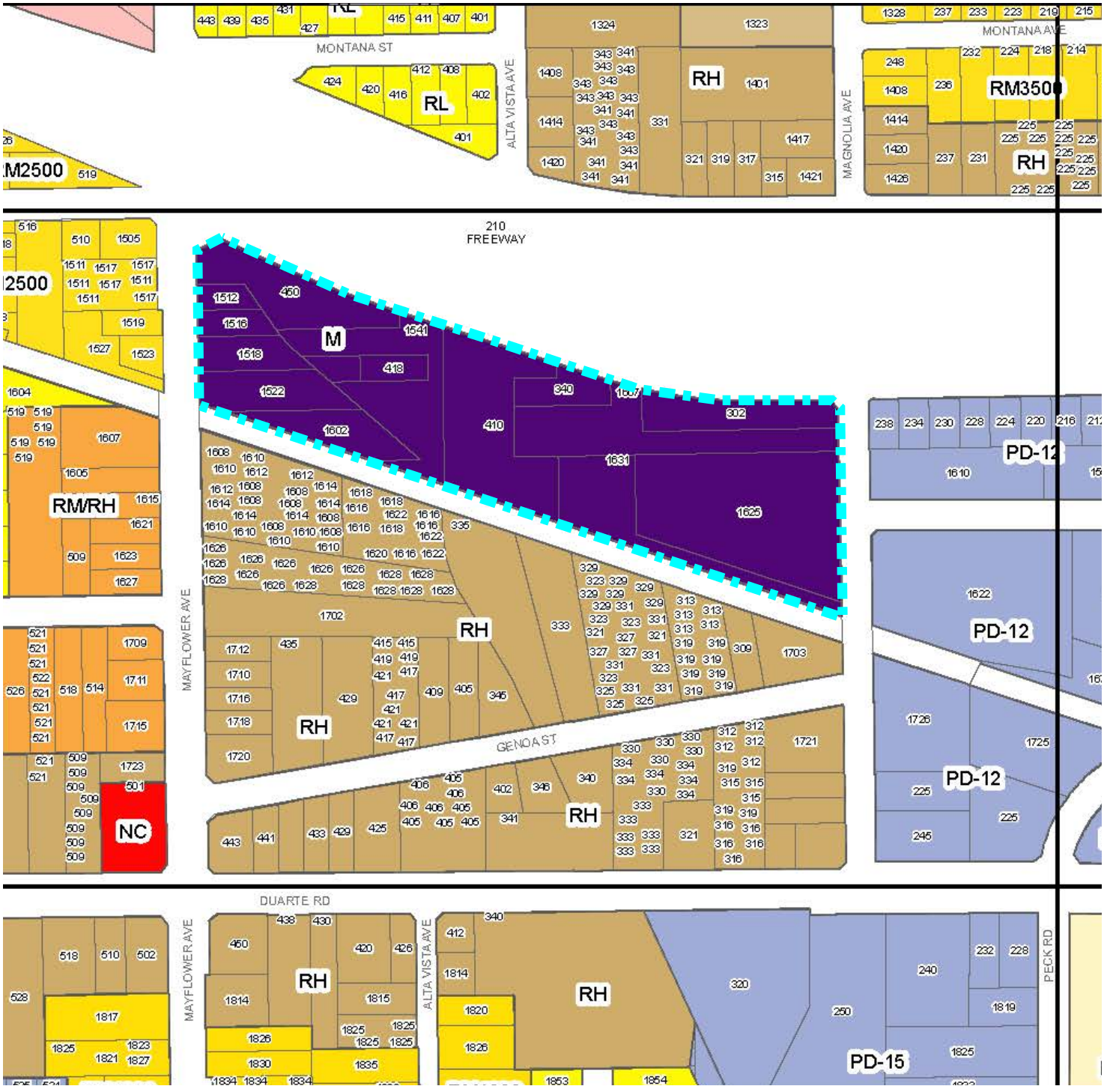


Figure 3-2 Planned Development Area PD-27: Station Area West

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Source: City of Monrovia, 2014

Legend

- City Boundary
- ParcelChanges
- Specific Plan
- RecParkPolygon
- 1 Dwelling Unit/10 Acres
- 1 Dwelling Unit/2.5 Acres
- 1 Dwelling Unit/20 Acres
- 1 Dwelling Unit/3 Acres
- 1 Dwelling Unit/5 Acres
- Angeles National Forest
- Hillside Reserve
- Hillside Wilderness Preserve
- Business Enterprise
- Office/Research & Development/Light Manufacturing
- Manufacturing
- Regional/Subregional Commercial
- Historic Downtown Commercial
- Neighborhood Commercial
- Retail Corridor Commercial
- Retail Corridor Mixed
- Specific Plan
- Planned Development
- Public/Quasi Public
- Residential Foothill
- Residential Estate
- Residential Low
- Residential Medium
- Residential High
- Residential Medium-High

PD-12 - Planned Development – 12 (Station Square Transit Village)

PD-15 - Planned Development 15 (Area southwest of Peck Rd./ Duarte Rd. Intersection)

- Project Area

Figure 3-3 Zoning: Project Area and Surrounding Areas

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3.6 GENERAL PLAN AMENDMENT

The entire 9.63-acre Project area is proposed for a General Plan Amendment from Manufacturing to Planned Development Area (PD-27: Station Square West) at 54 dwelling units/acre (du/ac) (Figure 3-2). The Draft Guidelines for Area PD-27 are provided below.

Area PD-27: Station Square West: This is a 9.63 acre city block directly to the west of Station Square Transit Village (PD-12), bounded by Evergreen Avenue to the north, the Metro Gold Line train tracks to the south, South Magnolia Avenue to the east and South Mayflower Avenue to the west. This area has historically been zoned and developed for light- and heavy-manufacturing. The site is currently improved with a mixture of uses, including commercial/industrial businesses and legal nonconforming single family homes. Due to its proximity to the Monrovia Gold Line Station, this area is well suited to provide additional opportunities for transit oriented development to support Station Square Transit Village (PD-12).

General Provisions

1. A maximum PD area-wide residential build-out of 518 units shall be permitted. The maximum buildout is based on an overall density of 54 du/ac. The intensity of development shall be higher on the east end, and lower on the west end. Development proposed in excess of 518 units over the entire Planned Development Area shall require amendment of the Land Use Element of the General Plan.

2. New development shall be designed to be compatible with the Urban Design Objectives outlined in the Land Use Element for the Station Square Transit Village (PD-12) area (i.e., architecture, hardscape, landscape). New developments shall be designed to minimize massing and provide for articulation and design variety to enhance the pedestrian realm (i.e., include a pedestrian-scaled façade, provide easily identifiable pedestrian access to building entrances, etc.).

3. Existing legal uses and buildings shall be considered conforming.

4. New development located adjacent to or facing residential neighborhoods south of the Gold Line light rail tracks shall be designed to minimize potential adverse impacts, including light, glare, noise, and building mass.

5. New development with frontage on Magnolia shall incorporate streetscape that compliments Station Square Transit Village (PD-12), including architectural massing, character, and the pedestrian environment.

6. The parking requirements of the Monrovia Municipal Code shall apply. If a specific plan is proposed, a parking demand analysis may be provided.

7. A minimum of two acres is required for a specific plan.

Specific Provisions by Area

PD-27 is divided into three distinct areas. Specific guidelines have been established for each area within the Planned Development Area that address and respond to the existing conditions and allow for future development. Both the General Provisions and the Specific Provisions by Area apply to development within each area. To the extent there is a conflict between a general and specific provision, the specific provision shall control. Where both the general and specific provisions are silent, the Monrovia Municipal Code shall control.

Area A:

This area is approximately 2.3 acres and comprises the western edge of the Planned Development Area. The parcels fronting or adjacent to South Mayflower Avenue are currently developed with a mixture of residential and commercial/industrial buildings. Given the residential character of the surrounding neighborhood, this area is envisioned to be a medium-high to high-density residential neighborhood and shall be subject to the below provisions.

1. New multiple-family residential development on property totaling less than two acres shall be subject to the RH (Residential High Density) development standards and a maximum density of 23 dwelling units per acre.

2. New additions to existing residences or construction of additional units on previously developed parcels shall be subject to the RH development standards.

3. New nonresidential uses in existing nonresidential structures shall be subject to the provisions of the BE (Business Enterprise) zone.

4. The construction of new nonresidential buildings or additions to existing nonresidential buildings shall require the approval of a conditional use permit. However, a conditional use permit is not required if an addition is less than or equal to 25% of the existing building area, and the addition meets the requirements set forth in the Monrovia Municipal Code. New nonresidential buildings or additions to existing nonresidential buildings that are adjacent to residential properties shall meet the side and rear yard setback requirements of the adjacent residential zone.

Area B:

Area B is 6.77 acres and the standards include provisions for high density residential development. Given its proximity to the Monrovia METRO Gold Line Station, Area B allows for Transit Oriented Development that provides additional residential opportunities adjacent to and compatible with Station Square Transit Village (PD–12).

1. New multiple-family residential development on property that totals less than two acres shall be subject to the RH (Residential High Density) development standards and a maximum density of 54 dwelling units per acre.

2. As an incentive to provide transit-oriented development adjacent to Station Square Transit Village (PD–12), project sites that total two acres or greater may be developed at a maximum density of 64 dwelling units per acre through adoption of a Specific Plan (for a maximum of 436 units over the 6.77 acre area) and shall include a provision for a nonresidential or flex space such as a live/work component through the approval of a specific plan.

3. New development shall have its primary orientation towards South Magnolia Avenue.

4. All ground level interior spaces that front South Magnolia Avenue shall be directly accessible from the sidewalk.

5. High-quality exterior building design (signature architecture) shall be a primary consideration in the approval of a new development.

    a. If mixed-use developments are proposed, they shall: incorporate neighborhood-serving ground floor commercial space with frequent sidewalk entrances to promote pedestrian activity along the street; include communal and private open space for residents; make ground floor commercial uses visually distinct from the

residential above; distinguish residential entrances from commercial entrances; and incorporate upper floor balconies, bays, and windows that overlook the street into residential units to enliven the street elevation.

b. If multi-family developments are proposed, they shall: introduce variation in façade and height to reduce building bulk; articulate building facades to portray a domestic scale and give identity to individual dwelling units; orient building entrances towards the street; and shall include private outdoor space for each dwelling unit.

Area C:

The 24,206 square foot parcel located on the southwest corner of West Evergreen Avenue and South Magnolia Avenue is currently developed with three commercial/industrial buildings. Area C permits commercial uses that support the adjacent transit oriented neighborhood and shall be subject to the below provisions.

1. New commercial uses in existing structures and new construction shall be subject to the provisions of the BE (Business Enterprise) zone provided they do not cause a nuisance to adjacent sites; they are carried out entirely within an enclosed building that meets high quality building design, site layout and landscape standards, and they will harmonize with other surrounding land uses, with the following exceptions:

   a. The construction of new nonresidential buildings or additions to existing nonresidential buildings shall require the approval of a conditional use permit. However, a conditional use permit is not required if an addition is less than or equal to 25% of the existing building area, and the addition meets the requirements set forth in the Business Enterprise Zone of the Monrovia Municipal Code.

   b. As an incentive to provide transit related or smaller-scale neighborhood serving commercial uses providing a retailing or service-oriented function, incidental retail sales of products manufactured on site may be permitted within existing commercial/industrial buildings without the provision of additional parking, subject to the review and approval of a minor conditional use permit.

   c. An up to 10% reduction in required parking for new uses in existing structures may be permitted subject to a minor exception, provided that no existing parking spaces are eliminated. The removal of all parking spaces shall require approval of a Variance from the Planning Commission.

2. New light manufacturing uses shall conform to the performance standards set forth in Chapter 17.32 of the Monrovia Municipal Code pertaining to fire and explosion hazards, electrical disturbances, noises, vibration, smoke, odors, air pollution, light, and glare to minimize adverse impacts to adjacent residential development.

3. All supplies, products, materials, and equipment shall be stored within the building. Outdoor storage of supplies, products, materials, and equipment is prohibited.

4. To improve pedestrian traffic and connection to Station Square Transit Village (PD-12), the addition of well-designed storefronts to the existing commercial/industrial complex is encouraged and shall be permitted to create openings on the north and east building elevations subject to review and approval by the Development Review Committee. If storefronts are proposed, a strong relationship between buildings and the street shall be established through minimal setbacks at storefronts, matching window and door patterns, and frequent location of store entrances along the street.

5. The existing commercial/industrial complex may be permitted to be incorporated into an adjacent Specific Plan Area as a mixed-use component, through an amendment to the Specific Plan, subject to the following:
    a. Adaptive reuse of the existing buildings is encouraged. Possible uses include shared creative co-working office spaces, artist studios, and micro-breweries.
    b. New store fronts and pedestrian paths of travel shall be oriented toward the Specific Plan Area to create pedestrian linkages.
    c. Future redevelopment of the site could include, but not be limited to, pedestrian oriented commercial uses and activities that support the transit oriented neighborhood.

3.7 ZONING CODE AMENDMENT

The Zoning Code Amendment will establish a Planned Development Area (PD-27: Station Square West [PD-27]) for the entire 9.63-acre Project area in order to be consistent with the General Plan Amendment.

A zone change for 2.86 acres is proposed from Manufacturing to a Planned Development Area to include high density residential development as well as other uses identified in PD-27 for Areas A and C (ZCA Areas A and C). For ZCA Area B, refer to Section 3.8, Alexan Foothills Specific Plan below.

While a new zoning designation is proposed for ZCA Areas A and C, the existing uses and structures, would be allowed to remain as legal conforming uses. Although a specific development plan is neither being proposed nor considered at this time for these two areas, the redesignation of PD-27 ZCA Areas A and C could eventually result in development of an additional 82 dwelling units in Area A (based on the 54 dwelling units/acre permitted land use density within the overall 9.63-acre GPA area).

Demolition and Construction

For the purposes of evaluating air quality, traffic, and noise impacts associated with buildout of ZCA Areas A and C, it was assumed that construction would start in 2021, last approximately 12 months, and involve the demolition of approximately 28,400 square feet of existing building space and associated debris hauling activities.

3.8 ALEXAN FOOTHILLS SPECIFIC PLAN

Trammell Crow Residential proposes to implement the Alexan Foothills Specific Plan, which would establish the zoning for the 6.77-acre site located at 1625 South Magnolia Avenue, Monrovia, California. The Specific Plan area will be located within ZCA Area B.

The Specific Plan includes the following chapters: Introduction, Development Plan, Use Regulations & Development Standards, Implementation Plan, and General Plan Consistency. The Development Plan chapter defines the Land Use Plan, Open Space and Landscape Plan, Urban Design Objectives, Visual Identity, Sustainable Development, Mobility Plan, Gates and Fencing, and Infrastructure Plan. The Use Regulations & Development Standards chapter sets forth the permitted uses within the Specific Plan area and establishes development standards for buildings, site improvements, parking, landscaping, and signs.

The Specific Plan would allow a 436-unit, five-story apartment complex and an eight-level (seven stories) parking structure, containing 798 stalls. The apartment complex would include two pools

and several tenant amenity courtyards. The Magnolia Avenue street frontage proposes a two-story lobby, fitness room, and four live-work units, all with apartments above. Three outdoor/rooftop amenity decks are planned on top of the apartment complex's fourth level; two rooftop decks face the San Gabriel Mountains to the north, and the other faces west. Other tenant amenities include a pet spa, bike "kitchen" (i.e., bicycle repair area), tenant lounge, centralized mail/package delivery room, and a golf simulation room. No offsite improvements to utilities are proposed under the Specific Plan.

The proposed Specific Plan site plan and elevations are shown in Figures 3-4 through 3-8. The proposed Specific Plan open space plan, landscape plan, and fencing plan are shown in Figures 3-9 through 3-11. A mobility plan is shown in Figure 3-12. Site photos are shown in Figure 3-13, and a 3D rendering and view simulations of the Specific Plan are shown in Figures 3-14 through 3-23. Figures 3-4 through 3-23 are provided at the end of this Chapter.

Residential Units

A residential building summary showing the proposed number and size of residential units is provided in Table 3-1. The full proposed plan set is included in Appendix M.

Table 3-1 Unit Floor Plans

	Number of Units	**Unit Size**
Studio	20	561 sf
One Bedroom	250	686-745 sf
Two Bedroom	147	981-1,246 sf
Live/Work	4	1,561 sf
Three Bedroom	15	1,481 sf
Total	**436**	**375,729 sf**
Note: sf square feet		

Public and Private Open Space

The Specific Plan creates a well-connected assemblage of the proposed private and publicly accessible outdoor urban spaces including plazas, central courtyards, common rooftop decks, pedestrian pathways, and private balconies/patios. The development plan proposes approximately 1,565 square feet (sf) of publicly accessible open space, 67,835 sf of residents' common open space/recreation, 28,265 sf of residents' private open space, and 21,428 sf of landscaped areas as shown in Table 3-2.

Table 3-2 Open Space and Recreational Space

Open Space Type	Size
Public	
Public Plaza in Public Courtyard on South Magnolia Avenue (The Terminal)	1,565 sf
Subtotal	**1,565 sf**
Private	
Studios	0
1 Bedroom (range 62 sf – 72 sf)	16,672 sf
2 Bedrooms (range 65 sf – 72 sf)	10,453 sf
3 Bedrooms (76 sf)	1,140 sf
Subtotal	**28,265 sf**
Resident's Common Outdoor Areas	
Public Courtyard on South Magnolia Avenue (The Terminal)	866 sf
Pool Court #1 (The Yard)	19,139 sf
Pool Court #2 (The Trestle)	8,967 sf
Courtyard #1 (Monrovia Canyon Court)	4,680 sf
Courtyard #2 - Resident Move-in (Azusa Canyon Court)	2,452 sf
Main Project Entrance and Private Dog Park (The Junction)	8,081 sf
Courtyard #3 (Santa Anita Canyon Court)	4,225 sf
Roof Deck #1	1,625 sf
Roof Deck #2	2,388 sf
Roof Deck #3	1,429 sf
Urban Edge	4,821 sf
Subtotal	**58,673 sf**
Interior Recreational Amenities	
Fitness Center	2,483 sf
Club House at Main Recreation Area	2,720 sf
Club House at Second Recreation Area	1,605 sf
Golf Simulator	820 sf
Resident Lounge	775 sf
Pet Spa	759 sf
Subtotal	**97,665**
Landscaped Areas	
Along West Evergreen Avenue	9,136 sf
West Area	11,156 sf
Zoetrope Area	1,136 sf
Subtotal	**21,428 sf**
Total	**207,596 sf**
Note: sf square feet	

Pedestrian, Bicycle, Transit, and Vehicular Mobility

South Magnolia Avenue provides the principle access to the apartment complex, while West Evergreen Avenue provides secondary access. The Alexan Foothills Specific Plan is open to public pedestrian and bicycle access along the entire South Magnolia Avenue frontage. The Specific Plan facilitates the use of bicycle sharing and ride sharing programs by providing bike parking for METRO users and guests, and resident bicycle parking and storage. The mobility plan focuses on integrating and improving the site's access to METRO's Monrovia Gold Line Station, as well as to the surrounding neighborhood. The Monrovia Gold Line Station is located approximately 0.2 mile to the east of the Specific Plan area; it is accessed via West Pomona Avenue. The METRO Gold Line provides service to Azusa and to Downtown Los Angeles, where passengers may connect to many other METRO lines. The Monrovia Gold Line Station also provides the closest bus stop to the Project area, which is serviced both by Foothill Transit and METRO. Another bus stop is located at the intersection of West Duarte Road and South Magnolia Avenue. The proposed parking structure for the Alexan Foothills Specific Plan not only would provide parking for the residents and guests, but also paid parking spaces for the public to facilitate access to the METRO Gold Line Station.

Cell Towers

Two existing cell towers will be maintained in place at the northwest corner of the Alexan Foothills Specific Plan area in ZCA Area B; however, they may be moved to another location within the Specific Plan area at a future time. In the event that the cell towers are moved, that action would be subject to separate environmental review and approval by the City.

Development and Operational Standards

The Development Standards of the Alexan Foothills Specific Plan are summarized in Table 3-3.

Table 3-3 Development Standards

Development Features	Standard
Density	64 units/acre
Height – Residential Structure	Five stories, 65 feet maximum subject to additional height standards for architectural projections (see below)
Height – Parking Garage Structure	Seven stories, eight levels; 72 feet from structure roofline
Architectural Features projecting above the roofline	10 feet as measured from structure roofline
Minimum Building Setbacks from Rights-of-Way	
West Evergreen Avenue	8 feet
South Magnolia Avenue	8 feet
East property line	8 feet
METRO Gold Line property line	8 feet
Design elements inclusive of exterior building elements, various site design and elements, gates and fencing, landscape, public and private open spaces, pedestrian/ADA pathways, parking structure and parking areas, signs, and any others as determined by the Development Review Committee.	Per approved plans. Modifications subject to Minor Exceptions (Section 17.52.110 of the Municipal Code) or Major Variance (Section 17.52.100) as determined by the Community Development Director, the Development Review Committee, and/or the Planning Commission.
Note: Balconies, stairs, awnings, cornices, eaves, roof overhangs, towers, and stoops may encroach up to 60 percent of the setback to the street.	

In addition, the Specific Plan requires the following standards for lighting, signs, walls and fences, landscaping, mechanical equipment, trash enclosures, and utilities:

- A lighting plan shall be submitted for the Planning Division's review and approval, and shall demonstrate that:
    - Lighting levels are sufficient to provide for pedestrian safety and security, and the security of parked vehicles, but not in any manner that adversely impacts adjacent properties and roadways.
    - Lighting is located to assure adequate light levels and create an even level of illumination.
    - Exterior lighting is architecturally integrated with the building style, materials, finishes, and colors.
    - **Residential Areas.** All exterior residential lighting shall be designed to be decorative and unobtrusive. Lighting shall be designed to avoid glare into neighboring homes, public spaces, or into the night sky. Illumination of common open spaces shall be low profile.
    - **Area Lighting for Pedestrian Walkways and Plazas.** Lighting shall be directed to provide for safety without allowing stray light to intrude into windows of nearby residences or to create glare problems for nearby roadway traffic.
    - **"Hidden Source" Lighting.** For certain prominent architectural features, hidden source lighting can be used to create dramatic effects, illuminating towers or other unique architectural features. Such lighting can be concealed in soffits, behind ledges or parapets, or set into landscape areas with the light directed at the element to be highlighted. Use of low, bollard-type lighting and/or landscape accent lighting is encouraged, especially in pedestrian areas.
- Prior to the installation of any sign or signs, a comprehensive sign program shall be submitted for approval by the Development Review Committee. The sign program may include project identity, wayfinding (for parking, pedestrian, bicycles, residents and guests), and operational notices. The design, location, illumination levels, and size of signs shall consider the residential nature of the development. The sign program and all signs shall be based on the requirements set forth in Chapter 17.28 (Sign) of the Zoning Code.
- Walls and fences inclusive of controlled access barriers, gates, equipment screening, and trash enclosures are allowed up to 6' maximum height. The maximum height for walls and fences facing West Evergreen and South Magnolia Avenue shall be no more than 6' at the setback line. The Development Review Committee shall be the review authority for the walls and fencing plan. Design of walls, and fences shall have the following characteristic:
    - Integrates with the building design using similar, or complementary colors and material suitable for a gateway location;
    - Does not obstruct publicly accessible areas; and
    - Observes relevant Crime Prevention Through Environmental Design (CPTED) principles.

  Use of buffers (such as landscaped planters) in lieu of walls and fences is encouraged.
- Landscaping shall be provided in substantial conformance with the landscape plan contained in the project application submittals. The purpose of the landscaping standards and guidelines is to provide landscaping that enhances the quality of the development,

creates shade for pedestrians, uses drought tolerant plant materials that are sustainable and beneficial, and contributes positively to the appearance of the Alexan Foothills development. In addition, a landscape documentation package pursuant to the requirements Section 17.20.030 (Water Efficient Landscape Ordinance) of the Monrovia Municipal Code shall be submitted to the Planning Division for approval prior to landscape construction. All installation and documentation shall be performed as required by the Code. The landscape documentation package will have precedence.

- Landscape maintenance shall be performed as required by applicable Title 8 (Health and Safety) of the Municipal Code.

- Landscape design quality shall be measured for its qualities that communicate an outstanding attention to fine landscape architecture. The master landscape concept for Alexan Foothills Specific Plan shall respond to the following goals and objectives:
    - Create “green areas” and enhance important public spots easily accessible to all in the community;
    - Make sidewalks, walkways, and all pedestrian areas convenient, attractive, comfortable, and safe; and
    - Accommodate multimodal transportation modes throughout the Specific Plan area, including walking.

- To the extent consistent with other design considerations, landscape design shall minimize resource consumption. Materials considered shall protect the natural environment from long-term harm. Hardscape materials shall be used that are long lived and use minimal energy in their manufacture and/or transport to the site, have high recycled content, and have minimal non-renewable material content.

- For reducing the site’s energy requirements by encouraging passive methods of cooling, trees shall be sited to provide shade for the south-facing building elevations.

- Drought-tolerant landscaping is highly encouraged. Plant selection should be based on site characteristics such as exposure, light intensity, soil analysis, site drainage, and irrigation. Proper plant selection based on site characteristics should enhance the plants’ likelihood of becoming established in the site and reduce potential incidences of low vigor, excessive maintenance, disease, or death.

- To ensure water efficiency, appropriate landscaping should be irrigated through a drip, bubbler, or high- efficiency sprinkler system.

- In addition to architectural treatments, landscaping material shall be used to obscure the view of any refuse collection area, equipment, Fire Department connections, and loading areas visible from the public street or pedestrian area.

- Development shall include appropriate landscaping to maximize privacy between residences and shall include appropriate planting to screen or soften any undesirable light pollution or views from off site.

- Design shall take into consideration the future impact the new plantings may have in obscuring views.

- The landscape palette shall allow for a high degree of water conservation. Irrigation practices shall include the use of water-efficient equipment that complies with applicable City codes. The irrigation system shall be designed to meet the following criteria:
    - The system shall conform to the regulations for the construction of irrigation water systems within the City of Monrovia;
    - Within the landscaped areas, an approved weather-based irrigation system is encouraged;
    - Design, installation, and equipment shall conform to the highest industry standards. All constant pressure reclaimed and/or potable water mainline piping installed shall be identified in accordance with the City of Monrovia regulations;
    - All irrigation systems shall be controlled with automatic irrigation controllers and be installed to maximize ease of operation and maintenance;
    - Systems shall be installed in a manner that minimizes opportunities for vandalism. All controllers, pumps and associated equipment must be screened from view with planting and/or landscape walls;
    - All landscape planting areas are to be adequately irrigated;
    - Irrigation systems shall be programmed to operate generally between the hours of 9:00 P.M. and 6:00 A.M., unless otherwise directed by the City Engineer; and
    - Sprinkler heads shall be located to avoid over spray on to sidewalks, roadways, buildings, etc.

- All aboveground mechanical equipment—including but not limited to aboveground utility boxes, telephone boxes, water lines, back-flow preventers, and cable boxes—shall be completely screened behind a permanent structure or appropriate landscape screen.

- Air conditioners, heating, cooling and ventilating equipment, and all other mechanical, lighting, and electrical devices shall be screened from view and noise from adjacent properties.

- Roof-mounted equipment shall not be visible from the adjacent public right-of-way or adjacent properties. As necessary, screening shall be provided by a parapet wall or similar architectural feature.

- Transformers shall be installed underground or in areas where they will be screened from the public right-of-way.

- Enclosures shall be required for refuse and recycling bins. All such enclosures shall be located within the parking structure or otherwise interior to the development. Secured trash and recycling bins may also be located on any publicly accessible areas and shall be integrated into the site's prevailing design elements. Areas for trash enclosures shall be adequate in capacity, number, and distribution to serve the development project.

- All trash enclosures shall be set forth on the site plan and subject to review and approval by the Community Development Director.

- All utility connections for new construction shall be placed underground along the project frontage, but utility connections to structures that lawfully pre-exist the adoption of this Specific Plan may be maintained when it can be demonstrated that the undergrounding of

such utilities is not reasonably feasible, as determined by the Development Review Committee and/or the utility provider.

Operational Standards for the Alexan Foothills Specific Plan include the following:

- The Specific Plan sets a maximum of four live/work units, all of which shall be placed on the ground floor of the development with entries facing onto the Plaza at South Magnolia Avenue. Internal access between residential and nonresidential portions of these units shall be required. No nonresidential use, either for commercial or nonprofit purpose, is permitted to operate outside a live/work unit or outside a live/work unit's front patio area (facing Magnolia Avenue).

- Work areas may only be open for business between the hours of 6:00 A.M. and 8:00 P.M., unless late night operations have been approved through a Conditional Use Permit.

- Activities that produce any noise or sound that is objectionable due to intermittence, beat, frequency, shrillness, or loudness shall be prohibited.

- All outdoor storage is prohibited, including placement of residential storage in open space areas, except for pool equipment storage room or other enclosed storage area planned for, and articulated, as part of the building's design as set forth on the approved site plan. Storage on residential unit patios and balconies shall be prohibited.

- Uses and activities covered under the City's Special Events Permit, Filming Permit, and Yard Sales Permit are allowed onsite upon the written consent of the site's property owner or designee and the City.

Demolition and Construction

Approximately 65,190 sf of existing structures would be demolished and construction of the Specific Plan development would involve 7,200 cubic yards (cy) of cut, 10,400 cy of fill, with a net import of 3,200 cy[1]. Construction of the Specific Plan development is planned to begin in 2020 and expected to take 30 months to complete, with a target construction completion date in 2022.

Project Components Summary

Summary statistics for the GPA, ZCA, and Alexan Foothills Specific Plan are provided in Table 3-4.

Table 3-4 Summary Statistics of Project Components

Project Component	Size (Acres)	Existing Uses (Square feet, Dwelling units)	Existing General Plan & Zoning Designations	Proposed Uses (Square feet, Dwelling units)	Proposed General Plan & Zoning Designation
General Plan Amendment (GPA)					
GPA	9.63	Light Industrial (incl warehouse, office, out structures)	General Plan: Manufacturing	Multi-Family Residential 518 DU	General Plan: Planned Development (PD-27: Station Square West)

[1] Under a worst-case scenario; grading volumes may be reduced after final design.

Table 3-4 Summary Statistics of Project Components

Project Component	Size (Acres)	Existing Uses (Square feet, Dwelling units)	Existing General Plan & Zoning Designations	Proposed Uses (Square feet, Dwelling units)	Proposed General Plan & Zoning Designation
		(approx. 80,870 sf) Single Family Residential Units (6,088 sf.; 5 DUs) Church & Accessory Structures (approx. 6,630 sf)			
GPA Total	**9.63**			**518 DU**	
Zoning Code Amendment (ZCA) and Alexan Foothills Specific Plan					
PD-27 Areas A and C	2.86	Light Industrial (approx. 24,680 sf) Single-Family Residential Units (3,720 sf; 4 DU)	Zoning: Manufacturing	Multi-Family Residential 82 DU	Zoning: Planned Development (PD-27)
PD-27 Area B: Alexan Foothills Specific Plan	6.77	Light Industrial (incl warehouse, office) & Accessory Structures (approx. 56,190 sf) Single Family Residential Units (2,368 sf.; 1 DU) Church & Accessory Structures (approx. 6,630 sf)	Zoning: Manufacturing	Multi-Family Residential 436 DU	Zoning: Specific Plan
ZCA & Specific Plan Total	**9.63**			**518 DU**	

Notes:
DU dwelling units
SF square feet

3.9 PROJECT OBJECTIVES

General Plan Amendment

The objectives for the Planned Development General Plan Amendment are as follows:

Objective GPA-1. Create a cohesive and complementary land use plan that provides additional housing capacity and transit oriented development opportunities to support Station Square Transit Village (PD-12).

Zoning Code Amendment

The objectives for the Planned Development Zoning Code Amendment are as follows:

Objective ZCA-1. Provide flexibility in land use types and intensities that will allow future development to respond to changes in the marketplace over time.

Objective ZCA-2. Provide land use guidance for three distinct areas (Areas A, B, and C) within the Planned Development Area PD-27: Station Square West area.

Alexan Foothills Specific Plan

The objectives for the Alexan Foothills Specific Plan are as follows:

Objective SP-1. Provide more opportunities for high-density housing near transit within Area B and the City by increasing density to 54 units per acre to meet the goals of the City's Housing Element.

Objective SP-2. Broaden the type of housing options in the City by creating opportunities for modern, attractive, multi-family residential development.

Objective SP-3. Accommodate a walkable urban form in the City by improving the pedestrian environment with active, small-format ground-floor public spaces, accessible sidewalks and pathways, and pedestrian amenities.

Objective SP-4. Improve multi-modal accessibility, connectivity, and safety by providing public parking for METRO's Monrovia Gold Line Station, providing accessible pathways to enable safe access to the METRO station, and by promoting bicycle use by providing convenient bicycle amenities and storage options.

Objective SP-5. Improve the physical character and aesthetic appeal of the area with the gradual introduction of new developments that include attractive architectural styles, landscaping, connectivity and walkability, public art, and welcoming and unified gateway elements.

Objective SP-6. Integrate open space and resident amenities by integrating plazas and small gathering spaces, such as rooftop decks.

3.10 INTENDED USE OF THIS EIR

This EIR can be used to support the following discretionary approval processes by the City:

- Approval of a GPA from Manufacturing to Planned Development Area PD-27: Station Square Area West for the 9.63-acre Project area;

- Approval of a ZCA from Manufacturing to Planned Development Area (PD) for 2.86 acres (Areas A and C) within PD-27: Station Square Area West;

- Adoption of the Alexan Foothills Specific Plan for 6.77 acres (Area B) within Planned Development Area PD-27: Station Square Area West;

- Approval of a Conditional Use Permit (CUP) to authorize the construction of a 436-unit apartment complex within the Alexan Foothills Specific Plan area; and

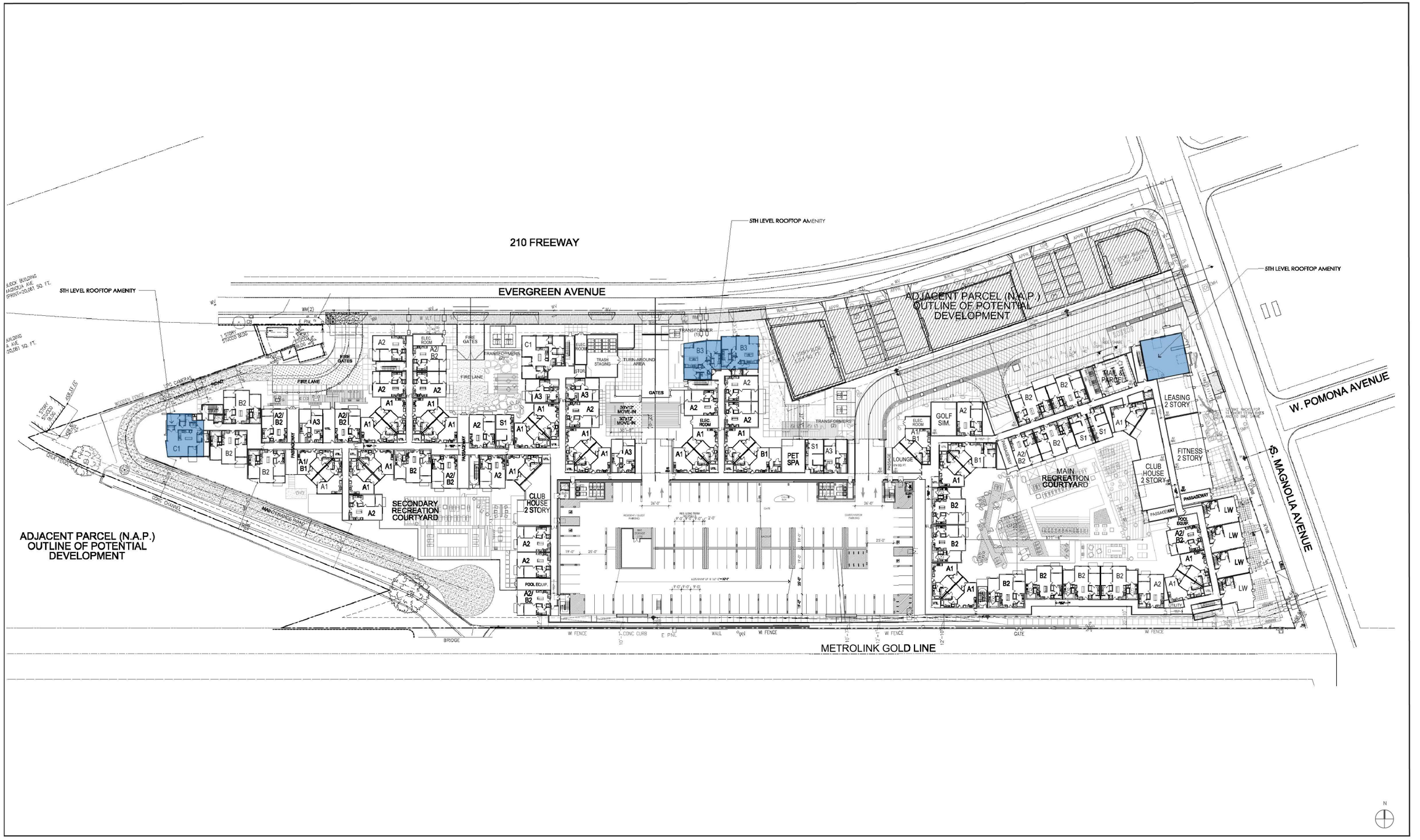
- Approval of a Vesting Parcel Map to consolidate eight lots into one lot for the Alexan Foothills Specific Plan area.

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
APN	Assessor Parcel Number
CUP	Conditional Use Permit
cy	cubic yards
DU	dwelling units
du/ac	dwelling units per acre
EIR	Environmental Impact Report
GPA	General Plan Amendment
HQTA	High Quality Transit Area
METRO	Los Angeles County Metropolitan Transportation Authority
PD	Planned Development Area
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
sf	square feet
TPA	Transit Priority Area
ZCA	Zoning Code Amendment

References Cited

City of Monrovia
2019 General Plan Land Use Map and Zoning Map. July.

Southern California Association of Governments (SCAG)
2016 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Adopted April.



Source: TCR, 2019

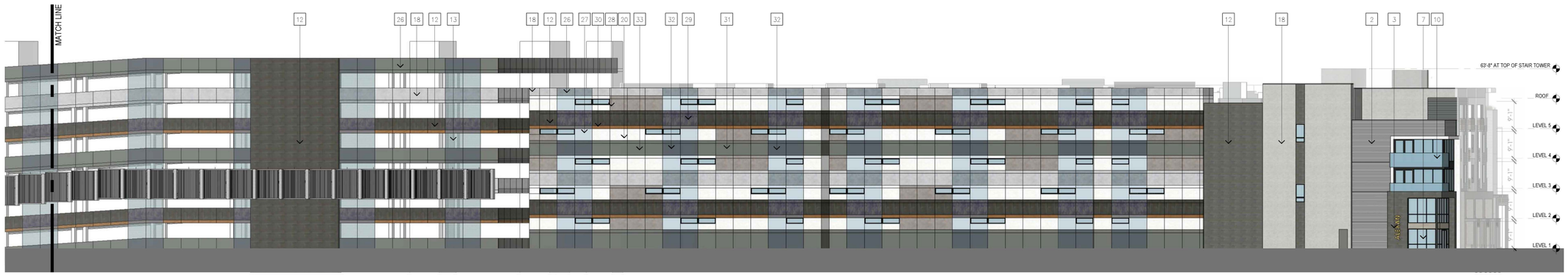
Figure 3-4 Specific Plan Site Plan

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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2. SOUTH ELEVATION



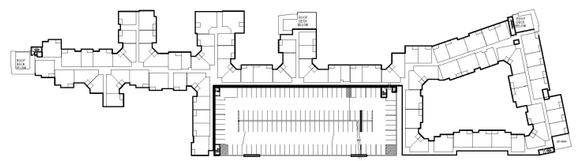
SOUTH ELEVATION (CONT'D.)

Source: TCR, 2019

MATERIALS LEGEND

1a	LA HABRA EXTERIOR PLASTER 20/30 FLOAT FINISH - PAINT GRADE
1b	LA HABRA EXTERIOR PLASTER 16/20 FLOAT FINISH - PAINT GRADE
2	HARDIE PLANK SIDING
3	APAVISA PORCELAIN TILE 'JUNOON' BEIGE NATURAL
4	DECORATIVE WIDE FLANGE TRIM
5	WIDE FLANGE TRELLIS W/ WOOD SLATS
6	MILGARD VINYL WINDOWS 'CLAY'
7	KAWNEER OR EQUAL ALUMINUM STOREFRONT 'MED. DARK BRONZE'
8	METAL MESH RAILING
9	METAL RAILING WITH COMPOSITE SLATS
10	GLASS RAILING
11	METAL RAILING
12	FLOOR GRES PORCELAIN TILE 'FLOWTECH' AGED BRONZE
13	EXPOSED FASTNER SHORT RIB PERFORATED PANELS
14	ORCO BLOCK SPLIT FACE PLANTERS 'BLACK 250'
15	ORCO BLOCK C.M.U. PLANTERS W/COMPOSITE WOOD SLATS
17	GABION WALL
18	MATCH SW 9161 'DUSTBLU' IN20/30 FLOAT FINISH
19	MATCH SW 9161 'DUSTBLU' IN16/20 FLOAT FINISH
20	LA HABRA STUCCO X50 'CRYSTAL WHITE" IN 20/30 FLOAT FINISH
21	A HABRA STUCCO X50 'CRYSTAL WHITE IN 16/20 FLOAT FINISH
22	MATCH SW 7075 'WEB GRAY' IN 20/30 FLOAT FINISH
23	MATCH SW 7075 'WEB GRAY' IN 16/20 FLOAT FINISH
24	AESPAN 'PERCEPTION COLLECTION CONCEALED FASTENED PANELS IN 'METALLIC SILVER' OR 'TOWN GRAY'
26	MATCH SW 6515 'LEISURE BLUE' IN 16/20 FINISH
27	MATCH SW 6514 'RESPITE' IN 20/30 FLOAT FINISH
28	MATCH SW 6004 'MINK' IN 20/30 FLOAT FINISH
29	MATCH SW7505 'MANOR HOUSE' IN 16/20 FLOAT FINISH
30	MATCH SW 7703 'EARTHEN JUG' IN 20/30 FLOAT FINISH
31	MATCH SW 6005 'FOLKSTONE' IN 2030 FLOAT FINISH
32	MATCH SW 7603 'POOL HOUSE' IN 16/20 FLOAT FINISH
33	MATCH SW 9167 'POLISHED CONCRETE' IN 20/30 FLOAT FINISH

THIS MATERIALS LEGEND IS A COMPLETE MATERIAL AND COLOR LIST FOR THE PROJECT. SOME IDENTIFIED NUMBERS DO NOT OCCUR ON THESE ELEVATIONS AND RELATE TO THE MATERIAL SAMPLE ON THE MATERIAL BOARD.



KEY MAP

N.T.S. N

*SEE CIVIL PLANS FOR ADDITIONAL GRADING INFO.

ELEVATIONS

0 8' 16' 32' 64'

SCALE: 1/16" = 1'

Figure 3-5 Specific Plan South Elevation

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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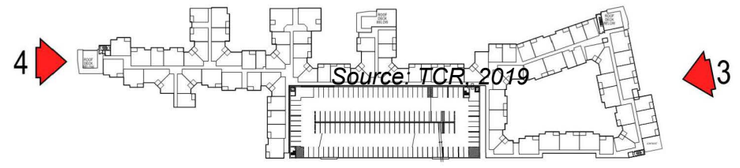
4. WEST ELEVATION

Source: TCR, 2019

MATERIALS LEGEND

1a	LA HABRA EXTERIOR PLASTER 20/30 FLOAT FINISH - PAINT GRADE	18	MATCH SW 9161 'DUSTBLU' IN20/30 FLOAT FINISH
1b	LA HABRA EXTERIOR PLASTER 16/20 FLOAT FINISH - PAINT GRADE	19	MATCH SW 9161 'DUSTBLU' IN16/20 FLOAT FINISH
2	HARDIE PLANK SIDING	20	LA HABRA STUCCO X50 'CRYSTAL WHITE' IN 20/30 FLOAT FINISH
3	APAVISA PORCELAIN TILE 'JUNOON' BEIGE NATURAL	21	A HABRA STUCCO X50 'CRYSTAL WHITE IN 16/20 FLOAT FINISH
4	DECORATIVE WIDE FLANGE TRIM	22	MATCH SW 7075 'WEB GRAY' IN 20/30 FLOAT FINISH
5	WIDE FLANGE TRELLIS W/ WOOD SLATS	23	MATCH SW 7075 'WEB GRAY' IN 16/20 FLOAT FINISH
6	MILGARD VINYL WINDOWS 'CLAY'	24	AESPAN 'PERCEPTION COLLECTION CONCEALED FASTENED PANELS IN 'METALLIC SILVER' OR 'TOWN GRAY'
7	KAWNEER OR EQUAL ALUMINUM STOREFRONT 'MED. DARK BRONZE'	26	MATCH SW 6515 'LEISURE BLUE' IN 16/20 FINISH
8	METAL MESH RAILING	27	MATCH SW 6514 'RESPITE' IN 20/30 FLOAT FINISH
9	METAL RAILING WITH COMPOSITE SLATS	28	MATCH SW 6004 'MINK' IN 20/30 FLOAT FINISH
10	GLASS RAILING	29	MATCH SW7505 'MANOR HOUSE' IN 16/20 FLOAT FINISH
11	METAL RAILING	30	MATCH SW 7703 'EARTHEN JUG' IN 20/30 FLOAT FINISH
12	FLOOR GRES PORCELAIN TILE 'FLOWTECH' AGED BRONZE	31	MATCH SW 6005 'FOLKSTONE' IN 2030 FLOAT FINISH
13	EXPOSED FASTNER SHORT RIB PERFORATED PANELS	32	MATCH SW 7603 'POOL HOUSE' IN 16/20 FLOAT FINISH
14	ORCO BLOCK SPLIT FACE PLANTERS 'BLACK 250'	33	MATCH SW 9167 'POLISHED CONCRETE' IN 20/30 FLOAT FINISH
15	ORCO BLOCK C.M.U. PLANTERS W/COMPOSITE WOOD SLATS		
17	GABION WALL		

THIS MATERIALS LEGEND IS A COMPLETE MATERIAL AND COLOR LIST FOR THE PROJECT. SOME IDENTIFIED NUMBERS DO NOT OCCUR ON THESE ELEVATIONS AND RELATE TO THE MATERIAL SAMPLE ON THE MATERIAL BOARD.



KEY MAP

N.T.S. N

*SEE CIVIL PLANS FOR ADDITIONAL GRADING INFO.

ELEVATIONS

0 8' 16' 32' 64'

SCALE: 1/16" = 1'

Figure 3-6 Specific Plan West Elevation

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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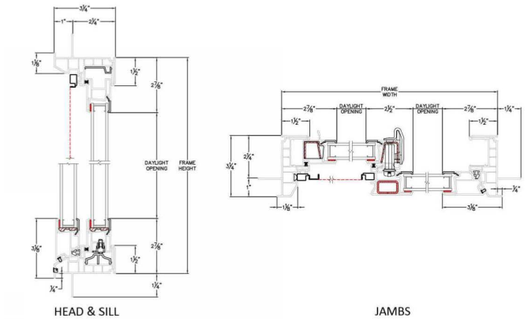


1. NORTH ELEVATION



NORTH ELEVATION (CONT'D.)

Source: TCR, 2019

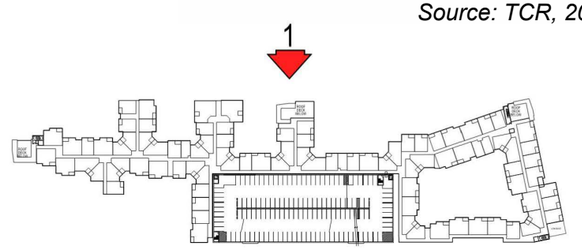


HEAD & SILL JAMBS

MATERIALS LEGEND

1a	LA HABRA EXTERIOR PLASTER 20/30 FLOAT FINISH - PAINT GRADE	18	MATCH SW 9161 'DUSTBLU' IN20/30 FLOAT FINISH
1b	LA HABRA EXTERIOR PLASTER 16/20 FLOAT FINISH - PAINT GRADE	19	MATCH SW 9161 'DUSTBLU' IN16/20 FLOAT FINISH
2	HARDIE PLANK SIDING	20	LA HABRA STUCCO X50 'CRYSTAL WHITE" IN 20/30 FLOAT FINISH
3	APAVISA PORCELAIN TILE 'JUNOON' BEIGE NATURAL	21	A HABRA STUCCO X50 'CRYSTAL WHITE IN 16/20 FLOAT FINISH
4	DECORATIVE WIDE FLANGE TRIM	22	MATCH SW 7075 'WEB GRAY' IN 20/30 FLOAT FINISH
5	WIDE FLANGE TRELLIS W/ WOOD SLATS	23	MATCH SW 7075 'WEB GRAY' IN 16/20 FLOAT FINISH
6	MILGARD VINYL WINDOWS 'CLAY'	24	AESPAN 'PERCEPTION COLLECTION CONCEALED FASTENED PANELS IN 'METALLIC SILVER' OR 'TOWN GRAY'
7	KAWNEER OR EQUAL ALUMINUM STOREFRONT 'MED. DARK BRONZE'	26	MATCH SW 6515 'LEISURE BLUE' IN 16/20 FINISH
8	METAL MESH RAILING	27	MATCH SW 6514 'RESPITE' IN 20/30 FLOAT FINISH
9	METAL RAILING WITH COMPOSITE SLATS	28	MATCH SW 6004 'MINK' IN 20/30 FLOAT FINISH
10	GLASS RAILING	29	MATCH SW7505 'MANOR HOUSE' IN 16/20 FLOAT FINISH
11	METAL RAILING	30	MATCH SW 7703 'EARTHEN JUG' IN 20/30 FLOAT FINISH
12	FLOOR GRES PORCELAIN TILE 'FLOWTECH' AGED BRONZE	31	MATCH SW 6005 'FOLKSTONE' IN 2030 FLOAT FINISH
13	EXPOSED FASTNER SHORT RIB PERFORATED PANELS	32	MATCH SW 7603 'POOL HOUSE' IN 16/20 FLOAT FINISH
14	ORCO BLOCK SPLIT FACE PLANTERS 'BLACK 250'	33	MATCH SW 9167 'POLISHED CONCRETE' IN 20/30 FLOAT FINISH
15	ORCO BLOCK C.M.U. PLANTERS W/COMPOSITE WOOD SLATS		
17	GABION WALL		

THIS MATERIALS LEGEND IS A COMPLETE MATERIAL AND COLOR LIST FOR THE PROJECT. SOME IDENTIFIED NUMBERS DO NOT OCCUR ON THESE ELEVATIONS AND RELATE TO THE MATERIAL SAMPLE ON THE MATERIAL BOARD.



KEY MAP

N.T.S. N

*SEE CIVIL PLANS FOR ADDITIONAL GRADING INFO.

ELEVATIONS

0 8' 16' 32' 64'

SCALE: 1/16" = 1'

Figure 3-7 Specific Plan North Elevation

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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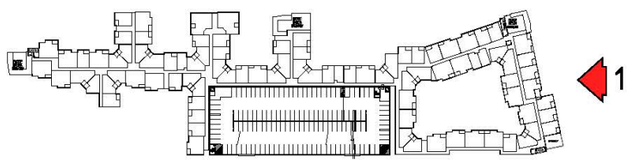
1. EAST ELEVATION (MAGNOLIA)

Source: TCR, 2019

MATERIALS LEGEND

1a	LA HABRA EXTERIOR PLASTER 20/30 FLOAT FINISH - PAINT GRADE	18	MATCH SW 9161 'DUSTBLU' IN20/30 FLOAT FINISH
1b	LA HABRA EXTERIOR PLASTER 16/20 FLOAT FINISH - PAINT GRADE	19	MATCH SW 9161 'DUSTBLU' IN16/20 FLOAT FINISH
2	HARDIE PLANK SIDING	20	LA HABRA STUCCO X50 'CRYSTAL WHITE" IN 20/30 FLOAT FINISH
3	APAVISA PORCELAIN TILE 'JUNOON' BEIGE NATURAL	21	A HABRA STUCCO X50 'CRYSTAL WHITE IN 16/20 FLOAT FINISH
4	DECORATIVE WIDE FLANGE TRIM	22	MATCH SW 7075 'WEB GRAY' IN 20/30 FLOAT FINISH
5	WIDE FLANGE TRELLIS W/ WOOD SLATS	23	MATCH SW 7075 'WEB GRAY' IN 16/20 FLOAT FINISH
6	MILGARD VINYL WINDOWS 'CLAY'	24	ALSPAN 'PERCEPTION COLLECTION' CONCEALED FASTENED PANELS IN 'METALLIC SILVER' OR 'TOWN GRAY'
7	KAWNEER OR EQUAL ALUMINUM STOREFRONT 'MED. DARK BRONZE'	26	MATCH SW 6515 'LEISURE BLUE' IN 16/20 FINISH
8	METAL MESH RAILING	27	MATCH SW 6514 'RESPITE' IN 20/30 FLOAT FINISH
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11	METAL RAILING	30	MATCH SW 7703 'EARTHEN JUG' IN 20/30 FLOAT FINISH
12	FLOOR GRES PORCELAIN TILE 'FLOWTECH' AGED BRONZE	31	MATCH SW 6005 'FOLKSTONE' IN 2030 FLOAT FINISH
13	EXPOSED FASTNER SHORT RIB PERFORATED PANELS	32	MATCH SW 7603 'POOL HOUSE' IN 16/20 FLOAT FINISH
14	ORCO BLOCK SPLIT FACE PLANTERS 'BLACK 250'	33	MATCH SW 9167 'POLISHED CONCRETE' IN 20/30 FLOAT FINISH
15	ORCO BLOCK C.M.U. PLANTERS W/COMPOSITE WOOD SLATS		
17	GABION WALL		

THIS MATERIALS LEGEND IS A COMPLETE MATERIAL AND COLOR LIST FOR THE PROJECT. SOME IDENTIFIED NUMBERS DO NOT OCCUR ON THESE ELEVATIONS AND RELATE TO THE MATERIAL SAMPLE ON THE MATERIAL BOARD.



KEY MAP

N.T.S. N

*SEE CIVIL PLANS FOR ADDITIONAL GRADING INFO.

ENLARGED ELEVATIONS

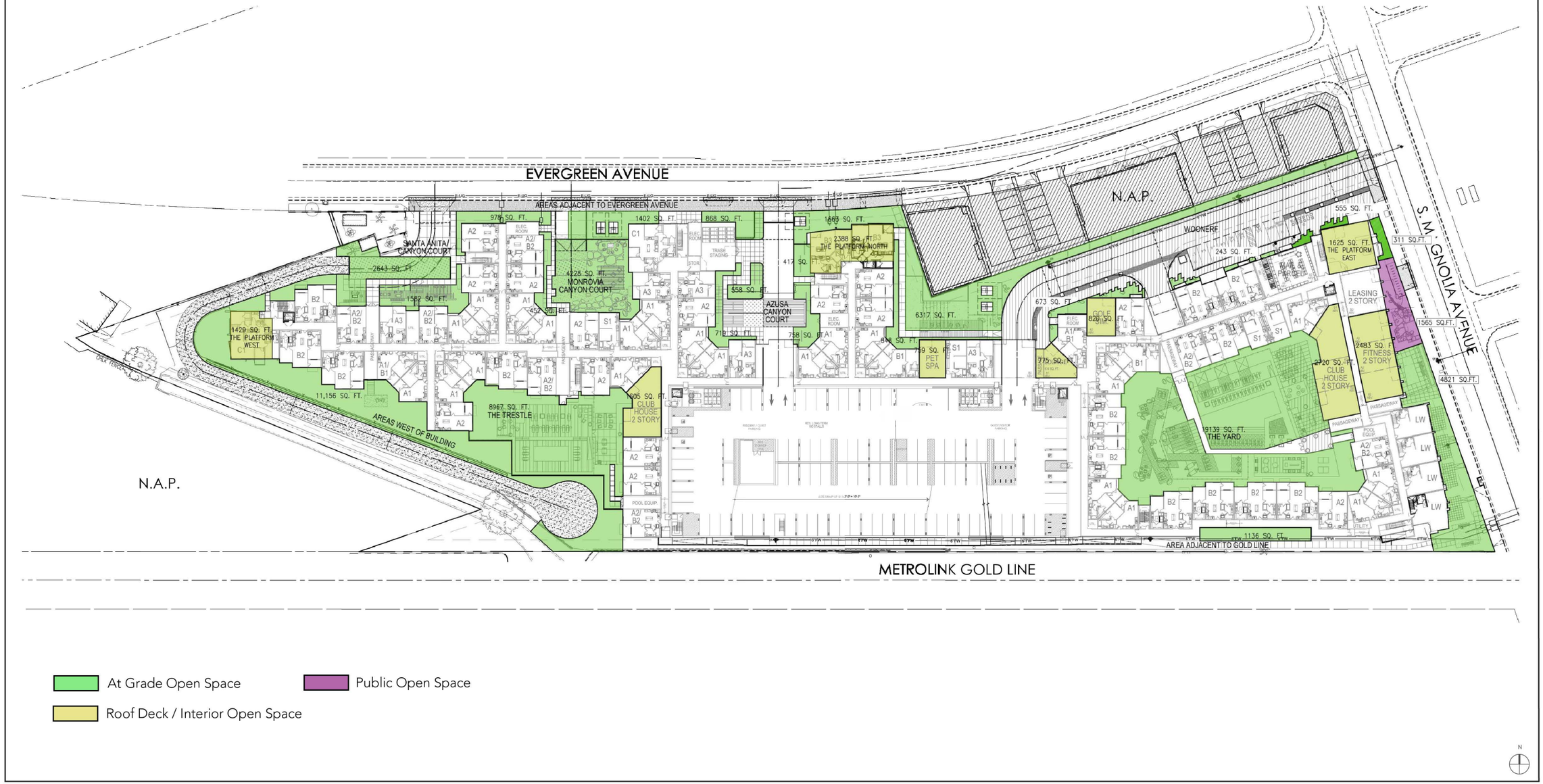
0 5' 10' 20' 30'

SCALE: 1:10

Figure 3-8 Specific Plan East Elevation

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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Source: TCR, 2019

Figure 3-9 Specific Plan Open Space Plan

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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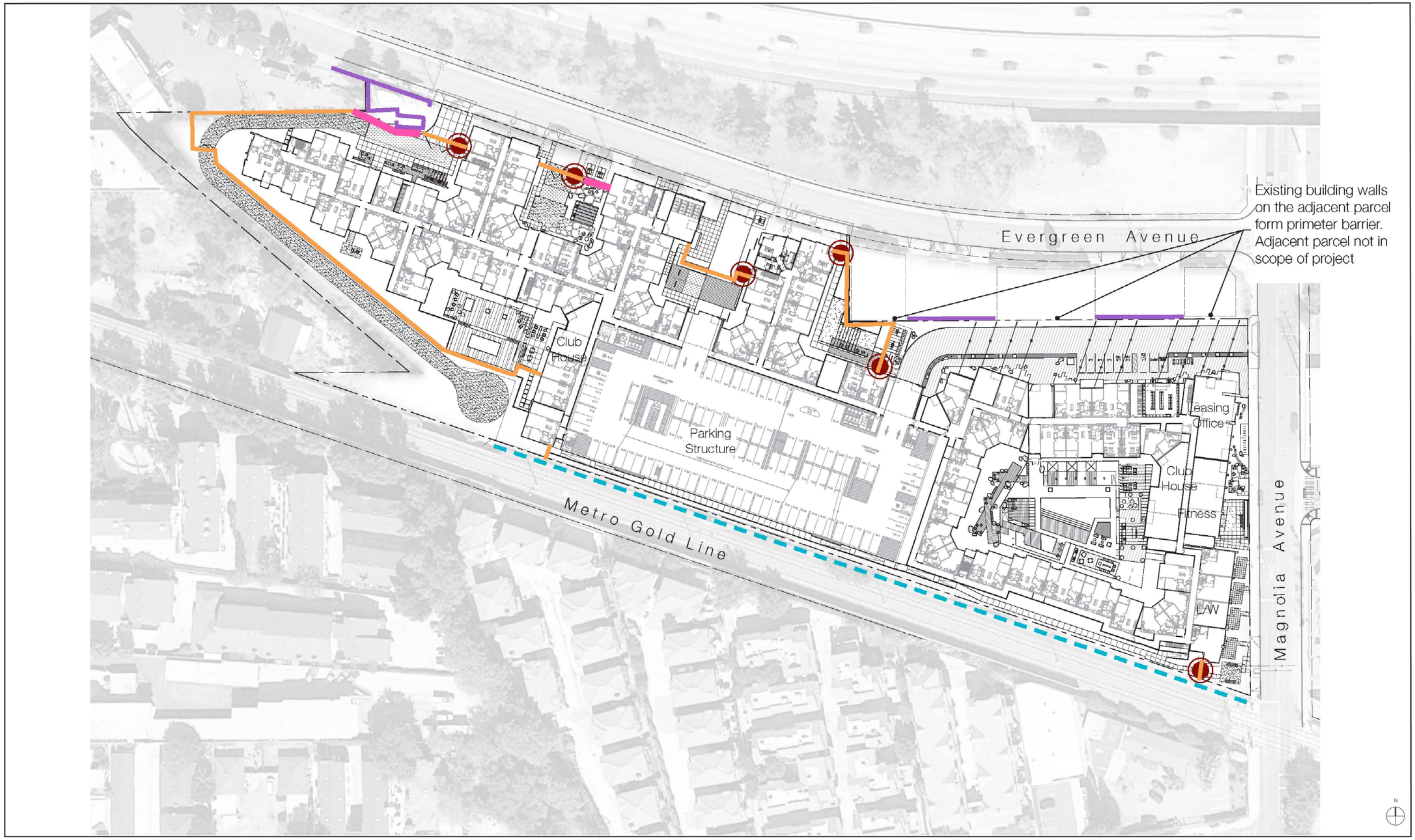


Source: TCR, 2019

Figure 3-10 Specific Plan Landscape Plan

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

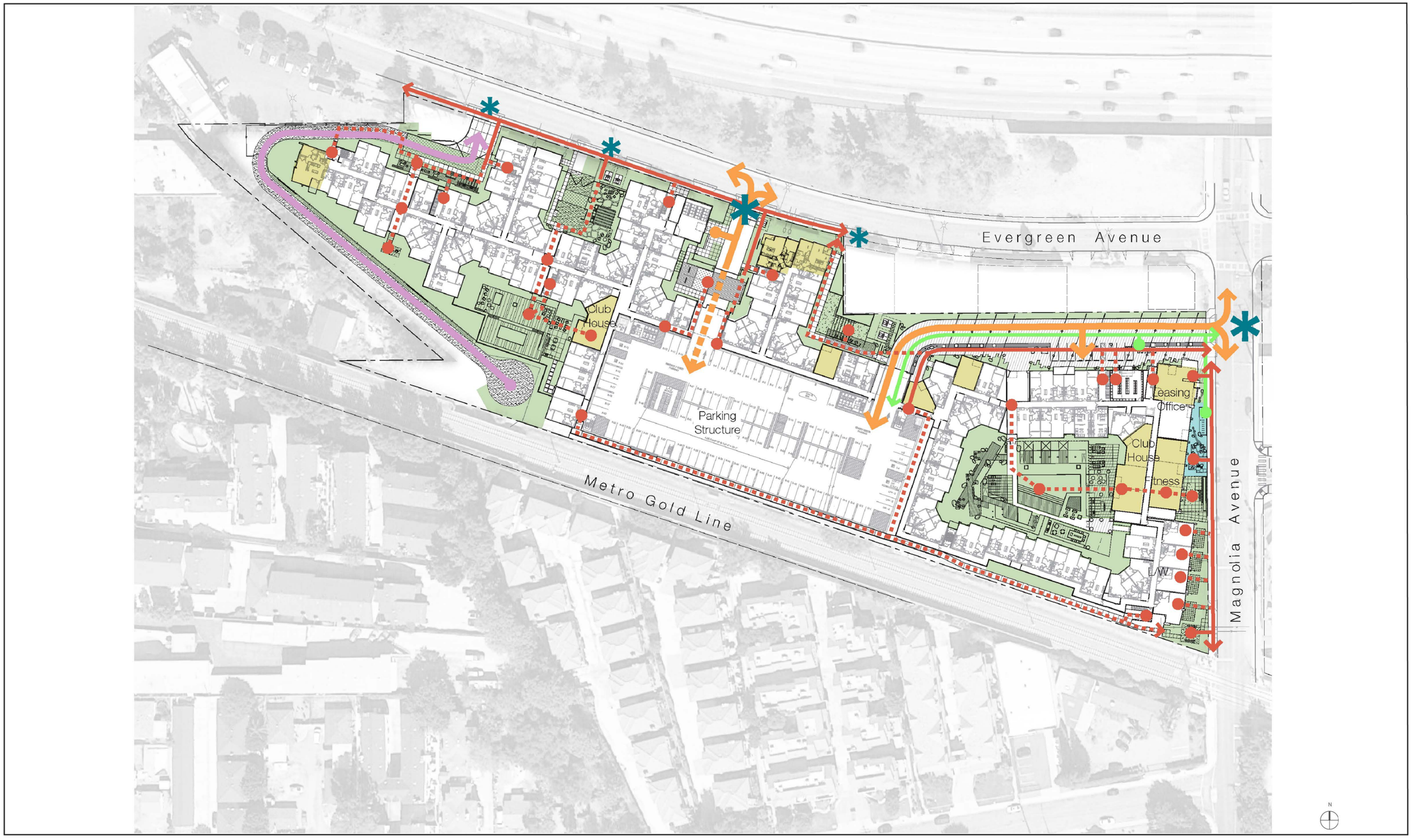
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Source: TCR, 2019

Figure 3-11 Specific Plan Perimeter Walls and Fencing

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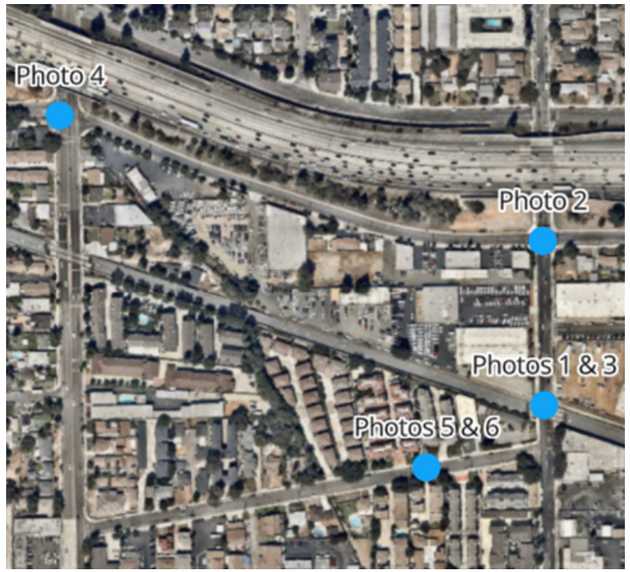
Source: TCR, 2019

Open Space
Public Open Space
Roof Deck/Interior Amenities
Bicycle (Public)
Pedestrian (Public)
Pedestrian (Private)
Vehicular (Private)
Vehicular (Public)
Vehicular (Maintenance)
Primary Entry
Secondary Entry

Figure 3-12 Specific Plan Mobility Plan

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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Map of Photo Locations



Photo 1. Standing on corner of Magnolia and METRO Gold Line, looking west at southeast corner of Alexan Foothills Specific Plan area



Photo 2. Standing on the corner of Magnolia Avenue and Evergreen Avenue, looking west along Evergreen Avenue. Northern boundary of the Alexan Foothills Specific Plan is on the left of the photo.



Photo 3. Standing on corner of Magnolia Avenue and METRO Gold Line, looking northeast. MODA at Monrovia Station apartments are on the right of the photo.



Photo 4 Standing on the corner of Evergreen Avenue and Mayflower Avenue, looking south along Mayflower Avenue at residences on the west side of Mayflower Avenue.



Photo 5. Standing on Genoa Street, looking north. Alexan Foothills Specific Plan area in background.



Photo 6. Standing on Genoa Street, looking north. Alexan Foothills Specific Plan area in background.

Figure 3-13 Site Photos

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Source: TCR, 2019

Figure 3-14 Specific Plan 3D Rendering 1: Looking South Along Magnolia

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Source: TCR, 2019

Figure 3-15 Specific Plan 3D Rendering 2: Looking North Along Magnolia

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Source: TCR, 2019

Figure 3-16 Specific Plan 3D Rendering 3: Looking West From Pomona

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Source: TCR, 2019

Figure 3-17 Specific Plan 3D Rendering 4: Looking Southwest Along Evergreen

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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Source: TCR, 2019

Figure 3-18 Specific Plan View Simulation 1: Existing Buildings

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Source: TCR, 2019

Figure 3-19 Specific Plan View Simulation 1: Existing Buildings with Proposed Buildings

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Source: TCR, 2019

Figure 3-20 Specific Plan View Simulation 2: Existing Buildings

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Source: TCR, 2019

Figure 3-21 Specific Plan View Simulation 2: Existing Buildings with Proposed Buildings

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Source: TCR, 2019

Figure 3-22 Specific Plan View Simulation 3: Existing Buildings

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Source: TCR, 2019

Figure 3-23 Specific Plan View Simulation 3: Existing Buildings with Proposed Buildings

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4. INTRODUCTION TO THE ENVIRONMENTAL ANALYSIS

4.1 EVALUATION OF IMPACTS

Pursuant to CEQA, this EIR evaluates the environmental impacts associated with the Project and identifies mitigation measures to reduce significant impacts to less than significant levels, if feasible. The Project includes the following components: General Plan Amendment (GPA), Zoning Code Amendment (ZCA), and the Alexan Foothills Specific Plan.

The entire 9.63-acre Project area is proposed for a GPA from Manufacturing to Planned Development Area (PD-27: Station Square West). The ZCA will establish a Planned Development Area (PD-27: Station Square West [PD-27]) for the entire 9.63-acre Project area in order to be consistent with the GPA. A zone change for 2.86 acres is proposed from Manufacturing to a Planned Development Area to include high density residential development as well as other uses identified in PD-27 for Areas A and C (ZCA Areas A and C). The Alexan Foothills Specific Plan is proposed on a 6.77-acre site located within ZCA Area B.

Program- and Project-Level Environmental Analysis

This EIR generally includes a programmatic analysis of the PD GPA and PD ZCA Areas A and C, and a project-level analysis of the Alexan Foothills Specific Plan (ZCA Area B). Each of the environmental analysis chapters will clearly state the type of analysis provided for each environmental topical impact area. With respect to ZCA Areas A and C, the precise design and impacts associated with future development within the ZCA areas are unknown at this time, and, as noted above, are examined at a programmatic level of detail in this EIR. Environmental review of subsequent individual actions within the ZCA Areas A and C would be undertaken at a later time, if and when such proposals come before the City in the form of a site-specific development application or improvement project.

4.1.1 Impact Assessment Baseline

CEQA Guidelines Sections 15125(a) and (e) provide that the existing environmental setting (the environmental conditions in the project vicinity at the time the environmental analysis is begun) should constitute the baseline physical conditions by which it is determined whether an impact is significant. Pursuant to this guideline, all impact assessments in this EIR are based upon comparison of the projected future "With Project" conditions (i.e., buildout of ZCA Areas A and C and the Alexan Foothills Specific Plan) with the existing environmental setting rather than with the future "Without Project" condition.

4.1.2 Impact Assessment Assumptions

The purpose of this EIR is to evaluate the likely environmental consequences of the Project, as described in Chapter 3, and to identify mitigation measures and alternatives that could minimize or avoid potentially significant adverse environmental impacts and/or to increase beneficial effects. The EIR assumes full buildout of the Project (GPA, ZCA Areas A and C, and the Alexan Foothills Specific Plan) as described in Chapter 3, through the year 2030, consistent with the City's existing General Plan.

Since the release of the Notice of Preparation (NOP) for the Project, CEQA and the CEQA Guidelines were revised effective December 28, 2018. Recent changes to CEQA and the CEQA Guidelines, including new language in the Environmental Checklist Form (Appendix G of the CEQA Guidelines) are used in this document.

4.2 "SIGNIFICANT IMPACTS" AND OTHER KEY EIR TERMINOLOGY

This EIR identifies the "significant impacts" of the Project and corresponding mitigation measures that would avoid or reduce those impacts to a less than significant level. Where it is determined in this EIR that a particular impact cannot be avoided or reduced to a less than significant level by the identified mitigation measures, the EIR identifies that impact as a "significant unavoidable impact." Significant unavoidable impacts are also discussed in Chapter 22 (CEQA Mandated Sections) of this EIR. These terms ("significant," "unavoidable," "mitigation") and other key CEQA terminology used in this EIR are defined in the subsequent table (Table 4-1).

Table 4-1 Definitions of Key EIR Terminology

Significant/Potentially Significant Impact	"Significant effect on the environment" means a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic and aesthetic significance. An economic or social change by itself shall not be considered a significant effect on the environment. A social or economic change related to a physical change may be considered in determining whether the physical change is significant. (CEQA Guidelines, Section 15382).
Significant Cumulative Impact	"Cumulative impacts" are defined as two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts. (CEQA Guidelines, Section 15355).
Unavoidable Significant Impact	"Unavoidable significant impacts" are defined as those significant adverse environmental impacts for which either no mitigation or only partial mitigation is feasible. If a project is to be approved that will result in in the occurrence of significant effects which are identified in the EIR but are not avoided or substantially lessened, the Lead Agency must include in the record of the project approval a written statement of the specific reasons to support its action (i.e., a "statement of overriding considerations") (CEQA Guidelines, Sections 15126.2[b] and 15093[b]).
Significance Criteria	The criteria used in this EIR to determine whether an impact is or is not *"significant"* are based on (a) CEQA-stipulated "mandatory findings of significance" (i.e., where any of the specific conditions occur under which the Legislature and the Secretary of Resources have determined to constitute a potentially significant effect on the environment, which are listed in CEQA Guidelines Section 15065); (b) specific criteria that a Resources Agency has determined are "normally" considered to constitute a "significant effect on the environment;" (c) the relationship of the project effect to the adopted policies, ordinances and standards of the Lead Agency and of responsible agencies; and/or (d) commonly accepted practice and the professional judgment of the EIR authors and

	Lead Agency staff.
Mitigation Measures	For each significant impact, the EIR must identify a specific "mitigation" measure or set of measures capable of (a) avoiding the impact altogether by not taking a certain action or parts of an action; (b) minimizing impacts by limiting the degree or magnitude of the action and its implementation; (c) rectifying the impact by repairing, rehabilitating, or restoring the impacted environment; (d) reducing or eliminating the impact over time by preservation or maintenance operations during the life of the action; or (e) compensating for the impact by replacing or providing substitute resources or environments. (CEQA Guidelines, Section 15370).

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
CEQA	California Environmental Quality Act
EIR	Environmental Impact Report
GPA	General Plan Amendment
NOP	Notice of Preparation
PD	Planned Development
ZCA	Zoning Code Amendment

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5. AESTHETICS AND VISUAL RESOURCES

This EIR Chapter describes existing visual and scenic resources in the Project area. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project, describes potential impacts that could result from the Project, and includes mitigation measures that would avoid or reduce those potential impacts.

5.1 SETTING

The environmental and regulatory setting of the Project area with respect to aesthetics and visual resources is described based on local, state and federal regulations.

5.1.1 Environmental Setting

The City of Monrovia is located in the San Gabriel Valley. The northern portion of the City extends into the foothills of the San Gabriel Mountains and abuts the Angeles National Forest. The terrain in Monrovia slopes to the south from the foothills. The San Gabriel Mountains are the most dominant visual feature in Monrovia and serve as a backdrop of views to the north. The mountains are visible from most parts of Monrovia and are most notable along north-south arterial roadways, such as Myrtle Avenue.

The Project is located within the southern part of the City and contains a variety of uses built primarily in the post-World War II era including light industrial structures, a religious building, a commercial office building, single family residences, and an asphalt covered storage lot. The existing buildings are single-story, typical of the post-war era, and have limited aesthetic value.

The area immediately north of the Project (i.e., north of West Evergreen Avenue) comprises a narrow strip of vacant Caltrans Right-of-Way containing vegetative screening, and then Interstate-210 (I-210). There are no scenic highways near the Project.

The area immediately to the east of the Project (i.e., east of Magnolia Avenue) currently comprises a mix of single-story industrial buildings and single-story single-family residences, as well as the MODA apartments, a new 5-story multi-family apartment complex recently constructed as seen in site photos and shown in 3D renderings of the Alexan Foothills Specific Plan contained in Chapter 3. The MODA apartment buildings vary in height between 44 feet and 75 feet. Their building design reflects a contemporary architectural style. The articulation of horizontal and vertical surfaces, fenestration and openings, color, texture, and the use of varied materials reduce the appearance of undifferentiated massing. Exterior materials consist of a mix of metal, ceramic tile, and textured stucco. The remaining existing residential and industrial areas immediately east of the Project are also proposed for new multi-family residential development of similar height and style as shown in 3D renderings of the Alexan Foothills Specific Plan.

The area immediately south of the Project comprises the light rail tracks of the METRO Gold Line and then high-density residential development comprising a mix of single-story, two-story, single-family, and multi-family residences (including townhouse complexes). This residential neighborhood consists of a mix of post-World War II era and modern stucco homes as seen in site photos in Chapter 3.

The area immediately west of the Project, west of Mayflower Avenue, comprises medium density residential development primarily comprising single-story, and two-story stucco apartment buildings and single-family homes.

Sources of nighttime lighting in areas near the Project include lighting of building interiors, security lighting (i.e., for parking lots), street lights, lighting of the I-210, and headlights along roadways and the I-210. Daytime glare is produced by the use of reflective materials, such as reflective glass and metals, in building exteriors. Glare from car headlights can also occur at night. Windows and materials in existing buildings are potential sources of glare in the Project area, but there are no known issues with glare from existing buildings. Headlights from the I-210 are also a known potential source of glare in the Project area, but the I-210 is elevated from the base elevation of the Project site by approximately 30 feet. Therefore, glare from car headlights are not likely to impact existing land uses in the Project area.

5.1.2 Regulatory Setting

Federal

National Scenic Byways Program

The National Scenic Byways program is part of the U.S. Department of Transportation, Federal Highway Administration. The program was established under the Intermodal Surface Transportation Efficiency Act of 1991 and was reauthorized in 1998 under the Transportation Equity Act for the 21st Century. Under the program, the U.S. Secretary of Transportation recognizes certain roads as National Scenic Byways or All-American Roads based on their archaeological, cultural, historic, natural, recreational, and scenic qualities. The only National Scenic Byway located within southern California is the Arroyo Seco Historic Parkway – Route 110 in Los Angeles County. The National Scenic Byway is not located near the Project.

State

State Scenic Highway Program

The State Scenic Highway Program, created by the California Legislature in 1963, was established to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. A scenic highway is designated under this program when a local jurisdiction adopts a scenic corridor protection program, applies to Caltrans for scenic highway approval, and receives notification from Caltrans that the highway has been designated as a Scenic Highway. When a City or County nominates an eligible scenic highway for official designation, it defines the scenic corridor, which is land generally adjacent and visible to a motorist on the highway. State Laws governing the Scenic Highway Program are found in the Streets and Highways Code, Sections 260 through 263. There are no State Scenic Highways in the vicinity of the Project.

Local

Monrovia General Plan

The following policies of City of Monrovia's General Plan Land Use Element are applicable to the Project:

- **Policy 4.1:** Require new developments in established neighborhoods to consider the established architectural styles, development patterns, building materials, and scale of buildings within the vicinity of the proposed project.

- **Policy 4.2:** Require all new development to consider existing uses in terms of neighborhood disruption, buffering, architectural styles, building materials, development patterns, and scale of buildings within the vicinity of the proposed project.

- **Policy 9.3:** Continue to monitor development standards in single family and multi-family residential districts, including setbacks, height, density, and required open space, in order to ensure that new development is compatible with the scale and character of existing development.

- **Policy 13.3:** In commercial and industrial areas designated Planned Development, develop architectural, site design, and landscape guidelines.

Monrovia Zoning Code

Section 17.32.080 of the Monrovia Zoning Code requires that lighting, where provided to illuminate private property, must be arranged to reflect away from adjoining property or any public way and to be arranged so as not to cause a nuisance either to highway traffic or to the living environment. Section 17.32.090 of the Zoning Code relates to glare. Specifically, no direct or reflected glare shall be visible from the property boundary line. Sky-reflected glare shall not inconvenience or annoy persons or interfere with the use and enjoyment of property in and about the area where it occurs.

The Monrovia Zoning Code (Section 17.12.010[G][9]) defines “sensitive areas” requiring visual impact analyses for new development in areas “which are higher in elevation and visually exposed to the city-at-large and could potentially impact existing city-at-large view sheds,” however, these areas are only defined in hillside areas. Otherwise, the Zoning Code has no definition of a scenic vista.

Monrovia Neighborhood Compatibility Design Review Process

Section 17.12.005 of the Residential Development Standards in the Monrovia Zoning Code requires Neighborhood Compatibility Design Review for all proposed new residential units, and additions affecting a certain percentage of the existing structure, in a residential zone or a PD Zone designated for residential development to ensure that such structures are found to be compatible with the neighborhood within which it is located. The purpose and intent of the City’s design review process is as follows:

(A) Purpose and intent. The preservation of the character of Monrovia’s neighborhoods is an important goal for the community. The purpose of this chapter is to integrate new development into the context and character of existing neighborhoods to achieve compatibility. The tools implemented to address compatibility area intended to provide an approach that balances the desires of the property owner to develop his or her property with the concerns of surrounding residents to maintain the character of their neighborhood.

(1) The purpose and intent of the neighborhood compatibility design review is:

(a) To preserve the character and charm of the city and its neighborhoods by establishing processes and criteria to review new construction to assure that the resulting structures are compatible with the neighborhood within which they are located.

(b) To provide reasonable review of proposals to maximize compatibility with the unique character of the neighborhood in terms of mass, scale, height, and design, while generally maintaining neutrality regarding the architectural style of the proposed development.

(c) To minimize privacy impacts of new two-story construction upon neighboring properties while still maintaining good design.

(d) To provide a review process to regulate the development or redevelopment of properties within existing neighborhoods so as to maximize visually compatible relationships, and bright, open neighborhoods.

(e) To educate applicants regarding their obligation to take into consideration the potential impacts on their neighbors when modifying structures or proposing new structures and take reasonable steps to mitigate such impacts.

(2) It is not the intent of this chapter to unreasonably restrict or regulate the right of an individual property owner to determine the type of structure or addition desired.

(3) The neighborhood compatibility design review process is intended to be an integral part of the overall design process that should commence with the city staff and the applicant prior to the preparation of any design concepts.

(4) The regulations in this section are in addition to the requirements of other regulations or ordinances of the city and where in conflict the more restrictive regulations shall apply.

According to Section 17.12.005 of the Residential Development Standards in the Monrovia Zoning Code, the City's Design Review Committee shall review applicable developments for neighborhood compatibility using the following criteria:

(1) Exterior material review.

(a) Building materials and finishes on exterior surfaces;

(b) Architectural integrity of the proposed project.

(2) Site planning/site design.

(a) Orientation of the building(s) on the site and in relation to surrounding property improvements, including entrances, parking areas, and driveways;

(b) Garage and parking locations, driveway and driveway approach locations;

(c) Onsite building relationships;

(d) Landscaping.

(3) Building form.

(a) Roof designs and materials;

(b) The height and building profile of the structures;

(c) Mass, bulk, modulation, scale and articulation.

(4) Architectural features/design. All exterior facade and architectural features including window types, entrance areas, porches, chimneys, and the use of building modulation.

(5) Neighbor impact review.
(a) The scale and bulk of the building(s) in relationship to the neighboring properties, including the location and orientation of second stories;
(b) Reasonably minimizes privacy impacts;
(c) Solar access;
(d) Grade differential.

(6) Neighborhood compatibility review.
(a) Relationship of development to the surrounding neighborhood such as appropriate mass, architectural features, scale, and building materials;
(b) Prevailing/predominant development patterns.

5.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts to sensitive aesthetic or visual resources that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts. A program-level analysis was conducted for ZCA Areas A and C and a project-level analysis was conducted for the proposed Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

5.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: Items I (a) through (d), implementation of the Project would have a significant impact related to aesthetics and visual resources if it would:

(a) Have a substantial adverse effect on a scenic vista;

(b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway;

(c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site or its surroundings (public views are those that are experienced from publicly accessible vantage points); or

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

The Project qualifies as a mixed-use residential project on an infill site within a Transit Priority Area (TPA), as discussed in Chapter 3, and therefore, falls under Sections 21099(d)(1) and (2) of CEQA which state:

"(d)(1) Aesthetic and parking impacts of a residential, mixed-use residential, or employment center project on an infill site within a transit priority area shall not be considered significant impacts on the environment.

(2) (A) This subdivision does not affect, change, or modify the authority of a lead agency to consider aesthetic impacts pursuant to local design review ordinances or other discretionary powers provided by other laws or policies.

(B) For the purposes of this subdivision, aesthetic impacts do not include impacts on historical or cultural resources."

5.2.2 Analysis Methodology

The following definitions are used in the impact analysis on aesthetics and visual resources for the Project:

Scenic Vista. A "scenic vista" is not defined in CEQA or the Monrovia Municipal Code or General Plan. For the purposes of this analysis, a scenic vista is defined as "a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public providing or relating to views of impressive or beautiful natural scenery where a vista is defined as 'a distant view through or along an avenue or opening.'"

Scenic Resources. "Scenic resources" are referred to in CEQA as "trees, rock outcroppings, and historic buildings within view from a state scenic highway." A "scenic resource" is not defined in the Monrovia Municipal Code or General Plan. For the purposes of this analysis, a "scenic resource" is defined as a state scenic highway, National Scenic Byway, National Scenic Trail, National Scenic Area, or state or federal designated natural or wilderness area.

Glare. According to the American National Standards Institute (ANSI)/Illuminating Engineering Society (IES) RP-16-17 Nomenclature and Definitions for Illuminating Engineering, glare is defined as "The sensation produced by luminances within the visual field that are sufficiently greater than the luminance to which the eyes are adapted to cause annoyance, discomfort, or loss in visual performance or visibility" where "The magnitude of the sensation of glare depends on such factors as the size, position and luminance of a source; the number of sources; and the luminance to which the eyes are adapted."

The methodology for evaluating potential environmental impacts on aesthetics and visual resources followed this basic sequence:

(1) City documents were reviewed to identify existing environmental conditions and problems related to aesthetics and visual resources**,** including the regulatory framework that applies to these issues.

(2) View simulations were prepared for the Alexan Foothills Specific Plan and used for the impact analysis on public views of scenic vistas. Visual simulations are shown in Chapter 3 and included in the plan set for the Alexan Foothills Specific Plan contained in Appendix M.

(3) 3D Renderings were prepared for the Alexan Foothills Specific Plan and used for the impact analysis on visual character. 3D Renderings are shown in Chapter 3 and included in the plan set for the Alexan Foothills Specific Plan contained in Appendix M.

(4) A shade and shadow analysis was conducted for the Alexan Foothills Specific Plan and used for the impact analysis on light, glare, shade, and shadows. The result of the shade and shadow analysis are shown in Figures 5-1 through 5-10 and included in the plan set for the Alexan Foothills Specific Plan contained in Appendix M.

(5) The CEQA Statute and Guidelines, including Appendix G (Environmental Checklist Form), were consulted to identify environmental impact topics and issues that should be addressed.

(6) The Project was analyzed to determine if any significant impacts to aesthetics and visual resources would occur.

(7) For potential environmental impacts, mitigation measures were designed to avoid or reduce each impact to a less than significant level, where possible.

5.2.3 Environmental Impacts

IMPACT AES-1 IMPACTS ON SCENIC VISTAS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Scenic vistas can be impacted by development in two ways. First, a structure may be constructed that blocks the view of a vista. Second, the vista itself may be altered (e.g., development on a scenic hillside).

As stated above, Section 17.12.010 of the Monrovia Municipal Code provides development standards for protection of scenic vistas; however, these are applicable only to hillside areas (Residential Foothill Zone) where views are more pronounced due to topography. As discussed above, for the purposes of this analysis, a scenic vista can be defined as "a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public providing or relating to views of impressive or beautiful natural scenery where a vista is defined as 'a distant view through or along an avenue or opening.'" A "substantial adverse effect" would involve a significant interruption of a public panoramic view.

Development in the Project area would not have a substantial adverse effect on a scenic vista, as the Project vicinity is an urbanized environment that does not afford expansive scenic views and has no aesthetic features such as prominent ridges. The Project site is relatively flat. Limited views of the San Gabriel Mountains, approximately two miles to the north, are available along Magnolia and Mayflower Avenues, Duarte Road, and the METRO Gold Line as shown in view simulations in Chapter 3, Figure 3-18 to Figure 3-23. However, these views are often obscured by street trees, existing buildings, and other structures. Therefore, impacts on scenic vistas from buildout of the Project would be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT AES-2 IMPACTS ON SCENIC RESOURCES

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

No scenic resource would be impacted by the Project. A section of the I-210 is eligible for state highway designation, however, this eligible section is west of the City of Monrovia. The City of Monrovia has no local scenic roadways designated in their General Plan, and there are no

scenic resources onsite or adjacent to the Project such as rock outcrops or trees that have scenic value. Therefore, there would be no impact on scenic resources.

Mitigation Measures

No mitigation measures are required.

IMPACT AES-3 IMPACTS ON VISUAL CHARACTER

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The Alexan Foothills Specific Plan, as well as future residential development within ZCA Areas A and C, would be subject to design review under the Neighborhood Compatibility Design Review process required in the City's Residential Development Standards (Section 17.12.020 of the Monrovia Municipal Code) and described above under 5.1.2, Regulatory Setting.

The following General Provisions 2, 4, and 5 of the new Planned Development PD-27 would apply to all new development in the Project area:

2. *New development shall be designed to be compatible with the Urban Design Objectives outlined in the Land Use Element for the Station Square Transit Village (PD-12) area (i.e., architecture, hardscape, landscape). New developments shall be designed to minimize massing and provide for articulation and design variety to enhance the pedestrian realm (i.e., include a pedestrian-scaled façade, provide easily identifiable pedestrian access to building entrances, etc.).*

4. *New development located adjacent to or facing residential neighborhoods south of the Gold Line light rail tracks shall be designed to minimize potential adverse impacts, including light, glare, noise, and building mass.*

5. *New development with frontage on Magnolia shall incorporate streetscape that compliments Station Square Transit Village (PD-12), including architectural massing, character, and the pedestrian environment.*

In addition, the following specific provision applies to ZCA Area B in PD-27:

5. *High-quality exterior building design (signature architecture) shall be a primary consideration in the approval of a new development.*
    a. *If mixed-use developments are proposed, they shall: incorporate neighborhood-serving ground floor commercial space with frequent sidewalk entrances to promote pedestrian activity along the street; include communal and private open space for residents; make ground floor commercial uses visually distinct from the residential above; distinguish residential entrances from commercial entrances; and incorporate upper floor balconies, bays, and windows that overlook the street into residential units to enliven the street elevation.*
    b. *If multi-family developments are proposed, they shall: introduce variation in façade and height to reduce building bulk; articulate building facades to portray a domestic scale and give identity to individual dwelling units; and orient building entrances towards the street.*

The Project area is currently comprised of one-story post-World War II structures. The Project area is surrounded on three sides by a mix of one- and two-story post-World War II era and modern stucco homes and apartments, with the exception of the MODA apartments, a 5-story apartment complex recently constructed along S. Magnolia near the METRO Gold Line tracks (as seen in photographs and 3D renderings shown in Chapter 3). The height, as well as the mass, bulk, and scale of future structures in the Project area, including the Alexan Foothills Specific Plan, have the potential to be inconsistent with the style and scale of existing one- and two-story buildings in the neighborhood. Development in ZCA Areas A and C also has the potential to introduce building styles, materials, and colors to the area that are not compatible with the existing visual character of the neighborhood. Therefore, impacts of development in the Project area has the potential to have an adverse and significant impact on the visual character of the neighborhood.

The Alexan Foothills Specific Plan was intentionally designed to break up the proposed buildings into smaller “neighborhoods” surrounding individual courtyards to reduce the scale of the project and to maximize the compatibility of it with the surrounding community. Each building’s articulation, materials, and colors have also been designed to break up the building massing to maximize compatibility with the neighborhood as well. Finally, the Alexan Foothills Specific Plan was designed to comply with Specific Provision No. 5 of the Specific Plan to introduce variation in the building façades and building heights to reduce building bulk; to articulate building facades to portray a domestic scale and give identity to individual dwelling units; and to orient building entrances towards the street.

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General Provisions 2, 4, and 5 would also ensure that future structures in ZCA Areas A and C are also designed to maximize compatibility with the visual character of the neighborhood. Specific Provisions within each ZCA Area also would ensure that new structures are designed to maximize compatibility with the neighborhood. Nevertheless, without Design Review, new development under the Project could result in the introduction of structures into the Project area that would not be consistent with the visual character of the neighborhood. Mitigation measure MM AES-1 however, ensures that Design Review would be completed for all future development in the Project area. Therefore, with implementation of Design Review, impacts on the visual character of the neighborhood would be less than significant.

Finally, use of noise barriers and/or walkways during construction of the Alexan Foothills Specific Plan or buildout of ZCA Areas A and C have the potential to affect the visual character of the area over the short-term should the construction barriers or walkways not be properly maintained (e.g., become sites of graffiti or trash). Short-term impacts would be potentially significant. However, mitigation measure MM AES-2 would ensure that construction barriers and/or walkways are maintained and that any inappropriate material is removed.

Mitigation Measures

Mitigation measure MM AES-1 and MM AES-2 are applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

MM AES-1: Neighborhood Compatibility Design Review. To ensure compatibility with the surrounding residential neighborhood, all future development in the PD-27 area, including non-residential development, shall undergo the Neighborhood Compatibility Design Review process outlined in Section 17.12.005 of the Residential Development Standards in the Monrovia Zoning Code. **Plan Requirements and Timing:** Prior to construction of future development in the PD-27 area, the development must complete the Neighborhood Compatibility Design Review

process as outlined in Section 17.12.005 of the Monrovia Zoning Code. **Monitoring:** City staff shall ensure completion of the Design Review process prior to granting land use clearance for future development.

MM AES-2: Maintenance of Construction Barriers. Prior to issuance of any construction permits, the City of Monrovia (City) Community Development Director, or designee, shall verify that all construction plans include the following note: "During construction, the Construction Contractor shall ensure, through appropriate postings and daily visual inspections, that no unauthorized materials are posted on any temporary construction barriers or temporary pedestrian walkways, and that any such temporary barriers and walkways are maintained in a visually attractive manner. In the event that unauthorized materials or markings are discovered on any temporary construction barrier or temporary pedestrian walkway, the Construction Contractor shall remove such items within 48 hours." **Requirements and Timing:** Measure shall be printed on all construction drawings. **Monitoring:** City staff shall conduct periodic site inspections during construction.

IMPACT AES-4 LIGHT, GLARE, SHADE AND SHADOWS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Light and Glare. Nighttime illumination of outdoor areas can affect people in several ways. For example, where intense lighting is viewed against a dark background, the contrast attracts the attention of the viewer and could be considered a nuisance (City of Monrovia 2008). Under low-light conditions, the human eye adjusts to the brightest light within the field of view. If the range of light intensity to which the eye is exposed is large, the eye will be relatively insensitive to the more dimly lighted areas within the field of view. In addition, increased illumination can affect the suitability of sleeping areas, use of outdoor areas at natural light levels, and privacy (City of Monrovia 2008). The degree of impacts may be related to the degree of change from the illumination levels to which people have become accustomed. Typical light sources include street lights, lights to illuminate large surface parking lots, light emitted from the interiors of buildings and residences, and headlights on roadways.

Glare is the discomfort or impairment of vision experienced when the image is excessively bright in relation to the general surroundings (City of Monrovia 2008). Glare created by lighting systems can be measured for impairment of view. A typical example of the effects of glare is automobile headlights. When viewed directly in front of a vehicle with the headlights on full beam, vision is impaired, resulting in disabling glare. However, when viewed from behind the light source, the same headlights would not impair vision. Glare is also produced by large glass structures or other reflective building materials. Glare can affect both day and nighttime views.

Buildout of the Project could produce new sources of light and/or glare that may potentially cause significant impacts during the daytime and/or nighttime. This is especially important given the proximity of the Project to the I-210. Impacts associated with glare range from simple nuisance to potentially dangerous situations (e.g. if glare is directed into the eyes of motorists). New development could introduce inappropriate lighting and/or use building materials that could cause inappropriate glare in the planning area. Such impacts can include but are not limited to:

- Excessive or inappropriately directed lighting that can adversely impact nighttime views by reducing the ability to see the night sky and stars.

- Glare caused from unshielded or misdirected lighting sources, such as a floodlight attached to the side of a single-family residence that could be oriented to shine into a neighbor's house.

- Reflective surfaces (e.g., polished metal) or reflective windows that can also cause glare that could impact nearby residences or people traveling along the I-210 or roadways adjacent to the development.

Section 17.32.080 of the Monrovia Municipal Code requires that lighting, where provided to illuminate private property, be arranged to reflect away from adjoining property or any public way and be arranged in a manner not to cause a nuisance either to highway traffic or the living environment. Buildout of the Project area is required to comply with this standard. In addition, the City's design review process would ensure that these standards would be complied with and that reflective building materials that would introduce a source of glare would not be utilized.

The Alexan Foothills Specific Plan requires the following lighting standards:

- A lighting plan shall be submitted for the Planning Division's review and approval, and shall demonstrate that:
    - Lighting levels are sufficient to provide for pedestrian safety and security, and the security of parked vehicles, but not in any manner that adversely impacts adjacent properties and roadways.
    - Lighting is located to assure adequate light levels and create an even level of illumination.
    - Exterior lighting is architecturally integrated with the building style, materials, finishes, and colors.
    - **Residential Areas.** All exterior residential lighting shall be designed to be decorative and unobtrusive. Lighting shall be designed to avoid glare into neighboring homes, public spaces, or into the night sky. Illumination of common open spaces shall be low profile.
    - **Area Lighting for Pedestrian Walkways and Plazas.** Lighting shall be directed to provide for safety without allowing stray light to intrude into windows of nearby residences or to create glare problems for nearby roadway traffic.
    - **"Hidden Source" Lighting.** For certain prominent architectural features, hidden source lighting can be used to create dramatic effects, illuminating towers or other unique architectural features. Such lighting can be concealed in soffits, behind ledges or parapets, or set into landscape areas with the light directed at the element to be highlighted. Use of low, bollard-type lighting and/or landscape accent lighting is encouraged, especially in pedestrian areas.

Nevertheless, lighting from the proposed parking structure under the Alexan Foothills Specific Plan has the potential to direct light down to residences in adjacent areas to the south of the METRO tracks. Other sources of light associated with the Alexan Foothills Specific Plan (e.g., pathway lighting, lighting of signage) also have the potential to direct light inappropriately. In addition, other developments in the Project area (i.e., in ZCA Areas A and C) have the potential to introduce sources of light or glare that could be a nuisance to nearby residents or people traveling on roadways adjacent to the development. Therefore, buildout of the Project could generate a significant impact on aesthetics and visual resources in relation to glare and lighting if mitigation measures are not implemented. Therefore, implementation of mitigation measure MM AES-1 as well as mitigation measures MM AES-3 and MM AES-4 are required to reduce these potential impacts associated with light and glare to less than significant levels.

Shade and Shadow. A purpose and intent of the City's design review process is "To provide a review process to regulate the development or redevelopment of properties within existing neighborhoods so as to maximize visually compatible relationships, and bright, open neighborhoods." (Section 17.12.005[A][1][d] of the Monrovia Municipal Code). A shade and shadow analysis was performed for the proposed development under the Alexan Foothills Specific Plan to determine whether the development would cast shade or shadows on the adjacent residential community to determine if the development would continue to allow for a "bright, open neighborhood." Modeling was performed to determine worst-case scenario effects which would occur mid-day on the summer solstice and fall solstice. Results of the shade and shadow analysis are shown in Figures 5-1 through 5-10 as well as in the plan set contained in Appendix M, and indicate that the proposed development under the Alexan Foothills Specific Plan would cast shade and shadows on either existing roadways or on a small portion of an existing parking lot for an industrial use outside of the Alexan Foothills Specific Plan area, and only during certain times of the year under a worst-case scenario. Therefore, the development would have a negligible shade and shadow effect on the neighborhood.

However, other developments in the Project area (i.e., in ZCA Areas A and C) have the potential to have adverse shade and shadow effects on the neighborhood. Mitigation measure MM AES-1, however, ensures that Design Review would be completed for all future development in the Project area. Therefore, with implementation of Design Review, shade and shadow impacts on the neighborhood would be less than significant.

Mitigation Measures

Mitigation measures MM AES-3 and MM AES-4 are applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C. In addition, please refer to mitigation measure MM AES-1.

MM AES-3: Lighting shall be directed and shielded to focus illumination onto the desired areas only and avoid light trespass into adjacent areas. Reflective glass, metallic, and other highly reflective and glare producing materials, shall not be used in new building construction. **Requirements and Timing:** Measure shall be printed on all construction drawings. **Monitoring:** City staff shall conduct periodic site inspections during construction.

MM AES-4: Comprehensive Lighting Plan. Prior to issuance of a building permit, the applicant shall submit a comprehensive lighting plan for review and approval by the City Community Development Director, or designee. The lighting plan shall be prepared by a qualified engineer (i.e., an engineer who is an active member of the Illuminating Engineering Society of North America [IESNA]) and shall be in compliance with applicable standards of the City's Municipal Code. The lighting plan shall address all aspects of lighting, including infrastructure, onsite driveways, recreation, safety, signage, and promotional lighting, if any. The lighting plan shall include the following in conjunction with other measures, as determined by the illumination engineer:

- Exterior onsite lighting shall be shielded and confined within site boundaries.
- No direct rays or glare are permitted to shine onto public streets, freeways or adjacent sites.

- Lighting fixtures that blink, flash, or emit unusual high intensity or brightness shall not be permitted.

- The site shall not be excessively illuminated based on the illumination recommendations of the IESNA.

Requirements and Timing: The Lighting Plan shall be reviewed and approved prior to issuance of building permits. **Monitoring:** The City's Community Development Director, or designee, shall review and approve the Lighting Plan prior to issuance of building permits.

5.2.4 Impact Conclusions

With implementation of the mitigation measures above, potentially significant impacts on aesthetics and visual resources would be reduced to less than significant levels.

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
ANSI	American National Standards Institute
CEQA	California Environmental
EIR	Environmental Impact Report
GPA	General Plan Amendment
IES	Illuminating Engineering Society
IESNA	Illuminating Engineering Society of North America
METRO	Los Angeles County Metropolitan Transit Authority
TPA	Transit Priority Area
ZCA	Zoning Code Amendment

References Cited

City of Monrovia
2008 Monrovia General Plan Proposed Land Use and Circulation Elements, Environmental Impact Report (EIR) SCH No. 2007021135. Monrovia, CA. January 2008.

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JUNE 21 10:00 am

ALEXAN MONROVIA MONROVIA, CALIFORNIA

TCR
Trammell Crow Residential

TRAMMELL CROW RESIDENTIAL
5790 FLEET STREET SUITE 140, CARLSBAD CA 92008
(858) 531-3905

N.
N.T.S.

SHADE/SHADOW STUDY
DATE: 07.09.19
JOB NO. 2016-252

ARCHITECTS ORANGE
144 NORTH ORANGE ST., ORANGE, CA 92886
(714) 639-9860

Figure 5-1 Specific Plan Shade and Shadow Analysis: June 21 10:00 AM

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JUNE 21 11:00 am

ALEXAN MONROVIA MONROVIA, CALIFORNIA

TCR
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SHADE/SHADOW STUDY

DATE: 07.09.19
JOB NO. 2016-252

ARCHITECTS ORANGE
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Figure 5-2 Specific Plan Shade and Shadow Analysis: June 21 11:00 AM

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JUNE 21 12:00 pm

ALEXAN MONROVIA MONROVIA, CALIFORNIA

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SHADE/SHADOW STUDY

DATE: 07.09.19
JOB NO. 2016-252

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Figure 5-3 Specific Plan Shade and Shadow Analysis: June 21 12:00 PM

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JUNE 21 1:00 pm

ALEXAN MONROVIA MONROVIA, CALIFORNIA

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SHADE/SHADOW STUDY

DATE: 07.09.19
JOB NO. 2016-252

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Figure 5-4 Specific Plan Shade and Shadow Analysis: June 21 1:00 PM

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JUNE 21 2:00 pm

SHADE/SHADOW STUDY

DATE: 07.09.19
JOB NO. 2016-252

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N.T.S.

ALEXAN MONROVIA MONROVIA, CALIFORNIA

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Figure 5-5 Specific Plan Shade and Shadow Analysis: June 21 2:00 PM

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SEPTEMBER 23 10:00 am

SHADE/SHADOW STUDY

DATE: 07.09.19
JOB NO. 2016-252

N.
N.T.S.

ALEXAN MONROVIA MONROVIA, CALIFORNIA

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144 NORTH ORANGE ST., ORANGE, CA 92886
(714) 639-9860

Figure 5-6 Specific Plan Shade and Shadow Analysis: September 23 10:00 AM

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SEPTEMBER 23 11:00 am

SHADE/SHADOW STUDY

DATE: 07.09.19
JOB NO. 2016-252

N.
N.T.S.

ALEXAN MONROVIA MONROVIA, CALIFORNIA

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144 NORTH ORANGE ST., ORANGE, CA 92886
(714) 639-9860

Figure 5-7 Specific Plan Shade and Shadow Analysis: September 23 11:00 AM

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SEPTEMBER 23 12:00 pm

SHADE/SHADOW STUDY

DATE: 07.09.19
JOB NO. 2016-252

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N.T.S.

ALEXAN MONROVIA MONROVIA, CALIFORNIA

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Figure 5-8 Specific Plan Shade and Shadow Analysis: September 23 12:00 PM

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SEPTEMBER 23 1:00 pm

SHADE/SHADOW STUDY

DATE: 07.09.19
JOB NO. 2016-252

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N.T.S.

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Figure 5-9 Specific Plan Shade and Shadow Analysis: September 23 1:00 PM

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SEPTEMBER 23 2:00 pm

SHADE/SHADOW STUDY

DATE: 07.09.19
JOB NO. 2016-252

N.
N.T.S.

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Figure 5-10 Specific Plan Shade and Shadow Analysis: September 23 2:00 PM

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6. AGRICULTURAL AND FORESTRY RESOURCES

This EIR Chapter describes existing agricultural and forestry resources at the Project site. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project and describes potential impacts that could result from the Project.

Information related to Important Farmlands was obtained from the Monrovia General Plan Proposed Land Use and Circulation Elements EIR (City of Monrovia 2008), as well as the following map (California Department of Conservation 2018), located here:

ftp://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2016/los16.pdf

6.1 SETTING

6.1.1 Environmental Setting

According to the Farmland Mapping and Monitoring Program of the California Resources Agency (California Department of Conservation 2018), the City of Monrovia, including the Project area, has no land designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. According to the Monrovia General Plan Proposed Land Use and Circulation Elements EIR (City of Monrovia 2008), there are no remaining agricultural uses within Monrovia's jurisdiction. Additionally, there are no lands within the City limits, including the Project area, that are held under Williamson Act contracts. The Project area is not zoned as agriculture and no lands are zoned as agriculture within Monrovia.

6.1.2 Regulatory Setting

Federal

Farmland Protection Policy Act (7 United States Code [USC] Section 4201)

The purpose of the Farmland Protection Policy Act (FPPA) is to minimize the extent to which Federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses. It also directs Federal programs to be compatible with State and local policies for the protection of farmland. The FPPA does not authorize the Federal government to regulate the use of private or nonfederal land or, in any way, affect the property rights of owners. Projects are subject to FPPA requirements if they irreversibly convert farmland (directly or indirectly) to non-agricultural use and are completed by a Federal agency or rely on assistance from a Federal Agency (USDA 2015).

State

California Department of Conservation, Division of Land Resource Protection

The California Department of Conservation (CDOC) applies the Natural Resources Conservation Service soil classifications to identify agricultural lands. These agricultural designations are used in planning for the present and future of California's agricultural land

resources. Lands classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are referred to as "farmland."

Williamson Act

The California Land Conservation Act, better known as the Williamson Act, has been the State's premier agricultural land protection program since its enactment in 1965. Land under a Williamson Act contract is restricted to agricultural uses for a term of no less than 10 years. The Williamson Act is a non-mandated State policy providing for preferential assessment of agricultural and open space lands that meet local size and land use criteria.

Senate Bill (SB) 275

Senate Bill (SB) 275 created the Agricultural Land Stewardship Program Act of 1995, a CDOC grant program for local governments and nonprofit organizations to aid in the acquisition of agricultural conservation easements. CDOC awards grant funding from the Agricultural Land Stewardship Program fund, which receives revenue from gifts, donations, proceeds from the sale of general obligation bonds, funds appropriated by the Legislature, Federal grants or loans, and other sources.

Local

City of Monrovia Code of Ordinances, Chapter 17.18 – Angeles National Forest Zone

In the City of Monrovia jurisdictional limits, all property within the Angeles National Forest contains an Angeles National Forest (ANF) zoning designation. Development within this zone requires approval through the Hillside Development Permit process. However, the Project site is approximately 3 miles south of the Angeles National Forest; therefore, these regulations do not apply to the Project.

6.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts on agricultural and forestry resources that could result from the Project. A project-level analysis was conducted for the GPA area, ZCA Areas A and C, and the Alexan Foothills Specific Plan area (ZCA Area B).

6.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: Items II (a) through (e), implementation of the Project would have a significant impact related to agricultural and forestry resources if it would:

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

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

(c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220[g]), timberland (as defined by Public Resources Code

section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104[g]);

(d) Result in loss of forest land or conversion of forest land to non-forest use; or

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

6.2.2 Environmental Impacts

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

There are no agricultural or forestry resources in the GPA area, ZCA Areas A and C, and the Alexan Foothills Specific Plan or within the surrounding area. Therefore, the Project would not convert farmland or forest land to non-agricultural or non-forest use, would not conflict with existing zoning for agricultural or forest land/timberland use or a Williamson Act contract, and would not impact nearby farmland or forest areas that could result in conversion.

Mitigation Measures

No mitigation measures are required.

6.2.3 Impact Conclusions

The Project would have no impact on agricultural and forestry resources and no mitigation is required.

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
ANF	Angeles National Forest
CDOC	California Department of Conservation
CEQA	California Environmental Quality Act
EIR	Environmental Impact Report
FPPA	Farmland Protection Policy Act
PD	Planned Development
SB	Senate Bill
USC	United States Code
USDA	U.S. Department of Agriculture
ZCA	Zoning Code Amendment

References Cited

California Department of Conservation
2018 Important Farmlands Map for Los Angeles County (July 2017). Sacramento, CA. Queried in July 2018.

City of Monrovia

2008 Monrovia General Plan Proposed Land Use and Circulation Elements, Environmental Impact Report (EIR) SCH No. 2007021135. Monrovia, CA. January 2008.

7. AIR QUALITY

This EIR Chapter describes the existing air quality in the Project area. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project, describes potential impacts that could result from the Project, and includes mitigation measures that would avoid or reduce those potential impacts.

The methodologies and assumptions used in the preparation of this Chapter follow the CEQA Guidelines developed by the South Coast Air Quality Management District (SCAQMD 2017a). Information on existing air quality conditions, Federal, and State ambient air quality standards, and pollutants of concern was obtained from the U.S. Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and SCAQMD. This air quality analysis has been closely coordinated with the greenhouse gas (GHG) analysis in Chapter 11 of this EIR. A Health Risk Assessment (HRA) was conducted as part of this analysis and is incorporated herein. This analysis is based upon an Air Quality and GHG Impact Analysis report prepared for the Project, which is contained in Appendix C (MIG 2019).

7.1 SETTING

7.1.1 Environmental Setting

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality.

South Coast Air Basin

The U.S. EPA and CARB are the Federal and State agencies charged with maintaining air quality in the nation and State, respectively. The U.S. EPA delegates much of its authority over air quality to CARB. CARB has geographically divided the State into 15 air basins for the purposes of managing air quality on a regional basis. An air basin is a CARB-designated management unit with similar meteorological and geographic conditions.

The City of Monrovia is located in the South Coast Air Basin (Basin), which includes Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside counties. The Basin encompasses approximately 6,745 square miles of coastal plains, and is bounded by the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east.

Air quality in the Basin is managed by the SCAQMD. The SCAQMD is responsible for bringing air quality emissions within the Basin into conformity with Federal and State air quality standards by reducing existing emission levels and ensuring that future emission levels meet applicable air quality standards. SCAQMD works with Federal, State, and local agencies to reduce pollutant emissions through adoption and implementation of rules and regulations (see Section 7.1.2).

Basin Climate and Meteorology

The climate of the Los Angeles region is classified as Mediterranean, but weather conditions within the Basin are dependent on local topography and proximity to the Pacific Ocean. The climate is dominated by the Pacific high-pressure system that results in generally mild, dry summers and mild, wet winters. This temperate climate is occasionally interrupted by extremely hot temperatures during the summer, Santa Ana winds during the fall, and storms from the Pacific Northwest during the winter. In addition to the Basin's topography and geographic location, El Niño and La Niña patterns also have large effects on weather and rainfall received between November and March.

The Pacific high-pressure system drives the prevailing winds in the Basin. The winds tend to blow onshore in the daytime and offshore at night. In the summer, an inversion layer is created over the coastal areas and increases ozone levels. A temperature inversion is created when a layer of cool air is overlain by a layer of warmer air; this can occur over coastal areas when cool, dense air that originates over the ocean is blown onto land and flows underneath the warmer, drier air that is present over land. In the winter, areas throughout the Basin often experience a shallow inversion layer that prevents the dispersion of surface level air pollutants, resulting in higher concentrations of criteria air pollutants such as carbon monoxide (CO) and oxides of nitrogen (NO_X) (see below for a description of regulated air pollutants such as "criteria air pollutants").

In the fall months, the Basin is often impacted by Santa Ana winds. These winds are the result of a high-pressure system over the Nevada-Utah region that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean. These winds are powerful and incessant. A strong Santa Ana wind can easily exacerbate fire conditions, resulting in worsening air quality throughout the Basin, as smoke and ash are pushed into the region.

An El Niño is a warming of the surface waters of the eastern Pacific Ocean. It is a climate pattern that occurs across the tropical Pacific Ocean that is usually associated with drastic weather occurrences, including enhanced rainfall in Southern California. La Niña is a term for cooler than normal sea surface temperatures across the Eastern Pacific Ocean. The Los Angeles region receives less than normal rainfall during La Niña years.

Located in the foothills of the San Gabriel Mountains in the eastern part of the San Gabriel Valley and Los Angeles County, the City of Monrovia consists of approximately 13.7 square miles. It is situated adjacent to the cities of Arcadia, North El Monte, Irwindale, and Duarte. The region experiences a Mediterranean climate characterized by hot dry summers, and cool, mild winters, with precipitation occurring in the winter months. The area is within the Climatic Transition Zone from the moister coastal region to the more arid inland regions of southern California.

Regulated Air Pollutants

The U.S. EPA has established National Ambient Air Quality Standards (NAAQS) for six common air pollutants: ozone (O_3), particulate matter (PM), which consists of "inhalable coarse" PM (particles with an aerodynamic diameter between 2.5 and 10 microns in diameter, or PM_{10}) and "fine" PM (particles with an aerodynamic diameter smaller than 2.5 microns, or $PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead. The U.S. EPA refers to these six common pollutants as "criteria" pollutants because the agency regulates these pollutants on the basis of human health-based and/or environmentally-based criteria

because they are known to cause adverse human health effects and/or adverse effects on the environment (U.S. EPA 2019a, b). CARB has also established California Ambient Air Quality Standards (CAAQS) for the six common air pollutants regulated by the Federal Clean Air Act (the CAAQS are more stringent than the NAAQS) plus the following additional air pollutants: hydrogen sulfide (H_2S), sulfates (SO_X), vinyl chloride, and visibility reducing particles due to their known adverse effects on human health or the environment (CARB 2019b).

A description of the criteria pollutants associated with the Project and surrounding vicinity is provided below. Air pollutants not commonly associated with the existing or proposed sources in the vicinity of the Project, such as hydrogen sulfide, lead, and visibility-reducing particles, are not described below.

- **Ground-level Ozone**, or smog, is not emitted directly into the atmosphere. It is created from chemical reactions between NO_X and volatile organic compounds (VOCs), also called Reactive Organic Gases (ROGs), in the presence of sunlight (U.S. EPA 2017c). Thus, ozone formation is typically highest on hot sunny days in urban areas with NO_X and ROG pollution. Ozone irritates the nose, throat, and air pathways and can cause or aggravate shortness of breath, coughing, asthma attacks, and lung diseases such as emphysema and bronchitis (U.S. EPA 2019c).
  - **ROGs** is a CARB term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, and includes several low-reactive organic compounds which have been exempted by the U.S. EPA VOC definition (CARB 2004).
  - **VOCs** is a U.S. EPA term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. The term exempts organic compounds of carbon which have been determined to have negligible photochemical reactivity such as methane, ethane, and methylene chloride (CARB 2004).

- **Particulate Matter**, also known as particle pollution, is a mixture of extremely small solid and liquid particles made up of a variety of components such as organic chemicals, metals, and soil and dust particles (U.S. EPA 2016a).
  - **PM_{10}**, also known as inhalable coarse, respirable, or suspended PM_{10}, consists of particles less than or equal to 10 micrometers in diameter (approximately $1/7^{th}$ the thickness of a human hair). These particles can be inhaled deep into the lungs and possibly enter the blood stream, causing health effects that include, but are not limited to, increased respiratory symptoms (e.g., irritation, coughing), decreased lung capacity, aggravated asthma, irregular heartbeats, heart attacks, and premature death in people with heart or lung disease (U.S. EPA 2016a).
  - **$PM_{2.5}$**, also known as fine PM, consists of particles less than or equal to 2.5 micrometers in diameter (approximately $1/30^{th}$ the thickness of a human hair). These particles pose an increased risk because they can penetrate the deepest parts of the lung, leading to and exacerbating heart and lung health effects (U.S. EPA 2016a).

- **Carbon Monoxide (CO)** is an odorless, colorless gas that is formed by the incomplete combustion of fuels. At high concentrations, CO reduces the oxygen-carrying capacity of the blood and can aggravate cardiovascular disease and cause headaches, dizziness, unconsciousness, and even death (U.S. EPA 2016b).

- **Nitrogen Dioxide (NO_2)** is a by-product of combustion. NO_2 is not directly emitted but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to ozone formation. NO_2 also contributes to the formation of particulate matter. NO_2 can cause breathing difficulties at high concentrations (U.S. EPA 2016c).

- **Sulfur Dioxide (SO_2)** is one of a group of highly reactive gases known as SO_X. Fossil fuel combustion in power plants and industrial facilities are the largest emitters of SO_2. Short-term effects of SO_2 exposure can include adverse respiratory effects such as asthma symptoms. SO_2 and other SO_X can react to form PM (U.S. EPA 2016d).

- **Sulfates (SO_4^{2-})** are the fully oxidized ionic form of sulfur. SO_4^{2-} are primarily produced from fuel combustion. Sulfur compounds in the fuel are oxidized to SO_2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. Sulfate exposure can increase risks of respiratory disease (CARB 2009).

Common criteria air pollutants, such as ozone precursors, SO2, and particulate matter, are emitted by a large number of sources and have effects on a regional basis (i.e., throughout the Basin). Other pollutants, such as hazardous air pollutants (HAPs) or toxic air contaminants (TACs) (described in more detail below), and fugitive dust, are generally not as prevalent and/or emitted by fewer and more specific sources. As such, these pollutants have much greater effects on local air quality conditions and local receptors.

Ambient Air Quality Standards and Basin Attainment Status

In general, the NAAQS and CAAQS define “clean” air, and are established at levels designed to protect the health of the most sensitive groups in our communities by defining the maximum amount of a pollutant (averaged over a specified period of time) that can be present in outdoor air without any harmful effects on people or the environment (U.S. EPA 2019d, CARB 2019b). Air pollutant levels are typically described in terms of concentration, which refers to the amount of pollutant material per volumetric unit of air. Concentrations are typically measured in parts per million (ppm) or micrograms per cubic meter ($\mu g/m^3$).

The U.S. EPA, CARB, and regional air agencies assess the air quality of an area by measuring and monitoring the amount of pollutants in the ambient air and comparing pollutant levels against NAAQS and CAAQS. Based on these comparisons, regions are classified into one of the following categories:

- **Attainment**. A region is “in attainment” if monitoring shows ambient concentrations of a specific pollutant are less than or equal to the NAAQS or CAAQS. In addition, an area that has been re-designated from nonattainment to attainment is classified as a “maintenance area” for 10 years to ensure that the air quality improvements are sustained.
- **Nonattainment.** If the NAAQS or CAAQS are exceeded for a pollutant, the region is designated as nonattainment for that pollutant. It is important to note that some NAAQS and CAAQS require multiple exceedances of the standard in order for a region to be classified as nonattainment. Federal and State Laws require

nonattainment areas to develop strategies, implementation plans, and control measures to reduce pollutant concentrations to levels that meet, or attain, standards.

- **Unclassified.** An area is unclassified if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

Table 7-1 lists the NAAQS and CAAQS and summarizes the Basin's attainment status.

Hazardous Air Pollutants/Toxic Air Contaminants

In addition to criteria air pollutants, the U.S. EPA and CARB have classified certain pollutants as Hazardous Air Pollutants (HAPs) (by U.S. EPA) or Toxic Air Contaminants (TACs) (by CARB), respectively. These pollutants can cause severe health effects at very low concentrations (non-cancer effects), and many are suspected or confirmed carcinogens (i.e., can cause cancer) (U.S. EPA 2019a, CARB 2019c). People exposed to HAPs/TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects (U.S. EPA 2019a, CARB 2019c). These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory and other health problems (U.S. EPA 2019a, CARB 2019c).

The U.S. EPA has identified 187 HAPs, including such substances as benzene and formaldehyde; CARB also considers particulate emissions from diesel-fueled engines and other substances to be TACs. Since CARB's list of TACs references and includes U.S. EPA's list of HAPs, this EIR uses the term TAC when referring to HAPs and TACs. A description of the TACs associated with the Project and surrounding vicinity is provided below.

- **Gasoline-Powered Mobile Sources.** According to the SCAQMD's *Multiple Air Toxics Exposure Study in the South Coast Air Basin* (SCAQMD 2015a), or MATES IV, gasoline-powered vehicles emit TACs, such as benzene, which can have adverse health risks. Gasoline-powered sources emit TACs in much smaller amounts than diesel-powered vehicles. The MATES IV study identifies that diesel emissions account for between 68% to 80% of the total air toxics and cancer risk in the Basin.

- **Diesel Particulate Matter (DPM)**. Diesel engines emit both gaseous and solid material; the solid material is known as DPM. Almost all DPM is less than 1 µm in diameter, and thus is a subset of $PM_{2.5}$. DPM is typically composed of carbon particles and numerous organic compounds. Diesel exhaust also contains gaseous pollutants, including VOCs and NO_x. The primary sources of diesel emissions are ships, trains, trucks, rail yards and heavily traveled roadways. These sources are often located near highly populated areas, resulting in greater DPM-related health consequences in urban areas (CARB 2019c). The majority of DPM is small enough to be inhaled into the lungs and what particles are not exhaled can be deposited on the lung surface and in the deepest regions of the lungs where the lung is most susceptible to injury. In 1998, following an exhaustive 10-year scientific process, CARB identified DPM as a toxic air contaminant based on evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects (CARB 2000). DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure (CARB 2016c).

Table 7-1 Ambient Air Quality Standards and Basin Attainment Status

Pollutant	Averaging Time[B]	California Standards[A]		National Standards[A]	
		Standard[C]	Attainment Status[D]	Standard[C]	Attainment Status[D]
Ozone	1-Hour (1979)	--	--	240 µg/m^3	Nonattainment
	1-Hour (Current)	180 µg/m^3	Nonattainment	--	--
	8-Hour (1997)	--	--	160 µg/m^3	Nonattainment
	8-Hour (2008)	--	--	147 µg/m^3	Nonattainment
	8-Hour (Current)	137 µg/m^3	Nonattainment	137 µg/m^3	Pending
PM_{10}	24-Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Attainment
	Annual Average	20 µg/m^3	Nonattainment	--	--
$PM_{2.5}$	24-Hour	--	--	35 µg/m^3	Nonattainment
	Annual Average (1997)	--	--	15 µg/m^3	Nonattainment
	Annual Average (Current)	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment
Carbon Monoxide	1-Hour	23,000 µg/m^3	Attainment	40,000 µg/m^3	Attainment
	8-Hour	10,000 µg/m^3	Attainment	10,000 µg/m^3	Attainment
Nitrogen Dioxide	1-Hour	339 µg/m^3	Attainment	188 µg/m^3	Unclassifiable/ Attainment
	Annual Average	57 µg/m^3	Attainment	100 µg/m^3	Attainment
Sulfur Dioxide	1-Hour	655 µg/m^3	Attainment	196 µg/m^3	Attainment
	24-Hour	105 µg/m^3	Attainment	367 µg/m^3	Unclassifiable/ Attainment
	Annual Average	--	--	79 µg/m^3	Unclassifiable/ Attainment
Lead	3-Months Rolling	--	--	0.15 µg/m^3	Nonattainment (Partial)
Hydrogen Sulfide	1-Hour	42 µg/m^3	Attainment	--	
Sulfates	24-Hour	25 µg/m^3	Attainment	--	
Vinyl Chloride	24-Hour	26 µg/m^3	Attainment	--	

Source: CARB 2016, SCAQMD 2016a, modified by MIG.

Notes:

(A) This table summarizes the CAAQS and NAAQS and the Basin's attainments status (as of February 2019). This table does not prevent comprehensive information regarding the CAAQS and NAAQS. Each CAAQS and NAAQS has its own averaging time, standard unit of measurement, measurement method, and statistical test for determining if a specific standard has been exceeded. Standards are not presented for visibility reducing particles, which are not concentration-based. The Basin is unclassified for visibility reducing particles.

(B) Ambient air standards have changed over time. This table presents information on the standards previously used by the U.S. EPA for which the Basin does not meet attainment.

(C) All standards are shown in terms of micrograms per cubic meter (µg/m^3) rounded to the nearest whole number for comparison purposes (with the exception of lead, which has a standard less than 1 µg/m^3). The actual CAAQS and NAAQS standards specify specific units for each pollutant measurement.

(D) A= Attainment, N= Nonattainment, U=Unclassifiable.

- **PM from Wheel-Rail Interaction.** PM may also be generated from friction between rail and locomotive wheels (wheel-rail interaction). This abrasion process can suspend metals such as iron, chromium, manganese, and copper in the form of PM (CARB 2019d, Loxham et al. 2013); however, the potential for PM to be generated is dependent on the weight of the train and the conditions of the wheels and track on which the train rides. The METRO Gold Line is commuter rail that consists of an Electric Multiple Unit locomotive system that is lighter than traditional diesel locomotive commuter and freight trains, and in new condition. Thus, while the METRO Gold Line may generate PM from wheel-rail interaction, this contribution is anticipated to be minimal compared with other emission sources associated with rail and other emissions in the Project area (CARB 2019e) (i.e., would not have an appreciable effect on mass emission or health risk estimates) and this issue is not discussed further in this EIR.

Local Air Quality Conditions

The SCAQMD monitors air quality within the Basin. Existing levels of ambient air quality and historical trends within the Project area are best documented by measurements taken by the SCAQMD. The station closest to Monrovia is identified as the East San Gabriel Valley 1 Station (Station #060) by SCAQMD (CARB refers to this station as Azusa). The station is located less than four miles to the east of Monrovia's boundary and monitors CO, O_3, NO_2, PM_{10} and $PM_{2.5}$. This monitoring station represents the best approximation of the air quality conditions within the City.

Table 7-2 summarizes the published monitoring data from East San Gabriel Valley 1 monitoring station from 2014 to 2016, the three most recent years for which verified, published data is available from the SCAQMD (2017 data was not yet available as of the time of writing of this EIR). Table 7-2 shows that air quality standards at this location have been exceeded for $PM_{2.5}$, PM_{10}, and O_3. This is consistent with the entire Basin's classification as non-attainment for $PM_{2.5}$, PM_{10}, and O_3. As shown in Table 7-2:

- The maximum 1-hour and 8-hour CO concentration generally decreased from 2014 to 2016. There were no days in which CO standards were exceeded during this time period.

- The maximum 1-hour NO_2 concentration generally increased from 2014 to 2016, while the average annual NO_2 concentration generally decreased. There were no days in which NO_2 standards were exceeded during this time period.

- The maximum 1-hour and 8-hour O_3 concentration, as well as the number of days exceeding O_3 standards, generally increased from 2014 to 2016.

- The maximum 24-hour and average annual PM_{10} concentration fluctuated during the 2014 to 2016 period but there were no days/years in which the Federal PM_{10} standards were exceeded. The State PM_{10} annual standard was exceeded in 2014, 2015, and 2016; however, the annual average PM_{10} concentration and the number of days exceeding the state 24-hour standard generally decreased over this time period.

- The maximum 24-hour and average annual $PM_{2.5}$ concentration fluctuated during the 2014 to 2016 period but there were no years in which the Federal or State $PM_{2.5}$ annual average standards were exceeded. The Federal 24-hour $PM_{2.5}$ was exceeded once in 2015.

Emissions Sources from Existing Land Uses

The approximately 9.63-acre Project area consists of the approximately 6.77-acre Alexan Foothills Specific Plan and the 2.86-acre ZCA Areas A and C. As described in Chapter 3.0, Project Description, the existing land uses in the Project area consist of a mix of single-family residential (5 total dwelling units), institutional place of worship (approximately 6,630 square feet), and light industrial (approximately 70,750 square feet), one office building, and a warehouse (approximately 10,120 square feet). These existing land uses generate emissions from the following sources:

- **Small "area" sources.** Existing land uses in the Project area generate emissions from small area sources including landscaping equipment and the use of consumer products such as paints, cleaners, and fertilizers that result in the evaporation of chemicals into the atmosphere during product use.

- **Energy use and consumption**. Existing land uses in the Project area generate emissions from the combustion of natural gas in water and space heating equipment, as well as industrial processes.

- **Mobile sources.** Existing land uses in the Project area generate emissions from vehicles travelling to and from the Project.

Emissions from existing land uses in the Project area were estimated using the California Emissions Estimator Model, or CalEEMod, Version 2016.3.2 using default data assumptions provided by CalEEMod, with the following project-specific modifications:

- The default acreage and square footage for each of the Project area's land use types were adjusted to reflect the actual Project area as currently developed.

- The default trip generation rates for the existing land use types were replaced with trip generation rates contained in the Traffic Impact Analysis (TIA) prepared for the proposed Alexan Foothills Specific Plan and the maximum potential development scenario under ZCA Areas A and C (see Chapter 19, Transportation and Circulation, and the TIA in Appendix J). The Project TIA provided trip generation rates for peak weekday activities. Accordingly, the average daily traffic rate contained in the TIA was adjusted by a factor of 0.96 to be consistent with State emission inventory methods and to account for reduced weekend trip rates (this provides a more accurate estimate of total annual emissions).

- The default electrical and natural gas energy efficiency intensity values for residential and non-residential land uses were adjusted upwards to reflect the older nature of the existing buildings and structures in the area.

- The default outdoor water use for non-residential land uses was set to zero to reflect the paved nature of the Project area.

Emissions of criteria air pollutants for existing land uses in the Project area are summarized in Table 7-3 below.

As shown in Table 7-3, the existing land uses in the Alexan Foothills Specific Plan area account for between 59% and 76% of the total ROG, NO_x, CO, SO_2, PM_{10} dust and $PM_{2.5}$ dust generated in the Project area, whereas they only account for approximately 32% and 33% of combined existing PM_{10} and $PM_{2.5}$ emissions, respectively.

Sensitive Air Quality Receptors

The SCAQMD identifies sensitive receptors as populations more susceptible to the effects of air pollution than the general population. Some people are more affected by air pollution than others. Sensitive air quality receptors include specific subsets of the general population that are susceptible to poor air quality and the potential adverse health effects associated with poor air quality. Both CARB and the SCAQMD consider residences, schools, parks and playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes to be sensitive air quality land uses and receptors (SCAQMD 2017a; CARB 2005). The potential sensitive air quality receptors adjacent or in close proximity to the perimeter of the Project area (i.e., within 1,000 feet) include:

- Single- and multi-family residential units to the east of the Project area, along South Magnolia Avenue, West Evergreen Avenue, and Pomona Avenue;
- Multi-family residential units to the south of the Project area, across the METRO Gold Line right-of-way (ROW) (accessed via Mayflower Avenue and Genoa Street);
- Single-family residential units to the west of the Project area, along Diamond Street and Mayflower Avenue;
- Single- and multi-family residential units to the north of the Project area, across the I-210, off West Central Avenue and other nearby roads;
- The First Lutheran School, located at 1227 South Magnolia Avenue, approximately 890 feet north of the Project area, across the I-210; and
- Calvary Chapel Monrovia, located at 1401 Highland Avenue, approximately 970 feet east of the Project area.

One single-family residence occurs within the Alexan Foothills Specific Plan area that would be demolished. Four single-family residences also occur in the Project area, outside of the Alexan Foothills Specific Plan area, in the portion of the Project area not currently proposed for development (ZCA Areas A and C). These residences were also considered potential sensitive receptors in this analysis in the event that they are not redeveloped.

7.1.2 Regulatory Setting

Federal

Federal Clean Air Act

The Federal Clean Air Act (CAA), as amended, provides the overarching basis for both Federal and State air pollution prevention, control, and regulation. The Act establishes the U.S. EPA's responsibilities for protecting and improving the nation's air quality. The U.S. EPA oversees Federal programs for setting air quality standards and designating attainment status, permitting new and modified stationary sources of pollutants, controlling emissions of hazardous air pollutants, and reducing emissions from motor vehicles and other mobile sources. In 1971, to achieve the purposes of Section 109 of the CAA, the U.S. EPA developed primary and secondary NAAQS. Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and public welfare from air pollutants in the atmosphere.

The U.S. EPA requires each State prepare and submit a State Implementation Plan (SIP) that consists of background information, rules, technical documentation, and agreements that an individual State will use to attain compliance with the NAAQS within federally-imposed deadlines. State and local agencies implement the plans and rules associated with the SIP, but the rules are also federally enforceable.

State

California Clean Air Act

In addition to being subject to Federal requirements, air quality in the State is also governed by more stringent regulations under the California Clean Air Act, which was enacted in 1988 to develop plans and strategies for attaining the CAAQS. As discussed above, in California, both the Federal and State Clean Air acts are administered by CARB. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional level.

In-Use Off-Road Diesel Equipment Program

CARB's In-Use Off-Road Diesel Equipment regulation is intended to reduce emissions of NO_x and PM from off-road diesel vehicles, including construction equipment, operating within California. The regulation imposes limits on idling; requires reporting equipment and engine information and labeling for all vehicles subject to the program; restricts adding older vehicles to fleets; and requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing exhaust retrofits for PM. The requirements and compliance dates of the off-road regulation vary by fleet size; large fleets (fleets with more than 5,000 horsepower) must meet average targets or comply with Best Available Control Technology (BACT) requirements beginning in 2014. CARB has off-road anti-idling regulations affecting self-propelled diesel-fueled vehicles of 25 horsepower and up. The off-road anti-idling regulations limit idling on applicable equipment to no more than five minutes, unless exempted due to safety, operation, or maintenance requirements.

Table 7-2 Local Air Quality Conditions (2014 – 2016)

Pollutant	Ambient Air Standard	Year[(A)]		
		2014	2015	2016
Ozone (O_3)				
Maximum 1-hour Concentration (ppm)		0.123	0.122	0.146
Maximum 8-hr Concentration (ppm)		0.092	0.096	0.106
Number of Days Exceeding State 1-hr Standard	>180 µg/m3	11	21	30
Number of Days Exceeding State 8-hr Standard	>137 µg/m3	20	28	40
Days Exceeding Federal 1-hr Standard	>0.124 ppm	0	0	4
Days Exceeding Federal 8-hr Standard	>0.070 ppm	11	27	39
Carbon Monoxide (CO)				
Maximum 1-hr Concentration (ppm)		2	2.1	1.3
Maximum 8-hr Concentration (ppm)		1.9	1.3	1.2
Days Exceeding State 1-hr Standard	>23,000 µg/m^3	--	--	--
Days Exceeding Federal/State 8-hr Standard	>10,000 µg/m^3	--	--	--
Days Exceeding Federal 1-hr Standard	>40,000 µg/m^3	--	--	--
Nitrogen Dioxide (NO_2)				
Maximum 1-hr Concentration (ppb)		70.2	71.0	74.2
Annual Arithmetic Mean Concentration (ppb)		17.8	15.4	16.6
Days Exceeding State 1-hr Standard	>180 µg/m^3	--	--	--
Coarse Particulate Matter (PM_{10})				
Maximum 24-hr Concentration (µg/m^3)		96	101	74
Annual Arithmetic Mean (µg/m^3)		44.1	37.1	33.7
Samples Exceeding State 24-hr Standard	>50 µg/m^3	22	12	12
Samples Exceeding Federal 24-hr Standard	>150 µg/m^3	0	0	0
Fine Particulate Matter ($PM_{2.5}$)				
Maximum 24-hr Concentration (µg/m^3)		32.4	44.3	32.17
Annual Arithmetic Mean (µg/m^3)		11.63	9.4	10.15
Samples Exceeding Federal 24-hr Standard	>35 µg/m^3	0	1	0

Source: SCAQMD 2018a, 2018b, 2018c.
Notes:
(A) "--" indicates data are not available.

Table 7-3 Existing Emissions in the Project Area

Emissions Source	Maximum Daily Pollutant Emissions (Pounds Per Day) [A]							
	ROG	NO_x	CO	SO_2	PM_{10}		$PM_{2.5}$	
					Dust	Exhaust	Dust	Exhaust
Alexan Foothills Specific Plan Area								
Area	1.82	0.02	0.62	0.00	--	0.08	--	0.08
Energy	0.05	0.41	0.34	0.00	--	0.03	--	0.03
Mobile	1.06	4.92	15.78	0.05	3.36	0.05	0.90	0.95
Subtotal[B]	**2.92**	**5.35**	**16.74**	**0.05**	**3.36**	**0.16**	**0.90**	**0.16**
ZCA Areas A and C								
Area	1.71	0.09	2.37	0.01	--	0.31	--	0.31
Energy	0.02	0.14	0.10	0.00	--	0.01	--	0.01
Mobile	0.34	1.59	5.13	0.01	1.10	0.02	0.29	0.02
Subtotal[B]	**2.07**	**1.82**	**7.61**	**0.02**	**1.10**	**0.34**	**0.29**	**0.33**
Total Project Area								
Area	3.53	0.11	2.99	0.01	--	0.39	--	0.39
Energy	0.07	0.55	0.44	<0.00[C]	--	0.04	--	0.04
Mobile	1.40	6.51	20.91	0.06	4.46	0.07	1.19	0.97
Combined Total[B]	**4.99**	**7.17**	**24.35**	**0.07**	**4.46**	**0.50**	**1.19**	**0.49**

Source: MIG 2019, see Appendix C.

Notes:

(A) Emissions estimated using CalEEMod, V 2016.3.2. Estimates are based on default model assumptions unless otherwise noted. Maximum daily ROG, CO, and SO_2 emissions occur during the summer. Maximum daily NO_X, PM_{10}, and $PM_{2.5}$ emissions occur during the winter.

(B) Totals may not equal due to rounding.

(C) "<0.00" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01 but larger than 0.000.

On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) regulation (also known as the Truck and Bus Regulation) is intended to reduce emission of NO_X, PM, and other criteria pollutants generated from existing on-road diesel vehicles operating in California. The regulation applies to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds that are privately or federally owned, and for privately and publicly owned school buses. Heavier trucks and buses with a GVWR greater than 26,000 pounds must comply with a schedule by engine model year or owners can report to show compliance with more flexible options. Fleets complying with the heavier trucks and buses schedule must install the best available PM filter on 1996 model year and newer engines and replace the vehicle 8 years later. Trucks with 1995 model year and older engines had to be replaced starting in 2015. Replacements with a 2010 model year or newer engine must meet the final requirements, but owners can also replace the equipment with used trucks that have a future compliance date (as specified in regulation). By 2023, all trucks and buses must have at least 2010 model year engines with few exceptions.

CARB Stationary Diesel Engines – Emission Regulations

In 1998, CARB identified DPM as a TAC. To reduce public exposure to DPM, in 2000, the Board approved the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (Risk Reduction Plan) (CARB 2000). Integral to this plan is the implementation of control measures to reduce DPM such as the control measures for stationary diesel-fueled engines. As such, diesel generators must comply with regulations under CARB's amendments *to Airborne Toxic Control Measure for Stationary Compression Ignition Engines* and they must be permitted by SCAQMD.

CARB Air Quality and Land Use Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a TAC. CARB's Air Quality and Land Use Handbook is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process (CARB 2005). The CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for "sensitive" land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds. Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to the Project include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day;
- Within 300 feet of gasoline fueling stations; or
- Within 300 feet of dry cleaning operations (dry cleaning with TACs is being phased out and will be prohibited in 2023). The SCAQMD (Regulation 14, Rule 21) has established emission controls for the use of perchloroethylene, the most common dry-cleaning solvent.

CARB prepared a technical supplement to the Handbook, a *Technical Advisory on Strategies to Reduce Air Pollution Exposure Near High Volume Roadways* (CARB 2017), that provides recommendations for strategies to minimize exposure of the public to air pollutants due to proximity to high volume roadways, such as reducing traffic emissions and removing pollution from the air.

Air Toxics "Hot Spots" Program

"Air toxics" are a special class of air pollutants especially harmful to human health, and they include carbon monoxide (CO) and TACs. State requirements specifically address emissions of air toxics through Assembly Bill (AB) 1807 (known as the Tanner Bill) that established the State Air Toxics "Hot Spots" Program and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588) (California Health and Safety Code Section 44300 et seq.). Under the Air Toxics Hot Spots Information and Assessment Act of 1987 (or Air Toxics "Hot Spots" Act) and Air Toxics Hot Spots Program, the State (CARB) must collect data on toxic emissions from stationary sources (facilities) throughout the State and ascertain potential health risks that these emissions pose to members of community for developing cancer or for resulting in non-cancer health effects. California's Children's Environmental Health Protection Act of 1999 (California

Health and Safety Code Section 39606), also requires explicit consideration of infants and children in assessing risks from air toxics.

Substances regulated under California's Air Toxics Hot Spots Program are defined in statute and include a list of substances developed by the following sources:

- International Agency for Research on Cancer (IARC);
- U.S. Environmental Protection Agency (U.S. EPA);
- U.S. National Toxicology Program (NTP);
- CARB Toxic Air Contaminant Identification Program List;
- Hazard Evaluation System and Information Service (HESIS) (State of California);
- Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986) list of carcinogens and reproductive toxicants (State of California); and
- Any additional substance recognized by the State Board as presenting a chronic or acute threat to public health when present in the ambient air.

On May 6, 2005, the SCAQMD adopted a *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* containing numerous recommendations focused on land use planning, such as locating sensitive receptors away from substantial sources of TACs and CO hot spots (e.g., high-traffic freeways and roads, distribution centers, refineries, etc.). When locating receptors near large generators of TAC emissions, the SCAQMD recommends conducting CO hot spot analyses and analyzing health risk for these new developments.

California's Office of Environmental Health Hazard Assessment (OEHHA) has developed procedures for performing "Health Risk Assessments" to evaluate the "likelihood" of emissions of TACs to cause cancer or non-cancer effects (OEHHA 2015). A Health Risk Assessment (or HRA) can also be used to evaluate the impacts of TAC emissions of individual projects on the public, including the likelihood to cause cancer or non-cancer effects. Often these risks are evaluated for sensitive receptors (i.e., residents, including children), as these are the members of the public most sensitive to exposure to TACs.

OEHHA has striven to use the best science available in developing these risk assessment guidelines, however, there is a great deal of uncertainty associated with the process of risk assessment (OEHHA 2015). The uncertainty arises from lack of data in many areas necessitating the use of assumptions. The assumptions used in the guidelines are designed to err on the side of health protection in order to avoid underestimation of risk to the public (OEHHA 2015).

Regional

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a Joint Powers Authority under California State Law, established as an association of Local Governments and agencies that voluntarily convene as a forum to address regional issues. SCAG encompasses the counties of Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial.

SCAG is designated as a Metropolitan Planning Organization (MPO) and as a Regional Transportation Planning Agency. Under SB 375, SCAG, as a designated MPO, is required to prepare a Sustainable Communities Strategy (SCS) as an integral part of its Regional Transportation Plan (RTP). On April 7, 2016, SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) (SCAG 2016). The 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Information contained in Chapter 5: The Road to Greater Mobility and Sustainable Growth of the 2016 RTP/SCS forms the basis for the land use and transportation components of the Air Quality Management Plan (AQMP), and are utilized in the preparation of air quality forecasts and consistency analysis included in the AQMP.

SCAQMD Air Quality Management Plan

Under State Law, the SCAQMD is required to prepare an overall plan for air quality improvement, known as an AQMP. The purposed of an AQMP is to bring an air basin into compliance with Federal and State air quality standards. The SCAQMD 2016 AQMP was adopted on March 3, 2017 (SCAQMD 2017b). The 2016 AQMP provides new and revised demonstration's for how the SCAQMD, in coordination with Federal, State, Regional and Local governments will bring the Basin back into attainment for the following NAAQS: 2008 8-hour Ozone; 2012 Annual $PM_{2.5}$; 2006 24-hour $PM_{2.5}$; 1997 8-hour Ozone; and 1997 1-hour Ozone.

To achieve the reductions necessary to bring ambient air quality back into attainment the SCAQMD has identified seven primary objectives for the AQMP, which include:

1. Eliminating reliance on unknown future technology measures to demonstrate future attainment of air quality standards;

2. Calculating and accounting for co-benefits associated with measures identified in other, approved planning efforts (e.g., SCAG's RTP/SCS);

3. Developing a strategy with fair-share emission reductions at the Federal, State, and local levels;

4. Investing in strategies and technologies that meet multiple objectives regarding air quality, climate change, air toxic exposure, energy, and transportation – especially in disadvantaged communities;

5. Seeking, identifying, and securing significant sources of funding for incentives to implement early deployment and commercialization of zero and near-zero technologies, particularly in the mobile source sector;

6. Enhancing the socioeconomic analysis and selecting the most efficient and cost-effective path to achieve multi-pollutant and deadline targets; and

7. Prioritize non-regulatory, innovative approaches that can contribute to the economic vitality of the regional while maximizing emission reductions.

The emission forecasts and demonstrations presented in the 2016 AMQP rely heavily on information contained in other planning and strategy documents. For example, the 2016 AQMP's long-term emissions inventory is based on the growth and land use(s) projections contained in the SCAG's 2016 RTP/SCS. Additionally, the conclusions relating to ozone compliance are based on implementation of measures presented in CARB's Mobile Source Strategy and SIP strategy. The Mobile Source Strategy outlines a suite of measures targeted at on-road light- and heavy-duty vehicles, off-road equipment, and Federal and international sources. A subset of the Statewide strategy is a mobile source strategy for the South Coast SIP. Because the SCAQMD has limited authority in regulating mobile source emissions, coordination and cooperation between SCAQMD, CARB, and the U.S. EPA is imperative to meeting the NOx reductions required to meet ozone standards. Although not incorporated specifically from another planning document strategy, the 2016 AQMP also provides numerous control measures for stationary sources.

SCAQMD Rules and Regulations

The SCAQMD adopts rules that establish permissible air pollutant emissions and governs a variety of business, processes, operations, and products to implement the AQMP and the various Federal and State air quality requirements. In general, rules that are anticipated to be applicable during buildout of the Project include:

- **Rule 401 (Visible Emissions)** prohibits discharge into the atmosphere from any single source of emission for any contaminant for a period or periods aggregating more than three minutes in any one hour that is as dark or darker in shade than that designated as No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.

- **Rule 402 (Nuisance)** prohibits discharges of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

- **Rule 403 (Fugitive Dust)** prohibits emissions of fugitive dust from any grading activity, storage pile, or other disturbed surface area if it crosses the project property line or if emissions caused by vehicle movement cause substantial impairment of visibility (defined as exceeding 20 percent capacity in the air). Rule 403 requires the implementation of Best Available Control Measures and includes additional provisions for projects disturbing more than five acres and those disturbing more than fifty acres.

- **Rule 445 (Wood Burning Devices)** prohibits installation of wood burning devices such as fireplaces and wood-burning stoves in new development unless the development is located at an elevation above 3,000 feet or if existing infrastructure for natural gas service is not available within 150-feet of the development.

- **Rule 481 (Spray Coating Operations)** imposes equipment and operational restrictions during construction for all spray painting and spray coating operations.

- **Rule 1108 (Cutback Asphalt)** prohibits the sale or use of any cutback asphalt containing more than 0.5 percent by volume organic compounds which evaporate at 260°C (500°F) or lower.

- **Rule 1113 (Architectural Coatings)** establishes maximum concentrations of VOCs in paints and other applications and establishes the thresholds for low-VOC coatings.

- **Rule 1143 (Consumer Paint Thinners and Multi-Purpose Solvents)** prohibits the supply, sale, manufacture, blend, package or repackage of any consumer paint thinner or multi-purpose solvent for use in the District unless consumer paint thinners or other multi-purpose solvents comply with applicable VOC content limits.

- **Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities)** specifies work practice requirements to limit asbestos emissions from building demolitions and renovation activities, including the removal and associated disturbance of asbestos containing materials. The requirements for demolition and renovation activities include asbestos surveying, notification, asbestos containing materials removal procedures and time schedules, asbestos containing materials handling and clean-up procedures, and storage, disposal, and land filling requirements for asbestos containing waste materials.

Local

City of Monrovia General Plan

The City's existing General Plan does not establish specific goals, policies, or standards related to air quality; however, the City's Monrovia General Plan Proposed Land Use and Circulation Elements EIR (City of Monrovia 2008) included the following mitigation measures related to air quality:

- **AIR-A:** The City shall require applicants to analyze the air quality impacts of construction for each project.

- **AIR-B:** If project-level analysis demonstrates that NOx emissions would be significant, the project shall provide a plan, for approval by the City, demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, shall utilize all feasible measures to reduce the emissions to a less than significant level. Acceptable options for reducing emissions may include use of late model low-emission diesel engines, alternative fuels, engine retrofit technology, and/or other options as they become available. The SCAQMD web site provides specific information on mitigation options for off-road and on-road construction equipment.

- **AIR-C:** The following measure shall be incorporated into all project specifications to reduce diesel engine emissions of O_3 precursors including ROG and NO_X, PM_{10}, $PM_{2.5}$, and diesel PM:

  Idling Restrictions. Idling of diesel-powered vehicles and equipment shall not be permitted during periods of non-active vehicle use. Diesel-powered engines shall not be allowed to idle for more than 5 consecutive minutes in a 60-minute period when the equipment is not in use, occupied by an operator, or otherwise in motion, except as follows:

  - When equipment is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control;
  - When it is necessary to operate auxiliary systems installed on the equipment, only when such system operation is necessary to accomplish the intended use of the equipment;
  - To bring the equipment to the manufacturer's recommended operating temperature;
  - When the ambient temperature is below 40 degrees F or above 85 degrees F; or
  - When equipment is being repaired.
- **AIR–D:** The City shall require that all new residential fireplaces to be fueled by natural gas. Wood stoves and wood burning fireplaces shall be prohibited.
- **AIR-E:** The City shall require applicants to analyze the potential for creating a local CO hotspot due to traffic congestion that could result from implementation of projects anticipated in the proposed General Plan amendments to the Land Use and Circulation Element.
- **AIR-F:** The City shall require applicants to complete a Health Risk Assessment (HRA) to determine the cancer risk to sensitive receptors for all residential projects located within 500 feet of Interstate 210 (I-210).
- **AIR-G:** The City shall require applicants to assess the potential impacts to children's respiratory health for all residential projects located within 500 feet of I-210.

7.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts on air quality that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts. A program-level analysis was conducted for ZCA Areas A and C and a project-level analysis was conducted for the Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

7.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: Items III (a) through (d), implementation of the Project would have a significant impact related to air quality if it would:

(a) Conflict with or obstruct implementation of applicable air quality plan;

(b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment under an applicable Federal or State ambient air quality standard;

(c) Expose sensitive receptors to substantial pollutant concentrations (i.e., carbon monoxide hot spots or TACs); or

(d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Regional Significance Thresholds

The significance thresholds in the SCAQMD's *CEQA Air Quality Handbook* were used for evaluating the impacts associated with the implementation of the Project. The SCAQMD has established mass daily thresholds for regional pollutant emissions, as shown in Table 7-4.

Table 7-4 SCAQMD Regional Emission Significance Thresholds

Air Contaminant	Construction (Maximum Pounds Per Day)	Operation (Maximum Pounds Per Day)
NO_X	100	55
VOC	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550
Lead	3	3
Source: SCAQMD 2015b.		

Localized Significance Thresholds

In addition to establishing thresholds of significance for emissions of criteria air pollutants on a regional level, the SCAQMD has also developed Local Significance Thresholds (LSTs) that represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standards, which would result in significant adverse localized air quality impacts. The LST methodology takes into account a number of factors, including (1) existing ambient air quality in each Source Receptor Area (SRA); (2) how many acres a project would disturb in a day; and (3) how far project construction and operational activities would take place from the nearest sensitive receptor. Unlike the regional emission significance thresholds presented in Table 7-4, LSTs have only been developed for NOx, CO, PM_{10} and $PM_{2.5}$. The construction and operational LSTs for one-acre, two-acre, and five-acre sites in SRA 9 (East San Gabriel Valley), the SRA in which the City of Monrovia is located, are shown in Table 7-5 below.

Table 7-5 SCAQMD Localized Significance Thresholds for Source Receptor Area 9

Pollutant Monitored	Maximum Allowable Emissions (Pounds per Day) as a Function of Receptor Distance (in Feet) from Site Boundary				
	82 Feet	164 Feet	328 Feet	656 Feet	1,640 Feet
ONE-ACRE SITE					
Construction Thresholds					
Nitrogen Oxides (NO_x)	89	112	159	251	489
Carbon Monoxide (CO)	623	945	1,914	4,803	20,721
Particulate Matter (PM_{10})	5	14	34	75	199
Particulate Matter ($PM_{2.5}$)	3	5	9	22	94
ONE-ACRE SITE					
Operational Thresholds					
Nitrogen Oxides (NO_x)	89	112	159	251	489
Carbon Monoxide (CO)	623	945	1,914	4,803	20,721
Particulate Matter (PM_{10})	2	4	9	19	48
Particulate Matter ($PM_{2.5}$)	1	2	3	6	23
TWO-ACRE SITE					
Construction Thresholds					
Nitrogen Oxides (NO_x)	128	151	200	284	513
Carbon Monoxide (CO)	953	1,344	2,445	5,658	22,093
Particulate Matter (PM_{10})	7	22	42	84	207
Particulate Matter ($PM_{2.5}$)	5	7	12	26	100
Operational Thresholds					
Nitrogen Oxides (NO_x)	128	151	200	284	513
Carbon Monoxide (CO)	953	1,344	2,445	5,658	22,093
Particulate Matter (PM_{10})	2	6	11	20	50
Particulate Matter ($PM_{2.5}$)	2	2	3	7	25
FIVE-ACRE SITE					
Construction Thresholds					
Nitrogen Oxides (NO_x)	203	227	286	368	584
Carbon Monoxide (CO)	1,733	2,299	3,680	7,600	25,558
Particulate Matter (PM_{10})	14	43	63	105	229
Particulate Matter ($PM_{2.5}$)	8	11	17	35	116
Operational Thresholds					
Nitrogen Oxides (NO_x)	203	227	286	368	584
Carbon Monoxide (CO)	1,733	2,299	3,680	7,600	25,558
Particulate Matter (PM_{10})	4	11	16	26	55
Particulate Matter ($PM_{2.5}$)	2	3	5	9	28

Source: SCAQMD 2008, modified by MIG 2019
Note: The localized thresholds for NOx in this table account for the conversion of NO to NO_2. The emission thresholds are based on NO_2 levels, as this is the compound associated with adverse health effects.

Carbon Monoxide "Hot Spot" Thresholds

Historically, to determine whether a project poses the potential for a CO hotspot, the quantitative CO screening procedures provided in the *Transportation Project-Level Carbon Monoxide Protocol* (the Protocol) were used (UCD ITS 1997). The Protocol determines whether a project may worsen air quality by increasing the percentage of vehicles in cold start modes by two percent or more; significantly increasing traffic volumes by five percent or more; or worsening traffic flow at signalized intersections (by increasing average delay at intersections operating at level of service (LOS) E or F or causing an intersection that would operate at LOS D or better without the project, to operate at LOS E or F). With new vehicles and improvements in fuels resulting in fewer emissions, the retirement of older polluting vehicles, and new controls and programs, CO concentrations have declined dramatically in California. As a result of emissions controls on new vehicles, the number of vehicles that can idle, and the length of time that vehicles can idle before emissions would trigger a CO impact, has increased. Therefore, the use of LOS as an indicator is no longer applicable for determining CO impacts.

The Bay Area Air Quality Management District (BAAQMD) developed a screening-level analysis for CO hotspots in 2010 which finds that projects that are consistent with the applicable congestion management program, and that do not cause traffic volumes at affected intersections to increase to more than 44,000 vehicles per hour, would not result in a CO hotspot that could exceed State or Federal air quality standards (BAAQMD 2017 pg. 3-4). CO modeling was conducted for the SCAQMD's 2003 AQMP at four busy intersections during morning and evening peak hour periods as well. The busiest intersection studied in this analysis, Wilshire Boulevard and Veteran Avenue, had 8,062 vehicles per hour during morning peak hours, 7,719 vehicles per hour during evening peak hours, and approximately 100,000 vehicles per day. The 2003 AQMP estimated that the 1-hour CO concentration for this intersection was 4.6 ppm, which is less than a fourth of the 1-hour CAAQS CO standard (20 ppm) (SCAQMD 2003a). The BAAQMD screening threshold is generally consistent with the results of the CO modeling conducted for the SCAQMD's 2003 AQMP.

Therefore, for purposes of this EIR, the Project would pose the potential for a CO hotspot if it would exceed the BAAQMD's screening traffic level for peak hour intersection traffic volumes (44,000 vehicles per hour) (thereby having the potential to result in CO concentrations that exceed 1-hour State [20 ppm], 1-hour Federal [35 ppm], and/or State and Federal 8-hour [9 ppm] ambient air quality standards for CO).

Toxic Air Contaminant Thresholds

The SCAQMD recommends preparation of a Health Risk Assessment (HRA) for large commercial or industrial projects to determine the specific health risks posed by long-term emissions of TACs from a project. Following OEHHA and SCAQMD guidance, health risks from TAC emissions are estimated based on "Individual Cancer Risk," which is the likelihood that a person exposed to TACs over 70-year lifetime will get cancer or suffer some other "non-cancer" effect (measured by what is called as a "hazard index"). Numerous weighting factors (e.g., age sensitivity factors, breathing rates, etc.) are applied during health risk calculations to account for those members of the public who may be more sensitive to pollution than others (e.g., sensitive receptors). A project is considered to have a significant impact if it results in any of the following:

- A maximum incremental cancer risk greater than or equal to 10 in one million;

- A population-wide cancer burden greater than 0.5 (in areas were cancer risk is greater than or equal to 1 in one million); or

- A chronic or acute hazard index greater than or equal to 1.0.

The California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015) ruled CEQA review is focused on a project's impact on the environment "and not the environment's impact on the project." The opinion also holds that when a project has "potentially significant exacerbating effects on existing environmental hazards" those impacts are properly within the scope of CEQA because they can be viewed as impacts of the project on "existing conditions" rather than impacts of the environment on the project. The Supreme Court provided the example of a project that threatens to disperse existing buried environmental contaminants that would otherwise remain undisturbed. The Court concluded that it is proper under CEQA to undertake an analysis of the dispersal of existing contaminants because such an analysis would be focused on how the project "would worsen existing conditions." The court also found that the limited number of express CEQA provisions that require analysis of the impacts of the existing environment on a project – such as impacts associated with school siting and airports – should be viewed as specific statutory exceptions to the general rule that such impacts are not properly within CEQA's scope.

Consistent with this court ruling, the impact discussion presented below focuses on the Project's effect on air quality and existing health risks, rather than the effect of existing air quality and its potential risks on the Project's residents. The analysis evaluates whether the Project would create or exacerbate adverse public health risk conditions at sensitive receptor locations, as identified in the SCAQMD's CEQA significance criteria.

7.2.2 Analysis Methodology

Construction and operational emissions associated with buildout of the Project were calculated and evaluated against regional and localized significance thresholds to determine potential impacts on air quality standards, as well as to evaluate potential impacts associated with DPM emissions on sensitive receptors. In addition, a discussion is provided below on the potential for the Project to generate CO hotspots or objectionable odors. An evaluation of whether the Project is consistent with existing plans and policies protecting air quality is also included below.

For potential environmental impacts, mitigation measures were designed to avoid or reduce each impact to a less than significant level, where possible.

7.2.3 Environmental Impacts

IMPACT AIR-1 CONSISTENCY WITH THE SCAQMD AQMP

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

As described in Section 7.1.1, the Project area is within the South Coast Air Basin, which is under the jurisdiction of the SCAQMD. Pursuant to the methodology provided in Chapter 12 of the SCAQMD *CEQA Air Quality Handbook*, consistency with the AQMP is affirmed if a project:

1. Is consistent with the growth assumptions in the AQMP; and

2. Does not increase the frequency or severity of an air quality standards violation or cause a new one.

Consistency Criterion 1 refers to the growth forecasts and associated assumptions included in the 2016 AQMP. The 2016 AQMP was designed to achieve attainment for all criteria air pollutants within the Basin while still accommodating growth in the region. Projects that are consistent with the AQMP growth assumptions would not interfere with attainment of air quality standards, because this growth is included in the projections used to formulate the AQMP. Therefore, if the growth under a project is consistent with regional forecasts for population growth, housing, and employment identified by SCAG in the RTP/SCS, project implementation would be consistent with the AQMP, even if emissions could potentially exceed the SCAQMD's recommended daily emissions thresholds.

The Project includes a General Plan amendment from a Manufacturing land use designation to a Planned Development area designation for the entire 9.63 Project area. The parcels within ZCA Areas A and C are proposed for a zoning change to a Planned Development area that would permit high density residential development. Although a specific development is not proposed for these areas, these proposed land use changes could support a total population of 227 residents (see Chapter 11, Table 11-5). The Alexan Foothills Specific Plan also involves a zoning change to Specific Plan, and would result in 436 residential units for a total population of 942 residents (see Chapter 17, Population and Housing). The 2016 RTP/SCS population and employment projections for the City of Monrovia, as well as the increase in population and employment that would occur with the implementation of the Project, and other City projects that are currently under review, are shown in Table 7-6.

Table 7-6 RTP/SCS and Specific Plan Growth Assumptions for Air Quality Impact Analysis

Project	**Population**	**Employment**
Alexan Foothills Specific Plan	942	0
ZCA Areas A and C	227	0
Subtotal	1,169	0
Other City Projects		
Other Past, Present, and Future Projects	2,238[(A)]	565[(B)]
Total Growth	**3,407**	**565**
RTC/SCS Growth 2012 - 2040	**3,500**	**3,600**
Within Growth Assumptions?	**Yes**	**Yes**

Source: SCAG 2016; MIG 2019

Notes:

(A) According to the City's cumulative project list, approved, under-construction, or reasonably foreseeable residential projects (or portions of mixed-use projects). Assuming 20% of these are 2-bedroom units and based on the U.S. Census Bureau estimate of 1.56 people per bedroom (Linscott, Law, and Greenspan 2018).

(B) According to the City's cumulative project list approved, under-construction, or reasonably foreseeable non-residential projects (or portions of mixed-use projects) and based upon the U.S. Green Building Council's (2008) average SF/employee: General Office is 250 SF/employee, Hotel is 1,500 SF/employee, and General Retail (100,000 SF or less) is 550 SF/employee (Linscott, Law, and Greenspan 2018) .

As shown in Table 7-6, the implementation of the Project, along with other City projects currently under review, would not exceed the growth assumptions contained in the AQMP. Further, implementation of the Alexan Foothills Specific Plan and ZCA would encourage transit-oriented development and support the use of mass transit. Thus, the Project would support AQMP objectives to reduce trips and would aid in the implementation of the AQMP.

Consistency Criterion 2 refers to the CAAQS. SCAQMD has identified CO as the best indicator pollutant for determining whether air quality violations would occur since it is most directly related to automobile traffic, the emissions of which have been modeled by the SCAQMD to determine future air quality conditions. The CO hotspot analysis described below indicates that the Project would not result in a localized CO hotspot and, therefore, would not cause or contribute to an existing or projected air quality violation.

Potential impacts with respect to consistency with the SCAQMD AQMP would be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT AIR-2 RESULT IN CUMULATIVELY CONSIDERABLE INCREASE IN CRITERIA POLLUTANTS

This EIR quantifies and evaluates the potential air quality emissions resulting from buildout of the Alexan Foothills Specific Plan as well as hypothetical buildout of the remainder of the Project area in ZCA Areas A and C. Each of the Project component's emissions are presented and discussed below for both regional and local construction and operational emissions, and the resulting combined emissions that would occur from the overall Project are presented and discussed at the end of this impact section.

Alexan Foothills Specific Plan

Construction Emissions

Regional Construction Emissions. Construction activities associated with development of the proposed Alexan Foothills Specific Plan would include demolition, site preparation, grading, utility trenching, foundation construction, vertical building development, and architectural coating. The combustion of fuel in on- and off-site equipment would generate emissions of ROG, NO_x, CO and PM. The above-mentioned construction activities, as well as on- and off-site travel would generate dust and PM emissions. Architectural coating activities would result in the off-gassing of ROG from paints, coatings, etc. Construction is anticipated to occur over an approximate 30-month period, with initial construction activities commencing in 2020.

The Project's potential construction emissions were modeled using CalEEMod, Version 2016.3.1 (see Appendix C). Construction phase and duration information was provided by the applicant; the type and amount of equipment used during construction was generated using CalEEMod default assumptions and modified as necessary to reflect additional construction activities, including:

- Demolition of approximately 65,190 square feet of existing building space and associated debris hauling activities; and

- Import of 3,200 cubic yards of soil during the Project's grading phase.

The unmitigated maximum daily construction emissions generated by the proposed Alexan Foothills Specific Plan are shown in Table 7-7.

Table 7-7 Unmitigated Regional Construction Emissions Estimates for the Alexan Foothills Specific Plan

Season	Total Unmitigated Maximum Daily Emissions (Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Summer 2020	4.90	53.16	41.35	0.11	21.29	12.34
Summer 2021	4.34	29.94	39.08	0.11	7.20	2.62
Summer 2022	86.30	27.44	37.20	0.11	7.04	2.47
Winter 2020	5.03	53.17	39.88	0.11	21.29	12.34
Winter 2021	4.59	30.07	37.71	0.11	7.20	2.62
Winter 2022	86.35	27.55	35.91	0.11	7.05	2.47
SCAQMD CEQA Threshold	75	100	550	150	150	55
Threshold Exceeded?	**Yes**	No	No	No	No	No
Source: MIG 2019 (see Appendix C).						

As shown in Table 7-7, the maximum daily construction emissions generated by the Alexan Foothills Specific Plan would be below applicable SCAQMD thresholds for all pollutants except ROG in 2022, when peak architectural coating application activities would occur. This is considered a potentially significant impact.

To reduce potential ROG emissions generated during coating application activities to levels below SCAQMD thresholds, the City would require the applicant to implement standard condition SC AIR-1, which requires the use of SCAQMD Rule 1113 "super compliant" coatings with a lower VOC content than the CalEEMod default assumption, as well as the application of coatings with efficient spray equipment. The City would also require the Applicant to implement MM AIR-1, which imposes idling restrictions consistent with General Plan EIR Mitigation Measure AIR-C.

The standard VOC content assumption for residential and non-residential coatings is 50 and 100 grams per liter, respectively. Thus, the use of coatings with a VOC content of less than 10 grams per liter of coating would substantially reduce ROG emissions during coating application activities, as shown in Table 7-8.

Table 7-8 Mitigated Regional Construction Emissions Estimates for the Alexan Foothills Specific Plan

Season	Total Mitigated Maximum Daily Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer 2020	4.90	53.16	41.35	0.11	21.29	12.34
Summer 2021	4.34	29.94	39.08	0.11	7.20	2.62
Summer 2022	17.46	27.44	37.20	0.11	7.04	2.47
Winter 2020	5.03	53.17	39.88	0.11	21.29	12.34
Winter 2021	4.59	30.07	37.71	0.11	7.20	2.62
Winter 2022	17.50	27.55	35.91	0.11	7.05	2.47
SCAQMD CEQA Threshold	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No
Source: MIG 2019 (see Appendix C)						

As shown in Table 7-8, the maximum daily construction emissions generated by the Alexan Foothills Specific Plan would be below the SCAQMD's regional construction emission thresholds with the inclusion of standard conditions and mitigation measure MM AIR-1. Thus, the standard conditions and mitigation measure ensure that the Alexan Foothills Specific Plan's regional construction emissions would have a less than significant impact.

Standard Conditions

Standard Condition SC AIR-1 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

SC AIR-1: Comply with South Coast Air Quality Rule 1113 to reduce VOC emissions from architectural coating applications. Prior to the issuance of a building permit for the development, the applicant shall submit, to the satisfaction of the Planning Division, a Coating Restriction Plan (CRP), consistent with South Coast Air Quality Management District (SCAQMD) guidelines. The applicant shall include in any construction contracts, and/or subcontracts, a requirement that contractors adhere to the requirements of the CRP. The CRP shall include a requirement that all interior and exterior residential and non-residential architectural coatings used in construction meet the SCAQMD "super compliant" coating VOC content standard of less than 10 grams of VOC per liter of coating. The CRP shall also specify the use of high-volume, low pressure spray guns during coating applications to reduce coating waste. **Requirements and Timing:** Applicant shall receive Planning Division approval of a Coating Restriction Plan (CRP) prior to receipt of building permits. **Monitoring:** City staff shall conduct site inspections to ensure that the CRP is followed during construction.

Mitigation Measures

Mitigation Measure MM AIR-1 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

MM AIR-1: Idling Restrictions. Idling of diesel-powered vehicles and equipment shall not be permitted during periods of non-active vehicle use. Diesel-powered engines shall not be allowed

to idle for more than 5 consecutive minutes in a 60-minute period when the equipment is not in use, occupied by an operator, or otherwise in motion, except as follows:

- When equipment is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control;
- When it is necessary to operate auxiliary systems installed on the equipment, only when such system operation is necessary to accomplish the intended use of the equipment;
- To bring the equipment to the manufacturer's recommended operating temperature;
- When the ambient temperature is below 40 degrees F or above 85 degrees F; or
- When equipment is being repaired.

Requirements and Timing: Mitigation measure shall be printed on construction drawings and included as a requirement in the construction contract. **Monitoring:** City staff shall conduct site inspections during construction to ensure that the mitigation measure is adhered to.

Local Construction Emissions. The Alexan Foothills Specific Plan's maximum daily construction emissions are compared against the SCAQMD's-recommended LSTs in Table 7-9. Consistent with the SCAQMD's LST methodology, the emissions included in the construction LST analysis are onsite emissions only, and the LST thresholds against which these onsite emissions are compared are based on the project size, in acres, as determined using the specific equipment list generated by the CalEEMod project file and the SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds* (SCAQMD 2016c).[1] The LST thresholds are for SRA 9 (East San Gabriel Valley), the SRA in which the proposed Alexan Foothills Specific Plan is located, and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

The emissions presented in Table 7-9 incorporate certain best available control measures the Project would be subject to pursuant to SCAQMD Rule 403, Fugitive Dust. Specifically, the CalEEMod project file applies a 60% to 67% total reduction in PM_{10} and $PM_{2.5}$ fugitive dust emissions through site watering (three times daily) and replacement of ground cover. These estimated reductions are consistent with the reductions realized by implementation of the numerous best available control measures contained in SCAQMD Rule 403 (also shown as standard condition SC AIR-2).

As shown in Table 7-9, the maximum daily onsite emissions generated during demolition, site preparation, and grading activities associated with the Alexan Foothills Specific Plan would not exceed the SCAQMD's recommended LST thresholds. The onsite emissions levels during all other construction phases (building construction, paving, architectural coating) would be less than the values presented in Table 7-9, and below the SCAQMD's LST thresholds for a one-

[1] According to the SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*, the maximum number of acres disturbed on the peak day of use per crawler tractor, grader, and rubber tired dozer is 0.5 acres per 8 hour day, while the maximum number of acres disturbed on the peak day of use per scraper is 1 acre per 8 hour day.

acre site (a conservative comparison since the Project area is larger than one acre in size). Thus, this impact would be less than significant.

Table 7-9 LST Construction Analysis for the Alexan Foothills Specific Plan

Construction Phase	Maximum Daily Emissions (Pounds per Day)(A)			
	NO_X	CO	PM_{10}(E)	$PM_{2.5}$(E)
Demolition				
Maximum Daily Onsite Emissions	33.2	21.8	3.2	1.8
SCAQMD LST Threshold (1.5-Acre)(B)	108.5	784.0	6.0	3.9
LST Threshold Exceeded?	No	No	No	No
Site Preparation				
Maximum Daily Emissions	53.1	22.0	7.4	4.9
SCAQMD LST Threshold (2.5-acre)(C)	147.5	1,057.4	8.3	5.1
LST Threshold Exceeded?	No	No	No	No
Grading				
Maximum Daily Emissions	26.4	16.1	3.0	2.1
SCAQMD LST Threshold (1.0-Acre)(D)	89	623	5	3
Threshold Exceeded?	No	No	No	No

Source: MIG 2019 (see Appendix C).

Notes:

(A) Emissions presented are worst-case total emissions and may reflect summer or winter emissions levels.

(B) Demolition would involve the use of three rubber-tired dozers, which equals a 1.5-acre project site for LST purposes (3*0.5=1.5). Accordingly, a 1.5-acre LST threshold was developed using linear regression.

(C) Site Preparation would involve the use of two crawler-tractors and three rubber-tired dozers, which equals a 2.5-acre project site for LST purposes (5*0.5=2.5). Accordingly, a 2.5-acre LST threshold was developed using linear regression.

(D) Grading would involve the use of one grader and one rubber-tired dozer, which equals a 1.0-acre project site for LST purposes (1*0.5)+(1*0.5)=1. Accordingly, a 1 -acre LST threshold was used in this evaluation.

(E) PM emissions assume compliance with SCAQMD Rule 403 best available control measures for site watering and replacing ground cover.

Standard Conditions

Standard Condition SC AIR-2 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

SC AIR-2: Comply with South Coast Air Quality Management District Rule 403, Fugitive Dust, by incorporating best available control measures during construction. **Requirements and Timing:** Standard condition shall be printed on construction drawings and included as a requirement in the construction contract. **Monitoring:** City staff shall conduct site inspections during construction to ensure that the standard condition is adhered to.

Mitigation Measures

No mitigation measures are required.

Operational Emissions

Regional Operational Emissions. Once operational, the Alexan Foothills Specific Plan would result in long-term emissions from area, energy, and mobile sources. The net change in emissions of regulated air pollutants that would occur with implementation of the Alexan Foothills Specific Plan was modeled using CalEEMod, Version 2016.3.2. The operation emissions for the Alexan Foothills Specific Plan were modeled based on the Project's first full year of operation (2023), using default data assumptions provided by CalEEMod, with the following modifications:

- The default trip generation rates for the existing land use types were replaced with trip generation rates contained in the Traffic Impact Analysis (TIA) prepared for the Project (see Chapter 19 and Appendix J). The Project TIA provided trip generation rates for peak weekday activities. Accordingly, the average daily traffic rate contained in the TIA was adjusted by a factor of 0.96 to be consistent with State emission inventory methods and to account for reduced weekend trip rates (this provides a more accurate estimate of total annual emissions).

- The default electrical and natural gas energy efficiency intensity values for residential and non-residential land uses were adjusted downwards to reflect the recent adoption of the 2019 energy efficiency standards.

- Woodstoves and hearths were excluded pursuant to City General Plan requirements and SCAQMD Rule 445 (see standard condition SC AIR-3).

- One 50-horsepower diesel-fueled back-up generator and one 50-horsepower, diesel-fueled fire pump are presumed to be present onsite and operate a total of 18 hours per year.

The net change in long-term operational emissions that would be generated by buildout of the proposed Alexan Foothills Specific Plan is shown in Table 7-10 below.

Table 7-10 Operational Emissions Estimates for the Alexan Foothills Specific Plan

Emission Scenario	Maximum Daily Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Alexan Foothills Specific Plan Buildout Emissions[(A)]						
Area Sources	12.20	0.43	36.31	0.00	0.20	0.20
Energy Sources	0.17	1.48	0.63	0.01	0.12	0.12
Mobile Sources	2.88	4.86	40.78	0.14	13.58	3.68
Total Buildout Emissions[(B)]	15.25	6.78	77.73	0.15	13.90	4.01
Existing Alexan Foothills Specific Plan Area Emissions						
Total Existing Emissions[(C)]	2.92	5.35	16.74	0.05	3.52	1.06
Net Change in Emissions Levels						
Total Net Change	+12.33	+1.43	+60.99	+0.10	+10.38	+2.95
SCAQMD CEQA Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No
Source: MIG 2019 (see Appendix C).						

Table 7-10 Operational Emissions Estimates for the Alexan Foothills Specific Plan

Emission Scenario	Maximum Daily Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Notes:						
(A) Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. Maximum daily ROG, CO, SOX emissions occur during the summer. Maximum daily NOX emissions occur during the winter. In general, due to rounding, there is no difference between summer and winter PM10 and PM2.5 emissions levels for the purposes of this table.						
(B) Totals may not equal due to rounding. Stationary sources would add less than 0.000 pounds per day of emissions to the project's area, energy, and mobile source total. Buildout emissions are based upon construction of 439 units assumed in the TIA, versus the proposed 436 units. Therefore, emissions are overestimates.						
(C) See Table 7-3.						

As shown in Table 7-10, the maximum daily operational emissions associated with the proposed Alexan Foothills Specific Plan would not exceed the SCAQMD's recommended regional pollutant thresholds for all pollutants. This impact would be less than significant.

Standard Conditions

Standard Condition SC AIR-3 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

SC AIR-3. **Natural Gas Fireplaces.** All residential fireplaces installed shall be fueled by natural gas. Wood stoves and wood burning fireplaces shall be prohibited. (Consistent with General Plan EIR Mitigation Measure AIR-D). **Requirements and Timing:** Standard condition shall be printed on construction drawings. **Monitoring:** City staff shall conduct site inspections during construction to confirm condition is adhered to.

Mitigation Measures

No mitigation measures are required.

Local Operational Emissions. The Alexan Foothills Specific Plan's maximum daily operational emissions are compared against the SCAQMD's-recommended LSTs in Table 7-11. Consistent with the SCAQMD's LST methodology, the emissions included in the operational LST analysis are onsite emissions only, and the LST thresholds against which these onsite emissions are compared are based on the project size, in acres. The LST thresholds are for SRA 9 (East San Gabriel Valley), the SRA in which the Alexan Foothills Specific Plan is located and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

Table 7-11 LST Operational Analysis for the Alexan Foothills Specific Plan

Emissions	Maximum Onsite Pollutant Emissions (Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Area Sources	0.43	36.31	0.20	0.20
Energy Sources	1.48	0.63	0.12	0.12
Mobile Sources(A)	0.10	0.82	0.27	0.07
Stationary Sources	<0.00(B)	<0.00(B)	<0.00(B)	<0.00(B)
Subtotal Emissions(C)	2.01	37.76	0.59	0.39
SCAQMD LST Threshold(D)	203	1,733	4	2
Threshold Exceeded?	No	No	No	No

Source: MIG 2019 (see Appendix C).

Notes:

(A) Mobile source emissions estimates reflect potential onsite vehicle emissions only and were derived by assuming 2% of operational mobile source emissions in Table 7-10 will occur onsite.

(B) "<0.00" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01 but larger than 0.000.

(C) Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. In general, due to rounding, there is no difference between summer and winter emissions levels for the purposes of this table. Buildout emissions are based upon construction of 439 units assumed in the TIA, versus the proposed 436 units. Therefore, emissions are overestimates.

(D) LST threshold is conservatively based on a 5.0-acre project size and 25-meter (82-foot) receptor distance.

As shown in Table 7-11, the maximum daily onsite emissions generated during operation of the proposed Alexan Foothills Specific Plan would not exceed the SCAQMD's recommended LST thresholds. This impact would be less than significant.

Standard Conditions

Refer to standard condition SC AIR-3 above.

Mitigation Measures

No mitigation measures are required.

ZCA Areas A and C

Construction Emissions

Regional Construction Emissions. Construction activities associated with development of ZCA Areas A and C would be similar to that of the Alexan Foothills Specific Plan and include demolition, site preparation, grading, utility trenching, foundation construction, vertical building development, and architectural coating. Construction activities are anticipated to be less intense given the lower maximum development potential of ZCA Areas A and C. The combustion of fuel in on- and off-site equipment would generate emissions of ROG, NO_x, CO and PM. Ground-disturbing activities, such as site preparation, grading, utility trenching, and foundation construction, as well as onsite and offsite travel would generate dust and PM emissions. Architectural coating activities would result in the off-gassing of ROG from paints, coatings, etc.

Construction is anticipated to occur over an approximate 12-month period, with initial construction activities assumed to begin in 2021.

Potential construction emissions for ZCA Areas A and C were modeled using CalEEMod, Version 2016.3.1 (see Appendix C). Construction phase and duration information, as well as the type and amount of equipment used during construction, was generated using CalEEMod default assumptions and modified as necessary to reflect additional project-specific construction activities, including the demolition of approximately 28,400 square feet of existing building space and associated debris hauling activities. The unmitigated maximum daily construction emissions generated by the potential redevelopment of ZCA Areas A and C are shown in Table 7-12.

Table 7-12 Regional Construction Emissions Estimates for ZCA Areas A and C

Season	Maximum Daily Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer 2021	2.36	20.77	17.53	0.04	3.98	2.39
Summer 2022	52.0	15.89	17.09	0.04	1.52	0.90
Winter 2021	2.40	20.78	17.33	0.04	3.98	2.39
Winter 2022	52.0	15.90	16.91	0.03	1.52	0.90
SCAQMD CEQA Threshold	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No
Source: MIG 2019, See Appendix C.						

As shown in Table 7-12, the maximum daily construction emissions associated with buildout of ZCA Areas A and C would be below the SCAQMD's recommended regional pollutant thresholds for all pollutants. Thus, this impact would be less than significant. It is noted that future redevelopment of ZCA Areas A and C would be subject to standard condition SC AIR-1 and the General Plan EIR idling restriction requirements as outlined in mitigation measure MM AIR-1 above.

Standard Conditions

Refer to SC AIR-1.

Mitigation Measures

Refer to mitigation measure MM AIR-1.

Local Construction Emissions. The potential maximum daily construction emissions associated with buildout of ZCA Areas A and C are compared against the SCAQMD's-recommended LSTs in Table 7-13. Consistent with the SCAQMD's LST methodology, the emissions included in the construction LST analysis are onsite emissions only, and the LST thresholds against which these onsite emissions are compared are based on the project size, in acres, as determined using the specific equipment list generated by the CalEEMod project file and the SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*. The LST thresholds are for SRA 9 (East San Gabriel Valley, the SRA in which ZCA Areas A and C are located) and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

The emissions presented in Table 7-13 incorporate certain best available control measures that development would be subject to pursuant to SCAQMD Rule 403, Fugitive Dust. Specifically, the CalEEMod project file applies an approximate 55% total reduction in PM_{10} and $PM_{2.5}$ fugitive dust emissions through site watering (once daily). These estimated reductions are consistent with the reductions that would result from the implementation of the best available control measures required by SCAQMD Rule 403 (see standard condition SC AIR-2).

As shown in Table 7-13, the maximum daily onsite emissions generated during demolition, site preparation, and grading activities associated with ZCA Areas A and C would not exceed the SCAQMD's recommended LST thresholds. The onsite emissions levels during all other construction phases (building construction, paving, architectural coating) would be less than the values presented in Table 7-13, and below the SCAQMD's LST thresholds for a one-acre site (a conservative comparison since ZCA Areas A and C would be larger than one acre in size). Thus, this impact would be less than significant.

Table 7-13: LST Construction Analysis for ZCA Areas A and C

Construction Phase	Maximum Daily Emissions (Pounds Per Day)[A]			
	NO_X	CO	PM_{10}[E]	$PM_{2.5}$[E]
Demolition				
Maximum Daily Emissions	19.7	14.5	1.4	1.0
SCAQMD LST Threshold (1.0-Acre)[B]	89	623	5	3
Threshold Exceeded?	No	No	No	No
Site Preparation				
Maximum Daily Emissions	18.29	10.75	1.42	0.72
SCAQMD LST Threshold (1.5-Acre)[C]	108.5	784.0	6.0	3.9
Threshold Exceeded?	No	No	No	No
Grading				
Maximum Daily Emissions	20.21	9.76	3.86	2.36
SCAQMD LST Threshold (1.0-Acre)[D]	89	623	5	3
Threshold Exceeded?	No	No	No	No

Source: MIG 2019 (see Appendix C).

Notes:

(A) Emissions presented are worst-case total emissions and may reflect summer or winter emissions levels.

(B) Demolition would involve the use of one rubber-tired dozer, which equals a 1.0-acre project site for LST purposes (the minimum size recommended by the SCAQMD).

(C) Site Preparation would involve the use of one scraper and one grader, which equals a 1.5-acre project site for LST purposes (1*1)+(1*0.5)=1.5. Accordingly, a 1.5-acre LST threshold was developed using linear regression.

(D) Grading would involve the use of one grader and one rubber-tired dozer, which equals a 1.0-acre project site for LST purposes (1*0.5)+(1*0.5)=1.0. Accordingly, a 1.0-acre LST threshold was used in the grading LST analysis.

(E) PM emissions assume compliance with SCAQMD Rule 403 best available control measures for site watering and replacing ground cover.

Standard Conditions

Refer to SC AIR-2.

Mitigation Measures

No mitigation measures are required.

Operational Emissions

Regional Operational Emissions. The potential redevelopment of ZCA Areas A and C would result in long-term emissions from area, energy, and mobile sources. The net change in emissions of regulated air pollutants that would occur with implementation of potential redevelopment was modeled using CalEEMod, Version 2016.3.2. The operational emissions for ZCA Areas A and C were modeled based on the anticipated earliest first full year of operation (2023), using default data assumptions provided by CalEEMod, with the following modifications:

- The default electrical and natural gas energy efficiency intensity values for residential and non-residential land uses were adjusted downwards to reflect the recent adoption of the 2019 energy efficiency standards.

- Woodstoves and hearths were excluded pursuant to City General Plan requirements and SCAQMD Rule 445 (see standard condition SC AIR-3).

- One 50-horsepower diesel-fueled back-up generator and one 50-horsepower, diesel-fueled fire pump are presumed to be present onsite and operate a total of 18 hours per year.

The potential net change in long-term operational emissions that would be generated by buildout of ZCA Areas A and C is shown in Table 7-14 below.

Table 7-14 Operational Emissions Estimates for ZCA Areas A and C

Emission Scenario	Maximum Daily Emissions (Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
ZCA Areas A and C Buildout Emissions Levels[A]						
Area Sources	2.01	1.30	7.29	0.01	0.14	0.14
Energy Sources	0.02	0.20	0.09	0.00	0.02	0.02
Mobile Sources	0.84	1.41	11.86	0.04	3.95	1.07
Total Buildout Emissions[B]	**2.87**	**2.92**	**19.24**	**0.05**	**4.10**	**1.22**
Existing ZCA Areas A and C Emissions Levels						
Total Existing Emissions[C]	**2.07**	**1.82**	**7.61**	**0.02**	**1.44**	**0.62**
Net Change in Emissions Levels						
Total Net Change	+0.80	+1.10	+11.63	+0.03	+2.66	+0.60
SCAQMD CEQA Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source: MIG 2019 (see Appendix C).
(A) Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. Maximum daily ROG, CO, SO_X, emissions occur during the summer. Maximum daily NO_X, PM_{10} and $PM_{2.5}$ emissions occur during the winter.
(B) Totals may not equal due to rounding.
(C) See Table 7-3.

As shown in Table 7-14, the maximum daily operational emissions associated with buildout of ZCA Areas A and C would not exceed SCAQMD's regional pollutant thresholds. This impact would be less than significant.

Standard Conditions

Refer to standard condition SC AIR-3 above.

Mitigation Measures

No mitigation measures are required.

Local Operational Emissions. The maximum daily operational emissions associated with buildout of ZCA Areas A and C are compared against the SCAQMD's-recommended LSTs in Table 7-15. Consistent with the SCAQMD's LST methodology, the emissions included in the operational LST analysis are onsite emissions only, and the LST thresholds against which these onsite emissions are compared are based on the project size, in acres. The LST thresholds are for SRA 9 (East San Gabriel Valley, the SRA in which the GP/ZCA area is located) and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

As shown in Table 7-15, the maximum daily onsite emissions generated during operation of ZCA Areas A and C would not exceed the SCAQMD's recommended LST thresholds. This impact would be less than significant.

Table 7-15 LST Operational Analysis for ZCA Areas A and C

Emissions	Maximum Onsite Pollutant Emissions (Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Area Sources	1.30	7.29	0.14	0.14
Energy Sources	0.20	0.09	0.02	0.02
Mobile Sources(A)	0.03	0.24	0.08	0.02
Stationary Sources	<0.00(B)	<0.00(B)	<0.00(B)	<0.00(B)
Subtotal Emissions(C)	1.53	7.62	0.24	0.18
SCAQMD LST Threshold(D)	203	1,733	4	2
Threshold Exceeded?	No	No	No	No

Source: MIG 2019 (see Appendix C).

Notes:

(A) Mobile source emissions estimates reflect potential onsite vehicle emissions only; and were derived by assuming 2% of operational mobile source emissions in Table 7-14 will occur onsite.

(B) "<0.00" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01 but larger than 0.000.

(C) Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. In general, due to rounding, there is no difference between summer and winter emissions levels for the purposes of this table.

(D) LST threshold is conservatively based on a 2.0-acre project size and 25-meter (82-foot) receptor distance.

Standard Conditions

Refer to standard condition SC AIR-3.

Mitigation Measures

No mitigation measures are required.

ZCA Areas A and C and Alexan Foothills Specific Plan

As described above, this EIR assumes that construction and operation of the Alexan Foothills Specific Plan and ZCA Areas A and C would occur simultaneously, meaning that construction and operational emissions for both would overlap and be emitted at the same time. The potential for combined emissions to result in a significant air quality impact is evaluated below.

Construction Emissions

Combined Regional Construction Emissions. The potential combined construction emissions resulting from the concurrent development of the Alexan Foothills Specific Plan and ZCA Areas A and C are presented in Table 7-16. As shown in Table 7-16, the total emissions associated with simultaneous implementation of the Alexan Foothills Specific Plan and ZCA Areas A and C would be below the SCAQMD's regional pollutant thresholds for all pollutants with the implementation of standard condition SC AIR-1 and mitigation measure MM AIR-1. Thus, standard condition SC AIR-1 and mitigation measure MM AIR-1 are required for development of both the Alexan Foothills Specific Plan and ZCA Areas A and C and this impact would be less than significant with mitigation.

Table 7-16 Total Combined Regional Construction Emissions for the Alexan Foothills Specific Plan and ZCA Areas A and C

Season	Maximum Daily Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Alexan Foothills Specific Plan Emissions[(A)]						
Summer 2021	4.34	29.94	39.08	0.11	7.20	2.62
Summer 2022	17.46	27.44	37.20	0.11	7.04	2.47
Winter 2021	4.59	30.07	37.71	0.11	7.20	2.62
Winter 2022	17.50	27.55	35.91	0.11	7.05	2.47
ZCA Areas A and C Emissions[(B)]						
Summer 2021	2.36	20.77	17.53	0.04	3.98	2.39
Summer 2022	52.0	15.89	17.09	0.04	1.52	0.90
Winter 2021	2.40	20.78	17.33	0.04	3.98	2.39
Winter 2022	52.0	15.90	16.91	0.03	1.52	0.90
Total Combined Emissions						
Summer 2021	6.70	50.71	56.61	0.15	11.18	5.01
Summer 2022	69.46	43.33	54.29	0.15	8.56	3.37
Winter 2021	6.99	50.85	55.04	0.15	11.18	5.01
Winter 2022	69.50	43.45	52.82	0.14	8.57	3.37
SCAQMD CEQA Threshold	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source: MIG 2019 (See Appendix C)
Notes:
(A) Alexan Foothills Specific Plan emissions represent mitigated emissions values as shown in Table 7-8.
(B) ZCA Areas A and C emissions from Table 7-12.

Standard Conditions

Refer to SC AIR-1.

Mitigation Measures

Refer to mitigation measure MM AIR-1.

Combined Local Construction Emissions. The Alexan Foothills Specific Plan would be constructed over a 30-month period beginning in 2020. The Specific Plan's building construction phase in 2021 and 2022 could overlap with the potential demolition, site preparation, and grading phases associated with potential redevelopment of ZCA Areas A and C. It is not anticipated that overlapping construction would occur prior to 2021 because there is no current specific project proposed for ZCA Areas A and C. The Specific Plan's building construction phase would add 0.8 pounds per day of total PM_{10} and $PM_{2.5}$ to onsite emission estimates for ZCA Areas A and C presented in Table 7-13. The combined emissions from buildout of the Alexan Foothills Specific Plan and ZCA Areas A and C would not exceed the 1.5-acre LST threshold listed in Table 7-13 (a conservative comparison since actual construction activities would be spread out over the approximately 9.63-acre Project area during this combined construction activity period). Therefore, combined construction emissions during the Alexan Foothills Specific Plan building construction and the grading phases in ZCA Areas A and C are considered less than significant. The combined emissions during all other potential combined construction phase in 2021 and 2022 would not exceed an applicable LST threshold. This impact is considered less than significant.

Standard Conditions

Refer to SC AIR-2.

Mitigation Measures

No mitigation measures are required.

Operational Emissions

Combined Regional Operational Emissions. The net change in long-term operational emissions that would be generated by the concurrent buildout of the Alexan Foothills Specific Plan and ZCA Areas A and C in the earliest full year of operation for both projects (2023) is shown in Table 7-17.

Table 7-17 Long-Term Operational Emissions of Combined Buildout of Alexan Foothills Specific Plan & ZCA Areas A and C

Emission Scenario	Maximum Daily Emissions (Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Total Emissions from Combined Buildout of Alexan Foothills Specific Plan and ZCA Areas A and C (A)						
Area Sources	14.21	1.73	43.6	0.01	0.34	0.34
Energy Sources	0.19	1.68	0.72	0.01	0.14	0.14
Mobile Sources	3.72	6.27	52.64	0.18	17.53	4.75
Total Buildout Emissions(B)	**18.12**	**9.70**	**96.97**	**0.20**	**18.00**	**5.23**
Total Existing Project Area (Alexan Foothills Specific Plan and ZCA Areas A and C) Emissions(C)						
Total Existing Emissions	**4.99**	**7.17**	**24.35**	**0.07**	**4.96**	**1.68**
Total Net Change in Emissions						
Total Net Change	+13.13	+2.53	+72.62	+0.13	+13.04	+3.55
SCAQMD CEQA Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source: MIG 2019 (see Appendix C).

Notes:

(A) Buildout emissions are from Table 7-10 (Alexan Foothills Specific Plan) and 7-14 (ZCA Areas A and C).
(B) Totals may not equal due to rounding.
(C) Existing emissions are from Table 7-3.

As shown in Table 7-17, the maximum daily emissions from the concurrent operation of the Alexan Foothills Specific Plan and ZCA Areas A and C would not exceed the SCAQMD's recommended regional pollutant thresholds. This impact would be less than significant.

Standard Conditions

Refer to standard condition SC AIR-3.

Mitigation Measures

No mitigation measures are required.

Combined Local Operational Emissions. The total combined maximum daily onsite operational emissions resulting from concurrent operation of the Alexan Foothills Specific Plan and ZCA Areas A and C are compared against the SCAQMD's-recommended LSTs in Table 7-18. The LST thresholds are for a five-acre project site (a conservative assumption since the Project area is greater than five acres in size), SRA 9 (East San Gabriel Valley, the SRA in which the Project area is located), and a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

Table 7-18 Combined LST Operational Analysis for the Alexan Foothills Specific Plan and ZCA Areas A and C

Total Combined Emissions[A]	Maximum Pollutant Emissions (Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Area Sources	1.73	43.6	0.34	0.34
Energy Sources	1.68	0.72	0.14	0.14
Mobile Sources	0.13	1.05	0.35	0.10
Stationary Sources	<0.00[B]	<0.00[B]	<0.00[B]	<0.00[B]
Subtotal Emissions[C]	3.54	45.37	0.83	0.58
SCAQMD LST Threshold (5.0-acre)[D]	203	1,733	4	2
Threshold Exceeded?	No	No	No	No

Source: MIG 2019 (see Appendix C).

Notes:

(A) Onsite emissions are from Table 7-11 (Alexan Foothills Specific Plan) and 7-15 (ZCA Areas A and C).

(B) "<0.00" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01 but larger than 0.000.

(C) Totals may not equal due to rounding.

(D) LST threshold is conservatively based on a 5.0-acre project size and 25-meter (82-foot) receptor distance.

As shown in Table 7-18, the total combined emissions from onsite operational activities associated with the Alexan Foothills Specific Plan and ZCA Areas A and C would not exceed the SCAQMD's recommended LST thresholds for a five-acre project. This impact would be less than significant.

Standard Conditions

Refer to SC AIR-3.

Mitigation Measures

No mitigation measures are required.

IMPACT AIR-3 EXPOSURE OF SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan and

CO Hotspots

Based on the TIA (see Appendix J), the maximum number of vehicles moving through any study intersection would be substantially below the screening threshold of 44,000 vehicles per hour for a CO hotspot analysis. Therefore, the Project would not cause or significantly contribute to CO concentrations that exceed State or Federal ambient air quality standards for CO. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Fugitive Dust and DPM Emissions

The Project would have the potential to expose existing sensitive receptors present within and near the Project area to fugitive dust and DPM during construction and operation. Construction activities associated with the Project would have the potential to generate fugitive dust and emissions of DPM, a TAC, which could impact sensitive air quality receptors. Operation of the Project would generate vehicle DPM emissions in the area, also having the potential to impact sensitive receptors.

In addition, portions of the Project area range from 80 feet to 600 feet south of the I-210, an existing local source of DPM emissions,[2] located adjacent to the Project area. Buildout of the Alexan Foothills Specific Plan would result in the placement of new sensitive residential receptors within 500 feet of the I-210, and future buildout of ZCA Areas A and C would have the potential to place new sensitive residential receptors within 500 feet of the I-210 as well. Pursuant to the California Supreme Court's decision in *CBIA v. BAAQMD*, an analysis of whether the Project would exacerbate the existing health risks associated with I-210 vehicle emissions is also required.

According to the SCAQMD's MATES IV Carcinogenic Risk Map, the existing cancer risk on either side of the I-210 in the vicinity of the Project (south and north of I-210) is 1,456 and 1,142, respectively (i.e., there is a probability of 1,456 and 1,142 cases of cancer out of a population of one million) (SCAQMD 2018d). These cancer risks are orders of magnitude higher than the SCAQMD's significance threshold of 10 cases in one million for cancer risk. These estimates, however, are based upon regional modeling efforts that largely do not account for site specific emission rates and dispersion characteristics that typically result in refined and substantially lower health risk estimates. Therefore, potential health risks associated with vehicle emissions along the I-210 in the Project vicinity were calculated (see below and Appendix C).

CalEnviroScreen is another mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. The tool uses environmental, health, and socioeconomic information to produce scores for every census tract in the state. The scores are then mapped so that different communities can be compared. An area with a high score is one that experiences a much higher pollution burden than areas with low scores. According to the OEHHA CalEnviroScreen 3.0 Map, the Project area is in census tract 6037430902 and has an average pollution indicator percentile of 60% to 65% based on the CalEnviroScreen indicators (e.g., exposure, environmental effects, population characteristics, socioeconomic factors) (OEHHA 2018). These numbers also indicate relatively high health risks in the Project area, likely attributable to the proximity to the I-210.

The CalEnviroScreen data also indicate that approximately 28 people per 10,000 people in the Project area's census tract visited an emergency facility for asthma-related health issues. This

[2] Gasoline and diesel-fueled vehicles travelling on the I-210 would emit other TACs besides DPM; however, these other TACs would be emitted in much lower quantities than DPM. In addition, the SCAQMD's MATES IV study continues to identify DPM as the primary contributor to mobile source risks estimates. Accordingly, this EIR focuses on the risk from DPM emitted by vehicles travelling on the I-210 as an overall indicator of potential adverse health risks from mobile sources operating near the site.

rate places the Project area's census tract in the 20th percentile, meaning the asthma rate in this census tract is higher than 20% of the census tracts in the State (OEHHA 2018). This factor indicates that adverse respiratory health is not prevalent in the census tract in which the proposed Project area is located, and that the existing conditions in the census tract are such that sensitive receptors are in an area of lower risk for adverse respiratory health effects compared to other areas in the state.

Consistent with the City's 2008 Monrovia General Plan Proposed Land Use and Circulation Elements Update EIR and to determine if the Project would exacerbate health risks associated with DPM emissions in the area, a Health Risk Assessment (HRA) was conducted to evaluate the potential health hazards to new residential receptors in the Project area from the I-210, as well as to children. The HRA methodology and results are presented below and included in an Air Quality Impact Analysis Report contained in Appendix C. Emission factor calculations, dispersion model inputs, outputs, and HRA calculations are all contained in the report in Appendix C.

Construction Fugitive Dust and DPM Emissions

Construction activities associated with the Project would result in demolition, site preparation, grading, and other activities that would generate fugitive dust; however, as shown under Impact AIR-2 above, the total PM_{10} and $PM_{2.5}$ emissions generated during construction of the Project would be below SCAQMD LST thresholds. The SCAQMD's LST thresholds represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State AAQS. Thus, since Project construction emissions would not exceed applicable LST thresholds, the Project would not expose sensitive receptors to substantial fugitive dust concentrations.

A portion of the PM_{10} and $PM_{2.5}$ emissions generated during construction of the Alexan Foothills Specific Plan (Table 7-9) and the ZCA Areas A and C (Table 7-13) would be DPM. DPM is a TAC that can potentially cause substantial adverse health risks at concentrations lower than the ambient air quality standards for PM_{10} and $PM_{2.5}$ set by the Federal and State CAA. Equipment with diesel engines would be used during all phases of the proposed Alexan Foothills Specific Plan and buildout of ZCA Areas A and C, and some construction activities would occur as close as approximately 60 feet away from sensitive receptor locations (e.g., receptors across Mayflower Avenue, S. Magnolia Avenue, and the METRO Gold Line ROW), although most construction activities on the interior of the Alexan Foothills Specific Plan and ZCA Areas A and C would occur several hundred feet or more from sensitive receptor locations.

Furthermore, implementation of idling restrictions under mitigation measure MM AIR-1 would minimize DPM emissions from construction equipment. Second, as shown in Figure 7-1, the prevailing daytime wind direction is from the west/southwest at the nearest meteorological station maintained by the SCAQMD in Azusa (less than five miles east of the Project area). Wind conditions at this location are considered representative of wind conditions in the Project area, meaning that DPM emissions generated by construction equipment would generally be pushed to the east/northeast, away from the closest sensitive residential receptors, and pollutants would quickly disperse over distance. Finally, potential long-term adverse health risks from DPM are evaluated assuming a constant exposure to emissions over a 70-year lifetime, 24 hours a day, seven days a week, with increased risks generally associated with increased proximity to emissions sources. Since construction activities would only generate DPM emissions on an interim, short-term basis, DPM emissions from construction activities would be unlikely to result in adverse health effects to existing sensitive receptors that exceed the

SCAMQD's significance criteria listed in Section 7.2.1. Therefore, construction activities associated with buildout of the Project would not expose nearby sensitive receptors to substantial levels of DPM that would pose a significant adverse health risk. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Operational – Health Risks Related to Exposure from I-210 Emissions

An HRA was performed to determine the health risk associated with operation of the Project consistent with the guidance and recommendations contained in the SCAQMD's CEQA *Air Quality Handbook*, as amended and supplemented (SCAQMD 2017a), SCAQMD's *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions* (SCAQMD 2003b), and OEHHA's *Air Toxics Hot Spots Program Guidance Manual* (OEHHA 2015).

The U.S. EPA's AERMOD dispersion model was used to predict pollutant concentrations from the I-210 at the Project boundary along West Evergreen Avenue. The AERMOD dispersion model is a U.S. EPA-approved and SCAQMD-recommended model for simulating the dispersion of pollutant emissions and estimating ground level concentrations of pollutants at specified receptor locations. AERMOD requires the user to input information on the source(s) of pollutants being modeled, the receptors where pollutant concentrations are modeled, and the meteorology, terrain, and other factors that affect the potential dispersion of pollutants. These variables are described below and shown in detail in Appendix C to this EIR.

Modeled I-210 Sources/Emission Rates. Emissions from the I-210 were modeled as a polygon-area source as shown in Table 7-19. The area source representing the freeway was extended 1,000 feet to the northwest and east of the Project boundary to capture emissions emanating from the I-210 both adjacent and in close proximity to the Project. The total length of the I-210 modeled was approximately 3,350 feet, or 0.63 miles, as shown in Table 7-19.

Table 7-19: AERMOD Source Parameters

ID	Description	UTM Coordinates(A)		Size (m^2)
		X	Y	
PAREA1	I-210 (Eastbound and Westbound)	406639.35	3777858.98	51185.1

Source: MIG 2019, see Appendix C.
Note:
(A) UTM coordinates represent the northwest corner of the source.

Consistent with SCAQMD recommendations, PM_{10} exhaust from diesel vehicles travelling along I-210 was evaluated in the HRA. The emission rate for the segment of I-210 modeled in the operational HRA was derived from diesel vehicle emission factors and vehicle population data contained in CARB's EMFAC model and annual average daily traffic volume data available from Caltrans. Using EMFAC data (for the Los Angeles South Coast Sub-Area), an average diesel emission factor, in terms of grams per mile, was developed for each vehicle class, based on a speed of 65 miles per hour. Then the population percentage for each vehicle class was multiplied by the annual average daily trips (AADT) for the segment of I-210 adjacent to the Project, between Huntington Drive and South Myrtle Avenue (252,000 vehicles), to determine

the total amount of diesel vehicles traveling adjacent to the Project. This diesel vehicle estimate was then multiplied by the total segment length (0.63 miles) to determine the total miles travelled by each vehicle class. The total miles travelled were then multiplied by the average emission factor to determine total diesel vehicle emissions emitted from the modeled portion of I-210. Table 7-20 summarizes the average emission factors, vehicle class population percentage, vehicle miles traveled, and total diesel emissions occurring within the modeled source.

Table 7-20 AERMOD Source Emissions Rate Information

Vehicle Class	Emission Factor at 65 MPH (grams per mile)(A)	Vehicle Population(B)	Vehicle Miles Traveled(C)	Total Daily PM_{10} Emissions (Grams)(D)	Total Daily PM_{10} (Grams Per Second)(E)
LDA	0.001611306	0.49%	776	1.2509421	1.44785E-05
LDT1	0.028116599	0.00%	5	0.1499634	1.73569E-06
LDT2	0.003345548	0.13%	206	0.6903391	7.99004E-06
LHDT1	0.006014986	0.91%	1,453	8.7415092	0.000101175
LHDT2	0.010734683	0.37%	589	6.3226286	7.31786E-05
HHDT	0.033787693	0.76%	1,217	41.133135	0.000476078
MDV	0.001345391	0.28%	450	0.6054664	7.00771E-06
MH	0.038410995	0.08%	130	5.0052745	5.79314E-05
MHDT	0.015244088	0.85%	1,363	20.783071	0.000240545
OBUS	0.023503175	0.04%	65	1.5253977	1.76551E-05
SBUS	0.018215134	0.05%	74	1.3460165	1.55789E-05
UBUS	0.003787529	0.00%	0	0.0008114	9.39173E-09
Total	**--**	**3.96%**	**6,330**	**65.888827**	**7.62602E-04**

Source: EMFAC2017 (See Appendix C) and Caltrans 2016.

Notes:

(A) Emission factors represent the average emission factor for the vehicle class over the 2023 to 2050 time period. Emission factors are reported for a speed of 65 miles per hour.

(B) Population percentage reflects the proportion of each vehicle class out of the total amount of vehicles in the Los Angeles (South Coast) sub-area.

(C) Vehicle miles travelled is estimated by multiplying the vehicle population percentage times 252,000 (the ADT on I-210), times the modeled segment length (0.63 miles).

(D) Total Daily emissions is estimated by multiplying the vehicle miles travelled by the average emission factor.

(E) Grams per second is derived based on 86,400 seconds per day.

The release height for the modeled source was set to 3.28 meters to approximate an average of height of all vehicle exhaust sources.

Meteorological Data Inputs. AERMOD requires meteorological data as an input into the model. The meteorological data is processed using AERMET, a pre-processor to AERMOD. AERMET requires surface meteorological data, upper air meteorological data, and surface parameter data such as albedo (reflectivity) and surface roughness. For the Project, pre-processed surface data from the SCAQMD was obtained for the Azusa meteorological station, the closest meteorological station to the Project. Five complete years of meteorological data from January 2012 to December 2016 were utilized. Emissions were presumed to be generated 24-hours per day. The wind rose for the Azusa meteorological station data set is shown in Figure 7-1.

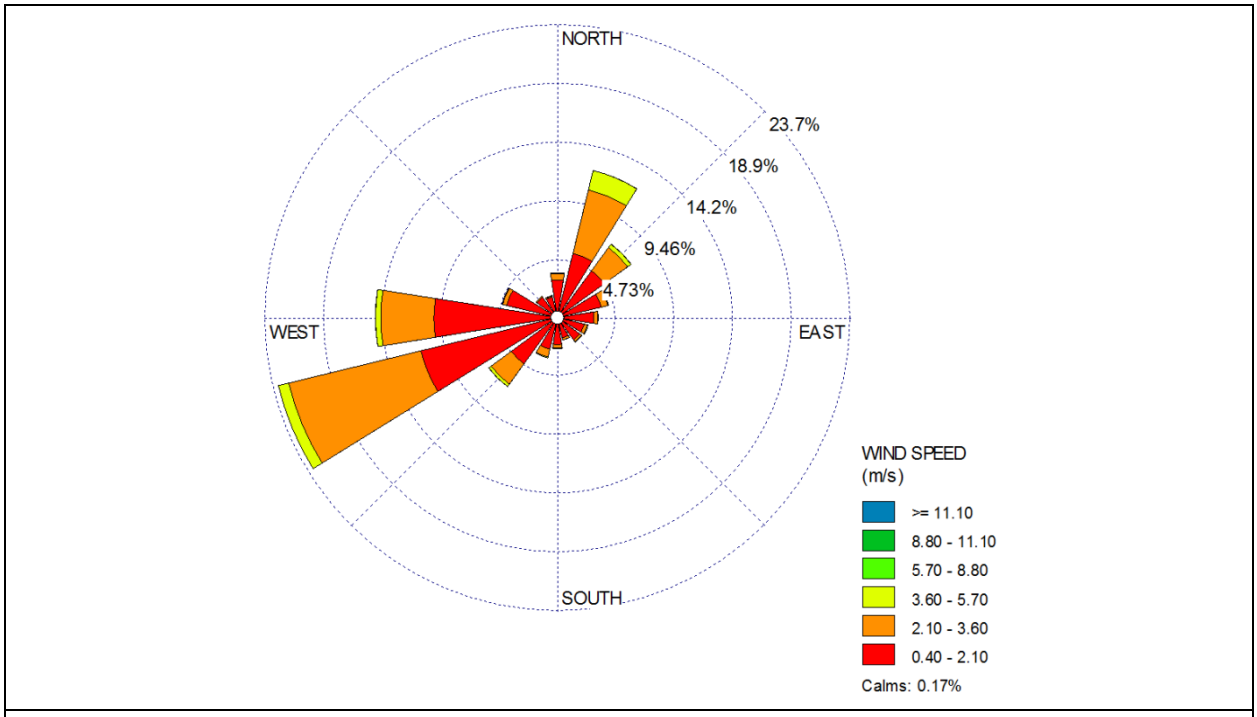
Terrain Inputs. Terrain was incorporated by using AERMAP (an AERMOD pre-processer) to import the elevation of the Project area using data from the National Elevation Dataset with a resolution of 1/3 arcsecond.

Modeled Receptors. Emissions were modeled in a single-tier fenceline grid. The single tier consisted of 5-meter spacing from the fenceline for a distance of 25 meters. Primary and intermediate (spaced every 5 meters) were also modeled. The receptor grids were then converted to discrete Cartesian receptors (1,529 in total). Receptors were modeled at heights of 0.0 and 10 meters and (33 feet) above the ground.

Cancer Risk. Cancer risk is the calculated, pollutant-specific estimated probability of developing cancer based upon the dose and exposure to the TAC. Cancer risk is determined by calculating the combinatory effects of a cancer potency factor (CPF) when inhaling the toxic, the daily inhalation dose, the age group the receptor is cohort to, the duration of exposure over a lifetime (70 years), and other factors such as age sensitivity and the amount of time spent at the location of exposure.

For the Project, risks were assessed for the inhalation pathway (i.e., breathing) for both residential and worker receptors. Additionally, residential receptors were assessed under a 70-year exposure duration to further detail potential risk to those under lifetime exposure. Cancer risk equations for residential receptors is summarized in Table 7-21 and Table 7-22.

Figure 7-1 Wind Rose for Azusa Meteorological Station (Blowing From)



Source: SCAQMD 2018e

Table 7-21 Cancer Risk Equations

Equation 1 - Residential Risk:	$=\times CPF \times ASF \times\times FAH$
Where:	
$DOSE_{AIR}$ =	Daily Inhalation Dose (mg/kg-day). See Table 7-22
CPF =	Cancer Potency Factor for Inhalants (mg/kg-day). CPF is expressed as the 95th percent upper confidence limit of the slope of the dose response curve under continuous lifetime exposure conditions. The CPF for diesel exhaust is 1.1 mg/kg-day.
ASF =	Age Sensitivity Factor. ASF is a protective coefficient intended to take into account increased susceptibility to long-term health effects from early-life exposure to TACs. The recommended ASFs are 10 for the third-trimester to birth and two-year age bins, three for the two-year to nine-year and 16-year age bins, and one for receptors over 16 years of age.
ED =	Exposure Duration (years). Exposure duration characterizes the length of residency (30 Years) of the receptor.
AT =	Averaging Time (years). A 70-year (lifetime) averaging time is used to characterize to total risk as a factor of average risk over a typical lifespan.
FAH =	Fraction at Home. FAH is the percentage of time the receptor is physically at the receptor location. The recommended percentages are 85 percent for the third-trimester to birth and two-year age bins, 72 percent for the two-year to nine-year and 16-year age bins, and 73 for receptors over 16 years of age.

Table 7-22 Inhalation Dose Equations

Residential Dose	$=\times\times A \times EF \times$
Where:	
C_{AIR} =	Concentration of TAC in air (µg/m^3). Concentration of toxic in micrograms per one cubic meter of air. The AERMOD program is used in the study to determine concentrations of diesel particulate matter at surrounding discrete and grid receptor points.
BR/BW =	Breathing Rate ÷ Body Weight (L/kg/day). Daily breathing rate normalized to body weight. The 95th percentile breathing rate to body weight ratios are used in this study with a recommended 361 L/kg/day for the third-trimester to birth age bin, 1,090 L/kg/day for the birth to two-years age bin, 861 L/kg/day for the two-years to nine-years age bin, 745 for the two-years to 16-years age bin, 335 L/kg/day for the 16-years to 30-years age bin, and 290 L/kg/day for the 16-years to 70-years age bin.
A =	Inhalation Absorption Factor. Is a coefficient that reflects the fraction of chemical absorbed in studies used in the development of CPF and Reference Exposure Levels (RELs). An absorption factor of one is recommended for all chemicals.
EF =	Exposure Frequency. EF is the ratio of days in a year that a receptor is receiving the dose. The recommended EF is 0.96 characterizing an assumed 350 days a year that a residential receptor is home for some portion of the day.

Maximally Exposed Individual Resident. Cancer risk was assessed for the maximally exposed individual resident (MEIR) in the Project area over a 30-year exposure duration (which characterizes the maximum residency tendency in California). The Point of Maximum Impact (PMI) was also determined. The MEIR is the location of the resident expected to have the highest exposure to TACs. The PMI corresponds to the location where the highest concentration of TACs is expected. Residential risk calculations account for presumed sensitivity to carcinogens and differences in intake rates for the third-trimester to birth, birth to two-years, two-years to nine-years, two-years to 16-years, 16-years to 30-years, and 16-years to 70 years age bins. Concentrations were modeled using AERMOD and then input into CARB's Hot Spots and Reporting Program (HARP) Health Risk Assessment Standalone Tool (RAST) to calculate cancer risk based on the methods and recommendations found in the OEHHA HRA Guidelines. The RAST intake rate percentile was set to the 95th percentile and the fraction of time at home factor was applied to age bins less than 16 years. The resulting annual average

DPM concentration and corresponding excess cancer risk at the MEIR are summarized in Table 7-23. For this analysis, two MEIRs were identified: the MEIR in the Alexan Foothills Specific Plan area only and the MEIR in ZCA Areas A and C. The PMI is located off-site, adjacent to West Evergreen Avenue in an area that would not be occupied by residential receptors; cancer risks at this location, therefore, were not estimated.

Modeling Results. The results of the modeling indicate that, in general, DPM concentrations are higher on the northern and western side of the Project area. This is due to the proximity of the northern Project boundary to the I-210. In general, the estimated cancer risks along the northern Project area boundary range from 21.1 to 25.7, while risks along the southern Project area boundary range from 7.5 to 10.2 (see Appendix C for more details). The MEIR for the Alexan Foothills Specific Plan area is located near the center of the Project area, while the MEIR for ZCA Areas A and C is located near the corner of West Evergreen Avenue and Mayflower Avenue. Table 7-23 summarizes the location, annual average concentration, and calculated excess cancer risk at the modeled MEIR locations.

Table 7-23: Estimated Cancer Risk at PMI, MEIR, and MEIR (Uncontrolled I-210 DPM Emissions)

Receptor	UTM Location		Annual Average DPM Concentration ($\mu g/m^3$)	Excess Cancer Risk (per million population)	Threshold Exceeded?
	Easting	Northing			
PMI[(A)]	406946.81	3777692.37	0.07087	--	--
MEIR (in Alexan Foothills Specific Plan area)	407063.01	3777615.42	0.03481	23.7	Yes
MEIR (in ZCA Areas A and C)	406932.28	3777671.45	0.03768	25.7	Yes

Source: MIG 2019 (see Appendix C)

Note: The PMI is located in a public roadway and is not an occupied nor a potential receptor location. Therefore, cancer risk was not calculated

As shown in Table 7-23, site-specific cancer risks are much lower than CARB's MATES IV results, but uncontrolled DPM emissions would generate cancer risks in the Project area that are above the SCAQMD recommended cancer risk thresholds (10 cases of cancer per a population of one million) by a factor of approximately 2.5 as a worst case. This would occur along the northern portion of the Project area. Potential risks in the southern portion of the Project area, however, would be much lower (by approximately one-half or more) and either below or only slightly above the thresholds (10.2 cases in one million). Parts of the Alexan Foothills Specific Plan in the southeast corner of the Project area would also be exposed to risks that are below the SCAQMD cancer risk threshold. Without control of DPM emissions, therefore, vehicle emissions from the I-210 have an adverse impact on sensitive receptors in the Project area, and the addition of DPM emissions to the area from Project vehicle trips could exacerbate this condition. It is important to note, however, that the above estimates are conservative and are likely to overestimate potential risks for the following reasons:

1. The lifetime exposure for a sensitive receptor was assumed to begin in the 3rd trimester (i.e., in the womb) in the Project area and it was assumed that sensitive receptors would then continue to be exposed through the infant stage and into early childhood. Risks to adult receptors (receptors older than 16 at the time of initial exposure) would be much lower (approximately 80% lower and less than the SCAQMD carcinogenic risk threshold).

2. The HRA estimates are based on near continuous exterior exposure at property line locations. The Alexan Foothills Specific Plan was specifically designed to place building massing in the northern portions of the Specific Plan area and to orient buildings to screen future residents from noise and pollutant emissions from the I-210. Plazas and other areas where residents may gather outside are concentrated in the southern areas of the Specific Plan area. Therefore, pollutant concentrations where receptors would actually be located would be lower than modeled concentrations.

3. Because the Project is an infill, transit-oriented development, it would result in an overall reduction of vehicle miles traveled by residents and workers in the City of Monrovia, thereby reducing overall traffic in the City and along the I-210. This is one of CARB's strategies for reducing air pollution exposure near high-volume roadways (CARB 2017).

4. The HRA does not take into account any reductions in PM that would be achieved by mechanically supplied air systems. Specifically, the 2019 amendments made to the California Building Standards Code, set to go into effect on January 1, 2020, would require high-rise[3] multifamily dwellings within 500 feet of busy roadways (more than 100,000 ADT) to use HVAC systems and filters with a Minimum Efficiency Rating Value (MERV) of 13. MERV-13 filters can remove up to 90% of particles less than 10 microns in size, which would result in a corresponding reduction in exposure to PM_{10} and associated adverse health risks by 90%. While the California Building Standards code would require these HVAC systems to be appropriately designed and sized for individual dwelling units, the long-term air quality benefit and risk reduction realized by these enhanced filtration systems would be dependent in part, on individual owners and occupants of each dwelling unit (due to system maintenance and filter replacement requirements). Nonetheless, less efficient filters, such as a MERV-8, can remove up to 70% of particles less than 10 microns in size, which would result in a corresponding reduction in exposure to PM10 and associated adverse health risks by 70%. A 70% reduction in modeled PM concentrations (i.e., indoor air quality levels) would reduce risks to levels below the SCAQMD threshold.

For the reasons outlined above, it is reasonable to assume that installation of HVAC systems with MERV-8 or MERV-13 filters in the Project area would reduce cancer risk to below SCAQMD significance thresholds. For full effectiveness, the HVAC system must be in operation at all times while residents are inside their unit and must be properly maintained. In addition, HVAC systems may not be a California Building Code requirement for all new structures in the Project area. Therefore, impacts would be significant without additional mitigation. Therefore, to ensure indoor air quality concentrations remain at or are lower than the estimates presented in

[3] A high-rise building is defined by the California Building Code as any building used for human occupancy greater than 55 feet above the lowest level of Fire Department vehicle access. For the purposes of compliance with prescriptive indoor air quality requirements, the building energy efficiency standards consider a high-rise residential building to be any building with four or more habitable stories.

Table 7-23 for all residents in the Project area, mitigation measure MM AIR-2 requires installation of HVAC systems in all new residential buildings with a MERV of 13 and would ensure that all HVAC systems are maintained on a regular basis and that filters are replaced as required to ensure their effectiveness. With implementation of this mitigation measure, buildout under the Project would not exacerbate cancer risk associated with DPM emissions, including from the I-210.

Mitigation Measures

Mitigation Measure MM AIR-2 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

MM AIR-2: For all new residential units in the Project area, the developer shall install, and owner maintain, HVAC systems with air filters meeting or exceeding the most current California Building Standards Code requirement for an ASHRAE Standard 52.2 Minimum Efficiency Rating Value (MERV) of 13 (a Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size). Air filters shall be replaced at a minimum of two times per year, or more, as needed, by the owner. **Requirements and Timing:** This measure shall be printed on construction drawings and included as a requirement of the construction contract for new residential buildings. This measure shall also be recorded in a Notice to Property Owner, which shall be provided to all occupants of the Alexan Specific Plan units and for each new residential property within the Project area. **Monitoring:** City staff shall confirm that HVAC units and MERV-13 filters (or better) are installed in accordance with this measure prior to final sign off on construction for all new residential units. City staff shall also review and approve of the Notice to Property Owner language and ensure recordation prior to final sign-off on construction of new residential units in the Project area.

Population-Wide Cancer Burden. Cancer burden is the product of public cancer risk and the population exposed to the carcinogen. The population of the Alexan Foothills Specific Plan and ZCA Areas A and C is conservatively estimated to be 1,169 people (see Table 7-6). Using the higher of the two MEIRs identified in Table 7-23, the average cancer risk based on the lifetime exposure scenario (70 years) is 3.02E-05 (approximately 30 cases per million people). The product of cancer risk and the estimated population is 0.036 and is below the SCAQMD threshold of 0.5 excess cancer cases in the Project population.

Mitigation Measures

No mitigation measures are required.

Non-Cancer Risks. The chronic non-cancer hazard quotient is the calculated pollutant-specific indicator for risk of developing an adverse health effect on specific organ system(s) targeted by the identified TAC, in this case, DPM. The potential for exposure to result in chronic non-cancer effects is evaluated by comparing the estimated annual average air concentration to the chemical-specific, non-cancer chronic reference exposure levels (RELs). The REL is a concentration below which there is assumed to be no observable adverse health impact to a target organ system. When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient. The annual average air concentration is divided by the REL to calculate a hazard quotient. To evaluate the potential for adverse chronic non-cancer health effects from simultaneous exposure to multiple chemicals, the hazard quotients for all chemicals are summed, yielding a hazard index. The chronic REL for DPM was established by OEHHA as 5 $\mu g/m^3$. There is no acute REL for DPM. Chronic non-cancer risks are considered significant if

a project's TAC emissions result in a hazard index greater than or equal to one. Non-cancer risk equations are summarized in Table 7-24.

Table 7-24: Non-Cancer Risk Equation

Chronic Hazard Quotient:	=
Where:	
HI_{DPM} =	Hazard Index; an expression of the potential for non-cancer health effects.
C_{DPM} =	Annual average DPM concentration ($\mu g/m^3$).
REL_{DPM} =	Reference exposure level (REL) for DPM; the DPM concentration at which no adverse health effects are anticipated.

Existing sensitive receptors are exposed to air pollution associated with motor vehicles travelling on the I-210, located adjacent to the Project area. As shown in Table 7-24, the annual average DPM concentration associated with vehicle emissions along the I-210 at the PMI is 0.07087, which yields a chronic hazard quotient of 0.014, which is less than the SCAQMD threshold of 1.0. As indicated above, the PMI is not an occupied receptor location; thus, the calculated hazard quotient at all other receptor locations would be less than 0.001 and less than the SCAQMD threshold of 1.0.

Mitigation Measures

No mitigation measures are required.

Operational - Exacerbation of Existing I-210 Emissions and Risks

In addition, as shown in Tables 7-10, 7-11, 7-14, 7-15, 7-17, and 7-18, operation of the Project would not exceed any regional or local significance thresholds recommended for use by the SCAQMD. All emissions of PM, including DPM, would be substantially below LST thresholds. In addition, any emissions would be dispersed along multiple vehicle travel routes, reducing the potential for the Project to exacerbate pollutant concentrations in any one area. Therefore, the Project would not have a considerable contribution to DPM emissions in the area and would not significantly exacerbate I-210 vehicle emissions or the potential adverse health risks associated with these emissions.

In addition, as discussed under Impact AIR-2, the Project would not exceed SCAQMD-recommended thresholds for regional pollutants with the incorporation of standard conditions and Mitigation Measure AIR-1, nor would it exceed SCAQMD-recommended thresholds for localized pollutants. As explained in Section 7.2.1, the SCAQMD's LST thresholds represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standards. In developing the CAAQS and NAAQS, the U.S. EPA and CARB considered scientific evidence linking exposure to air pollutants to health risks. Although each individual's health characteristics, environment, and pre-disposition to adverse respiratory health effects is different, compliance with the CAAQS and NAAQS is intended to protect the most sensitive individuals.

Operational - Children's Respiratory Health

The presence of pollutants in ambient and indoor air, as well as other factors such as humidity level, can affect respiratory health by making it harder to breath, damaging tissue, and/or modifying symptoms of pre-existing conditions. As described in the environmental and regulatory setting above, most pollutants can affect respiratory health. PM can pass through the throat and lungs, and if small enough, can even enter the bloodstream. CO can reduce oxygen delivery to the body's organs. NO_X can inflame the respiratory tract. In particular, air pollutants, can trigger asthmatic responses, especially in children.

According to the OEHHA CalEnviroScreen 3.0 report (2017), asthma is a disease that affects the lungs and makes it hard to breathe. Symptoms include breathlessness, wheezing, coughing, and chest tightness. While the causes of asthma are poorly understood, it is well established that exposure to traffic and outdoor air pollutants, including particulate matter, ozone, and diesel exhaust, can trigger asthma attacks. Nearly three million Californians currently have asthma and about five million have had it at some point in their lives. Children, the elderly and low-income Californians suffer disproportionately from asthma. Asthma increases an individual's sensitivity to pollutants. Children living near major roadways and traffic corridors in California have been shown to suffer disproportionate rates of asthma, and DPM has been implicated as a potential cause of new-onset asthma (CARB 2017).

As described above, CalEnviroScreen data indicate that the Project area's census tract is in the 20^{th} percentile for asthma, meaning that the asthma rate in this census tract is higher than 20% of the census tracts in the State (OEHHA 2018). This factor indicates that adverse respiratory health is not prevalent in the census tract in which the Project is located, and that the existing conditions in the census tract are such that sensitive receptors, including children, are in an area of lower risk for adverse respiratory health effects.

In addition, with implementation of standard conditions and mitigation measures MM AIR-1 and MM AIR-2, the Project's air emissions would remain below SCAQMD health risk thresholds as well as SCAQMD-recommended LST thresholds that represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standards. In developing the CAAQS and NAAQS, the U.S. EPA and CARB considered scientific evidence linking exposure to air pollutants to health risks, including the potential to exacerbate asthma symptoms. Although each individual's health characteristics, environment, and pre-disposition to adverse respiratory health effects is different, compliance with the CAAQS and NAAQS, as well as health risk thresholds, is intended to protect the most sensitive individuals, including and especially, children.

Therefore, the Project would not place sensitive receptors, including children, in conditions that are associated with or have a high existing rate of adverse respiratory health effects, and Project emissions would be below the levels that have been studied and developed by the U.S. EPA, CARB, and the SCAQMD to be protective of children's respiratory health.

Mitigation Measures

Refer to mitigation measures MM AIR-1 and MM AIR-2.

IMPACT AIR-4 ODORS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). The Project does not include such sources. In addition, industrial land uses are present east of the Project area, however these sources are unlikely to generate objectionable odors in the Project area given the typical meteorological patterns present (see Figure 7-1). Therefore, potential impacts associated with objectionable odors within the Project area would be less than significant.

Mitigation Measures

No mitigation measures are required.

7.2.3 Impact Conclusions

As described above, all potential air quality impacts resulting from the construction and operation of the Alexan Foothills Specific Plan and ZCA Areas A and C would be less than significant, with the exception of short-term construction ROG emissions produced during architectural coating activities. The implementation of standard conditions and mitigation measure MM AIR-1 would reduce architectural coating and equipment exhaust emissions to levels below SCAQMD-recommended thresholds of significance. Thus, these measures would reduce impacts to less than significant levels with mitigation.

The proximity of the Project area to I-210 would potentially exacerbate adverse health effects of DPM emissions on sensitive receptors near the I-210. However, implementation of HVAC systems with MERV-13 filters in all new residential units in the Project required in mitigation measure MM AIR-2 would reduce exposure to DPM emissions such that health risks would be under significance thresholds with and without the Project. Therefore, potentially significant impacts would be reduced to less than significant levels.

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
AADT	Annual average daily trips
AB	Assembly Bill
ADT	Average daily trips
AERMAP	terrain preprocessor for AERMOD
AERMET	AERMOD Meteorological Preprocessor
AERMOD	Atmospheric Dispersion Modeling System
AQ	air quality
AQMP	Air Quality Management Plan
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
CA	California
CAA	Clean Air Act

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
µg	micrograms
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CO	carbon monoxide
CPF	cancer potency factor
CRP	Coating Restriction Plan
DPM	diesel particulate matter
ED	exposure duration
EF	exposure frequency
EIR	Environmental Impact Report
EMFAC	Emission Factors Model
FAH	Fraction of Time at Home
GHG	greenhouse gas
GPA	General Plan Amendment
GVWR	gross vehicle weight rating
H_2S	hydrogen sulfide
HAP	Hazardous Air Pollutants
HARP	Hot Spots Analysis and Reporting Program
HESIS	Hazard Evaluation System and Information Service
HHDT	heavy-heavy duty trucks
HI	Hazard Index
HRA	Health Risk Assessment
HVAC	Heating, ventilation, and air conditioning
I	Interstate
IARC	International Agency for Research on Cancer
kg	kilogram
LDA	passenger cars
LDT1	light-duty trucks, weight class 0 - 3,750 pounds
LDT2	light-duty trucks, weight class 3,751-5,750 pounds
LHDT1	light-heavy-duty trucks, weight class 8,501-10,000 pounds
LHDT2	light-heavy-duty trucks, weight class 10,001-14,000 pounds
LOS	Level of Service
LST	Localized Significance Threshold
m^3	cubic meter
MATES	Multiple Air Toxics Exposure Study
MDV	medium-duty truck
MEIR	Maximally Exposed Individual Resident
MERV	Minimum Efficiency Rating Value
mg	milligram
MH	motor home
MHDT	medium-heavy duty diesel truck
mph	miles per hour
MPO	METROpolitan Planning Organization
NAAQS	National Ambient Air Quality Standards

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
NO	nitrogen oxide
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NTP	U.S. National Toxicology Program
O_3	ozone
OBUS	motor coach bus
OEHHA	Office of Environmental Health Hazard Assessment
PD	Planned Development
PM	particulate matter
PMI	Point of Maximum Impact
ppb	parts per billion
ppm	parts per million
$PM_{2.5}$	fine particulate matter
PM_{10}	coarse particulate matter
PMI	point of maximum impact
RAST	Risk Assessment Stand Alone Tool
REL	Reference Exposure Level
ROG	reactive organic gases
ROW	right-of-way
RTP	Regional Transportation Plan
SB	Senate Bill
SBUS	school bus
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_4^{2-}	sulfates
SO_x	oxides of sulfur
SRA	Source Receptor Area
TAC	Toxic Air Contaminants
TIA	Traffic Impact Analysis
UBUS	urban bus
U.S.	United States
U.S. EPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
v.	versus
VMT	Vehicle Miles Traveled
VOC	volatile organic compounds
ZCA	Zoning Code Amendment

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8. BIOLOGICAL RESOURCES

This EIR Chapter describes the existing biological resources in the Project area. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project, describes potential impacts that could result from the Project, and includes mitigation measures that would avoid or reduce those potential impacts.

A field survey was conducted for the Alexan Foothills Specific Plan (Specific Plan) area by MIG on January 19, 2018. The results of the field survey and the biologists' findings upon which this analysis is based are from the General Biological Resources Assessment provided as Appendix D to this EIR and incorporated herein (MIG 2018). In addition, Helix Environmental Planning Inc. (Helix) conducted a delineation of jurisdictional waters of the State and United States for the Alexan Foothills Specific Plan (Helix 2019); the results of this investigation are also contained in Appendix D and incorporated herein.

8.1 SETTING

This Chapter provides an overall description of the existing biological resources within the Project area. A General Biological Resources Assessment Report was prepared for the Alexan Foothills Specific Plan area (Appendix D, MIG 2018) as well as a jurisdictional delineation of waters of the State and United States (Helix 2019). The Monrovia General Plan Open Space Element (City of Monrovia 2018) was used to describe existing biological resources within Zoning Code Amendment (ZCA) Areas A and C. The Open Space Element may be accessed at the following link:

https://www.cityofmonrovia.org/your-government/community-development/planning/general-plan/open-space-element-update

Pursuant to Section 15150 of the CEQA Guidelines, these documents are herein incorporated by reference into this EIR and either included as an appendix to this EIR, available on the City's website, or available upon request.

8.1.1 Environmental Setting

The following provides a description of the physical characteristics, vegetation communities and associated wildlife habitats, wildlife movement corridors, sensitive natural communities, special-status species, jurisdictional wetlands, and other waters present or potentially present within the Project area. The Project area encompasses a total of 9.63 acres, which includes the Alexan Foothills Specific Plan area (6.77 acres) and the ZCA Areas A and C (2.86 acres).

Physical Features

The Project area is flat with elevations ranging between 430-445 feet above mean sea level (AMSL). The Project area is dominated by a parking lot, several industrial buildings, five residential buildings, a church, and an office. The vast majority of the Project area is paved, with very little, mostly weedy vegetation. Interstate-210 and its associated landscaping is located to the north of the Project area. METRO's Gold Line light rail tracks are located directly to the

Project area's south boundary line. Residences occur west and east of the Project area and south of METRO's Gold Line tracks.

A rectangular concrete-lined drainage channel (referred to as Channel A in the Helix 2019 report) crosses the Project area. It initiates near Interstate-210 and drains to the southeast off the Project site to a mapped drainage by the National Wetlands Inventory. This approximately 10-feet wide x 400-feet long open drainage channel runs along the Alexan Foothills Specific Plan's western boundary and flows into a culvert passing under the METRO Gold Line tracks.

Vegetation Communities

The majority of the Project area is unvegetated due to development and characterized by weedy species. Vegetation communities that are present are described in more detail below. A map of the biological resources within the Alexan Foothills Specific Plan area is provided in Figure 8-1; photos of the biological resources present within the Alexan Foothills Specific Plan area are presented in Figure 8-2.

Developed

The Project area is dominated by paved areas, existing structures, and associated landscaping. These areas are generally unvegetated although weedy species such as wild oats (*Avena fatua*), tree of heaven (*Ailanthus altissima*), castor bean (*Ricinus communis*), Bermuda grass (*Cynodon dactylon*), broad leaf filaree (*Erodium botrys*), and common groundsel (*Senecio vulgaris*) are present.

Ornamental

Portions of the Project area are characterized by ornamental landscaping, including Siberian elm (*Ulmus pumila*), carob (*Ceratonia siliqua*), ash (*Fraxinus* spp.), crimson bottlebrush (*Callistemon citrinus),* Mexican fan palm (*Washingtonia robusta*), honeysuckle (*Lonicera* spp.), oceanblue morning glory (*Ipomoea indica*), multiflora rose (*Rosa multiflora*), lily of the Nile (*Agapanthus africanus),* and gardenia (*Gardenia* spp*.)*. Weedy species are common in these communities and include smilo grass (*Stipa miliacea*), Bermuda buttercup (*Oxalis pes-caprae*), and wild oats.

Coast Live Oak Trees

Three coast live oak trees (*Quercus agrifolia*) are present along the western boundary of the Alexan Foothills Specific Plan area and grow along the east edge of the drainage channel. These trees are all over 10" in diameter or more, 2 feet above ground level. Therefore, they are protected by the City of Monrovia Oak Tree Preservation Ordinance They also are regulated as riparian habitat by California Department of Fish and Wildlife (CDFW) (see below under Federal and State Protected Waters and Wetlands) (Helix 2019).

Additional oak trees occur in the proposed ZCA Areas A and C along and adjacent to the unnamed drainage channel, which may also be regulated as riparian habitat by CDFW.



Figure 8-1 Specific Plan Biological Resources Map

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Photo 1 - Development and structures dominate the Project site. These areas are generally devoid of vegetation.



Photo 2 - In addition to landscape plantings, the ornamental community includes escaped, invasive species like this oceanblue morning glory along the western boundary of the Alexan Foothills Specific Plan area.

Figure 8-2 Photos of Biological Resources (Page 1 of 2)

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Photo 3 - An unnamed concrete culvert runs along the western boundary of the Alexan Foothills Specific Plan area.



Photo 4 - Coast live oak trees are present along the western boundary of the Alexan Foothills Specific Plan area.

Figure 8-2 Photos of Biological Resources (Page 2 of 2)

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Common Wildlife

Wildlife species that have been observed in the Alexan Foothills Specific Plan area and that are likely to occur in the Project area as well include Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), northern mockingbird (*Mimus polyglottus*), American crow (*Corvus brachyrhynchos*), house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), ruby-crowned kinglet (*Regulus calendula*), and yellow-rumped warbler (*Setophaga coronata*).

Other wildlife species that could inhabit the Project area are limited to urban species adapted to high levels of anthropogenic disturbance. Common urban-tolerant birds include: black phoebe (*Sayornis nigricans*), non-native European Starling (*Sturnus vulgaris*), non-native Eurasian collared dove (*Streptopelia decaocto*) and various other migrant songbirds, such as warblers, vireos, and grosbeaks. Common small mammals expected to occur in the urban setting include, but are not limited to, western gray squirrel (*Sciurus griseus*), raccoon (*Procyon lotor*), California mouse (*Peromyscus californicus*), Virginia opossum (*Didelphis virginiana*), and Botta's pocket gopher (*Thomomys bottae*). The unnamed, concrete drainage channel in the Project area may occasionally provide aquatic habitat to the disturbance-tolerant Sierran treefrog (*Pseudacris sierra*) (formerly Pacific Treefrog [*Pseudacris regilla*] or Pacific Tree Chorus Frog [*Hyla regilla*]), when it contains water.

Federal and State Protected Waters and Wetlands

As discussed above, an unnamed concrete-lined drainage channel (approximately 10 feet wide) occurs through the Project area along the Specific Plan's western boundary and flows southeast (MIG 2018; Helix 2019). The drainage channel is mapped as a blue-line drainage by the U.S. Geological Survey and is subject to California Department of Fish and Wildlife (CDFW) jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the Fish and Game Code.

Helix concluded that CDFW jurisdiction consists of nearly vertical concrete walls and concrete bottom within the channel (Helix 2019). The channel was mostly unvegetated, with the exception of an area in the center of the channel where sediment had accumulated on the concrete bottom of the channel (Helix 2019). The majority of the channel does not support soil, except for areas where the concrete lining is cracked and where the embankment collapsed. These large cracks support coast live oak trees directly adjacent to the channel and were included as CDFW jurisdiction since the trees appear to be supported or partially supported by water in the channel (Helix 2019). Based upon the jurisdictional delineation, the channel supports approximately 0.12 acre of CDFW jurisdictional streambed and associated vegetation adjacent to the Alexan Foothills Specific Plan (Helix 2019). Additional CDFW jurisdiction occurs in the channel upstream and to the northwest of the Specific Plan boundary, within the Project area; however, the acreage has not been quantified.

The channel is also subject to U.S. Army Corps of Engineers' (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA) and the Los Angeles Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to Section 401 of the CWA. No other waters or wetlands were observed in the Project area. Based upon the jurisdictional delineation, approximately 0.08 acre (384 lineal feet) of non-wetland waters of the United States subject to USACE and RWQCB jurisdiction occur in the portion of the channel adjacent to the Alexan Foothills Specific Plan area (Helix 2019). As previously noted, additional jurisdictional non-wetland waters of the United states also occur upstream and northwest of the Alexan Foothills Specific Plan boundary in the Project area but has not been quantified.

Sensitive Plant Communities

CDFW and CNPS have identified several native plant communities that are rare and unique to California. While they have no legal, protective status, impacts to these plant communities may be considered "significant" under CEQA. No sensitive plant communities have been observed in the Project area; characteristic attributes of these communities were not present during field surveys of the Alexan Foothills Specific Plan, such as the known distribution and elevation, landscape position, plant species composition, soil and/or substrate type, water chemistry, and/or hydroperiod, nor have been they been observed during other site visits or surveys of the Project area during development of the Open Space Element for the City.

Special-Status Wildlife

Special-status wildlife species include those species listed as endangered or threatened under the Federal Endangered Species Act (FESA) or California Endangered Species Act (CESA); candidates for listing by the U.S. Fish and Wildlife Service (USFWS) or CDFW; species of special concern to the CDFW; and birds protected by the USFWS under the Migratory Bird Treaty Act (MTBA) and/or by the CDFW under Fish and Game Code Sections 3503 and 3513.

During a records search of CDFW's California Natural Diversity Data Base (CNDDB) within the nine U.S. Geological Survey (USGS) quadrangles around the Project area, it was initially determined that 43 special-status wildlife species have been recorded in the vicinity of the Project area (CDFW 2018). Of these animal species, none are expected to occur in the Project area (i.e., species ranked as "Not Expected"). Reasons for this include the absence of essential habitat requirements for the species, the distance to known occurrences and/or the species distributional range, the limited availability of foraging and nesting habitat, amount of site disturbance from past and present land uses, and/or the proximity of existing human-related disturbances. In addition, no USFWS-designated critical habitat areas for any federally listed animals are present. A table presenting all special-status animal species considered and evaluated for their potential occurrence on the Project area, including species' habitat requirements is provided in Appendix D.

Nesting Birds

Migratory birds are also protected under the Federal MBTA, which prohibits killing any migratory bird or disturbing or destroying an active nest of a migratory bird; this list contains hundreds of birds, including many of which are considered common or even nuisance or non-native species. Nesting birds are also protected under California Fish and Game Code Sections 3503, 3503.5, and 3512, which prohibit the take of active bird nests. Trees in the Project area provide potentially suitable nesting habitat for songbirds or raptors. Although no active nests were observed during the field surveys for the Alexan Foothills Specific Plan, there is potential for ground- and tree-nesting birds to establish nests in the Specific Plan area prior buildout of the Specific Plan. There is also potential for ground- and tree-nesting birds to establish nests in ZCA Areas A and C prior to buildout of these areas. These species are protected under the MBTA and would be protected under the California Fish and Game Code when actively nesting.

Special-Status Plant Species

Special-status plants are defined here to include: (1) plants that are federal- or state-listed as rare, threatened or endangered, (2) federal and state candidates for listing, (3) plants assigned a Rank of 1 through 4 by the CNPS Inventory, and (4) plants that qualify under the definition of "rare" in CEQA, Section 15380.

The Project area was initially determined to provide potentially suitable habitat for a total of 49 special-status plant species based on the Project area's proximity to previously recorded occurrences in the region, vegetation types and habitat quality, topography, elevation, soil types, other species-specific habitat requirements, and geographic ranges of special-status plant species known to occur in the region (CDFW 2018). Based on the CNDDB record search, and the biological field survey and habitat suitability analysis performed by MIG biologists on the Alexan Foothills Specific Plan site, none of the 49 species are expected to occur (i.e. species ranked as "Not Expected") in the Alexan Foothills Specific Plan area. A table presenting all special-status plant species considered and evaluated for their potential occurrence in the Alexan Foothills Specific Plan area, including plant species' habitat requirements and reported blooming periods, is provided in Appendix D. Due the developed nature of ZCA Areas A and C , these areas are expected to have less potential to support special-status plant species than the proposed Alexan Foothills Specific Plan area.

Wildlife Corridors

Providing functional habitat connectivity between natural areas is essential to sustaining healthy wildlife populations and allowing for the continued dispersal of native plant and animal species. The regional movement and migration of wildlife species has been substantially altered due to habitat fragmentation over the past century. This fragmentation is most commonly caused by development of open areas, which can result in large patches of land becoming inaccessible and forming a virtual barrier between undeveloped areas. Additional roads associated with development, although narrow, may result in barriers to smaller or less mobile wildlife species. Habitat fragmentation results in isolated islands of habitat, which affects wildlife behavior, foraging activity, reproductive patterns, immigration and emigration or dispersal capabilities, and survivability. Wildlife corridors can consist of a sequence of discontinuous areas of habitat such as isolated wetlands, or continuous lineal strips of vegetation and habitat (e.g., riparian strips and ridge lines), or they may be parts of larger habitat areas selected for its known or likely importance to local wildlife.

The Project area does not act as a wildlife movement corridor due to the current built environment at the site as well as the presence of dense urban development surrounding the site including residential neighborhoods, I-210 freeway to the north, METRO rail line to the south, and other commercial development nearby.

8.1.2 Regulatory Setting

The following discussion identifies Federal, State, and local environmental regulations that serve to protect sensitive biological resources.

Federal

Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats),

which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA has the following four major components:

- Provisions for listing species;
- Requirements for consultation with the USFWS and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service ("NOAA Fisheries Service");
- Prohibitions against "taking" (meaning harassing, harming, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct) of listed species; and
- Provisions for permits that allow incidental "take."

The FESA also discusses recovery plans and the designation of critical habitat for listed species. Critical habitat is defined in Section 3(5)(A) of the ESA as:

> *"(i) the specific areas within the geographical area occupied by the species on which are found those physical or biological features: (I) essential to the conservation of the species, (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species upon a determination by the Secretary of Commerce or the Secretary of the Interior (Secretary) that such areas are essential for the conservation of the species."*

Both the USFWS and the NOAA Fisheries Service share the responsibility for administration of the FESA.

The Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act ("MBTA") (16 U.S.C. § 703 et seq.), Title 50 Code of Federal Regulations ("CFR") Part 10, prohibits taking, killing, possessing, transporting, and importing of native migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. As used in the act, the term "take" is defined as meaning, "to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires." With a few exceptions, most birds are considered migratory under the MBTA. Disturbance or impacts that causes nest abandonment and/or loss of reproductive effort or loss of habitat upon which these birds depend would be in violation of the MBTA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act that was first passed in 1940 regulates take, possession, sale, purchase, barter, transport, import, and export of any bald or golden eagle or their parts (e.g., nests, eggs, young) unless allowed by permit (16 U.S.C. § 668(a); 50 CFR 22). Take was broadly defined to include shoot, wound, kill, capture, collect, molest, or disturb. In the 1972 amendments, penalties for violations were raised to a maximum fine of $250,000 for an individual or a maximum of two years in prison for a felony conviction, with a doubling for organizations instead of individuals.

Clean Water Act Sections 404 and 401

The U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (U.S. EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act (CWA) (33 U.S.C. § 1344). Waters of the United States are defined in Title 33 CFR Part 328.3(a) and include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds. The lateral limits of jurisdiction in those waters may be divided into three categories – territorial seas, tidal waters, and non-tidal waters – and is determined depending on which type of waters is present (Title 33 CFR Part 328.4[a], [b], [c]). Activities in waters of the United States regulated under Section 404 include fill for development, water resource projects (e.g., dams and levees), infrastructure developments (e.g., highways, rail lines, and airports) and mining projects. Section 404 of the CWA requires a Federal permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

Section 401 of the CWA (33 U.S.C. § 1341) requires an applicant for a Federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a water quality certification from the State in which the discharge originates. The discharge is required to comply with the applicable water quality standards. A certification obtained for the construction of any facility must also pertain to the subsequent operation of the facility. The responsibility for the protection of water quality in California rests with the State Water Resources Control Board (State Water Board) and its nine Regional Water Quality Control Boards (Water Boards).

State

California Endangered Species Act

The State of California enacted similar laws to the FESA, the California Native Plant Protection Act (“NPPA”) in 1977 and the California Endangered Species Act (“CESA”) in 1984. The CESA expanded upon the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the California Fish and Game Code. To align with the FESA, CESA created the categories of “threatened” and “endangered” species. It converted all “rare” animals in the CESA as threatened species but did not do so for rare plants. Thus, these laws provide the legal framework for protection of California-listed rare, threatened, and endangered plant and animal species. The CDFW implements NPPA and CESA, and its Wildlife and Habitat Data Analysis Branch maintains the CNDDB, a computerized inventory of information on the general location and status of California’s rarest plants, animals, and natural communities. During the CEQA review process, the CDFW is given the opportunity to comment on the potential of the Project to affect listed plants and animals.

Fully Protected Species and Species of Special Concern

The classification of “fully protected” was the CDFW’s initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibian and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The Fish and Game Code sections (fish at §5515, amphibian and reptiles at §5050, birds at §3511, and mammals at §4700)

dealing with "fully protected" species states that these species "…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species," (California Fish and Game Commission 1998) although "take" may be authorized for necessary scientific research. This language makes the "fully protected" designation the strongest and most restrictive regarding the "take" of these species. In 2003, the code sections dealing with fully protected species were amended to allow the CDFW to authorize a "take" resulting from recovery activities for State-listed species.

Species of special concern are broadly defined as animals not listed under the FESA or CESA, but which are nonetheless of concern to the CDFW because they are declining at a rate that could result in listing or historically occurred low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by the CDFW, land managers, consulting biologist(s), and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. The designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under CEQA during the project review.

California Fish and Game Code Sections 3503 and 3513

According to Section 3503 of the California Fish and Game Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird (except English Sparrow [*Passer domesticus*] and European Starling [*Sturnus vulgaris*]). Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the MBTA, prohibiting the take or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW.

Porter-Cologne Water Quality Control Act

Waters of the State are defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the State." The State Water Board protects all waters in its regulatory scope but has special responsibility for isolated wetlands and headwaters. These water bodies have high resource value, are vulnerable to filling, and may not be regulated by other programs, such as Section 404 of the CWA. Waters of the State are regulated by the Water Boards under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a USACE permit, or fall under other Federal jurisdiction, and have the potential to impact Waters of the State are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a Federal license or permit but does involve activities that may result in a discharge of harmful substances to Waters of the State, the Water Boards have the option to regulate such activities under its State authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements.

California Fish and Game Code Section 1600-1616

Streams, lakes, and riparian vegetation, as habitat for fish and other wildlife species, are subject to jurisdiction by the CDFW under Sections 1600-1616 of the California Fish and Game Code. Any activity that will do one or more of the following:

- Substantially obstruct or divert the natural flow of a river, stream, or lake.
- Substantially change or use any material from the bed, channel, or bank of a river, stream, or lake.
- Deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake generally requires a 1602 Lake and Streambed Alteration Agreement.

The term "stream", which includes creeks and rivers, is defined in the California Code of Regulations ("CCR") as follows:

> *"a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation" (14 CCR 1.72).*

In addition, the term "stream" can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFG 1994). Riparian is defined as "on, or pertaining to, the banks of a stream"; therefore, riparian vegetation is defined as, "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFG 1994). Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from the CDFW.

CDFW Sensitive Vegetation Communities

Sensitive vegetation communities are natural communities and habitats that are either unique in constituent components, of relatively limited distribution in the region, or of particularly high wildlife value. These communities may or may not necessarily contain special-status species. Sensitive natural communities are usually identified in local or regional plans, policies or regulations, or by the CDFW (i.e., CNDDB) or the USFWS. The CNDDB identifies a number of natural communities as "rare", which are given the highest inventory priority (Holland 1986; CDFW 2010). Impacts to sensitive natural communities and habitats must be considered and evaluated under the CEQA.

Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (California Fish and Game Code, §§ 1900 through 1913) directed the CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by the CDFW, which has the authority to designate native plants as endangered or rare and to protect them from "take."

California Native Plant Society

Plant species which may not be listed as endangered, threatened, candidate, or proposed species under FESA or CESA, but are still considered rare, are generally assigned a rarity code by the California Native Plant Society (CNPS). The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in California. CNPS has compiled an inventory comprised of the information focusing on the geographic distribution and qualitative characterization of Rare, Threatened, or Endangered vascular plant species of California. Under CEQA, impacts analyses are mandatory for List 1 and 2 species, but not for all List 3 and 4 species as some do not meet the definitions of the Federal Native Plant Protection Act or the California Endangered Species Act; however, List 3 and 4 impacts to these species are generally considered in most CEQA analyses and are recommended by CNPS. The Inventory assigns plants to the following categories:

- Rank 1A: Presumed extinct in California;
- Rank 1B: Rare, threatened, or endangered in California and elsewhere;
- Rank 2: Rare, threatened, or endangered in California, but more common elsewhere;
- Rank 3: Plants for which more information is needed – A review list; and
- Rank 4: Plants of limited distribution – A watch list.

Additional endangerment codes are assigned to each taxon as follows:

- 1: Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat).
- 2: Fairly endangered in California (20-80% occurrences threatened).
- 3: Not very endangered in California (<20% of occurrences threatened or no current threats known).

Plants that are Rank 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for formal listing, and the CDFW, as well as other State agencies (e.g., California Department of Forestry and Fire Protection). As part of the CEQA process, such species should be fully considered, as they meet the definition of threatened or endangered under the NPPA and Sections 2062 and 2067 of the California Fish and Game Code. California Rare Plant Rank 3 and 4 species are considered to be plants about which more information is needed or are uncommon enough that their status should be regularly monitored. Such plants may be eligible or may become eligible for State listing, and CNPS and CDFW recommend that these species be evaluated for consideration during the preparation of CEQA documents (CNPS 2017).

CDFW California Natural Diversity Database

CDFW maintains the California Natural Diversity Database (CNDDB), which is a program that inventories the status and locations of rare plants and animals in California. Each rare species or plant community is assigned an "element ranking" in the CNDDB, which quantifies and qualifies the rarity of each species/community within its global and State range. The CNDDB gives five categories of rarity for each species' global and State range; these are summarized in the General Biological Assessment Report prepared by MIG in Appendix D (MIG 2018). All Federal and State listed species are assigned a ranking; however, even non-listed species (such as Species of Concern, Special Animals, or plants on the CNPS list) are assigned an element ranking by CDFW for the CNDDB. Impacts to species which are assigned an element ranking in the CNDDB are considered under CEQA.

Local

City of Monrovia General Plan

According to the City of Monrovia General Plan, "little vacant land suitable for development is available. Therefore, future development, like current development patterns, will involve either the intensification of already existing uses or recycling to similar uses." The over 4.5-mile trail system and surrounding Hillside Wilderness Preserve, discussed at length in the Hillside Wilderness Preserve Resource Management Plan (adopted in 2012), will remain protected and intact. Other areas within City boundaries have been designated or envisioned for future development/improvement, are generally urbanized, and have very little value for biological resources.

City of Monrovia Oak Tree Preservation Ordinance

The City of Monrovia Oak Tree Preservation Ordinance (87-11) adopted in 1987 to preserve Monrovia's native oak trees, contains regulations in §17.20.40 of the Monrovia Municipal Code. Oak trees protected include any trees of the genus *Quercus* within the city limits of Monrovia with trunks ten inches in diameter or more, measured at two feet above level ground. Oaks are protected within single-family, multiple-family, commercial, or industrial zones, in addition to vacant lots and/or oak trees indicated in an oak tree preservation plan. Oaks must also be protected from grading, oil/gas/other construction chemicals, or signage or other obstructions during construction via an oak tree protection plan approved by the City's Development Review Committee, which includes guidelines for placing fencing around protected oaks. Activities that will cut an oak to the ground, extract an oak, kill/remove an oak by other means, prune an oak so that more than one-third of the crown/existing foliage/root system is removed, or will disturb underground beneath the dripline of an oak require permitting through the City of Monrovia.

8.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts to sensitive biological resources that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts. A program-level analysis was conducted for ZCA Areas A and C and a project-level analysis was conducted for the proposed Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

8.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: Items IV (a) through (f), implementation of the Project would have a significant impact on biological resources if it would:

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

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

(c) Have a substantial adverse effect on State or Federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

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

(e) Conflict with any local policies or Ordinances protecting biological resources, such as a tree preservation policy or Ordinance; or

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

8.2.2 Environmental Impacts

Implementation of the Project would involve alteration of an already-developed area that does not support a wide diversity of biological resources. Though the majority of the Project area currently encompasses residential, commercial, industrial, and other urban development, sensitive habitat along an unnamed drainage channel and coast live oak trees still exist that could support plant and wildlife species. Potential impacts to these resources, and where necessary, associated mitigation measures to offset these impacts, are discussed below.

IMPACT BIO-1 NESTING BIRDS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Native and ornamental vegetation in the Project area have the potential to provide nesting habitat for bird species protected by the MBTA and California Fish and Game Code Sections 3503 and 3513. There is potential for ground- and tree-nesting birds to establish nests in the Project area prior to construction activities. Intentional destruction of or disturbance to an active nest is prohibited under state and federal law. Construction activities including site mobilization, tree removal, other vegetation clearing, grubbing, grading, and noise and vibration from the operation of heavy equipment have the potential to result in significant direct (i.e., death or physical harm) and/or indirect (i.e., nest abandonment) impacts to nesting birds. Implementation

of mitigation measure MM BIO-1 would be required to reduce impacts to nesting birds to a less than significant level.

Mitigation Measures

Mitigation Measure MM BIO-1 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

MM BIO-1: Nesting Bird Protection. If vegetation removal is scheduled during the nesting season (typically February 1 to September 1), then a focused survey for active nests shall be conducted by a qualified biologist (as determined by a combination of academic training and professional experience in biological sciences and related resource management activities) no more than five (5) days prior to the beginning of excavation, grading and/or vegetation removal. Surveys shall be conducted in proposed work areas, staging and storage areas, along equipment transportation routes, and soil, equipment, and material stockpile areas. For passerines and small raptors, surveys shall be conducted within a 250-foot radius surrounding the work area (in non-developed areas and where access is feasible). For larger raptors, such as those from the genus Buteo, the survey area shall encompass a 500-foot radius. Surveys shall be conducted during weather conditions suited to maximize the observation of possible nests and shall concentrate on areas of suitable habitat. If a lapse in project-related work of five (5) days or longer occurs, an additional nest survey shall be required before work can be reinitiated.

If active nests are found during any preconstruction survey, a qualified biologist shall establish an appropriate buffer between the nest and active construction. The qualified biologist shall clearly mark the established buffer. The applicant shall maintain the buffer until young have fledged and are foraging independently. The qualified biologist shall document pre-construction baseline monitoring of the nest to characterize “normal” bird behavior. The qualified biologist shall monitor the nesting birds daily during construction activities and shall increase the buffer if birds are showing signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and flying away from the nest). If this is not possible, work shall cease in the area until young have fledged and the nest is no longer active (e.g. young have fledged, predation, or other non-anthropogenic nest failure). **Requirements and Timing:** Measure shall be printed on all construction drawings. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to.

IMPACT BIO-2 POTENTIAL ADVERSE EFFECTS ON JURISDICTIONAL WATERS

Alexan Foothills Specific Plan

A significant impact would occur if a project has a substantial adverse effect on jurisdictional waters. The USACE and EPA regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act. Section 404 of the CWA requires a permit before dredged or fill material may be discharged into waters of the United States. Section 401 of the CWA requires that an applicant for a federal permit obtain a certification from the RWQCB as well. Additionally, Section 1602 of the California Fish and Game Code requires the issuance of a Lake and Streambed Alteration Agreement (LSAA) to authorize work in jurisdictional streambeds.

The concrete-lined drainage channel represents jurisdictional waters of the State and United States and is subject to the USACE, RWQCB, and CDFW jurisdiction. Implementation of the Alexan Foothills Specific Plan would require installation of an outflow pipe to properly divert overflow stormwater from the development to the channel (Helix 2019). To install the pipe, an approximately two-foot diameter hole would be bored into the concrete wall to install the outflow pipe (Helix 2019). Since the invert of the channel would not be impacted, installation of the outflow pipe would only temporarily impact a small area of CDFW jurisdiction totaling approximately 1.5 square feet (Helix 2019). The outflow pipe would not impact jurisdictional waters of the United States subject to the USACE and RWQCB jurisdiction (Helix 2019).

No direct impacts to oak trees associated with the drainage channel within the Alexan Foothills Specific Plan area would occur as a result of construction of the Alexan Foothills Specific Plan, including installation of the outflow pipe to the channel.

However, modification of the bank of the jurisdictional drainage channel, and discharge of stormwater to it, would be considered a potentially significant impact on the drainage and could be subject to approval by the CDFW, RWQCB, and likely the USACE. Impacts would be mitigated to a less than significant level by implementing mitigation measures BIO-2a through BIO-2d.

ZCA Area A

Future development within ZCA Area A could propose disturbance to the drainage channel. As such, the potentially significant impacts within the ZCA Area A would be similar to those described above for the Alexan Foothills Specific Plan and would require the implementation of mitigation measures BIO-2a through BIO-2d to mitigate impacts to a less than significant level.

ZCA Area C

Future development within ZCA Area C would not affect the drainage in the Project area. No mitigation measures are required in this area to protect jurisdictional waters.

Mitigation Measures

Mitigation Measures MM BIO-2a through BIO-2d are applicable to the Alexan Foothills Specific Plan and future development projects within ZCA Area A.

MM BIO-2a: Avoidance and Minimization Measures for Channel. Applicant shall implement the following standard construction and post-construction measures to minimize impacts to the drainage channel in the Project area:

- Use standard Best Management Practices (BMPs) to minimize impacts during construction.
- Construction-related equipment shall be stored in upland areas, outside of the channel except as required by project design (restoration, trash removal, etc.).
- Source control and treatment control BMPs shall be implemented to minimize the potential contaminants that are generated during and after construction. Source control BMPs may include landscape planning, roof runoff controls, trash storage areas, use of alternative building materials, and education of future tenants and residents. Treatment control BMPs may include detention basins, vegetated swales (bio-swales), drain inlets,

and vegetated buffers. Water quality BMPs shall be implemented throughout the project site to capture and treat contaminants.

- To avoid attracting predators during construction, the project shall be kept clean of debris to the extent possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from site.
- Employees shall strictly limit their activities, vehicles, equipment, and construction material to the proposed project footprint, staging areas, and designated routes of travel.
- Construction limits shall be fenced with orange snow screen and exclusion fencing should be maintained until the completion of construction activities.

Requirements and Timing: This measure shall be printed on all drawings. **Monitoring:** City staff shall confirm that measures are printed on all drawings and adhered to during construction.

MM BIO-2b: Obtain USACE 404 Permit. If any alterations of, or discharges into, waters of the United States, including Section 404 wetlands are proposed, these alterations must be in conformance with the Sections 404 and 401 of the CWA via certification and permitting prior to any grading or construction that may impact jurisdictional area(s), as applicable. Activities that usually involve a regulated discharge of dredged or fill materials include (but are not limited to) grading, placing of riprap for erosion control, pouring concrete, laying sod, preparing soil for planting (e.g., turning soil over, adding soil amendments), stockpiling excavated material, mechanized removal of vegetation, and driving of piles for certain types of structures. If avoidance of federally protected wetlands is not feasible, securing 404 and 401 permits under the Clean Water Act and compliance with the federal and state "no net loss of wetlands" policy will be required in accordance with USACE and RWQCB regulations. The terms and conditions of these permits are anticipated to require mitigation consistent with *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* (USACE, United States Environmental Protection Agency [EPA], *Federal Register*, April 10, 2008).

Prior to initiation of ground disturbance activities within waters of the U.S., the applicant shall submit a jurisdictional delineation of waters of the U.S. to the USACE to request a formal verification of the limits of their jurisdiction and to identify potential impacts to waters of the U.S. If the USACE determines that jurisdictional waters of the U.S. will be impacted, the appropriate CWA Section 404 permit shall be acquired by the applicant for the construction of the development. In addition, the applicant shall be required to submit a Section 401 Water Quality Certification application to the Los Angeles RWQCB. If the USACE does not assert regulatory jurisdiction, then the applicant may be required to submit a Notice of Intent to the RWQCB for their General Permit R6T-2003-0004 for minor impact projects. If required, all regulatory permits will be obtained, and all conditions will be agreed upon to prior to project implementation. The applicant shall be responsible for complying with all conditions outlined in the applicable USACE, and/or RWQCB permit. Impact minimization measures associated with permit conditions of approval may include implementation of best management practices (i.e., erosion and sediment control measures) and seasonal work restrictions, as appropriate. Impacts to jurisdictional features shall not occur until the permits are received from the appropriate regulatory agencies, or correspondence is received from the agencies indicating that a permit is not required. **Requirements and Timing:** This measure shall be printed on all drawings. A Section 404 permit and Section 401 Water Quality Certification or Waiver shall be obtained prior to issuance of demolition or building permits for any portion of the development resulting in the discharge of dredged or fill material into the drainage. **Monitoring:** For developments resulting in the discharge of dredged or fill materials into the drainage in the Project area, City staff shall confirm that any required Section 404 permit and Section 401 Water Quality Certification or

Waiver is obtained prior to issuance of demolition or building permits for the portion of the development impacting the jurisdictional drainage.

MM BIO-2c: Consult CDFW on Section 1602 Requirements. If waters of the State subject to CDFW's jurisdiction cannot be feasibly avoided, the applicant shall submit to CDFW a Section 1602 Notification regarding the potential need for a Lake and Streambed Alteration Agreement (LSAA) to authorize work in CDFW jurisdictional areas. If an LSAA is required, the applicant shall be responsible for complying with all conditions outlined in the LSAA, which may include wildlife habitat and streambed impact avoidance, minimization, and mitigation measures consistent with CDFW requirements for LSAAs. Impacts to development in Project areas subject to CDFW's jurisdiction shall not occur unless an LSAA is received from CDFW, correspondence is received indicating that an LSAA is not required, or the work is authorized by "operation of law" pursuant to the Fish and Game Code. **Requirements and Timing:** This measure shall be printed on all drawings. Prior to issuance of demolition or building permits for any portion of the development impacting areas subject to CDFW's jurisdiction, either the applicant receives from CDFW an LSAA or correspondence that an LSAA is not required, or the work is authorized by "operation of law" pursuant to the Fish and Game Code. **Monitoring:** For developments disturbing areas subject to CDFW's jurisdiction, City staff shall confirm that an LSAA has been obtained, if required, prior to issuance of demolition or building permits for those portions of the development subject to CDFW's jurisdiction.

MM BIO-2d: Habitat Mitigation Plan. Preparation of a habitat mitigation plan may be required by the CDFW as part of an LSAA process or by the USACE and the RWQCB for permitting of discharges to waters of the United States, if required. The mitigation plan would address protection measures for the jurisdictional drainage and any protected trees retained onsite, quantify the total acreage of impacts to each sensitive resource, describe creation/replacement ratio for acres impacted (typically at least 1:1), identify potential mitigation sites, provide a planting plan, and outline monitoring and maintenance requirements. The amount of compensatory acreage shall be based on the functions and values of the impacted drainage and riparian habitat. If required, the plan would be prepared by a qualified biologist pursuant to, and through consultation with, CDFW. As an alternative, equivalent mitigation credits may be purchased at a mitigation bank to offset impacts to jurisdictional resources. The mitigation plan would provide detailed information about the bank and how the purchase of credits will result in no net loss of these protected resources. Purchase of mitigation credits would be subject to approval and verification by CDFW. **Requirements and Timing:** Measure shall be printed on all drawings. If required by the permitting resource agencies (i.e., USACE, RWQCB, or CDFW), a Habitat Mitigation Plan shall be prepared and approved by the City and other responsible natural resource agencies prior to issuance of demolition or building permits for the portion of the development impacting the drainage. **Monitoring:** City staff and the City Engineer shall review and approve of the Habitat Mitigation Plan, if one is required by resource agencies, prior to issuance of demolition or building permits for the portion of the development impacting the drainage.

IMPACT BIO-3 IMPACT ON SENSITIVE NATURAL VEGETATION COMMUNITIES

GPA, ZCA Areas A and C, and Alexan Foothill Specific Plan

No sensitive natural vegetation communities documented in CNDDB (CDFW 2018) are present in the Project area (see Appendix D). However, the stand of coast live oak trees along the concrete-lined drainage channel may be regulated as riparian habitat by CDFW. As stated under Impact BIO-2 above, buildout of the proposed Alexan Foothills Specific Plan would avoid

impacts on oak trees; however, future development within ZCA Areas A and C could propose disturbance to this drainage. Removal of riparian habitat would be considered a potentially significant impact. This impact would be mitigated to a level of less than significant with implementation of mitigation measures BIO-2a through BIO-2d.

Mitigation Measures

Refer to mitigation measures BIO-2a through BIO-2d.

IMPACT BIO-4 IMPACT ON WILDLIFE CORRIDORS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The Project area represents a developed and urbanized area and is not located within an established wildlife movement corridor, movement pathway, or linkage between larger habitat areas for terrestrial or aquatic wildlife. Due to the disturbed, limited, and fragmented condition of habitats on-site, which would preclude most species from using the site for breeding/nesting, the Project area also does not function as a wildlife nursery site that would contribute disproportionately to a population. Thus, wildlife species, migratory corridors and native wildlife nursery sites would not be impacted due to implementation of the Project.

Mitigation Measures

No mitigation measures are required.

IMPACT BIO-5 IMPACT ON OTHER SPECIAL-STATUS SPECIES

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

No other special status plant or wildlife species are expected to occur within the Project area due to a lack of suitable habitat (see Appendix D) and due to the high degree of site disturbance from existing development within and surrounding the Project area. Therefore, impacts on other special-status plant and wildlife species would be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT BIO-6 CONFLICT WITH LOCAL POLICIES OR ORDINANCES OR CONSERVATION PLANS

Alexan Foothills Specific Plan

The Project area contains protected coast live oak trees (>10” in diameter at least 2 feet above the ground), including three along the Specific Plan area’s western border. Disturbance to these oak trees would be avoided within the proposed Alexan Foothills Specific Plan area. Specifically, grading plans require protection of these trees. Thus, less than significant impacts would occur.

ZCA Areas A and C

Future development resulting in the alteration to any/all oaks within the proposed ZCA Areas A and C would be required to comply with the City of Monrovia's Oak Tree Preservation Ordinance (Section 8.1.2), which may require a permit through the City's Development Review Committee. The City's permit procedures require consideration of the condition of the following criteria:

1. The condition of the tree with respect to disease, danger of falling, proximity to existing or proposed structures, and interference with utility service;

2. The necessity to remove the tree for compelling economic necessity to construct proposed structural improvements, or for the purpose of re-landscaping with plant material more suitable to the immediate environment;

3. Good forestry practice, such as in the thinning of growth where necessary or desirable to promote the healthy growth of the tree;

4. The topography of the land and the effect of tree removal on erosion, soil retention or surface water flow shall be taken into account and balanced with all other considerations affecting decision upon the permit; and

5. The number of oak trees or other trees existing in the neighborhood on improved property.

The Development Review Committee shall be guided by the standards established in the neighborhood and the effect of tree removal upon property values in the area. Accordingly, due to the City's Oak Tree Preservation Ordinance requirements and Standard Condition BIO-1, impacts on protected oak trees would be less than significant within ZCA Areas A and C.

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The Project area is not located within an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.

Standard Conditions

Standard Condition SC BIO-1 is applicable to future developments within ZCA Areas A and C.

SC BIO-1: Compliance with the City of Monrovia Oak Tree Preservation Ordinance (87-11), Municipal Code Section 17.20.40 is required for disturbance to protected coast live oak trees that are greater than or equal to 10" in diameter at least 2 feet above the ground. **Requirements and Timing:** This measure shall be printed on all construction drawings. Any planned removal or encroachment upon oak trees shall be shown on proposed demolition plans, site plans and grading plans, including the number and size of each oak tree, as well as the limits of the dripline of each oak tree. **Monitoring:** City staff shall review and approve the demolition plans, site plans and grading plans prior to issuance of any demolition, grading and building permits to confirm that the Oak Tree Preservation Ordinance is adhered to.

Mitigation Measures

No mitigation measures are required.

8.2.3 Impact Conclusions

The Project area is almost entirely hardscaped and provides very little biological resource value, other than the presence of the mature oak trees. However, the limited amount of native and non-native vegetation as well as the concrete-lined channel in the Project area may provide marginal habitat to some species. Any disturbance of the jurisdictional drainage and to the oak trees would result in a significant impact. However, with implementation of standard condition SC BIO-1 and mitigation measures MM BIO-1 and MM BIO-2a through MM BIO-2d, impacts would be reduced to less than significant levels.

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
AMSL	Above mean sea level
CCR	California Code of Regulations
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Data Base
CNPS	California Native Plant Society
CWA	Clean Water Act
DBH	Diameter at Breast Height
EIR	Environmental Impact Report
EPA	United States Environmental Protection Agency
FESA	Federal Endangered Species Act
GP	General Plan
GPA	General Plan Amendment
HCP	Habitat Conservation Plan
LSAA	Lake and Streambed Alteration Agreement
MBTA	Federal Migratory Bird Treaty Act
NCCP	Natural Community Conservation Planning
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollution Discharge Elimination System
NPPA	California Native Plant Protection Act
PD	Planned Development
RWQCB	Regional Water Quality Control Board
U.S.C.	United States Code
USACE	United States Army Corps of Engineers
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
ZCA	Zoning Code Amendment
§	section

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9. CULTURAL AND TRIBAL CULTURAL RESOURCES

This Chapter describes the cultural resources (archaeological resources and historical structures) and Tribal Cultural Resources in the Project area. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project, describes potential impacts that could result from the Project, and includes mitigation measures that would avoid or reduce those potential impacts.

This analysis is based in part on the Cultural Resources Assessment Report prepared for the Project under separate cover, and incorporated herein by reference, as well as a Historic Report included in Appendix C of this Draft EIR.

9.1 SETTING

9.1.1 Environmental Setting

Project Area Setting

The Project area consists of a 9.63-acre area located within an urbanized area of the City of Monrovia (City or Monrovia). It is bound by light industrial complexes/warehousing facilities, commercial buildings, single-family residences, multi-family apartment units, and METRO's Gold Line light rail tracks. The elevation within the Project area is approximately 440 feet above mean sea level. The topography is characterized as flat with a gentle slope towards the southeast. Historical aerial photographs (1948-2012) show the Project area to be highly disturbed, with ongoing and continuous industrial, commercial, and residential activities occurring from at least 1966 to the present. The Alexan Foothills Specific Plan area, comprising 6.77 acres of the Project area, supports two light industrial structures, one residential unit, one religious building, one commercial office building, and one asphalt covered storage lot. All structures were constructed between 1942 and 1987. The entire Project area was considered the "Study Area," for the impact analysis on cultural resources.

Cultural and Tribal Cultural Setting

Below are excerpts from the City of Monrovia's Historic Context Statement (ASM Affiliates 2018) providing a brief description of the cultural setting of Monrovia:

"The native people of the area now known as Monrovia were the Tongva, or Gabrieleño Indians. Before Spanish colonization of Central America and Alta California, the San Gabriel Valley was occupied by indigenous people of Native American Shoshonean Tribes as early as 500 B.C., although archaeological investigations have documented human habitation of southern California as early as 12,000 years B.C.E. (before the common era). Later, this tribe became known as the Gabrielinos, after the Mission San Gabriel Arcángel. The indigenous tribes living at the foot of the San Gabriel Mountains were said to be the "wealthiest, most populous and most powerful ethnic nationality in aboriginal southern California" (Bean and Smith 1978, 538). The tribes were sustained by the rich land they occupied in and near the arroyos in the steep mountains to the north, which seasonally carried water down into the valley, joining the San Gabriel River and eventually reaching the Pacific Ocean. Recorded history of California began in the sixteenth century with Spanish colonization of Central America and Alta California. In

1771, Spanish missionaries arrived in the area and established Mission San Gabriel Arcángel. After Mexico won independence from Spain in 1821, California territory fell under the jurisdiction of the Mexican government. This led to the secularization of the missions by the 1830s, which resulted in the transference of mission land to Mexican ranchos. The 9,000-acre Rancho Santa Anita, within which present-day Monrovia is located, was granted to Hugo Reid in 1841 (Jimenez 2008; Ostrye 1986). The same year, Mexican Governor Juan Alvarado granted the eastern half of the rancho to Andreas Duarte, which created Rancho Azusa de Duarte….

In the 1850s, the strong demand for beef in the rapidly growing mining areas and cities in northern California had led the owners of some large ranchos in agricultural southern California to overextend their cattle operations. A period of flood and extended drought in the early 1860s destroyed the livestock and left them unable to pay their taxes. Many of the large ranchos were divided and sold, and both Rancho Santa Anita and Rancho Azusa de Duarte were sold to a series of owners….;" and

"The City's initial residential development was largely within the smaller town lots of the original 120-acre townsite laid out by Monroe and his partners, as well as in the larger lots of subdivisions north of White Oak Avenue (now Foothill Boulevard) including the Monrovia Addition, Banana Addition, and the two Keefer Subdivisions (Baker 2017; Jimenez 2017, 7). A total of 168 homes were reported to have been constructed by the end of 1888, which ranged from the grand Queen Anne residences of Monroe, Jerome I. Case, and General William A. Pile in the northern section, to modest one to one-and-one-half story vernacular, Folk Victorian, Neoclassical, and early Craftsman homes near the town center…"

The history of Monrovia is also marked by construction of a railroad from Monrovia to Los Angeles as well as the interurban Pacific Electric Railway Line to Los Angeles and other urban centers.

9.1.2 Regulatory Setting

The following is a summary of the applicable Federal, State, and local regulatory framework related to the protection of cultural resources.

Federal

Federal Antiquities Act

Cultural resources are indirectly protected under the provisions of the Federal Antiquities Act of 1906 (16 U.S.C §§ 431 et seq.) and subsequent related legislation, regulations, policies, and guidance documents.

Section 106 of the National Historic Preservation Act of 1966 (NHPA)

The NHPA establishes the nation's policy for historic preservation and sets in place a program for the preservation of historic properties by requiring Federal agencies to consider effects to significant cultural resources (i.e. historic properties) prior to undertakings. Section 106 of the NHPA states that Federal agencies with direct or indirect jurisdiction over Federally funded, assisted, or licensed undertakings must take into account the effect of the undertaking on any historic property that is included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). Section 106 of the HPBA also states that the Advisory Council on Historic

Preservation (ACHP) and State Historic Preservation Officer (SHPO) must be afforded an opportunity to comment on such undertakings, through a process outlined in the ACHP regulations at 36 Code of Federal Regulations (CFR) Part 800.

National Register of Historic Places

The NRHP was established by the NHPA of 1966 as "an authoritative guide to be used by Federal, State, and Local governments, private groups, and citizens to identify the Nation's cultural resources and to indicate what properties should be considered for protection from destruction or impairment." The NRHP recognizes properties that are significant at the national, State, and local levels. To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must also possess integrity of location, design, setting, materials, workmanship, feeling, or association. A property is eligible for the NRHP if it is significant under one or more of the following criteria as defined by NRHP:

- Criterion A: It is associated with events that have made a significant contribution to the broad patterns of our history.
- Criterion B: It is associated with the lives of persons who are significant in our past.
- Criterion C: It embodies the distinctive characteristics of a type, period, or method of construction; represents the work of a master; possesses high artistic values; or represents a significant and distinguishable entity whose components may lack individual distinction.
- Criterion D: It has yielded, or may be likely to yield, information important in prehistory or history.

In general, a resource must be at least 50 years of age to be considered for the NRHP, unless it satisfies a standard of exceptional importance.

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from Federal and Tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains and associated funerary objects and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any Federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

State

California Environmental Quality Act (CEQA)

Pursuant to CEQA, a historical resource is a resource listed in, or eligible for listing in, the California Register of Historical Resources (CRHR). In addition, resources included in a local

register of historic resources or identified as "significant" in a local survey conducted in accordance with State guidelines are also considered historic resources under CEQA, unless a preponderance of the facts demonstrates otherwise. According to CEQA, the fact that a resource is not listed in or determined eligible for listing in the CRHR or is not included in a local register or survey shall not preclude a Lead Agency, as defined by CEQA, from determining that the resource may be a historic resource as defined in California Public Resources Code (PRC) Section 5024.1.

CEQA applies to archaeological resources when: (1) the archaeological resource satisfies the definition of a historical resource, or (2) the archaeological resource satisfies the definition of a "unique archaeological resource." A unique archaeological resource is an archaeological artifact, object, or site that has a high probability of meeting any of the following criteria:

1. The archaeological resource contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information.

2. The archaeological resource has a special and particular quality such as being the oldest of its type or the best available example of its type.

3. The archaeological resource is directly associated with a scientifically recognized important prehistoric or historic event or person.

California Register of Historical Resources

Created in 1992 and implemented in 1998, the California Register of Historical Resources (CRHR) is:

> *"an authoritative guide in California to be used by State and local agencies, private groups, and citizens to identify the state's historical resources and to indicate properties that are to be protected, to the extent prudent and feasible, from substantial adverse change."*

Certain properties, including those listed in or formally determined eligible for listing in the NRHP and California Historical Landmarks (CHLs) numbered 770 and higher, are automatically included in the CRHR. Other properties recognized under the California Points of Historical Interest program, identified as significant in historic resources surveys, or designated by local landmarks programs may be nominated for inclusion in the CRHR. A resource, either an individual property or a contributor to a historic district, may be listed in the CRHR if the State Historical Resources Commission determines that it meets one or more of the following criteria: (modeled after NRHP criteria):

- Criterion 1: It is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.

- Criterion 2: It is associated with the lives of persons important in our past.

- Criterion 3: It embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of an important creative individual; or possesses high artistic values.

- Criterion 4: It has yielded, or may be likely to yield, information important in history or prehistory.

Resources nominated to the CRHR must retain enough of their historic character or appearance to be recognizable as historic resources and to convey the reasons for their significance. It is possible that a resource whose integrity does not satisfy NRHP criteria may still be eligible for listing in the CRHR. A resource that has lost its historic character or appearance may still have sufficient integrity for the CRHR if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Resources that have achieved significance within the past 50 years also may be eligible for inclusion in the CRHR, provided that enough time has lapsed to obtain a scholarly perspective on the events or individuals associated with the resource.

California Historical Landmarks

California Historical Landmarks (CHLs) are buildings, structures, sites, or places that have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value and that have been determined to have Statewide historical significance by meeting at least one of the criteria listed below. The resource must also be approved for designation by the County Board of Supervisors or the City or Town Council in whose jurisdiction it is located, be recommended by the State Historical Resources Commission, or be officially designated by the Director of California State Parks. The specific standards in use now were first applied in the "designation" of CHL No. 770. CHLs No. 770 and above are automatically listed in the CRHR.

To be eligible for designation as a Landmark, a resource must meet at least one of the following criteria per California Historical Landmarks Registration: Criteria for Designation (California Office of Historic Preservation 2019):

- The first, last, only, or most significant of its type in the State or within a large geographic region (Northern, Central, or Southern California)

- Associated with an individual or group having a profound influence on the history of California

- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or one of the more notable works or the best surviving work in a region of a pioneer architect, designer, or master builder

California Points of Historical Interest

California Points of Historical Interest are sites, buildings, features, or events that are of local (City or County) significance and have anthropological, cultural, military, political, architectural, economic, scientific or technical, religious, experimental, or other value. Points of Historical Interest (Points) designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the CRHR. No historic resource may be designated as both a Landmark and a Point. If a Point is later granted status as a Landmark, the Point designation will be retired. In practice, the Point designation program is most often used in localities that do not have a locally enacted cultural heritage or preservation ordinance.

To be eligible for designation as a Point, a resource must meet at least one of the following criteria:

- The first, last, only, or most significant of its type within the local geographic region (City or County)
- Associated with an individual or group having a profound influence on the history of the local area
- A prototype of, or an outstanding example of, a period, style, architectural movement or construction or one of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder

Native American Heritage Commission, Public Resources Code Sections 5097.9–5097.991

Section 5097.91 of the Public Resources Code (PRC) established the Native American Heritage Commission (NAHC), whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. Under Section 5097.9 of the PRC, a State policy of noninterference with the free expression or exercise of Native American religion was articulated along with a prohibition of severe or irreparable damage to Native American sanctified cemeteries, places of worship, religious or ceremonial sites or sacred shrines located on public property. Section 5097.98 of the PRC specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a County coroner. Section 5097.5 defines the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands as a misdemeanor.

California Native American Graves Protection and Repatriation Act of 2001

Codified in the California Health and Safety Code Sections 8010–8030, the California Native American Graves Protection Act (NAGPRA) is consistent with the Federal NAGPRA. Intended to "provide a seamless and consistent State policy to ensure that all California Indian human remains and cultural items be treated with dignity and respect," the California NAGPRA also encourages and provides a mechanism for the return of remains and cultural items to lineal descendants. Section 8025 established a Repatriation Oversight Commission to oversee this process. The Act also provides a process for non–Federally recognized tribes to file claims with agencies and museums for repatriation of human remains and cultural items.

Senate Bill 18

Senate Bill (SB) 18 (California Government Code, Section 65352.3) incorporates the protection of California traditional tribal cultural places into land use planning for Cities, Counties, and agencies. It does so by establishing responsibilities for local governments to contact, refer plans to, and consult with California Native American tribes as part of the adoption or amendment of any General Plan or Specific Plan proposed on or after March 1, 2005. SB18 requires public notice to be sent to tribes listed on the Native American Heritage Commission's SB18 Tribal Consultation List within the geographical areas affected by the proposed changes. Tribes must respond to a local government notice within 90 days (unless a shorter time frame has been agreed upon by the tribe), indicating whether or not they want to consult with the local

government. Consultations are for the purpose of preserving or mitigating impacts to places, features, and objects described in Sections 5097.9 and 5097.993 of the Public Resources Code that may be affected by the proposed adoption or amendment to a general or specific plan.

Assembly Bill 52

Assembly Bill (AB) 52 specifies that a project that may cause a substantial adverse change in the significance of a Tribal Cultural Resource, as defined, is a project that may have a significant effect on the environment. AB 52 requires a lead agency to consult with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project, if the tribe: (1) requests in writing consultation to the lead agency, (2) to be informed by the lead agency of proposed projects in that geographic area and the tribe requests consultation, prior to determining whether a Negative Declaration, Mitigated Negative declaration, or Environmental Impact Report is required for a project pursuant to CEQA. AB 52 specifies examples of mitigation measures that may be considered to avoid or minimize impacts on Tribal Cultural Resources.

California Health and Safety Code, Sections 7050 and 7052

Health and Safety Code Section 7050.5 declares that, in the event of the discovery of human remains outside a dedicated cemetery, all ground disturbances must cease and the County Coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

California Penal Code, Section 622.5

Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands but specifically excludes the landowner.

Regional

County of Los Angeles Historic Preservation Ordinance

Los Angeles County's Historic Preservation Ordinance (Ordinance 22: 22.44.3000-.3040) adopted regulations to preserve, protect, and enhance buildings, structures, and other resources and areas of historic interest and importance within the unincorporated territory of the County of Los Angeles, as authorized by Section 25373 of the California Government Code, for the educational, cultural, economic, and general welfare of the public.

Local

City of Monrovia General Plan

Goal 9 of the Land Use Element of the City of Monrovia's General Plan is to preserve the character of existing neighborhoods and historic residences, with implementation of the following policies:

> **Policy 9.1:** Continue to implement the historic preservation ordinance for designating, preserving, safeguarding historic structures, and creating historic districts in the City.

Policy 9.6: Encourage the continued effort in the downtown to preserve its historic quality. New development shall be designed in harmony with existing buildings.

Monrovia Zoning Code Section 17.10

Monrovia Zoning Code Section 17.10 establishes the City's Discretionary Demolition Ordinance. The purpose of this Section is to preserve existing, potentially historic main residential buildings that are at least 50 years old to the greatest extent possible to protect against the loss of potential historic landmarks. Ordinance 2016-10 applies the demolition review process to not only total demolitions, but to any action that demolishes or materially alters a residential building.

Monrovia Zoning Code Section 17.40

Monrovia Zoning Code Section 17.40 establishes the City's Historic Preservation Ordinance. The intent of the Historic Preservation Ordinance is to protect the City's cultural heritage as embodied and reflected in the City's architectural history and patterns of development. The Historic Preservation Ordinance gives the Historic Preservation Commission the authority to review and designate local historical landmarks and historic districts. All potentially eligible historic resources are reviewed by the Historic Preservation Commission as part of the City's development review process. No demolition or alteration to a historic landmark or historic district may occur without obtaining a Certificate of Appropriateness from the Historic Preservation Commission.

9.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts related to cultural resources and Tribal Cultural Resources that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts. A program-level analysis was conducted for the GPA and ZCA Areas A and C and a project-level analysis was conducted for the proposed Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

9.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: Items V (a) through (c) and XVII (a) and (b), implementation of the Project would have a significant impact related to cultural resources if it would:

(a) Cause a substantial adverse change in the significance of a historic resource pursuant to CEQA Guidelines section 15064.5;

(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines section 15064.5;

(c) Disturb any human remains, including those interred outsides of formal cemeteries.

The Project would have a significant impact on Tribal Cultural Resources if it would cause a substantial adverse change in the significance of a Tribal Cultural Resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

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

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

9.2.2 Analysis Methodology

The methodology for evaluating potential environmental impacts on cultural resources and Tribal Cultural Resources followed this basic sequence:

(1) The CEQA Statute and Guidelines, including Appendix G (Environmental Checklist Form), were consulted to identify environmental impact topics and issues that should be addressed in the EIR. In part, this process resulted in the significance criteria listed in subsection 9.2.1 above.

(2) A records search was completed of the Project area at the California Historical Resources Information System-South Central Coastal Information Center (CHRIS-SCCIC). The records search included a review of all recorded archaeological and historical resources within a one-half mile radius of the Project area, as well as a review of cultural resource reports and historic topographic maps on file. In addition, MIG reviewed the California Points of Historical Interest (CPHI), the California Historical Landmarks (CHL), the California Register, the National Register, and the California State Historic Resources Inventory (HRI) listings. The purpose of the records search was to determine whether previously recorded archaeological or historical resources exist within the Project area that require evaluation and treatment. A Sacred Lands File (SLF) records search was also completed through the NAHC.

(3) A pedestrian survey was completed on March 8, 2018 to evaluate the Project area.

(4) Field data and results of data record searches were evaluated to determine if there would be any potential impacts to cultural and Tribal Cultural Resources.

(5) To identify Tribal Cultural Resources that could be impacted, a search of the Sacred Lands File was performed. As part of its AB 52 and SB 18 consultation efforts, the City sent letters to representatives of local Native American tribes in the area inviting them to consult on the Project.

(6) For potential environmental impacts, mitigation measures were designed to avoid or reduce each impact to a less than significant level, where possible.

9.2.3 Environmental Impacts

Results of the assessment are summarized below by key subject area as they relate to the impact questions: (1) historic structures; (2) archaeological resources; and (3) Tribal Cultural Resources.

IMPACT CUL-1 HISTORIC STRUCTURES

GPA, ZCA Areas A and C, and Alexan Foothill Specific Plan

Previously Recorded Historical Resources Within Project Area Boundaries

Results from the CHRIS-SCCIC search identified no previously recorded historical resources within the Project area boundaries; seven historic buildings and one historic bridge (P-19-179357, P-19-179365, P-19-187710, P-19-188780, P-19- 188787, P-19-188788, P-19-188739, and P-19-189107) are located within a one-half mile radius of the Project area (see Table 9-1). None of the historic structures referenced in Table 9-1 would be affected by the Project.

Table 9-1 Previously Recorded Cultural Resources Within One Half Mile of the Project Area

Resource No.	Resource Type	Description	NRHP Eligibility	CRHR Eligibility	Distance from the Project Area
P-19-179357	Historic Building	The historic building is the Santa Fe Railroad Depot. The depot is composed of a two-story central section flanked by two cross gabled sections of one story each. The Spanish Colonial-styled exterior is of stucco with a red tile roof. The depot was built in 1925 and is currently vacant.	Eligible (3S) as an individual property through survey evaluation	Eligible (5S2) for local listing or designation	1/16 of a mile to the southeast
P-19-179365	Historic Building	The historic building is a two-story Queen Anne residence that was owned by Mr. Stewart Wilson and was built in 1887. The outstanding architectural features are the four prominent bays that protrude from the upper story; each is topped by a shingled gable with wide barge boards decorated with cut-out designs.	Not Eligible	Not Eligible: *Potential City Historic Landmark	7/8 of a mile to the northwest
P-19-187710	Historic Building	The historic building is a one-story industrial building constructed of concrete block and bricks that possesses	Not Eligible	Not Eligible	5/8 of a mile to the north

Table 9-1 Previously Recorded Cultural Resources Within One Half Mile of the Project Area

Resource No.	Resource Type	Description	NRHP Eligibility	CRHR Eligibility	Distance from the Project Area
		Streamline Modern Style characteristics. The building was constructed by W.H. McCune between 1944-1946.			
P-19-188780	Historic Building	The historic building was an elementary school; later used as a junior high school, high school, continuation school, and educational center. School consists of a relatively small campus with a "C" shaped main complex and ancillary building. Playground area to the east. The school was built in 1956.	Not Eligible	Not Eligible	7/8 of a mile to the northwest
P-19-188787	Historic Building	The historic building is a Modern-style industrial building, constructed on an irregular ground plan and lies on an elevated concrete slab foundation. The southeastern portion of the building is flat-roofed, while the western and southern portions are surmounted by low-pitched vaulted roofs. The building's construction was started in 1948 and was finished in 1949. The building was enlarged in 1950 and is currently vacant.	Not Eligible	Not Eligible	7/8 of a mile to the southeast
P-19-188788	Historic Building	The historic building is a one-story industrial building that exhibits an L-shaped ground plan and faces west. The front portion of the building, housing office spaces, is flat-roofed, and the rear portion is surmounted by a low-pitched vaulted roof, which is surrounded by low parapets and dotted with protruding skylights. The building was contracted in 1946 and was enlarged in 1952-1953.	Not Eligible	Not Eligible	3/4 of a mile to the east
P-19-188789	Historic Building	This historic building, a one-story industrial building, is an elongated but generally	Not Eligible	Not Eligible	3/4 of a mile to the southeast

Table 9-1 Previously Recorded Cultural Resources Within One Half Mile of the Project Area

Resource No.	Resource Type	Description	NRHP Eligibility	CRHR Eligibility	Distance from the Project Area
		rectangular brick structure resting on a concrete slab foundation. It is surmounted by a very low-pitched vaulted roof, which is covered with gray composition shingles and fronted by a brick parapet. The building was built in 1948 by the architectural firm John M. Cooper.			
P-19-189107	Historic Structure	The historic structure, "Alta Vista Wash Deck Beam Bridge," was used by the former Atchison, Topeka and Santa Fe railroad. The bridge was constructed in 1907 according to recent engineering reports; the bridge is not considered to be structurally sound for heavy loads.	Not Eligible	Not Eligible	3/4 of a mile to the northwest
KEY: *Potential Historic Landmark = City of Monrovia Historic Preservation[1]					

Potential Historic Structures Within Project Area Boundaries

Three structures located at 340 West Evergreen Avenue, 1607 South Magnolia Avenue, and 1625 South Magnolia Avenue would be directly impacted due to demolition within the Alexan Foothills Specific Plan area. Since these buildings are 45 years old or older (built between 1942 and 1954) and would be demolished under the Project, they required an evaluation as historic sites to determine if any structures were eligible for listing in the National Register for Historic Places (NRHP), the California Register for Historic Resources (CRHR), or Local Register.

Further, Discretionary Demolition Review and Evaluation through the City of Monrovia's Historic Preservation Commission was also required for the residential structure located at 340 West Evergreen Avenue and for the religious structure located at 1607 South Magnolia Avenue, which was originally constructed as a residence, as specified in the City of Monrovia's Municipal Code Chapter 17.10: Ordinance 2016-10-Demolition Review of Main Residential Buildings.

The one light industrial structure at 1631 South Magnolia Avenue (APN: 8507-006-042) and the two light industrial structures at 1625 South Magnolia Avenue (APN: 8507-006-041) are exempt

[1] City of Monrovia. Historic Preservation: Potential Historic Landmarks. Electronically available at: http://www.cityofmonrovia.org/home/showdocument?id=1302

from the Discretionary Demolition Review and Evaluation process as the Ordinance does not apply to industrial buildings.

Daly & Associates conducted a historic site evaluation and prepared a summary report on the existing structures at 340 West Evergreen and at 1607 South Magnolia Avenue. Their summary report was prepared to assess the existing structures eligibility for listing in the CRHR and to fulfill the requirements set forth in the City of Monrovia Municipal Code Chapter 17.10: Ordinance No. 2016-10-Demolition Review of Main Residential Buildings. Daly & Associates Summary Report, State of California Department of Parks and Recreation Series 523 Forms for the two historic residences, and qualifications of key personal are provided in Appendix C.

Mr. Chris Purtell, Registered Professional Archaeologist with MIG, Inc., evaluated the structure at 1625 South Magnolia Avenue to determine its eligibility for listing in the NRHP, the CRHR, or as a City Historic Landmark. Results of his evaluation are contained in a Cultural Resources Assessment Report (MIG 2018).

Details on each structure are provided in Figure 9-1: Historic Structures Photographs and in text below. They are also included in the Cultural Resources Assessment Report (under separate cover) and a Historic Report prepared in Appendix E2. On August 29, 2018, the Monrovia Historic Preservation Commission (HPC) assigned a rating code of 6Z for the properties at 1607 South Magnolia Avenue and 340 West Evergreen Avenue. A California Resources Historic Status code of 6Z means that the property is not eligible for listing or designation under federal, state, or local evaluation criteria.

340 West Evergreen Avenue

340 West Evergreen Avenue is a single-family residence built in 1949. The residence is a free-standing structure that has a symmetrical façade. The residence has a semi-circular driveway with two entrances both accessing Evergreen Avenue. Today, the house serves as both a residence and commercial space, with the office situated on the structure's west side in a converted garage. The house is a ranch-style, one-story stucco structure with a gable roof exhibiting a single brick chimney. It has a rectangular shape with the long edge facing West Evergreen Avenue and the short edge running a perpendicular axis to the north. The residence site exhibits little to no backyard, with a cinder block wall that separates it from an open-air storage lot to the south. The residence's main façade is characterized by the use of two materials: a stucco exterior and a composite roof. The stucco exterior extends around all four sides of the building. A series of windows are pane in vinyl and are not original to the house. The windows are located on all four sides of the structure. The overall condition of the house is good.

The house is not individually eligible for listing on the National Register under Criterion A or the California Register under Criterion 1 for association with events that have made a significant contribution to the broad patterns of local, state, or national history. Archival research failed to uncover any significant contribution to social, political, and economic trends that were occurring in Monrovia or in the region during the era such that it would be individually eligible for listing on the National Register or California Register.

It is also not individually eligible for listing on the National Register under Criterion B or the California Register under Criterion 2 for resources that are associated with the lives of persons

significant in history. Archival research failed to reveal any persons of historical importance that are associated with this building.

It is not individually eligible for listing on the National Register under Criterion C or the California Register under Criterion 3. The current design of the house follows a modified ranch style, with characteristics common to houses built during the mid-twentieth century. Modifications to the house's windows, garage, and roof line have masked its original appearance, and it does not retain sufficient integrity. The house's style and stucco construction are common design elements that were widely used throughout the region and this type of building does not embody distinctive characteristics of a particular type, period or method of construction.

It does not reach individual significance that would make it eligible for listing on the National Register or California Register. Criterion D/4 is typically related to archeological resources rather than built resources. When Criterion D/4 does relate to built resources, it is for cases when the building itself is the principal source of important construction-related information. Based on historic and archival research, this criterion is not applicable to 340 West Evergreen Avenue building.

Conclusion

The residence at 340 West Evergreen Avenue retains most of its integrity. It remains in its original location, design, and setting. The original building materials are mostly intact and appear to have undergone moderate change, as its front façade has been modified since its construction in 1942. Therefore, there is little contribution of workmanship, feeling, or association of this building. Although it does maintain most of its integrity, it is not sufficient for eligibility.

The property at 340 West Evergreen Avenue was evaluated for significance by using the theme of "Residential Development 1941-1967," with the sub-theme of "Single-Family Residential Infill", as presented in the Final City of Monrovia Historic Context Statement (ASM, 2018). ASM concluded:

- The property was found not to be part of or potential contributor to any historic district in the City;
- The property was not found to be a significant historical resource when evaluated under the criteria for listing in the California Register of Historical Resources; and
- The property was not found to meet the criteria to be eligible for being considered a Designated Historical Resource in the City of Monrovia.

1607 South Magnolia Avenue

1607 South Magnolia Avenue building is identified as a religious center built in 1949. The building is free-standing structure with a symmetrical façade; it appears to be rectangular in plan. The structure exhibits a single entrance and driveway facing South Magnolia Avenue. The structure's driveway has an electronic wrought-iron gate that separates its backyard area from the street. The structures' back lot is an asphalt covered space with two non-descript modern office trailers exhibiting wire meshed windows, with single entrance. The trailers are located approximately 30 feet northwest of the structure. The structure is a Minimal Traditional one-story, wood siding panel style building, with a gable roof, front lawn, and manicured landscaping. It has a rectangular shape with the long edge facing South Magnolia Avenue and

the short edge running along a parallel axis to the north. The main façade is characterized by the use of two materials: a wood siding panel exterior and a composite roof. The exterior panel siding extends around all four sides of the building. A series of windows are pane in vinyl, not original to the house, and located on all four sides of the structure. The overall condition of the house is good.

The building is not individually eligible for listing on the National Register under Criterion A or the California Register under Criterion 1 for association with events that have made a significant contribution to the broad patterns of local, state, or national history. Archival research failed to uncover any significant contribution to social, political, and economic trends that were occurring in Monrovia or in the region during the era such that it would be individually eligible for listing on the National Register or California Register.

It is not individually eligible for listing on the National Register under Criterion B or the California Register under Criterion 2 for resources that are associated with the lives of persons significant in history. Archival research failed to reveal any persons of historical importance that are associated with this building.

It is also not individually eligible for listed on the National Register under Criterion C or the California Register under Criterion 3. The current design of the building follows a Minimal Traditional style, with characteristics common to houses/structures from the mid-twentieth century. Modifications to the building's exterior, windows, and roof line have masked its original appearance, and it does not retain sufficient integrity. The building's construction style: wood panel siding and gable roof are common design elements that were widely used throughout the region, and this type of building does not embody distinctive characteristics of a particular type, period, or method of construction.

It does not reach individual significance that would make it eligible for listing on the National Register or California Register. Criterion D/4 is typically related to archeological resources rather than built resources. When Criterion D/4 does relate to built resources, it is for cases when the building itself is the principal source of important construction-related information. Based on historic and archival research, this criterion is not applicable to 1607 South Magnolia Avenue building.

Conclusion

The 1607 South Magnolia Avenue structure remains in its original location and setting; however, the structure has lost much of its integrity as the original building was constructed as a "Poultry House" and has undergone several modifications to its façade since its construction in 1942. Therefore, there is little contribution of workmanship, feeling, or association from this building; therefore, it is not eligible for listing on the National Register or California Register.

1625 South Magnolia Avenue

1625 South Magnolia Avenue is a light industrial building built in 1954. It sits on a rectangular site just north of the Metro Gold Line tracks, with its main entrance facing South Magnolia Avenue. Today, the building serves as a fabrication and distribution facility. The structure is a vernacular one-story precast concrete building. It has a rectangular shape, with the short edge facing South Magnolia Avenue and the long edge facing west. On the building's south side, facing the METRO Gold Line tracks, is a single street access with two corrugated swing-up

metal doors. The street access leads to an east/west driveway connecting existing, non-related commercial buildings located behind the primary structure. The building's rear (facing west) opens to a variety of commercial buildings and commercial enterprises, all with open-air asphalt covered parking and storage lots (cars and trucks). The main façade uses one main material: precast concrete blocks. The concrete block façade continues around all four sides of the building. A series of windows are pane in steel frames and affixed to the exterior. The windows occur on three sides of the building -- north, south, and east. The west side of the building has no windows or doors. The building has a flat roof that exhibits no distinct or visible architectural features. The building's frontal landscaping along South Magnolia Avenue appears to be unkempt and neglected. The overall condition of the building is fair.

The building is not individually eligible for listing on the National Register under Criterion A or the California Register under Criterion 1 for association with events that have made a significant contribution to the broad patterns of local, state, or national history. Archival research failed to uncover any significant contribution to social, political, and economic trends that were occurring in Monrovia or in the region during the era such that it would be individually eligible for listing on the National Register or California Register.

The building is not individually eligible for listing on the National Register under Criterion B or the California Register under Criterion 2 for resources that are associated with the lives of persons significant in history. Archival research failed to reveal any persons of historical importance that are associated with this building.

The building is not individually eligible for listed on the National Register under Criterion C or the California Register under Criterion 3. The building's design follows a utilitarian style, with characteristics common to industrial/commercial buildings in the middle to late twentieth century. Precast concrete block construction was widely used after World War II and this building does not embody distinctive characteristics of a particular type, period or method of construction.

It does not reach individual significance that would make it eligible for listing on the National Register or California Register. Criterion D/4 is typically related to archeological resources rather than built resources. When Criterion D/4 does relate to built resources, it is for cases when the building itself is the principal source of important construction-related information. Based on historic research, this criterion is not applicable to 1625 South Magnolia Avenue.

Conclusion

The building at 1625 South Magnolia Avenue retains integrity. It remains in its original location, design, and setting. The original building material is intact and appears to have undergone little change, since its construction in 1954. However, there is little contribution of workmanship, feeling, or association of this building. Although it does maintain integrity, it is not sufficient for eligibility.

Therefore, these three structures lack individual distinction and significance and are not eligible for listing on the NRHP or in the CRHR under any of the significance criteria. Therefore, the Project would result in no adverse change in the significance of historical structures as defined in CEQA Guidelines Section 15064.5.



Photograph 1
340 West Evergreen Avenue, South-looking View



Photograph 2
1607 South Magnolia Avenue, West-looking View

Figure 9-1 Historic Structures Photographs



Photograph 3
1625 South Magnolia Avenue, West-looking View



Photograph 4
Project Overview, Along South Magnolia Avenue North-looking View

Figure 9-1 Historic Structures Photographs



Photograph 5
Project Overview, Along West Evergreen Avenue, East-looking View



Photograph 6
1607 South Magnolia Avenue, West-looking View

Figure 9-1 Historic Structures Photographs



Photograph 7
Project Overview, Along Dale Drive, South-looking View



Photograph 8
Project Overview, South Magnolia Avenue, South-looking View

Figure 9-1 Historic Structures Photographs



Photograph 9
1621 South Magnolia Avenue, West-looking View



Photograph 10
1625 South Magnolia Avenue, West-looking View

Figure 9-1 Historic Structures Photographs



Photograph 11
Project Overview, East-looking View

Figure 9-1 Historic Structures Photographs

Mitigation Measures

No mitigation measures are required.

IMPACT CUL-2 ARCHAEOLOGICAL RESOURCES

GPA, ZCA Areas A and C, and Alexan Foothill Specific Plan

Results from the CHRIS-SCCIC search indicate that no previously recorded archaeological resources have been identified within the Project area. The Project area is graded, heavily disturbed, and has been developed within an urban industrial setting for decades. However, despite the heavy disturbances of the Project area that may have displaced archaeological resources on the surface, it is possible that intact archaeological resources exist beneath the surface. As a result, Mitigation Measures MM CUL-1, MM CUL-2, MM CUL-3, and MM CUL-4 are required to reduce potentially significant impacts to previously undiscovered archaeological resources that may be accidentally encountered during Project implementation to a less than significant level. With implementation of these mitigation measures, the Project would not result in a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines.

Mitigation Measures

Mitigation Measures MM CUL-1, MM CUL-2, MM CUL-3, and MM CUL-4 are applicable to the Alexan Foothills Specific Plan and future development projects within ZCA Areas A and C.

MM CUL-1. Conduct Archaeological Sensitivity Training for Construction Personnel. The applicant shall retain a qualified professional archaeologist who meets U.S. Secretary of the Interior's Professional Qualifications and Standards to conduct an archaeological sensitivity training for construction personnel prior to commencement of excavation activities. The training session shall include a handout and focus on how to identify archaeological resources that may be encountered during earthmoving activities; the procedures to be followed in such an event, the duties of archaeological monitors, and the general steps a qualified professional archaeologist would follow in conducting a salvage investigation, if one is necessary. **Requirements and Timing:** This measure shall be printed on all construction drawings and grading plans. The archaeologist shall obtain signatures from each worker receiving the training and shall submit the list to the City following completion of construction. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to.

MM CUL-2. Cease Ground-Disturbing Activities and Implement Treatment Plan if Archaeological Resources Are Encountered. If archaeological resources are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 50 feet shall be established around the find where construction activities will not be allowed to continue until a qualified archaeologist has examined the newly discovered artifact(s) and has evaluated the area of the find. Work shall be allowed to continue outside of the buffer area. All archaeological resources unearthed by construction activities shall be evaluated by a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards. Should the newly discovered artifacts be determined to be prehistoric, Native American Tribes/Individuals shall be contacted and consulted, and Native

American construction monitoring shall be initiated. The applicant and City shall coordinate with the archaeologist to develop an appropriate treatment plan for the resources. The plan may include implementation of archaeological data recovery excavations to address treatment of the resource along with subsequent laboratory processing and analysis. **Requirements and Timing:** This measure shall be printed on all construction drawings and grading plans. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to.

MM CUL-3. Conduct Periodic Archaeological Resources Spot Checks during grading and earth-moving activities in Younger Alluvial Sediments. The applicant shall retain a qualified professional archaeologist, who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards to conduct periodic Archaeological Spot Checks beginning at depths below three (3) feet to determine if construction excavations have exposed or have a high probability of exposing archaeological resources. After the initial Archaeological Spot Check, further periodic checks will be conducted at the discretion of the qualified archaeologist. If the qualified archaeologist determines that construction excavations have exposed or have a high probability of exposing archaeological artifacts, ongoing construction monitoring for archaeological resources will be required. For the ongoing monitoring, the applicant shall retain a qualified archaeological monitor and Native American monitor, who will work under the guidance and direction of a professional archaeologist, who meets the qualifications set forth by the U.S. Secretary of the Interior's Professional Qualifications and Standards. The archaeological monitor and Native American monitor shall be present during all construction excavations (e.g., grading, trenching, or clearing/grubbing) into non-fill younger Pleistocene alluvial sediments. Multiple earth-moving construction activities may require multiple archaeological monitors. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known archaeological resources, the materials being excavated (native versus artificial fill soils), the depth of excavation, and if found, the abundance and type of archaeological resources encountered. Full-time monitoring can be reduced to part-time inspections as directed by the Project archaeologist. **Requirements and Timing:** This measure shall be printed on all construction drawings and grading plans. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to.

MM CUL-4. Prepare Report Upon Completion of Monitoring Services. The archaeological monitor, under the direction of a qualified professional archaeologist who meets the U.S. Secretary of the Interior's Professional Qualifications and Standards, shall prepare a final report at the conclusion of archaeological monitoring (if required). The report shall be submitted to the applicant, the South Central Coastal Information Center, the City, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of construction activities and required mitigation measures. The report shall include a description of resources unearthed, if any, evaluation of the resources with respect to the California Register and CEQA, and treatment of the resources. **Requirements and Timing:** This measure shall be printed on all construction drawings. An archaeological monitoring report shall be prepared and submitted for City review and approval prior to final sign off on construction. **Monitoring:** City staff shall review and approve the archaeological monitoring report prior to final sign off on construction.

IMPACT CUL-3 HUMAN REMAINS

GPA, ZCA Areas A and C, and Alexan Foothill Specific Plan

No known human remains have been identified from the CHRIS-SCCIC database within a one-mile radius of the Project area. No human remains were identified during the pedestrian survey of the Project area. However, these findings do not preclude the existence of previously unknown human remains located below the ground surface, which could be encountered during construction excavations associated with the Project. In particular, given the proven prehistoric occupation of the region, the identification of the Santa Anita Wash and the San Gabriel River both located within a two-mile radius of the Project area, buried human remains could be unearthed during construction. As a result, Mitigation Measure MM CUL-5 is required to reduce impacts associated with finding previously unknown human remains during construction to a less than significant level. With implementation of this mitigation measure, the Project would not disturb any human remains, including those interred outside formal cemeteries.

Mitigation Measures

Mitigation Measure CUL-5 applies to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

MM CUL-5. Cease Ground-Disturbing Activities and Notify County Coroner If Human Remains Are Encountered. If human remains are unearthed during construction, the City of Monrovia and the applicant shall comply with State Health and Safety Code Section 6050.5. The City of Monrovia and the applicant shall immediately notify the County Coroner and no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC shall then identify the person(s) thought to be the Most Likely Descendent (MLD). After the MLD has inspected the remains and the site, they have 48 hours to recommend to the landowner the treatment and/or disposal, with appropriate dignity, of the human remains and any associated funerary objects. Upon the reburial of the human remains, the MLD shall file a record of reburial with the NAHC and the Project archaeologist shall file a record of the reburial with the CHRIS-SCCIC. If the NAHC is unable to identify a MLD, or the MLD identified fails to make a recommendation, or the landowner rejects the recommendation of the MLD and the mediation provided for in Subdivision (k) of Section 5097.94, if invoked, fails to provide measures acceptable to the landowner, the landowner or his or her authorized representative shall inter the human remains and items associated with Native American human remains with appropriate dignity on the property in a location not subject to further and future subsurface disturbance. **Requirements and Timing:** This measure shall be printed on all construction drawings and grading plans. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to.

IMPACT CUL-4 TRIBAL CULTURAL RESOURCES

GPA, ZCA Areas A and C, and Alexan Foothill Specific Plan

The Project area is graded, heavily disturbed, and has been developed within an urban industrial setting for decades. The results of the records research compiled from the CHRIS-SCCIC search and the Sacred Lands File search (commissioned through the NAHC) failed to

indicate known Tribal Cultural Resources within the Project area boundaries or within a one-half mile radius of the Project area as specified in Public Resources Code (PRC): Sections 210741, 5020.1(k), or 5024.

The City of Monrovia mailed letters to a list of tribal representatives provided by the NAHC notifying them of the Project pursuant to AB 52 and SB 18. On January 11, 2018, the City of Monrovia met with Mr. Andrew Salas, Chairman of the Kizh Nation of the Gabrieleño Band of Mission Indians, on the Project under AB 52 and SB 18 in response to tribe's request for consultation on October 26, 2018. At that time, Mr. Salas provided the City with a map of village sites and trade routes important to the Kizh Nation of the Gabrieleño Band of Mission Indians. None of these sites or routes are present in or near the Project area. On January 11, 2018, Mr. Salas also submitted a list of recommended measures to be taken to appropriately handle Tribal Cultural Resources and human remains including recommended monitoring by a Native American monitor during construction-related ground disturbing activities, and methods for treatment of Tribal Cultural Resources if inadvertently discovered.

Although no impacts to Tribal Cultural Resources are anticipated, mitigation measures MM CUL-1 to MM CUL-5 would address any previously undiscovered archaeological resources relating to Tribal Cultural Resources encountered during Project implementation. Therefore, the Project would not cause a substantial adverse change in the significance of a Tribal Cultural Resource.

Mitigation Measures

Refer to mitigation measures MM CUL-1 through MM CUL-5.

9.2.4 Impact Conclusions

Project impacts on historic resources, cultural resources, and Tribal Cultural Resources would be less than significant with mitigation incorporated.

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
AB	Assembly Bill
ACHP	Advisory Council on Historic Preservation
APN	Assessor's Parcel Number
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CHLs	California Historical Landmarks
CHRIS-SCCIC	South Central Coastal Information Center
CPHI	California Points of Historical Interest
CRHR	California Register of Historical Resources
EIR	Environmental Impact Report
GP/ZCA	General Plan / Zoning Code Amendment
HPC	Monrovia Historic Preservation Commission
HRI	Historical Resources Inventory
METRO	Los Angeles County Metropolitan Transportation Authority
MLD	Most Likely Descendent
NAGPRA	Native American Graves Protection and Repatriation Act

NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NOP	Notice of Preparation
NRHP	National Register of Historic Places
PRC	California Public Resources Code
SHPO	State Historic Preservation Officer
SB	Senate Bill
SLF	Sacred Lands File
U.S.C.	United States Code
§	section

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10. GEOLOGY AND SOILS

This EIR Chapter describes the existing geology and soils conditions in the Project area. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project, describes potential impacts that could result from the Project, and includes mitigation measures that would avoid or reduce those potential impacts.

This analysis is based in part on Geocon West, Inc.'s (Geocon West) 2017 Geotechnical Report prepared for the Alexan Foothills Specific Plan contained in Appendix F, as well as the Monrovia General Plan's Safety Element (City of Monrovia 2002). Pursuant to Section 15150 of the CEQA Guidelines, these documents are herein incorporated by reference into this EIR and are available upon request.

10.1 SETTING

The environmental and regulatory setting with respect to geology and soils is based on local, State and Federal regulations along with information from the City of Monrovia General Plan.

10.1.1 Environmental Setting

The Geotechnical Investigation by Geocon West (2017) and the Monrovia General Plan Safety Element describe the existing conditions related to geology (including seismic hazards), soils, and minerals in the Project area. A summary of the geologic conditions in the Project area are provided below.

Geologic Setting and Soil Conditions

The Project area is located in the northeastern San Gabriel Valley, an alluvial-filled valley bounded by the Sierra Madre Fault Zone and San Gabriel Mountains on the north, the Puente Hills on the south, the Covina and Indian Hills on the east, and the Raymond Basin on the west. The alluvial deposits are derived from erosion of the San Gabriel Mountains to the north and subsequent deposition by the San Gabriel River and other local drainages. The alluvium is estimated to be approximately 200 feet thick at the base of the mountains, extending to hundreds of feet thick in the central portion of the valley. Regionally, the site is located within the northern portion of the Peninsular Ranges geomorphic province. This geomorphic province is characterized by northwest-trending physiographic and geologic features.

The Alexan Foothills Specific Plan area is underlain by a shallow layer of artificial fill (approximately 2-1/2 feet). Below that are Holocene-age young alluvial fan deposits consisting of varying amounts of sand, silt, clay, and gravel.

Groundwater

Historically, the highest groundwater level in the area is approximately 145 feet beneath the ground surface. Based on current groundwater basin management practices, it is unlikely that groundwater levels will ever exceed the historic high levels.

Geologic Hazards

Seismicity, Surface Faults, and Ground Shaking

The Project area is located in the seismically active Southern California region, but it is not within a currently established State of California Alquist-Priolo Earthquake Fault Zone for surface fault rupture hazards. No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low. However, the site is located in the seismically active Southern California region and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active Southern California faults.

The closest active fault to the site is the Raymond Fault, located approximately 1.4 miles to the northwest (California Division of Mines and Geology [CDMG] 2007). Other nearby active faults are the Duarte Fault, the Sierra Madre Fault, the Verdugo Fault, the Whittier Fault, the Hollywood Fault, and the Cucamonga Fault, located approximately 1.6 miles northeast, 2.1 miles north-northeast, 7.1 miles west, 7.2 miles southwest, 13.5 miles west, and 19 miles east of the Project area, respectively. The active San Andreas Fault Zone is located approximately 23 miles north-northeast of the site. The closest potentially active faults to the site are the San Jose Fault and the Indian Hill Fault located approximately 7.4 miles to the southeast and 7.5 miles to the southeast, respectively. The potentially active San Gabriel Fault is located approximately 7.7 miles north of the Project area (Ziony and Jones 1989).

Liquefaction

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. Given the aforementioned historical depth to groundwater, the potential for liquefaction and associated ground deformations beneath the Project area is very low. The Project area is not located within a required zone of required investigation for liquefaction, according to the Seismic Hazards Zone Map for the Mount Wilson 7.5 Minute Quadrangle (CGS 2017; CDMG 1999). The County of Los Angeles Safety Element (Leighton 1990) also indicates that the site is not located in a liquefiable area.

Slope Stability/Landslides

The Project area is relatively level and the topography in the vicinity slopes downward toward the south and southwest. The State of California Seismic Hazard Zone Map for the Mount Wilson Quadrangle indicates that the site is not located within a zone of required investigation for earthquake-induced landslides (CGS, 2017; CDMG, 1999). There are no known landslides near the site, nor is the site in the path of any known or potential landslides.

Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. The City of Monrovia Safety Element (2002) indicates that the site is located within the potential inundation areas for the Santa Anita Dam and Sawpit Debris Dam. However, these reservoirs are continually monitored by various governmental agencies to guard against the threat of dam failure. Current design, construction practices, and ongoing programs

of review, modification, or total reconstruction of existing dams are intended to ensure that all dams are capable of withstanding the maximum considered earthquake (MCE) for the site. Therefore, the potential for inundation at the site as a result of an earthquake-induced dam failure is considered low.

Tsunamis, Seiche, and Flooding

The site is not located within a coastal area. Therefore, tsunamis, seismic sea waves, are not considered a significant hazard at the site. Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the Project area. Therefore, flooding from a seismically-induced seiche is considered unlikely.

Subsidence

Subsidence occurs when a large portion of the ground surface is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Information on the California Division of Oil, Gas and Geothermal Resources (DOGGR) Well Finder Website (DOGGR 2017) indicates the site is not located within the limits of an oilfield, and that no oil or gas wells are located within a mile of the site vicinity. Additionally, no large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site.

Paleontological Setting

The Alexan Foothills Specific Plan area, and likely the ZCA Areas A and C as well, are comprised of surface sediments composed of younger Quaternary Alluvium, derived as alluvial fan deposits from the San Gabriel Mountains to the north. These sediments are likely underlain, possibly at relatively shallow depths, by older Quaternary deposits found at varying depths that may well contain significant vertebrate fossils (McLeod 2018). Excavations that extend down into older sedimentary deposits may well uncover significant vertebrate fossil remains and, therefore, should be closely monitored to quickly and professionally collect any vertebrate fossil remains without impeding development (McLeod 2018).

10.1.2 Regulatory Setting

A summary of the Federal, State, and local regulations relevant to geology and soils is found below.

Federal

Earthquake Hazard Reduction Act of 1977 (Amended 2004)

The Earthquake Hazard Reduction Act primarily aims to reduce loss of life, injury, destruction of property, economic destruction, and social disruption via the implementation of earthquake hazard reduction measures. These measures include: improved design and construction methods and practices, land-use controls and redevelopment, prediction and early-warning systems, coordinated emergency preparedness plans, and public education/involvement programs. The Act led to the creation of the National Earthquake Hazards Reduction Program (NEHRP). Established by Congress in 1977, the NEHRP focuses on those hazard reduction measures

outlined in the Earthquake Hazard Reduction Act. The NEHRP is a collaborative effort among the Federal Emergency Management Agency (FEMA), the National Institute of Standards and Technology (NIST), the National Science Foundation (NSF), and the United States Geological Survey (USGS).

State

California Government Code Section 65302(g)

This section of the California Government Code requires general plans to include a safety element that provides for the protection of the community from unreasonable risks associated with the effects of seismically-induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence; liquefaction; and other seismic hazards. The Safety Element must also include mapping of known geologic or seismic hazards.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Sections 2621-2630) was passed in 1972 to mitigate the potential hazard of surface faults to structures for human occupancy. The main purpose of the Act is to prevent the construction of human-occupied buildings over-active faults. The Act only addresses the hazard of fault rupture and is not directed toward other earthquake hazards.

The Act requires the State Geologist to establish regulatory zones (known as Earthquake Fault Zones) around the surface traces of active faults and to issue maps to all affected cities, counties, and State agencies for their use in planning and controlling development. Local agencies must regulate most development projects within the zones, and there generally can be no construction for human occupancy within 50 feet of an active fault zone.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act (Public Resources Code Sections 2690-2699.6) was passed in 1990 to address earthquake hazards other than fault rupture, including liquefaction and seismically induced landslides. Seismic Hazard Zones are mapped by the State Geologist to assist local governments in land use planning. The purpose of the Act is to "reduce the threat to public safety and to minimize the loss of life and property by identifying and mitigating these seismic hazards."

California Building Code

The California Building Code (CBC), Title 24, serves as the basis for the design and construction of buildings in California. The purpose of the CBC is to establish minimum standards to safeguard the public health, safety, and general welfare through structural strength, means of egress, and general stability by controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of buildings and structures. The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control.

Local

City of Monrovia General Plan: Safety Element

The General Plan Safety Element identifies and evaluates natural hazards associated with seismic activity, landslides, flooding and fire within the City of Monrovia. The document provides the goals for each of the relevant City departments to provide responsible planning resulting in reduction of loss of life, injuries, damage to property and other losses associated with such disasters, and to act as a guide to prepare for possible natural or man-caused disasters.

The following policy of the Safety Element applies to the Project:

> **Policy 1.3.2.** If through an EIR, or if detailed geologic investigation confirms existence of seismic hazards, the City shall require special earthquake resistant design features or use limitations, as appropriate, to protect the public health and safety and to reduce the exposure of individuals and property to seismic risks.

10.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts related to geology (including seismicity) and soils that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts. A program-level analysis was conducted for ZCA Areas A and C and a project-level analysis was conducted for the proposed Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

10.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: Items VII (a) through (e), implementation of the Project would have a significant impact related to geology and soils if it would:

(a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

  (1) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (Division of Mines and Geology Special Publication 42);

  (2) Strong seismic ground shaking;

  (3) Seismic-related ground failure, including liquefaction; or

  (4) Landslides;

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

(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landsliding, lateral spreading, subsidence, liquefaction, or collapse;

(d) Be located on expansive soil, as defined by Table 18-1-B of the Uniform Building Code, creating substantial direct or indirect risks to life or property;

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

(f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

10.2.2 Environmental Impacts

IMPACT GEO-1 SEISMIC HAZARDS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

A Geotechnical Investigation was prepared for the Alexan Foothills Specific Plan area by Geocon West (2017) and is included in Appendix F. The report concludes that the Project area is not within an Alquist-Priolo Earthquake Fault Zone. The report also concludes that the potential for surface rupture in faulting occurring beneath the Alexan Foothills Specific Plan area during the design life of the proposed development is considered low and that the Specific Plan can be developed as proposed with some recommendations regarding site design and construction. While the Alexan Foothills Specific Plan area, as well as likely ZCA Areas A and C, are not at significant risk for fault rupture because they are outside of Alquist-Priolo Earthquake Fault Zones (Geocon West 2017), the nearby San Jose Fault has the potential of generating earthquakes of magnitudes ranging from 6.0 to 6.5 on the Richter Magnitude Scale in the Project area. Strong earthquakes can cause widespread property damage, injury, and loss of life. Secondary impacts include fires and disruption of utilities and service systems. Seismic hazard impacts would be adverse and significant without mitigation. Therefore, mitigation measure MM GEO-1 requires that a Geotechnical Investigation be prepared for all development in the Project area and require that all recommendations in the Geotechnical Report are implemented during construction. With implementation of this mitigation measure, impacts would be reduced to less than significant levels.

Finally, the Project area is not in a coastal zone nor is it near any water bodies. Therefore, there is no risk for tsunami or flooding from a seismically-induced seiche. The City of Monrovia Safety Element (2002) indicates that the site is located within the potential inundation areas for the Santa Anita Dam and Saw Pit Dam. However, these reservoirs are continually monitored by governmental agencies to guard against the threat of dam failure. All permitted dams are capable of withstanding the maximum considered earthquake (MCE) for the site. Therefore, the potential for inundation at the Project area as a result of an earthquake-induced dam failure is considered low and impacts would be less than significant.

Mitigation Measures

Mitigation Measure MM GEO-1 is applicable to the Alexan Foothills Specific Plan as well as future development within ZCA Areas A and C.

MM GEO-1. Prior to the issuance of grading and building permits for all proposed development, the applicant shall retain a California registered and licensed geotechnical engineer to prepare a

Geotechnical Report to provide construction and design recommendations for the proposed facilities to withstand probable seismically induced ground shaking The Geotechnical Report shall provide specific recommendations for structural foundations and specifications and procedures for grading, including the suitability of onsite materials for use as fill. All grading, drainage, and building plans shall include all recommendations of the final Geotechnical Report for the development. **Requirements and Timing:** The Geotechnical Report shall be reviewed and approved by the City Department of Public Works prior to issuance of grading and permits. In addition, the geotechnical engineers for the development shall sign a title block on the grading, drainage, and building plans stating that the recommendations of the development's Geotechnical Report have been followed in the approved plans that he or she is signing. **Monitoring:** City Department of Public Works staff shall review and approve of the Geotechnical Report, and that grading, drainage, and building plans are signed by the geotechnical engineer, prior to issuance of grading and building permits.

IMPACT GEO-2 EROSION

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Per State and local stormwater regulations (see Chapter 13, Hydrology and Water Quality), the Alexan Foothills Specific Plan includes a drainage system designed to collect and control all site drainage in non-erosive drainage devices such that drainage not be allowed to pond anywhere on the site. Future development in ZCA Areas A and C would also be required to collect and control all site drainage as well. Therefore, the potential for erosion or loss of topsoil resulting from the Specific Plan or future development within ZCA Areas A and C is low; impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT GEO-3 LANDSLIDES, SUBSIDENCE, AND LIQUEFACTION

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The Project area is relatively flat and does not lie in the path of any known or potential landslides. Neither the Alexan Foothills Specific Plan area or ZCA Areas A and C are within a zone requiring investigation for liquefaction, and there appears to be little or no potential for ground subsidence; therefore, the risk of liquefaction or subsidence is considered low. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT GEO-4 EXPANSIVE SOILS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Soils within the Project area are considered to have "very low" expansive potential and are considered non-expansive, as defined by Table 18-1-B of the Uniform Building Code (Geocon

West 2017). Neither implementation of the Alexan Foothills Specific Plan, nor future development within ZCA Areas A and C, would create substantial risks to life or property involving expansive soils. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT GEO-5 SEPTIC TANKS OR ALTERNATIVE WASTEWATER DISPOSAL

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Both the Alexan Foothills Specific Plan area and ZCA Areas A and C are served by existing sewer main lines. No septic tanks are proposed. No impact would occur.

Mitigation Measures

No mitigation measures are required.

IMPACT GEO-6 PALEONTOLOGICAL RESOURCES

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

A paleontological resources records search was performed for the Project area through the Vertebrate Paleontological Department of the Natural History Museum of Los Angeles County in Los Angeles, California (NHMLAC). Results of the paleontological resources records search through the NHMLAC indicate no known vertebrate fossil localities from the NHMLAC database have been previously identified within the Project area or within a mile radius. Three fossil localities, LACM 1807 (Mastodon), LACM 2027 (Mammoth), and LACM CTI 342 (Turkey), are located within a 5 to 12-mile radius of the Project area that were discovered within the same sedimentary deposits at depths that extend into the Project area (McLeod 2018).

The results of the literature review and the search at the NHMLAC indicate that the Project area is comprised of surface sediments composed of younger Quaternary Alluvium, derived as alluvial fan deposits from the San Gabriel Mountains to the north. These sediments are likely underlain, possibly at relatively shallow depths, by older Quaternary deposits found at varying depths that could contain significant vertebrate fossils (McLeod 2018). Excavations that extend down into older sedimentary deposits could uncover significant vertebrate fossil remains and therefore should be closely monitored to quickly and professionally collect any vertebrate fossil remains without impeding development (McLeod 2018). Due to these findings, Mitigation Measures MM GEO-2 through MM GEO-5 are required to reduce potentially significant impacts to previously undiscovered paleontological resources and/or unique geological features that may be accidentally encountered during Project implementation to a less than significant level. With implementation of these mitigation measures, the Project would not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

Mitigation Measures

Mitigation Measures MM GEO-2 through GEO-5 are applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

MM GEO-2. Conduct Paleontological Sensitivity Training for Construction Personnel. The applicant shall retain a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology and shall conduct a paleontological sensitivity training for construction personnel prior to commencement of excavation activities. The training shall include a handout and shall focus on how to identify paleontological resources that may be encountered during earthmoving activities and the procedures to be followed in such an event, the duties of paleontological monitors, notification and other procedures to follow upon discovery of resources, and the general steps a qualified professional paleontologist would follow in conducting a salvage investigation if one is necessary. **Requirements and Timing:** This measure shall be printed on all grading and construction drawings. The paleontologist shall obtain signatures from each worker receiving the training and shall submit the list to the City following completion of construction. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to.

MM GEO-3. Conduct Periodic Paleontological Spot Checks during Grading and Earth-moving Activities. The applicant shall retain a professional paleontologist who meets the qualifications set forth by the Society of Vertebrate Paleontology and shall conduct periodic Paleontological Spot Checks beginning at depths below six feet to determine if construction excavations have extended into older Quaternary deposits. After the initial paleontological spot check, further periodic checks shall be conducted at the discretion of the qualified paleontologist. If the qualified paleontologist determines that construction excavations have extended into the older Quaternary deposits, construction monitoring for paleontological resources shall be required. The applicant shall retain a qualified paleontological monitor, who will work under the guidance and direction of a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology. The paleontological monitor shall be present during all construction excavations (e.g., grading, trenching, or clearing/grubbing) into the older Pleistocene alluvial deposits. Multiple earth- moving construction activities may require multiple paleontological monitors. The frequency of monitoring shall be based on the rate of excavation and grading activities, proximity to known paleontological resources and/or unique geological features, the materials being excavated (native versus artificial fill soils), and the depth of excavation, and if found, the abundance and type of paleontological resources and/or unique geological features encountered. Full-time monitoring can be reduced to part-time inspections if directed by the qualified professional paleontologist. **Requirements and Timing:** This measure shall be printed on all grading and construction drawings. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to.

MM GEO-4. Cease Ground-Disturbing Activities and Implement Treatment Plan if Paleontological Resources Are Encountered. If paleontological resources and/or unique geological features are unearthed during ground-disturbing activities, ground-disturbing activities shall be halted or diverted away from the vicinity of the find so that the find can be evaluated. A buffer area of at least 50 feet shall be established around the find where construction activities shall not be allowed to continue until appropriate paleontological treatment plan has been approved by the applicant and the City. Work shall be allowed to continue outside of the buffer area. The applicant and City shall coordinate with a professional paleontologist, who meets the qualifications set forth by the Society of Vertebrate Paleontology, to develop an appropriate treatment plan for the resources. Treatment may include implementation of paleontological salvage excavations to remove the resource along with subsequent laboratory processing and analysis or preservation in place. At the paleontologist's discretion and to reduce construction delay, the grading and excavation contractor shall assist in removing rock samples for initial processing. **Requirements and Timing:** This measure shall be printed on all grading and

construction drawings. **Monitoring:** City staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to.

MM GEO-5. Report Upon Completion of Monitoring Services. Upon completion of the above activities, the professional paleontologist shall prepare a report summarizing the results of the monitoring and salvaging efforts, the methodology used in these efforts, as well as a description of the fossils collected and their significance. The report shall be submitted to the applicant, the City, the Natural History Museum of Los Angeles County, and representatives of other appropriate or concerned agencies to signify the satisfactory completion of construction and required mitigation measures. **Requirements and Timing:** This measure shall be printed on all construction drawings. An archaeological monitoring report shall be prepared and submitted for City review and approval prior to final sign off on construction. **Monitoring:** City staff shall review and approve the archaeological monitoring report prior to final sign off on construction.

10.2.3 Impact Conclusions

With the preparation and implementation of geotechnical reports in accordance with Monrovia General Plan Safety Element Policy 1.3.2 for new development associated with the Alexan Foothills Specific Plan or within ZCA Areas A and C, as well as implementation of mitigation measures MM GEO-1 through MM GEO-5, impacts on geology and soils would be less than significant.

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
CBC	California Building Code
CDMG	California Division of Mines and Geology
CEQA	California Environmental Quality Act
CGS	California Geological Survey
DOGGR	Division of Oil, Gas, and Geothermal Resources
EIR	Environmental Impact Report
FEMA	Federal Emergency Management Agency
GP	General Plan
MCE	Maximum considered earthquake
NEHRP	National Earthquake Hazards Reduction Program
NHMLAC	Vertebrate Paleontological Department of the Natural History Museum of Los Angeles County in Los Angeles, California (NHMLAC)
NIST	National Institute of Standards and Technology
NSF	National Science Foundation
USGS	United States Geological Survey
ZCA	Zoning Code Amendment

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11. GREENHOUSE GAS EMISSIONS AND ENERGY CONSUMPTION

This EIR Chapter describes the existing emissions of greenhouse gases (GHGs) and energy consumption in the Project area, describes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project, describes potential impacts that could result from the Project, and includes mitigation measures that would avoid or reduce potentially significant impacts.

The methodologies and assumptions used in the preparation of this Chapter follow the CEQA Guidelines developed by the South Coast Air Quality Management District (SCAQMD 2017). Information on existing conditions, and Federal and State standards were obtained from the U.S. Environmental Protection Agency (U.S. EPA), California Air Resources Board (CARB), and SCAQMD. This GHG analysis has been closely coordinated with the air quality analysis in Chapter 7 of this EIR. A stand-alone Air Quality and GHG Impact Analysis report was prepared for the Project and is contained in Appendix C (MIG 2019).

11.1 SETTING

11.1.1 Environmental Setting

Climate Change

Climate change is the distinct change in measures of climate for a long period of time. Climate change can result from natural processes and from human activities. Natural changes in the climate can be caused by indirect processes, such as changes in the Earth's orbit around the Sun or direct changes within the climate system itself (i.e. changes in ocean circulation). Human activities can affect the atmosphere through emissions of gases and changes to the planet's surface. Emissions affect the atmosphere directly by changing its chemical composition, while changes to the land surface indirectly affects the atmosphere by changing the way the Earth absorbs gases from the atmosphere. The term "climate change" is preferred over the term "global warming" because "climate change" conveys the fact that other changes can occur beyond just the average increase in temperatures near the Earth's surface.

Elements that indicate that climate change is occurring on Earth include:

- Rising of global surface temperatures by 1.3° Fahrenheit (F) over the last 100 years;
- Changes in precipitation patterns;
- Melting ice in the Arctic;
- Melting glaciers throughout the world;
- Rising ocean temperatures;
- Acidification of oceans;

- Range shifts in plant and animal species

Climate change is intimately tied to the Earth's greenhouse effect. The greenhouse effect is a natural occurrence that helps regulate the temperature of the planet; without it, life as we know it on earth would not exist. Human activities since the beginning of the industrial revolution (approximately 150 years) have been adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap energy, thereby contributing to an average increase in the Earth's temperature. Human activities that enhance the greenhouse effect are detailed below.

Greenhouse Gases

Gases that "trap" heat in the atmosphere and affect regulation of the earth's temperature are known as "greenhouse gases." (GHGs). GHGs that contribute to climate regulation are a different type of pollutant than criteria or hazardous air pollutants (discussed in Chapter 7) because climate regulation is global in scale (both in terms of causes and effects).

Some GHGs are emitted to the atmosphere naturally by biological and geological processes, such as evaporation (water vapor), aerobic respiration (carbon dioxide, or CO_2), and off-gassing from low oxygen environments, such as swamps or exposed permafrost (methane or CH_4). However, GHG emissions from human activities, such as fuel combustion (e.g., CO_2) and refrigerant use (e.g., hydrofluorocarbons or HFCs), significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change. Human production of GHG has increased steadily since pre-industrial times (approximately pre-1880), and atmospheric CO_2 concentrations have increased from a pre-industrial value of 280 parts per million (ppm) in the early 1800s to 409 ppm in April 2018 (NOAA 2018). The effects of increased GHG concentrations in the atmosphere include increasing shifts in temperature and precipitation patterns and amounts, reduced ice and snow cover, sea level rise, and acidification of oceans. These effects in turn will impact food and water supplies, infrastructure, ecosystems, and overall public health and welfare.

The 1997 United Nations' Kyoto Protocol international treaty set targets for reductions in emissions of four specific greenhouse gases – CO_2, CH_4, nitrous oxide (N_2O), and sulfur hexafluoride (SF_6) and two groups of gases – HFCs and perfluorocarbons (PFCs). These GHGs are the primary GHGs emitted into the atmosphere by human activities. Water vapor is also a common GHG that regulates the earth's temperature; however, the amount of water vapor in the atmosphere can change substantially from day to day, whereas other GHG emissions remain in the atmosphere for longer periods of time. Descriptions of the most common GHGs are described below:

- **Carbon Dioxide (CO2)** is emitted and removed from the atmosphere naturally. Animal and plant respiration involve the release of CO2 from animals and its absorption by plants in a continuous cycle. The ocean-atmosphere exchange results in the absorption and release of CO2 at the sea surface. CO2 is also released from plants during wildfires. Volcanic eruptions release a small amount of CO2 from the Earth's crust.

  Human activities that affect CO2 in the atmosphere include burning of fossil fuels, industrial processes, and product uses. Combustion of fossil fuels used for electricity generation and transportation are the largest source of CO2 emissions in the United States. When fossil fuels are burned, the carbon stored in them is released into the

atmosphere entirely as CO2. Emissions from industrial activities also emit CO_2, such as cement, metal, chemical production, and use of petroleum produced in plastics, solvents, and lubricants.

- **Methane (CH4)** is emitted from human activities and natural sources. Natural sources of CH4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, soils, and wildfires. Human activities that cause CH4 releases include fossil fuel production, animal digestive processes from farms, manure management, and waste management. CH4 is produced from landfills as solid waste decomposes. CH4 is a primary component of natural gas and is emitted during its production, processing, storage, transmission, distribution, and use.

- **Nitrous Oxide (N2O)** is emitted from human sources such as agricultural soil management, animal manure management, sewage treatment, combustion of fossil fuels, and production of certain acids. N2O is produced naturally in soil and water, especially in wet, tropical forests. The primary human-related source of N2O is agricultural soil management due to use of synthetic nitrogen fertilizers and other techniques to boost nitrogen in soils. Combustion of fossil fuels (mobile and stationary) is the second leading source of N2O.

- **Hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs)** are entirely manmade and are mainly generated through various industrial processes. These types of gases are used in aluminum production, semiconductor manufacturing, and magnesium production and processing.

- **Sulfur Hexafluoride (SF6)** is commonly used as an electrical insulator in high voltage electrical transmission and distribution equipment such as circuit breakers, substations, and transmission switchgear. Releases of SF6 occur during maintenance and servicing as well as from leaks of electrical equipment.

GHGs can remain in the atmosphere long after they are emitted. The potential for a particular greenhouse gas to absorb and trap heat in the atmosphere is considered its Global Warming Potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHG by their GWP determines their CO_2 equivalent (CO_2e), which enables a project's combined global warming potential to be expressed in terms of mass CO_2 emissions. The GWPs and estimated atmospheric lifetimes of the common GHG are shown in Table 11-1.

Table 11-1 Global Warming Potential (GWP) of Common GHGs (100 Year Horizon)

GHG	GWP	GHG	GWP
Carbon Dioxide (CO_2)	1	Perfluorocarbons (PFCs)	
Methane (CH_4)	25	CF_4	6,500
Nitrous Oxide (N_2O)	298	C_2F_6	9,200
Hydrofluorocarbons (HFCs)		C_4F_{10}	7,000
HFC-23	14,800	C_6F_{14}	7,400
HFC-134a	1,430	Sulfur Hexafluoride (SF_6)	22,800
HFC-152a	140		
HCFC-22	1,700		
Source: CARB 2014 Note: GWPs are based on the United Nations Intergovernmental Panel on Climate Change 4th Assessment			

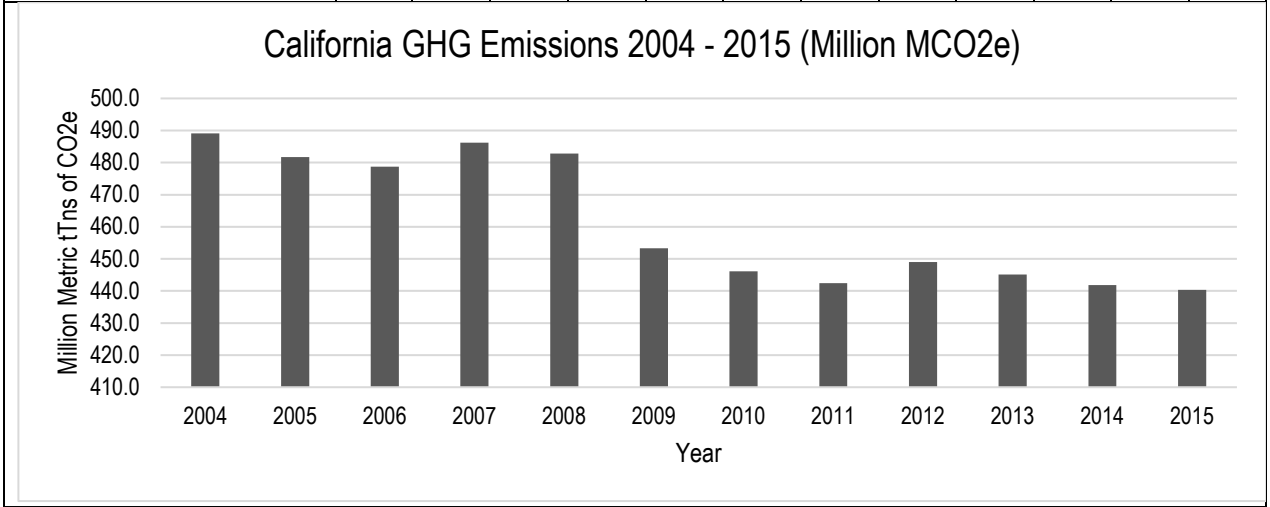
Report.

Statewide GHG Emissions

CARB prepares an annual Statewide GHG emissions inventory using Regional, State, and Federal data sources, including facility-specific emissions reports prepared pursuant to the State's Mandatory GHG Reporting Program. The Statewide GHG emissions inventory helps CARB track progress towards meeting the State's Assembly Bill (AB) 32 GHG emissions target of 431 million metric tons of CO_2 equivalents ($MTCO_2e$), as well as to establish and understand trends in GHG emissions[1]. Statewide GHG emissions for the 2005 to 2015 time period are shown in Table 11-2.

Table 11-2 2004-2015 Statewide GHG Emissions (in the Million $MTCO_2e$)

Scoping Plan Sector	Year											
	'04	**'05**	**'06**	**'07**	**'08**	**'09**	**'10**	**'11**	**'12**	**'13**	**'14**	**'15**
Agriculture	34	34	36	36	36	34	35	36	37	35	36	35
Commercial/Residential	44	42	43	43	44	44	45	46	43	43	38	38
Electric Power	115	108	105	114	120	101	90	88	95	90	88	84
High GWP	7	8	8	9	10	11	12	14	15	16	17	19
Industrial	98	95	93	90	90	88	91	90	91	93	93	92
Recycling and Waste	8	8	8	8	8	8	9	9	9	9	9	9
Transportation	182	184	184	184	173	166	163	159	159	158	160	165
Total Million MCO2e(A)	**488**	**480**	**476**	**484**	**481**	**452**	**445**	**442**	**448**	**444**	**442**	**440**



Source: CARB 2017a.
Notes:
(A) Totals may not equal due to rounding. CARB inventory uses GWPs based on the United Nations' ICC's 4th Assessment Report.

As shown in Table 11-2, Statewide GHG emissions have generally decreased over the last decade, with 2015 levels (440 million $MTCO_2e$) approximately 10 percent less than 2004 levels (488 million $MTCO_2e$). The transportation sector (165 million $MTCO_2e$) accounted for more than one-third (approximately 37.5%) of the State's total GHG emissions inventory (440 million $MTCO_2e$) in 2015.

[1] CARB approved use of 431 MMCO2e as the state's 2020 GHG emission target in May 2014. Previously, the target had been set at 427 MMCO2e.

Climate Change and California

The 2009 California Climate Adaptation Strategy prepared by the California Natural Resources Agency (CNRA) identified anticipated impacts to California due to climate change through extensive modeling efforts. General climate changes in California indicate that:

- California is likely to get hotter and drier as climate change occurs with a reduction in winter snow, particularly in the Sierra Nevada Mountain Range;
- Some reduction in precipitation is likely by the middle of the century;
- Sea levels will rise up to an estimated 55 inches;
- Extreme events such as heat waves, wildfires, droughts, and floods will increase; and
- Ecological shifts of habitat and animals are already occurring and will continue to occur (CNRA 2009).

It should be noted that changes are based on the results of several models prepared under different climatic scenarios; therefore, discrepancies occur between the projections and the interpretation.

Existing Project Area GHG Emissions

The existing land uses within the Project area contribute to existing City, Regional, and Statewide GHG emissions. The Project area's existing GHG emissions, presented below in Table 11-3, were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. GHG emissions generated within the Project area primarily come from the area, energy, and mobile sources described in Section 7.1.1, Air Quality, as well as the following additional sources specific to GHG emissions:

- **Energy use and consumption:** Emissions generated from purchased electricity and natural gas. CalEEMod estimates motorized vehicle usage associated with the existing land uses within the Project area result in approximately 2,097,010 total vehicle miles traveled (VMT) for the year 2017.
- **Solid waste disposal:** Emissions generated from the transport and disposal of waste generated by land uses. CalEEMod estimates approximately 140.8 tons of solid waste are generated per year by the people working and living within the Project area.
- **Water/wastewater:** Emissions from electricity used to supply water to land uses, and treat the resulting wastewater generated. As estimated in CalEEMod, existing land uses within the Project area use approximately 19.4 million gallons of water per year.

The Project area's existing GHG emissions were estimated using default emissions assumptions provided by CalEEMod, except as noted in Section 7.1 of this EIR.

Table 11-3 Existing GHG Emissions in the Project Area

Source	GHG Emissions (Metric Tons / Year)			
	CO_2	CH_4	N_2O	Total $MTCO_2e$
Alexan Foothills Specific Plan Area				
Area	0.33	<0.00(A)	<0.00(A)	0.35
Energy(B)	236.17	0.17	0.59	416.38
Mobile(C)	696.7	0.04	0.00	697.7
Waste	22.07	1.30	0.00	54.67
Water	42.18	0.47	0.15	100.13
Subtotal(D)	**997.45**	**1.77**	**0.75**	**1,269.2**
ZCA Areas A and C				
Area	1.31	<0.00(A)	<0.00(A)	1.35
Energy(A)	108.91	0.09	0.31	202.16
Mobile(B)	227.335	0.013775	0.00	227.7
Waste	6.51	0.38	0.00	16.13
Water	19.33	0.21	0.07	45.81
Subtotal(D)	**375.36**	**0.070**	**0.38**	**493.2**
Combined Total				**1,762.4**

Source: MIG 2019 (see Appendix C)

Notes:

(A) "<0.0" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01, but larger than 0.000.

(B) The emissions estimated in CalEEMod account for the carbon intensity metrics provided in Southern California Edison's 2016 Corporate Responsibility and Sustainability Report (SCE 2016) and U.S. Environmental Protection Agency's eGrid2014v2 emission rates (USEPA 2017).

(C) CalEEMod 2016.3.2 does not incorporate GHG emissions reductions resulting from the State's Low Carbon Fuel Standards (LCFS). Although LCFS largely reduces GHG from upstream fuel processing (and not individual tailpipe) the aggregate effect on transportation fuels is a reduction in GHG emissions throughout the state from lower fuel carbon content. Accordingly, this EIR analysis reduces transportation combustion emissions pursuant to LCFS requirements. Based on the latest estimate available from CARB, the LCFS regulation resulted in a 2.5% reduction in average carbon intensity content in 2016 and should result in a 5% reduction in average carbon intensity in 2018. Thus, CalEEMod transportation emissions were adjusted by multiplying by a factor of .95 to account for the LCFS regulation (CARB 2018a, 2018b).

(D) Totals may not equal due to rounding.

State and Regional Energy Setting

According to the California Energy Commission's (CEC) *2015 Integrated Energy Policy Report*, Californians consumed about 280,500 gigawatt hours (GWh) of electricity in 2014 and 13,240 million BTU of natural gas in 2013. The CEC estimates that by 2025, California's electricity consumption will reach between 297,618 GWh and 322,266 GWh, an annual average growth rate of 0.54 to 1.27 percent (CEC 2015a), and natural gas consumption is expected to reach between 12,673 million and 13,731 million BTU by 2024, an average annual growth rate of -0.4 to 0.33 percent (CEC 2015a).

Approximately 70 percent of California's electricity is generated from power plants located within the State and from plants in other states but owned by California utilities. About 10 percent is imported from the Pacific Northwest and 20 percent from the American Southwest (CEC 2011). In-state power is attained from 61.1 percent natural gas, 17.1 renewable energy, and 11.7 percent large hydropower.

Due in part to the State's emphasis on renewable energy, California is second in leading the nation when it comes to net electricity generation from renewable resources. A top producer of electricity from conventional hydroelectric power, California is also a leader in net electricity

generation from several other renewable energy sources. In 2016, California generated approximately 73,900 GWh of renewable electricity, accounting for 28.9 percent of the State's overall electricity sales (CEC 2017a).

In 2016, total electricity use in Los Angeles County was 69,614 million kilowatt hours (kWh), including 48,759 million kWh of consumption for non-residential land uses (CEC 2017b). Natural gas consumption was 286.9 million BTU in 2016, including 175.8 million therms from non-residential uses (CEC 2017c).

11.1.2 Regulatory Setting

International and Federal

International Regulation and the Kyoto Protocol

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the "United Nations' Framework Convention on Climate Change" agreement with the goal of controlling greenhouse gas emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan currently consists of more than 50 voluntary programs for member nations to adopt.

Federal Regulation and the Clean Air Act

On December 7, 2009, the U.S. EPA issued an endangerment finding that current and projected concentrations of the six Kyoto GHGs in the atmosphere (CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs) threaten the public health and welfare of current and future generations. This finding came in response to the Supreme Court ruling in *Massachusetts v. EPA*, which found that GHGs are pollutants under the Federal Clean Air Act. As a result, the U.S. EPA issued its GHG Tailoring Rule in 2010, which applies to facilities that have the potential to emit more than 100,000 $MTCO_2e$. In 2014, the U.S. Supreme Court issued its decision in *Utility Air Regulatory Group v. EPA* (No. 12-1146), finding that the U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a permit pursuant to the "Clean Air Act's Prevention of Significant Deterioration" or "Title V" operating permit programs. The U.S. EPA's Greenhouse Gas Reporting Program requires facilities that emit 25,000 $MTCO_2e$ or more of GHG to report their GHG emissions to the U.S. EPA to inform future policy decisionmakers.

The Current Administration

President Trump and the U.S. EPA have stated their intent to halt various federal regulatory activities to reduce GHG emission. California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. The timing and consequences of these types of federal decisions and potential responses from California and other states are speculative at this time.

State and Regional

Assembly Bill (AB) 32 (California Global Warming Solutions Act) and Related GHG Goals

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. AB 32 establishes the caps on Statewide greenhouse gas emissions proclaimed in Executive Order S-3-05 and established the timeline for meeting State GHG reduction targets. The deadline for meeting the 2020 reduction target is December 31, 2020.

As part of AB 32, CARB determines 1990 GHG emissions levels and projected a "business-as-usual" (BAU)[1] estimate for 2020, to determine the amount of GHG emission reductions that would need to be achieved. In 2007, CARB approved a Statewide 1990 emissions level and corresponding 2020 GHG emissions limit of 427 million $MTCO_2e$ (CARB 2007). In 2008, CARB adopted its *Climate Change Scoping Plan*, which projects 2020 Statewide GHG emissions levels of 596 million $MTCO_2e$ and identifies numerous measures (i.e., mandatory rules and regulations and voluntary measures) that will achieve at least 174 million $MTCO_2e$ of GHG reductions and bring Statewide GHG emissions to 1990 levels by 2020 (CARB 2009).

Executive Order B-30-15, 2030 Carbon Target and Adaptation, issued by Governor Brown in April 2015, set a target of reducing GHG emissions by 40 percent below 1990 levels in 2030. To achieve this ambitious target, Governor Brown identified five key goals for reducing GHG emissions in California through 2030:

- Increase renewable electricity to 50 percent.
- Double energy efficiency savings achieved in existing buildings and make heating fuels cleaner.
- Reduce petroleum use in cars and trucks by up to 50 percent.
- Reduce emissions of short-lived climate pollutants.
- Manage farms, rangelands, forests and wetlands to increasingly store carbon.

By directing State agencies to take measures consistent with their existing authority to reduce GHG emissions, Executive Order B-30-15 establishes coherence between the 2020 and 2050 GHG reduction goals set by AB 32 and seeks to align California with the scientifically established GHG emissions levels needed to limit global warming below two degrees Celsius.

To reinforce the goals established through Executive Order B-30-15, Governor Brown went on to sign Senate Bill (SB) 32 and AB 197 on September 8, 2016. SB 32 made the GHG reduction target (to reduce GHG emissions by 40 percent below 1990 levels by 2030) a requirement, as opposed to a goal. AB 197 gives the Legislature additional authority over CARB to ensure the most successful strategies for lowering emissions are implemented, and requires CARB to, "protect the State's most impacted and disadvantaged communities …[and] consider the social costs of the emissions of greenhouse gases."

Scoping Plan. The CARB Scoping Plan is the comprehensive plan primarily directed at identifying the measures necessary to reach the GHG reduction targets stipulated in AB 32. The key elements of the 2008 Plan were to expand and strengthen energy efficiency programs,

[1] BAU is a term used to define emissions levels without considering reductions from future or existing programs or technologies.

achieve a Statewide renewable energy mix of 33 percent, develop a cap-and-trade program with other partners (including seven States in the United States and four territories in Canada) in the Western Climate Initiative, establish transportation-related targets, and establish fees (CARB 2009). CARB estimated that implementation of these measures will achieve at least 174 million $MTCO_2e$ of reductions and reduce Statewide GHG emissions to 1990 levels by 2020 (CARB 2009).

In a report prepared on September 23, 2010, CARB indicated 40 percent of the reduction measures identified in the Scoping Plan had been secured (CARB 2010). Although the cap-and-trade program began on January 1, 2012 (after CARB completed a series of activities dealing with the registration process, compliance cycle, and tracking system), covered entities did not have an emissions obligation until 2013. In August 2011, the Scoping Plan was reapproved by CARB with the program's environmental documentation.

On February 10, 2014, CARB released the public draft of the "First Update to the Scoping Plan." "The First Update" built upon the 2008 Scoping Plan with new strategies and recommendations and identified opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. "The First Update" defined CARB's climate change priorities over the next five years and set the groundwork to reach post-2020 goals set forth in Executive Orders S-3-05 and B-16-12. It also highlighted California's progress toward meeting the 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. "The First Update" evaluated how to align the State's long-term GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. "The First Update" to the Scoping Plan was approved by the Board on May 22, 2014.

The second update to the scoping plan, the *2017 Climate Change Scoping Plan* update (CARB 2017c), was adopted by CARB in December 2017. The primary objective for the *2017 Climate Change Scoping Plan* is to identify the measures required to achieve the mid-term GHG reduction target for 2030 (i.e., reduce emissions by 40 percent below 1990 levels by 2030) established under Executive Order B-30-15 and SB 32. The *2017 Climate Change Scoping Plan* identifies an increased need for coordination among State, Regional, and local governments to realize the potential for GHG emissions reductions that can be gained from local land use decisions. It notes that emissions reductions targets set by more than one hundred local jurisdictions in the State could result in emissions reductions of up to 45 $MMTCO_2e$ and 83 $MMTCO_2e$ by 2020 and 2050, respectively. To achieve these goals, the 2017 Scoping Plan Update includes a recommended plan-level efficiency threshold of six metric tons or less per capita by 2030 and no more than two metric tons by 2050. The major elements of the *2017 Climate Change Scoping Plan* framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero emission vehicle (ZEV) buses and trucks.

- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).

- Implementation of SB 350, which expands the Renewable Portfolio Standard (RPS) to 50 percent and doubles energy efficiency savings by 2030.

- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.

- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing CH_4 and hydrocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.

- Continued implementation of SB 375.

- Post-2020 Cap-and-Trade Program that includes declining caps.

- 20 percent reduction in GHG emissions from refineries by 2030.

- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Senate Bill 375 (Sustainable Communities and Climate Protection Act)

In January 2009, California SB 375 went into effect known as the Sustainable Communities and Climate Protection Act. The objective of SB 375 is to better integrate regional planning of transportation, land use, and housing to reduce sprawl and ultimately reduce greenhouse gas emissions and other air pollutants. SB 375 tasks CARB to set GHG reduction targets for each of California's 18 regional Metropolitan Planning Organizations (MPOs). Each MPO is required to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP). The SCS is a growth strategy in combination with transportation policies that will show how the MPO will meet its GHG reduction target. If the SCS cannot meet the reduction goal, an Alternative Planning Strategy may be adopted that meets the goal through alternative development, infrastructure, and transportation measures or policies.

In August 2010, CARB released the proposed GHG reduction targets for the MPOs to be adopted in September 2010. The proposed reduction targets for the SCAG region were eight percent by year 2020 and 13 percent by year 2035. In September 2010 and February 2011, the eight percent and the 13 percent targets were adopted, respectively.

On April 4, 2012, SCAG's Regional Council adopted the *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy: Towards a Sustainable Future.* The 2012 RTP/SCS included a strong commitment to reduce emissions from transportation sources to comply with SB 375. The document contained a host of improvements to the region's multimodal transportation system. These improvements included closures of critical gaps in the network that hinder access to certain parts of the region, as well as the strategic expansion of the transportation system where there is room to grow in order to provide the region with greater mobility. The RTP/SCS demonstrated the region's ability to attain and exceed the GHG emission-reduction targets set forth by the CARB and outlined a plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands.

SCAG's Regional Council adopted an update to the 2012 RTP/SCS on April 7, 2016, the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS). The 2016 RTP/SCS expands upon the 2012 RTP/SCS's goal of balancing future mobility and housing needs with economic, environmental, and public health goals. Included in the 2016

RTP/SCS are 13 major initiatives primarily focused around preserving and maintaining the existing transportation system, expanding and improving mass transit (with a specific emphasis on passenger rail), decreasing reliance on vehicular modes of transportation through the expansion of pedestrian and bicycle infrastructure, and focusing new growth around transit. Through proactive land use planning and improvements to the transportation network, implementation of the 2016 RTP/SCS will result in an eight percent reduction in greenhouse gas emissions per capita by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2040 when compared with 2005 levels. These reductions meet or exceed the State's mandate, which require an eight percent reduction by 2020 and 13 percent by 2035.

Senate Bill 350 (Clean Energy & Pollution Reduction Act)

SB 350 was signed into Law in September 2015 and establishes tiered increases to the Renewable Portfolio Standard (RPS). The Bill requires 40 percent of the State's energy supply come from renewable sources by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also set a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Assembly Bill 1493

With the passage of AB 1493 (Pavley I) in 2002, California launched an innovative and pro-active approach for dealing with GHG emissions and climate change at the State level. AB 1493 requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards apply to automobiles and light trucks from 2009 through 2016. Although litigation was filed challenging these regulations and the U.S. EPA initially denied California's related request for a waiver, a waiver has since been granted (CARB 2017b). In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 among light-duty vehicles. In January 2012, CARB approved the Advanced Clean Cars (ACC) program (formerly known as Pavley II) for model years 2017 through 2025. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations and the Zero-Emission Vehicle (ZEV) regulation. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards.

Executive Order (EO) B-30-15, Senate Bill 32 & Assembly Bill 197 (Statewide Interim GHG Targets)

California EO B-30-15 (April 29, 2015) set an "interim" statewide emission target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030 and directed state agencies with jurisdiction over greenhouse gas emissions to implement measures pursuant to statutory authority to achieve this 2030 target and the 2050 target of 80 percent below 1990 levels. Specifically, the Executive Order directed CARB to update the Scoping Plan to express this 2030 target in metric tons. Assembly Bill 197 (AB 197) (September 8, 2016) and Senate Bill 32 (SB 32) (September 8, 2016) codified into statute the GHG emissions reduction targets of at least 40 percent below 1990 levels by 2030 as detailed in EO B-30-15. AB 197 also requires additional GHG emissions reporting that is broken down to sub-county levels and requires CARB to consider the social costs of emissions impacting disadvantaged communities.

Title 24 Energy Standards

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental air quality." The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC).

CALGreen contains both mandatory and voluntary measures. For non-residential land uses there are 39 mandatory measures including, but not limited to exterior light pollution reduction, wastewater reduction by 20 percent, and commissioning of projects over 10,000 square feet. Two tiers of voluntary measures apply to non-residential land uses, for a total of 36 additional elective measures.

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2019 standards, adopted May 9, 2018, will go into effect on January 1, 2020 and improve upon existing standards, focusing on three key areas: proposing new requirements for installation of solar photovoltaics for newly constructed low-rise residential buildings; updating current ventilation and Indoor Air Quality (IAQ) requirements, and extending Title 24 Part 6 to apply to healthcare facilities. The 2019 standards also propose several smaller improvements in energy efficiency.

Center for Biological Diversity v. California Department of Fish and Wildlife

In its decision in *Center for Biological Diversity v. California Dep't of Fish and Wildlife* (*Newhall*) 62 Cal.4th 204 (2015), the California Supreme Court set forth several options that lead agencies may consider for evaluating the cumulative significance of a proposed project's GHG emissions:

1. A calculation of emissions reductions compared to a "business as usual" (BAU) scenario based upon the emissions reductions in CARB's Scoping Plan, including examination of the data to determine what level of reduction from BAU a new land use development at the proposed location must contribute in order to comply with statewide goals.

2. A lead agency might assess consistency with AB 32's goals by looking to compliance with regulatory programs designed to reduce GHG emissions from particular activities.

3. Use of geographically specific GHG emission reduction plans to provide a basis for tiering and streamlining of project-level CEQA analysis.

4. A lead agency may rely on existing numerical thresholds of significance for GHG emissions, though use of such thresholds is not required.

There is no applicable existing numerical threshold of significance for GHG emissions and the *Newhall* decision specifically found that use of a numerical threshold is not required.

Local

The City does not have an adopted Climate Action Plan. The City of Monrovia, along with Southern California Edison and Intergy Corporation, prepared an Energy Action Plan that contains goals and specific actions to ensure that sufficient, dependable, and reasonably-priced electrical power and energy supplies are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for the City's consumers and taxpayers. Appendix A to the Energy Action Plan includes the City's environmental accords or actions; however, none of these actions are directly applicable to individual development projects. The Energy Action Plan has not been adopted by the City Council.

11.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts related to global climate change that could result from GHG emissions from the Project, as well as impacts on energy consumption. The Section also recommends mitigation measures as needed to reduce significant impacts. A program-level analysis was conducted for ZCA Areas A and C and a project-level analysis was conducted for the Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

11.2.1 Significance Criteria

Based on the CEQA Guidelines Appendix G: Items VIII (a) through (b), implementation of the Project would have a significant impact related to greenhouse gas emissions if it would:

(a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

(b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

In addition, based on CEQA Guidelines Appendix G: Items VI (a) through (b), implementation of Project would have a significant impact related to energy consumption if it would:

(a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or

(b) Conflict with or obstruct a state or local plan for renewable or energy efficiency.

In order to provide guidance to local lead agencies on determining the significance of GHG emissions in their CEQA documents, the SCAQMD convened the first GHG Significance Threshold Working Group (Working Group) meeting on April 30, 2008. To date, the Working Group has convened a total of 15 times, with the last meeting taking place on September 28, 2010. Based on the last Working Group meeting, the SCAQMD identified an interim, tiered approach for evaluating GHG emissions intent on capturing 90 percent of development projects where the SCAQMD is not the lead agency. The following describes the basic structure of the SCAQMD's tiered, interim GHG significance thresholds:

A. Tier 1 consists of evaluating whether or not the project qualifies for applicable CEQA exemptions.

B. Tier 2 consists of determining whether or not a project is consistent with a greenhouse gas reduction plan. If a project is consistent with a greenhouse gas reduction plan, it would not have a significant impact.

C. Tier 3 consists of using screening values at the discretion of the Lead Agency; however, the Lead Agency should be consistent for all projects within its jurisdiction. The following thresholds were proposed for consideration:

   a. 3,000 $MTCO_2e$/yr for all land use types; or

   b. 3,500 $MTCO_2e$/yr for residential; 1,400 $MTCO_2e$/yr for commercial; 3,000 $MTCO_2e$/yr for mixed use projects.

D. Tier 4 has three options for projects that exceed the screening values identified in Tier 3:

   a. Option 1: Reduce emissions from business-as-usual by a certain percentage (currently undefined)

   b. Option 2: Early implementation of applicable AB 32 Scoping Measures

   c. Option 3: For plan-level analyses, analyze a project's emissions against an efficiency value of 6.6 $MTCO_2e$/yr/service population by 2020 and 4.1 $MTCO_2e$/yr/service population by 2035. For project-level analyses, analyze a project's emissions against an efficiency value of 4.8 and 3.0 $MTCO_2e$/yr/service population for the 2020 and 2035 calendar years, respectively.

11.2.2 Analysis Methodology

Tier 3 and Tier 4 thresholds were used as significance criteria in this analysis to determine if GHG emissions under the Project would have a significant impact on the environment. A project level analysis was applied to the Alexan Foothills Specific Plan since it involves a specific development project pursuant to City regulations; however, a program level analysis was applied to ZCA Areas A and C because a specific development plan is not currently proposed nor considered at this time.

For potential environmental impacts, mitigation measures were designed to avoid or reduce each impact to a less than significant level, where possible.

11.2.3 Environmental Impacts

IMPACT GHG-1 GENERATION OF GREENHOUSE GAS EMISSIONS

This EIR quantifies and evaluates the potential GHG emissions resulting from both the Alexan Foothills Specific Plan and ZCA Areas A and C. Each individual Project component's GHG emissions are presented and discussed below, and the resulting combined emissions that would occur from both Project components are presented and discussed at the end of this section.

Alexan Foothills Specific Plan

Construction Emissions. Construction activities would generate GHG emissions primarily from equipment fuel combustion as well as worker, vendor, and haul trips to and from the development site during demolition, site preparation, grading, building construction, paving, and architectural coating activities. Construction activities would cease to emit GHG upon completion, unlike operational emissions that would be continuous year after year until the development is decommissioned. Accordingly, the SCAQMD recommends amortizing construction GHG emissions over a 30-year period. This normalizes construction emissions so that they can be grouped with operational emissions and compared to appropriate thresholds, plans, etc. GHG emissions from construction of the proposed Alexan Foothills Specific Plan were estimated using CalEEMod, Version 2016.3.2, based on the anticipated construction schedule and construction activities described in Chapter 7. The estimated construction GHG emissions resulting from the Alexan Foothills Specific Plan are presented below in Table 11-4.

Table 11-4 Estimated Construction GHG Emissions for the Alexan Foothills Specific Plan

Construction Year	GHG Emissions (Metric Tons / Year)			
	CO_2	CH_4	N_2O	Total $MTCO_2e$
2020	1,061.7	0.13	0.00	1,064.9
2021	1,297.5	0.11	0.00	1,300.3
2022	292.4	0.03	0.00	293.3
Total	**2,651.60**	**0.27**	**0.00**	**2,658.50**
Total Amortized Emissions(A)	**88.4**	**<0.00(B)**	**<0.00(B)**	**88.5**

Source: MIG 2019 (see Appendix C).

Notes:

(A) Emissions amortized over 30 year-period for inclusion in total GHG emissions.

(B) "<0.0" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01, but larger than 0.000.

Operational Emissions. Once operational, the Alexan Foothills Specific Plan would result in continuous GHG emissions from mobile, energy, and area sources. Mobile sources would result primarily in emissions of CO_2, with emissions of CH_4 and NO_2 also occurring in minor amounts. In addition to mobile sources, GHG emissions would also be generated from natural gas usage, electricity use, water conveyance and use, wastewater treatment, and solid waste disposal. Natural gas use would result in the emission of two GHGs: CH_4 (the major component of natural gas) and CO_2 (from the combustion of natural gas). Electricity use associated with both the physical usage of the development, as well as the energy needed to transport

water/wastewater, would result in the production of GHGs if the electricity is generated through non-renewable sources (i.e., combustion of fossil fuels). Solid waste generated by the Project, would contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy when transporting and managing the waste. In addition, landfilling, the most common waste management practice, results in the release of CH_4 from the decomposition of organic materials.

Default energy assumptions were reduced to account for the recent adoption of the 2019 energy efficiency code, and solid waste was assumed to be diverted at a rate of 75% pursuant to AB 341. Potential operational GHG emissions resulting from the Alexan Foothills Specific Plan were modeled using CalEEMod, Version 2016.3.2. The total GHG emissions associated with the Alexan Foothills Specific Plan are presented below in Table 11-5, based on an operational year of 2023. To account for all potential GHG emissions generated through construction and operational activities, the amortized construction emissions calculated in Table 11-4 have been added to Alexan Foothills Specific Plan operational GHG emissions estimate.

As shown in Table 11-5, construction and operation of the Alexan Foothills Specific Plan would result in a net increase in GHG emissions equal to 2,438.3 $MTCO_2e$ per year. This net emissions increase is below the SCAQMD Tier 3 “bright-line” threshold of 3,000 $MTCO_2e$ and would thus represent a less than significant impact.

In addition, as shown in Table 11-5, the Alexan Foothills Specific Plan would result in a GHG efficiency of 3.8 $MTCO_2e$/yr/service population. This value is below the SCAQMD’s 2020 project-level efficiency target of 4.8 $MTCO_2e$/yr/service population; however, the Alexan Foothills Specific Plan would be operational after 2020, in Year 2023. Therefore, it is not necessarily appropriate to compare the 2023 Alexan Foothills Specific Plan GHG efficiency to the SCAQMD 2020 efficiency threshold. Conversely, it is not appropriate to directly compare the 2023 Alexan Foothills Specific Plan GHG efficiency to a 2035 efficiency target since the current modeling does not account for any energy or mobile source improvements embedded in a future efficiency target. Therefore, to compare the Alexan Foothills Specific Plan to the SCAQMD 2035 efficiency target of 3.0 $MTCO_2e$/yr/service population, operational emissions were modeled using CalEEMod Version 2016.3.2 with the operational year set to 2035, to reflect the expected reduction in energy and mobile source emissions that will occur with implementation of the State RPS and advances in vehicle emission and other standards adopted by the State (see Section 11.1.2). The 2035 modeling only accounted for changes to energy and mobile source emissions as a result of increased renewable energy generation under the RPS standard and fleet turnover and improved vehicle emission standards associated with a 2035 operational year. The 2035 amortized construction and operational emissions for the Alexan Foothills Specific Plan, as estimated using CalEEMod (see Appendix C), are estimated to be 2,961.4 $MTCO_2e$/yr. Dividing through by the service population for the Alexan Foothills Specific Plan (980 residents), the result Year 2035 GHG efficiency is 3.0 $MTCO_2e$/yr/service population, which does not exceed the SCAQMD 2035 efficiency target of 3.0. Thus, the proposed Alexan Foothills Specific Plan would result in less than significant levels of GHG emissions and not impede progress towards the State’s GHG reduction goals.

Table 11-5 Estimated Operational GHG Emissions for the Alexan Foothills Specific Plan

Emission Source	GHG Emissions ($MTCO_2e$ / Year)		
	Existing[(A)]	Proposed	Net Change
Area	0.4	7.8	+7.5
Energy	416.4	1,298.2	+881.8
Mobile[(B)]	697.7	2,002.4	+1,304.7
Waste	54.7	25.4	-29.3
Water	100.1	285.12	+185.0
Amortized Construction	–	88.5	+88.3
Total[(C)]	**1,269.2**	**3,707.5**	**+2,438.3**
SCAQMD Tier 3 Screening Threshold	–	–	3,000
SCAQMD Tier 3 Threshold Exceeded?	–	–	No
Estimated Service Population[(D)]	133 [(E)]	980[(F)]	+847
Estimated GHG Efficiency ($MTCO_2e$/yr/service population)	9.5	3.8	-5.7
SCAQMD Tier 4 Project-Level Efficiency Threshold	–	4.8	–
SCAQMD Tier 4 Threshold Exceeded?	–	No	–

Source: MIG 2019 (see Appendix C).

Notes:

(A) See Table 11-3 for existing GHG emissions in Alexan Foothills Specific Plan area.

(B) CalEEMod 2016.3.2 does not incorporate GHG emissions reductions resulting from the State's LCFS. Although LCFS largely reduces GHG from upstream fuel processing (and not individual tailpipe) the aggregate effect on transportation fuels is a reduction in GHG emissions throughout the state from lower fuel carbon content. Accordingly, this EIR analysis reduces transportation combustion emissions pursuant to LCFS requirements. Based on the latest estimate available from CARB, the LCFS regulation resulted in a 2.5% reduction in average carbon intensity content in 2016 and should result in a 5% reduction in average carbon intensity in 2018. The current LCFS regulation also requires a 10% reduction in average carbon intensity by 2020. Thus, CalEEMod transportation emissions were adjusted by multiplying by a factor of .95 (existing conditions) and 0.90 (Project) to account for the LCFS regulation (CARB 2018a, 2018b).

(C) Totals may not equal due to rounding.

(D) Service population is defined as the number of employees and residents living and working within the area. The existing land uses include a mix of employees and residents; however, the Alexan Foothills Specific Plan service population used is based on residents only.

(E) Based upon the U.S. Green Building Council's (2008) average SF/employee: Place of Worship is 6,630 square feet (SF)/1,250 SF/employee = 5.3 employees, for General Light Industrial is 56,190 SF/463 SF/employee = 121.4 employees, and Office Building (100,000 SF or less) is 706 SF/221 SF/employee = 3.19 employees. According to the U.S. Census Bureau the average household size in Monrovia is 2.77 persons (1 unit X 2.77 persons/unit =2.77 persons). This yields a total service population of 133.

(F) According to the U.S. Census Bureau, the average persons per bedroom in Monrovia is 1.536. Given this, under the scenario of 439 units, the Alexan Foothills Specific Plan would accommodate 980 residents (Studio: 24 x 1 x 1.536 = 37; 1 Bedroom: 232 x 1 x 1.536 = 356; 2 Bedrooms: 167 x 2 x 1.536 = 513; and 3 Bedroom: 16 X 3 X 1.536 = 74). A total of 436 units is proposed under the Alexan Foothills Specific Plan, however, 439 units were analyzed.

Mitigation Measures

No mitigation measures are required.

ZCA Areas A and C

The short-term construction and long-term operational emissions associated with buildout of ZCA Areas A and C were estimated using the same methodology (CalEEMod) as described above for the Alexan Foothills Specific Plan. As was done for the Alexan Foothills Specific Plan modeling, default energy assumptions were reduced to account for the recent adoption of the 2019 energy efficiency code, and solid waste was assumed to be diverted at a rate of 75%

pursuant to AB 341. Although traffic buildout of ZCA Areas A and C was calculated in the TIA (see Appendix J), default trip generation rates for the these areas were used for emissions calculations. The use of default trip generation rates is likely to overestimate mobile source emissions since the proximity of ZCA Areas A and C to the Monrovia Metro Station is likely to reduce vehicle trips compared to default values. The construction and operational emissions associated buildout of ZCA Areas A and C are summarized in Tables 11.6 and 11.7 below.

Table 11-6 Estimated Construction GHG Emissions for Buildout of ZCA Areas A and C

Source	GHG Emissions (Metric Tons / Year)			
	CO_2	CH_4	N_2O	Total $MTCO_2e$
Annual Average Construction GHG Emissions				
2021	209.82	0.03	0.00	210.67
2022	166.35	0.03	0.00	166.98
Total	**376.2**	**0.06**	**0.00**	**377.65**
Total Amortized Emissions(A)	12.54	0.002	0	12.59

Source: MIG 2019 (see Appendix C).

Note:

(A) Emissions amortized over 30 year-period for inclusion in total GHG emissions.

Table 11-7 Total GHG Emissions for Buildout of the ZCA Areas A and C

Source	GHG Emissions ($MTCO_2e$ / Year)		
	Existing(A)	Buildout	Net Change
Area	1.4	1.4	+0.06
Energy	202.2	193.34	-8.8
Mobile(B)	227.7	569.3	+341.6
Waste	16.1	4.7	-11.4
Water	45.8	53.23	+7.5
Amortized Construction	–	12.6	+12.6
Total(C)	**493.2**	**834.7**	**+341.5**
SCAQMD Tier 3 Screening Threshold	–	–	3,000
SCAQMD Tier 3 Threshold Exceeded?	–	–	No
Estimated Service Population(D)	55(E)	227(F)	+172
Estimated GHG Efficiency ($MTCO_2e$/yr/service population	9.6	3.7	-5.9
SCAQMD Tier 4 Plan-Level Efficiency Threshold	–	6.6	–
SCAQMD Tier 4 Threshold Exceeded?	–	No	–

Source: MIG 2019 (see Appendix C).

Notes:

(A) See Table 11-3 for existing GHG emissions in Alexan Foothills Specific Plan area.

(B) CalEEMod 2016.3.2 does not incorporate GHG emissions reductions resulting from the State's LCFS. Although LCFS largely reduces GHG from upstream fuel processing (and not individual tailpipe) the aggregate effect on transportation fuels is a reduction in GHG emissions throughout the state from lower fuel carbon content. Accordingly, this EIR analysis reduces transportation combustion emissions pursuant to LCFS requirements. Based on the latest estimate available from CARB, the LCFS regulation resulted in a 2.5% reduction in average carbon intensity content in 2016 and should result in a 5% reduction in average carbon intensity in 2018. The current LCFS regulation also requires a 10% reduction in average carbon intensity by 2020. Thus, CalEEMod transportation emissions were adjusted by multiplying by a factor of .95 (existing conditions) and 0.90 (Project) to account for the LCFS regulation (CARB 2018a, 2018b).

(C) Totals may not equal due to rounding.

(D) Service population is defined as the number of employees and residents living and working within the area. The existing land uses include a mix of employees and residents; however, the service population used for ZCA Areas A and C is based on residents only.

(E) Based upon the U.S. Green Building Council's (2008) average SF/employee for: General Light Industrial is

14,560 SF/463 SF/employee = 31.4 employees, and for Warehouse is 10,120 SF/781 SF/employee = 13 employees. According to the U.S. Census Bureau the average household size in Monrovia is 2.77 persons (4 units x 2.77 persons/unit =11.08). This yields a total service population of 55.

(F) According to the U.S. Census Bureau, the average household size in Monrovia is 2.77 persons (2.77 persons/unit X 82 units = 227.1) = 227 residents at full buildout.

As shown in Table 11-7, construction and operation of ZCA Areas A and C would result in a net increase in GHG emissions equal to 341.5 $MTCO_2e$ per year. This net emissions increase is below the SCAQMD Tier 3 threshold of 3,000 $MTCO_2e$ and would thus represent a less than significant impact; however, it would be inappropriate to use this threshold since buildout of ZCA Areas A and C is being analyzed at a programmatic level. Instead, the total GHG emissions associated with buildout of ZCA Areas A and C are evaluated on a per capita basis to determine if GHG emissions would be consistent with the SCAQMD's Tier 4 analysis. As shown in Table 11-7, the proposed buildout of ZCA Areas A and C in Year 2023 falls below the SCAQMD's 2020 GHG efficiency target of 6.6 $MTCO_2e$/yr/service population, as well as the SCAQMD's 2035 GHG efficiency target of 4.8 $MTCO_2e$/yr/service population. Therefore, anticipated development within ZCA Areas A and C would result in less than significant impacts to GHG emissions.

Mitigation Measures

No mitigation measures are required.

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

As described in Section 7.2.3 (see Impact AIR-1), this EIR assumes that construction and operation of the Alexan Foothills Specific Plan and ZCA Areas A and C would occur simultaneously, meaning that both construction and operational emissions for both Project components would overlap and be emitted at the same time. The combined net GHG emissions associated with buildout of the Alexan Foothills Specific Plan and ZCA Areas A and C in Year 2023 are presented below in Table 11-8.

Table 11-8 Total Combined GHG Emissions for the Alexan Foothills Specific Plan and ZCA Areas A and C (Year 2023)

Source	GHG Emissions ($MTCO_2e$ / Year)		
	Existing(A)	**Project Buildout**(B)	**Net Change**
Area	1.7	9.3	+7.6
Energy	618.5	1,491.6	+873.1
Mobile	925.4	2,571.7	+1,664.3
Waste	70.8	30.1	-40.7
Water	145.9	338.5	+192.5
Amortized Construction	–	101.1	+101.1
Total(C)	**1,762.4**	**4,542.2**	**+2,779.8**
SCAQMD Tier 3 Screening Threshold	–	–	3,000
SCAQMD Tier 3 Threshold Exceeded?	–55	–	No
Estimated Service Population	184	1,207	+1,096
Estimated GHG Efficiency ($MTCO_2e$/yr/service population)	9.6	3.8	-
SCAQMD Tier 4 Project-Level Efficiency Threshold	–	4.8	–
SCAQMD Tier 4 Threshold Exceeded?	–	No	–

Source: MIG 2019 (see Appendix C)

Notes:
(A) See Table 11-3 for the existing emissions within the Project area.
(B) See Tables 11-5 and 11-7 for buildout emissions for the Alexan Foothills Specific Plan and ZCA Areas A and C, respectively.
(C) Totals may not equal due to rounding.

As shown in Table 11-8, buildout of the full Project would result in a 2,779.8 $MTCO_2e$ increase in GHG emissions from existing conditions. This is below the SCAQMD Tier 3 threshold of 3,000 $MTCO_2e$.

As stated previously, the Alexan Foothills Specific Plan is being analyzed at a project level, while buildout of ZCA Areas A and C is being evaluated at a programmatic level. As a conservative (i.e., worst-case) evaluation of potential GHG emission impacts, the combined GHG efficiency of both the Alexan Foothills Specific Plan and ZCA Areas A and C was determined and compared to the SCAQMD's project level Tier 4 efficiency threshold. As shown in Table 11-8, the combined efficiency threshold for the Alexan Foothills Specific Plan and ZCA Areas A and C (3.7 $MTCO_2e$/yr/service population) in Year 2023 would not exceed the SCAQMD 2020 plan GHG efficiency target of 4.8 $MTCO_2e$/yr/service population but would be above the SCAQMD's 2035 project efficiency threshold of 3.0 $MTCO_2e$/yr/service population. As explained above, the operational emissions for the Alexan Foothills Specific Plan as well as ZCA Areas A and C were modeled under year 2035 conditions to account for changes to energy and mobile source emissions as a result continued implementation of the RPS, fleet turnover, and improved vehicle emissions standards; all other inputs were held to 2023 values (e.g., energy efficiency, carbon intensity of SCE electricity, LCFS reductions, solid waste diversion rates, etc.). The 2035 operational emissions (including amortized construction emissions), as estimated using CalEEMod (see Appendix C), are estimated to be 3,630 $MTCO_2e$ per year. Dividing through by the combined service population (1,207) results in a combined efficiency 3.0 $MTCO_2e$/yr/service population, which does not exceed the SCAQMD 2035 project-level target of 3.0 $MTCO_2e$/yr/service population. Therefore, impacts are less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT GHG-2 PLAN CONSISTENCY

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

CARB Scoping Plan

As discussed under Section 11.1.2, the *2017 Climate Change Scoping Plan* is CARB's primary document used to ensure state GHG reduction goals are met. The *2017 Climate Change Scoping Plan's* primary objective is to identify the measures needed to achieve the 2030 reduction target established under Executive Order B-30-15 and SB 32. The major elements of the plan are generally geared toward actions either CARB or other state entities will pursue, such as, but not limited to:

- Implementing the LCFS, with an increased stringency (18 percent by 2030);
- Implementation of SB 350, which expands the RPS to 50 percent and doubles energy efficiency savings; and

- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing CH_4 and hydrocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by the year 2030.

Although most of these measures would be implemented at the State level, the GHG reductions achieved by these state measures would be realized at the local level. For example, regardless of actions taken by the City, emissions generated through gasoline combustion in motor vehicles within Monrovia would produce less GHG in 2030 than they do now. As shown in Table 11-8, the proposed Alexan Foothills Specific Plan and ZCA Areas A and C would meet the recommended plan-level efficiency threshold of 6 $MTCO_2e$ per capita per year by 2030 and would therefore contribute to the substantial progress necessary to achieve the *2017 Climate Change Scoping Plan* target of a 2 $MTCO_2e$ per capita per year threshold in Year 2050. The Project, therefore, would not conflict with the goals of the *2017 Climate Change Scoping Plan.*

In addition to State measures, Appendix B to CARB's *2017 Climate Change Scoping Plan* identifies potential actions that could be undertaken at a local level to support the State's climate goals. This appendix is organized into two categories. Category A applies to code and broad planning documents and is not applicable to a Specific Plan. Category B includes measures that could be considered for individual projects. The Alexan Foothills Specific Plan and ZCA Areas A and C would be consistent with many of the suggested measures in Appendix B through required compliance with SCAQMD rules and the California Green Building Standards Code. The Project, therefore, would not conflict with the goals of the *2017 Climate Change Scoping Plan.*

SCAG 2016 RTP/SCS

As described previously, the *2016 RTP/SCS* is a growth strategy and transportation plan whose primary intent is to demonstrate how the SCAG region will meet its GHG reduction target through the year 2040. Many of the measures included in the RTP/SCS are focused on: the expansion of, and access to, mass transit (e.g., light rail, commuter rail, bus rapid transit, etc.); planning growth around livable corridors; and locating new housing and job growth in high quality transit areas. Approval of the Project would support these goals, because it (1) results in and encourages infill development and/or involves the revitalization of already developed areas, (2) has existing, supporting transit infrastructure and enhances the use of this infrastructure (the METRO Station is a 0.2-mile walk from to the east of the Project area boundary), and (3) encourages the use of non-vehicular modes of transportation.

Under California law, SCAG is required to implement strategies that reduce per capita GHG emissions in the region by eight percent by 2020—compared with 2005 levels—and by 13 percent by 2035 (SCAG 2016). Although the existing emissions in the Project area have not been estimated for Year 2005, it is very likely that 2005 GHG emissions levels (and efficiency metrics) would be higher than the Year 2018 existing conditions presented in Table 11-3. As shown in Table 11-8, the Project is anticipated to reduce per capita GHG emissions by approximately 64 percent from existing conditions, which exceeds the progress needed to achieve the mandated reduction in GHG emissions of 13 percent by 2035. One of the reasons the Project results in such low GHG emissions is the Project area's proximity to the Monrovia METRO Station. As described in more detail in Chapter 19, Transportation and Circulation, the proximity of this transit station to the Project area is estimated to reduce Project-related trips by 20%.

Since the implementation of the Project would result in transit-oriented development, support the use of mass transit, and result in vehicle trips that are approximately 20% lower than standard values due to the proximity of the Monrovia METRO station, the Project would be consistent with the SCAG 2016 RTP/SCS.

Energy Action Plan

The City of Monrovia has an *Energy Action Plan* that seeks to decrease energy use and dependence. The plan suggests the need for citizen involvement and focuses heavily on actionable items related to managing City facilities and vehicles. Additionally, the City requires consistency with energy saving strategies (such as Title 24 which requires energy efficient practices). The Project is consistent with Title 24 building codes, and therefore is consistent with the goals of the Energy Action Plan.

Mitigation Measures

No mitigation measures are required.

IMPACT GHG-3 ENERGY CONSUMPTION

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Short-term energy demand would result from construction activities occurring as a result of buildout of the Project. Short-term demand would include energy needed to power worker and vendor vehicle trips as well as construction equipment. Long-term energy demand would result from operation of businesses and land uses within the Project area, which would include activities such as lighting, heating and cooling of structures, etc. Operational energy demands would typically result from vehicle trips, electricity and natural gas usage, and water and wastewater conveyance.

As estimated by the TIA (refer to Appendix J) and the emissions modeling conducted using CalEEMod defaults, buildout of the Project is anticipated to result in an increase in vehicle miles traveled (VMT) by approximately 19,813 VMT daily, natural gas consumption by 209,426.2 kBTU annually, and electricity consumption by 626 kWh annually. Although VMT and energy consumption increases, consumption rates per capita would decrease. Buildout of the Project would result in a VMT decrease from 26.2 VMT/service population/day to 20.4 VMT/service population/day. Natural gas consumption would also reduce from 3,175.6 kBTU/service population/year to 657.6 kBTU/service population/year, and annual electricity consumption would decrease from 4,984.6 kWh/service population/year to 760.4 kWh/service population/year.

Although implementation of the Project may increase VMT and energy and natural gas usage compared to current conditions, increased density would provide for more efficient use of resources within the City, thus ensuring that the Project would not result in the wasteful or inefficient use of energy resources. This would be a less than significant impact.

In addition, as discussed under Impact GHG-2, the Project would be consistent with CARB's Scoping Plan and SCAG's RTP/SCS which also incorporate goals for use of renewable energy and efficient energy use as well as for reducing GHG emissions. Therefore, the Project would be consistent with applicable State and local plans for promoting use of renewable energy and energy efficiency.

Mitigation Measures

No mitigation measures are required.

11.2.4 Impact Conclusions

The Project would not result in greenhouse gas emissions in excess of thresholds of significance, would meet SCAQMD's 2035 project-level target of 3.0 $MTCO_2e$/yr/service population, and would not conflict with the CARB Scoping Plan, SCAG 2016 RTP/SCS, or City's Energy Action Plan. In addition, the Project would not result in wasteful or inefficient use of energy. Therefore, impacts on global climate change due to greenhouse gas emissions and impacts on energy consumption would be less than significant.

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
AB	Assembly Bill
ACC	Advanced Clean Cars
AQ	air quality
BAU	Business As Usual
BTU	British Thermal Unit
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CBSC	California Building Standards Commission
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CH_4	methane
CNRA	California Natural Resources Agency
CO_2	carbon dioxide
CO_2e	Carbon Dioxide
EIR	Environmental Impact Report
EO	Executive Order
F	Fahrenheit
GHG	Greenhouse Gas(es)
GWh	Gigawatt-hours
GWP	Global Warming Potential
HFCs	hydrofluorocarbons
IAQ	Indoor Air Quality
kBtu	Thousand British Thermal Units
kWH	kilowatt-hours
LCFS	Low Carbon Fuel Standard
LEV	Low Emission Vehicle
MPO	Metropolitan Planning Organization
$MTCO_2e$	Metric Tons of Carbon Dioxide Equivalents
No.	number
NOAA	National Oceanic and Atmospheric Administration
N_2O	nitrous dioxide
PFCs	perfluorocarbons

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
ppm	parts per million
RPS	Renewable Portfolio Standard
RTP	Regional Transportation Plan
SB	Senate Bill
SCE	Southern California Edison
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SF_6	sulfur hexafluoride
SP	Specific Plan
U.S.	United States
U.S. EPA	United States Environmental Protection Agency
V.	Versus
VMT	Vehicle Miles Traveled
ZEV	Zero Emission Vehicle
Yr	year
§	section
° F	degrees Fahrenheit

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12. HAZARDS AND HAZARDOUS MATERIALS

This EIR Chapter describes hazards and hazardous materials in the Project area. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project, describes potential impacts that could result from the Project, and includes mitigation measures that would avoid or reduce those potential impacts.

A Phase I Environmental Site Assessment was completed for the Alexan Foothills Specific Plan area (FREY Environmental 2017), and a Phase II Hazardous Waste Investigation (i.e., subsurface investigation) performed at one parcel within the Alexan Foothills Specific Plan area at 1625 S. Magnolia Avenue (Partner 2011). Surveys for lead-based paint (LBP) and asbestos containing material (ACM) were conducted on two residential units in the Alexan Foothills Specific Plan area (Patriot 2015a & b, 2016a & b). Each hazardous waste investigation report is contained in Appendix G of this EIR. Finally, radiofrequency (RF) radiation emissions were modeled for the two existing telecommunications towers located at 410 W. Evergreen Avenue in the Alexan Foothills Specific Plan area (EBI Consulting [EBI] 2018). Pursuant to Section 15150 of the CEQA Guidelines, these documents are incorporated herein by reference into the EIR and are included in Appendix G.

12.1 SETTING

The environmental and regulatory setting of the Project area with respect to hazards and hazardous materials is described based on local, State and Federal regulations along with information from Monrovia General Plan's Safety Element (City of Monrovia 2002), and the studies noted above.

12.1.1 Environmental Setting

History of Uses within the Project Area

Historically, the Project area was used for agricultural purposes. The first development with residential and industrial buildings occurred in the early 1950s. Historical and current usage includes automotive service and sales, furniture manufacturing, theme park prop/decoration manufacturing, and residential.

Hazardous Materials and Hazardous Waste

Industrial uses in Monrovia generally consist of light manufacturing and manufacturing uses. Some industrial businesses use hazardous materials for manufacturing processes and can generate large quantities of hazardous waste. The Environmental Protection Agency (U.S. EPA) defines hazardous materials as materials that may be dangerous or potentially harmful to human health, or the environment (see 12.1.2, Regulatory Setting, below). Hazardous materials are often by-products of manufacturing uses or waste from commercial products such as cleaning fluids or pesticides. The U.S. EPA and other federal, state, and county regulatory agencies closely monitor manufacturing and commercial uses, and the disposition of hazardous materials. Hazardous materials require special methods of storage and treatment that common sewage and drainage systems are not capable of handling. Improper disposal can harm the environment and people who work in the waste management industry. Commercial businesses that typically handle hazardous materials and generate small quantities of hazardous waste include dry cleaners, auto repair shops, medical facilities, and photo processing centers. Generators of large quantities of hazardous waste include chemical manufacturers, large electroplating facilities, and petroleum refineries.



Photo 1
One of the cell towers (a monotree) in Alexan Foothills Specific Plan area.



Photo 2
Protective fencing around cell towers in Alexan Foothills Specific Plan area.

Figure 12-1 Cell Tower Photos

A Phase I Environmental Site Assessment (ESA) is the initial investigation phase of a process established by the American Society for Testing and Materials (ASTM) Standards (ASTM E 1527-13), cited by the Superfund Cleanup Acceleration Act of 1998, as adequate due diligence by new purchasers of properties or their lenders prior to site development (see Section 12.1.2 below). Phase I ESAs are completed prior to property development by private parties to establish that the buyer has exercised due diligence in purchasing the site. If a Phase I ESA indicates evidence of site contamination, a Phase II ESA is typically required prior to site development to further investigate the potential for contamination of that project's site. A Phase II ESA typically involves collection of samples of soil, groundwater, air, and/or building materials to measure and analyze quantities of various contaminants. The most frequent substances tested for include petroleum hydrocarbons, heavy metals, pesticides, solvents, asbestos, lead-based paint, and mold. Appropriate cleanup levels for each contaminant are determined by lead jurisdictional agencies as described in Section 12.1.2 below.

In 2011, a Phase I ESA and Phase II ESA were performed at 1625/1625 H and 1631 S. Magnolia Avenue and 410 W. Evergreen by a previous owner in the Alexan Foothills Specific Plan area due to past and recent industrial use of the properties. The Phase I ESA and Phase II ESA are contained in Appendix G of this EIR. Under the Phase II ESA, sampling of soil and soil vapor was performed to test for petroleum/chlorinated hydrocarbons, polychlorinated biphenyls (PCBs), pesticides, and metals due to historic and recent industrial use of the properties.

Trichlorofluoromethane, a refrigerant, was detected in one soil gas sample. No soil gas regulatory guidelines are currently established for the detected refrigerant (see Appendix G). In addition, tertiary-butyl alcohol (TBA) was detected in one soil sample, but a deeper sample in the same boring was non-detect for volatile organic compounds indicating very localized contamination on the soil surface.

The organochlorine pesticide, Endosulfan I, was detected in one composite soil sample at concentrations below available regulatory guidelines (i.e., Regional Screening Levels, please see Appendix G). The peak concentration of Endosulfan I detected was 5.5 µg/kg, a small fraction of the Regional Screening Level of 370,000 µg/kg for residential areas. Metals were also detected in soil samples, however concentrations were below applicable regulatory guidelines (see Appendix G). Other than trichlorofluoromethane discussed above, there were no other elevated concentrations of target contaminants, detected in soil gas or soil during the investigation.

In 2015 and 2016, surveys for ACM and LBP were conducted in two residences in the Alexan Foothills Specific Plan area (418 W. Evergreen and 1613 S. Magnolia Avenue). ACM and LBP were found in both structures. The two residences were demolished after the ACM and LBP had been removed for off-site disposal, in accordance with all applicable laws.

A follow-on Phase I ESA was conducted specifically for the entire Alexan Foothills Specific Plan area (FREY Environmental 2017). The following items were identified as Recognized Environmental Conditions ("RECs") in this Phase I ESA, pursuant to ASTM E 1527-13:

- Historical automobile maintenance operations;
- Possible storage of hazardous materials in 55-gallon drums;
- Railroad tracks south of the Site (possible use of chemicals for weed/pest control);
- Chemicals used at the California Theaming facility; and
- Chemicals used / stored at the 1631 S. Magnolia Avenue address.

However, the report noted that the previous, comprehensive Phase II ESA conducted by Partner in 2011 had adequately assessed these RECs through soil and soil vapor sampling,

finding that no further investigation was warranted. The 2017 Phase I ESA thus concluded that above RECs presented minimal risk and found the issues to be resolved.

According to the Phase I ESA conducted for the Alexan Foothills Specific Plan (FREY Environmental 2017) and confirmed by MIG in 2018, the Department of Toxic Substances Control (DTSC) has identified three hazardous waste sites off the Project site in Monrovia that have undergone voluntary cleanup according to DTSC's EnviroStor database, three of which are within 1,000 feet of the Project site at 1622 S. Magnolia Avenue and 200/204 W. Pomona Avenue. All three sites have been cleaned up and closed.

The State Water Resources Control Board (SWRCB) lists all leaking underground storage tanks (LUSTs) identified throughout California. There are no LUSTs or any other sites within 1,000 feet of the Project site (SWRCB 2018).

Hazardous materials are routinely used and transported throughout Monrovia, particularly along I-210.

Radiofrequency Radiation Hazards

Telecommunications towers emit electromagnetic energy termed "radiofrequency radiation" or "RF emissions" that can be harmful to humans if exposed at certain levels (Federal Communications Commission 1999). Specifically, if exposed at close range, electromagnetic energy can heat body tissue rapidly resulting in tissue damage (FCC 1999).

Telecommunications towers typically contain a receiver often located on the ground, and an antenna that must have a clear line of sight to the horizon, and therefore, is often installed high above the ground (FCC 1999). Radiofrequency radiation is emitted from the antennae of telecommunications towers, typically high above the ground, and their energy is focused very close to the antennae, such that human exposures to high levels of radiofrequency radiation is very unlikely, except for workers maintaining the antennae (FCC 1999). Nevertheless, the FCC has established exposure limits to radiofrequency radiation for members of the public and has developed requirements for their location, orientation, and design to ensure that public exposure limits can be met.

The FCC has established Maximum Permissible Exposure (MPE) limits for human exposure to Radiofrequency Electromagnetic (RF-EME) energy fields, based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and adopted by the American National Standards Institute (ANSI) (EBI 2018). Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general public/uncontrolled exposure limits for members of the general public (EBI 2018).

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure (EBI 2018). Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general public/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

General public/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Table 12-1, which is included within the FCC's Office of Engineering and Technology Bulletin 65, summarize the MPE limits for RF emissions. These limits are designed to provide a substantial margin of safety. They vary by frequency to take into account the different types of equipment that may be in operation at a particular facility and are "time-averaged" limits to reflect different durations resulting from controlled and uncontrolled exposures.

The FCC's MPEs are measured in terms of power (mW) over a unit surface area (cm2). Known as the power density, the FCC has established an occupational MPE of 5 milliwatts per square centimeter (mW/cm2) and an uncontrolled MPE of 1 mW/cm2 for equipment operating in the 1900 MHz and 2500 MHz frequency ranges.

Table 12-1 Limits for Maximum Permissible Exposure (MPE) to Radiofrequency Radiation

(A) Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3 – 3.0	614	1.63	(100)*	6
3.0 – 30	1842/f	4.89/f	($900/f^2$)*	6
30 – 300	61.4	0.163	1.0	6
300 – 1,500	--	--	f/300	6
1,500 – 100,000	--	--	5	6
(B) Limits for General Public/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3 – 3.0	614	1.63	(100)*	30
3.0 – 30	824/f	2.19/f	($180/f^2$)*	30
30 – 300	27.5	0.073	0.2	30
300 – 1,500	--	--	f/1,500	30
1,500 – 100,000	--	--	1.0	30

Notes:
f = Frequency in (MHz)
* Plane-wave equivalent power density

Two existing commercial wireless telecommunications towers (also referred to as "cell towers") are located in the Alexan Foothills Specific Plan area's northwest corner and are governed by a lease held by a separate owner than the Alexan Foothills Specific Plan Project applicant. The towers are located at 410 W. Evergreen Avenue, immediately west of the westernmost fire lane entrance to the property and are surrounded by several existing structures located immediately beneath the towers. Currently, there is restrictive fencing with warning signs around the cell towers to provide a safe setback for the public from the towers (see Figure 12-1).

Emergency Response and Wildland Fires

Please see Chapter 18.0, Public Services, for the discussion of the City of Monrovia's emergency response program and wildland fire response capabilities, led by Monrovia Fire and Rescue.

Airport Hazards

Monrovia is not within the sphere of influence or Airport Planning Area of any airports. The closest commercial airport, Ontario International, is approximately 24 miles east from the Project area. A single-runway general aviation airport, San Gabriel Valley Airport (formerly El Monte Airport) is the closest airport and is approximately 3.7 miles southwest from the Project Area.

12.1.2 Regulatory Setting

Federal

The main Federal agencies that regulate hazardous materials include the U.S. Environmental Protection Agency (U.S. EPA) and Occupational Safety and Health Administration (OSHA) and are described below. The Federal Communications Commission (FCC) also is responsible for establishing guidelines and providing direction for determining compliance with human exposure levels to radiofrequency radiation emitted from telecommunications towers; FCC is described in more detail below as well.

U.S. Environmental Protection Agency (U.S. EPA)

The U.S. EPA is responsible for researching and setting national standards for a variety of environmental programs, and delegates to States and local governments the responsibility for issuing permits and monitoring and enforcing compliance. U.S. EPA regulates chemical and hazardous materials use, storage, treatment, handling, transport, and disposal practices; protects workers and the community (along with OSHA and California Occupational Safety and Health Administration [CalOSHA], see below); and is responsible for integrating the Federal Clean Water Act and Clean Air Act into California legislation.

Federal Occupational Safety and Health Administration (OSHA)

OSHA establishes and enforces Federal regulations related to health and safety of workers exposed to toxic and hazardous materials. OSHA also sets health and safety guidelines for construction activities and manufacturing facility operations.



Photo 1
One of the cell towers (a monotree) in Alexan Foothills Specific Plan area.



Photo 2
Protective fencing around cell towers in Alexan Foothills Specific Plan area.

Figure 12-1 Cell Tower Photos

Federal Communications Commission

The Federal Communications Commission (FCC) is responsible for establishing guidelines and providing direction for determining compliance with human exposure levels to radiofrequency radiation emitted from telecommunications towers. Specifically, FCC's Office of Engineering and Technology Bulletin No. 65, on "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation" dated August 1997, specifies guidelines for locating, orienting, and testing telecommunications towers for their safe operation.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 U.S.C. Chapter 103)

The following Federal laws and guidelines govern hazardous waste management and remediation in the Project area:

- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)
- Superfund Amendments and Reauthorization Act Title III (SARA)

CERCLA and SARA are described in more detail below. In addition, the following Federal laws and guidelines govern hazardous materials storage and handling in the Project area, although proposed uses under the Project would not result in the utilization of a large amount of hazardous materials.

- Resource Conservation and Recovery Act (RCRA)
- Toxic Substances Control Act (TSCA)
- Occupational Safety and Health Act

Section 9603(a) of CERCLA requires immediate notification of all appropriate government agencies by any person in charge of an onshore facility of any knowledge of any release of a hazardous substance at levels exceeding prescribed volumetric thresholds (42 U.S.C. 9603[a]).

The President of the United States delegates enforcement authority of CERCLA to the U.S. Environmental Protection Agency (U.S. EPA) as the lead responsible Federal agency under CERCLA. The U.S. EPA can then delegate to State authorities to enforce CERCLA. In California, U.S. EPA can delegate authority to the California Environmental Protection Agency's DTSC (for cases involving soil or soil vapor contamination for example). Further, DTSC can then delegate authority to enforce CERCLA to local agencies, such as the Los Angeles County Fire Department's Health Hazardous Materials Division's Site Mitigation Unit, but only through Local Agency Oversight Agreements with those agencies.

Whenever any hazardous substance is released or there is a substantial threat of such a release into the environment at levels exceeding prescribed volumetric thresholds, or there is a release or substantial threat of release into the environment of any pollutant or contaminant which may present an imminent and substantial danger to the public health or welfare, the responsible government agency is authorized to act to remove or arrange for the removal of the hazardous substance, pollutant, or contaminant at any time (42 U.S.C. 9604).

The owner of the facility, or person who owned or operated the facility at the time of the release, is liable to pay for all costs associated with removal or remediation of the contamination (42 U.S.C. 9607(a)). "Innocent landowners", "contiguous landowners", or "*bona fide* prospective purchasers" of contaminated property (as defined by CERCLA), may not be liable to pay for costs associated with removal or remediation of the contamination if they follow certain procedures in CERCLA. Specifically, "innocent landowners", "contiguous landowners", or "*bona fide* prospective purchasers" must make "All Appropriate Inquiries" (or "AAI") into a property's

environmental conditions prior to purchase of a property in order to obtain protection from liability of past contamination under CERCLA. "Innocent landowners", "contiguous landowners", or "*bona fide* prospective purchasers" however, are still required to provide all legally required notices with respect to discovery of any hazardous substances at a facility (42 U.S.C 9607[q][1][A][vii] (i.e., notify the appropriate government agencies of any knowledge of releases) and cooperate fully with any investigation or removal or remedial action (42 U.S.C. 9607[q]).

The 2002 Small Business Liability Relief and Brownfields Revitalization Act (the "Brownfields Amendments") amended CERCLA (Public Law 107-118) and requires U.S. EPA to promulgate regulations establishing standards and practices for conducting AAI. Phase I Environmental Site Assessments (ESA) and Phase II Environmental Site Assessments (ESA) are reports that can be prepared by innocent landowners, contiguous landowners, and *bona fide* prospective purchasers of property in order to meet CERCLA's AAI requirements to receive protection from liability under CERCLA. Specific practices and procedures have been established to prepare Phase I ESAs and Phase II ESAs to this end, which are established in ASTM standards E1527-13 and E1903-11, respectively. A Phase I ESA involves an evaluation of the potential for past releases of hazardous substances at a site, or a REC. The ASTM E 1527-13 standard also recognizes the concept of a "*de minimis* condition," as the presence of hazardous substances or petroleum products in form or extent which generally do not present a material risk to human health and would not likely be subject to enforcement action if brought to the attention of governmental agencies. ASTM E 1527-13 further specifies that the term REC does not include *de minimis* conditions. A Phase II ESA is performed to attempt to confirm whether a release of hazardous substance has occurred at levels above a *de minimis* environmental condition for a REC. Phase I and II ESAs, however, are primarily utilized by owners or prospective purchasers to make informed business decisions, and to assist owners or prospective purchasers in meeting CERCLA's AAI criteria to avoid liability for purchase of contaminated property.

Under the CERCLA process, official documents required to investigate and clean up contamination include Preliminary Assessments (PAs)/Site Inspections (SIs) (PA/SIs) and Remedial Investigations (RIs)/Feasibility Studies (FSs) (RI/FSs) as defined in CERCLA. While there are many similarities between Phase I and Phase II ESAs and PA/SIs and RI/FSs, and results of Phase I and Phase II ESAs can be used to complete PA/SIs and RI/FSs, PA/SIs and RI/FSs are more comprehensive and follow certain requirements under the CERCLA process as described below from U.S. EPA's *Guidance for Preparing Preliminary Assessments Under CERCLA* (U.S. EPA 1991):

> *"**Preliminary Assessment:** A PA is a limited-scope investigation performed by States and/or EPA on every CERCLIS [site subject to CERCLA] site. PA investigators collect readily available information and conduct a site and environs reconnaissance. The PA is designed to distinguish between sites that pose little or no threat to human health and the environment and sites that require further investigation. The PA also identifies sites requiring assessment for possible emergency response actions.*
>
> ***Site Inspection (SI):** If the PA recommends further investigation, an SI is performed. SI investigators typically collect waste and environmental samples to determine the substances present at a site and whether they are being released to the environment. The objective of the SI is to identify which sites have a high probability of qualifying for the NPL [National Priority List]. A second objective is to identify sites posing immediate health or environmental threats which require emergency response.*
>
> ***Remedial Investigation (RI):** An RI is conducted at all NPL sites. The RI is a field investigation to characterize the nature and extent of contamination at a site. The RI supports development, evaluation, and selection of the appropriate response alternative.*

> ***Feasibility Study (FS):*** *Based on the data collected during the RI, options for final remedial actions are developed and evaluated in the FS. The most viable cleanup options are evaluated based on several criteria: ability to protect human health and the environment; long- and short-term effectiveness; ability to comply with applicable State and Federal requirements; ability to reduce waste toxicity, mobility, or volume; implementability; State and community acceptance; and cost."*

Typically, detailed Human Health Risk Assessments and possibly Ecological Risk Assessments are performed during the RI stage following U.S. EPA and State guidance.

Once notification of knowledge of a release of a hazardous substance at levels exceeding prescribed volumetric standards has been made to a responsible government agency, the lead government agency will conduct a Pre-CERCLA Screening (PCS) process to confirm that the CERCLA process applies to the release. During this process, the lead regulatory agency can make the determination that there is sufficient documentation clearly demonstrating no likelihood of a release that could cause significant adverse environmental or human health impacts (U.S. EPA 2016). Examples of sufficient documentation may include, but are not limited to (U.S. EPA 2016):

- A completed removal action of all sources and releases with documentation of no remaining contamination due to the site release;
- Documentation showing no occurrences of hazardous substance releases;
- A comprehensive remedial investigation or equivalent data showing no release above applicable or relevant and appropriate requirements (ARARs) (i.e., numeric thresholds established by State or Federal regulatory agencies or laws); or
- A completed EPA-approved risk assessment showing no risk.

If the lead regulatory agency concludes that CERCLA applies to a release of a hazardous substance, the site is added to U.S. EPA's CERCLIS active inventory database of CERCLA sites. Next, completion of the Site Assessment process is conducted including completion of a PA, and potentially an SI, RI, and FS to investigate the contamination and determine the appropriate removal or remedial action if necessary. Per the Superfund Amendments and Reauthorization Act (SARA) including Title III, the Emergency Response and Community Right-to-Know Act (EPCRA), the CERCLA cleanup process is a public process with various required steps involving public input into the investigation and cleanup decision-making process.

State

CEQA

The CEQA Guidelines are required to define a "significant effect on the environment" as occurring where, among other things, "the environmental effects of a project will cause substantial adverse effects on human beings, either directly or indirectly" (Public Resources Code, § 21083[b][3]).

In *California Building Industry Association (CBIA) v. Bay Area Air Quality Management District (BAAQMD)* 62 Cal.4th 369 (2015), the Court found that a lead agency is required to evaluate the existing condition, or the presence of contamination in the soil, as part of its environmental review, because new ground disturbance could threaten dispersal of any settled contamination.

California Environmental Protection Agency (Cal/EPA)/Office of Emergency Services

The California Environmental Protection Agency (Cal/EPA) establishes regulations governing the use of hazardous materials in the State to protect air, water, and soil, as well as proper disposal and cleanup of hazardous waste. The Office of Emergency Services (OES) coordinates State and local agencies and resources for educating, planning, and warning citizens of hazardous materials and related emergencies, including organized response efforts in case of emergencies.

California Department of Toxic Substances Control (DTSC)

DTSC is a branch of Cal/EPA and regulates cleanup of hazardous substances and wastes, oversees remedial investigations, protects drinking water from toxic contamination, and warns the public that could potentially be exposed to listed carcinogens.

California Highway Patrol/California Department of Transportation

The California Highway Patrol (CHP) and California Department of Transportation (Caltrans) have primary regulatory responsibility for the transportation of hazardous wastes and materials.

California Occupational Safety and Health Administration (CalOSHA)

The California Occupational Safety and Health Administration (CalOSHA) is responsible for promulgating and enforcing State health and safety standards and implementing the Federal Occupational Health and Safety Act as well as the California Occupational Health and Safety Act. For example, CalOSHA's regulatory purview includes provisions to minimize the potential for release of asbestos and lead during construction and demolition activities.

Regional Water Quality Control Board (RWQCB)

One of nine regional boards in the State, the Los Angeles Regional Water Quality Control Board (RWQCB) protects surface and groundwater quality from pollutants discharged or threatened to be discharged to the Waters of the State. The RWQCB issues and enforces the National Pollutant Discharge Elimination System (NPDES) permits and regulates leaking underground storage tanks and other sources of groundwater contamination. More details on the NPDES program are described in Chapter 13.0, Hydrology and Water Quality.

South Coast Air Quality Management District (SCAQMD)

The South Coast Air Quality Management District (SCAQMD) regulates the demolition of buildings and structures that may contain asbestos. The SCAQMD is vested with the authority to regulate airborne pollutants through both inspection and law enforcement and is to be notified 10 days in advance of any proposed demolition or abatement work.

Specifically, SCAQMD Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities) requires work practices that limit asbestos emissions from building demolition and renovation activities, including the removal and disturbance of ACM. Rule 1403 also requires surveys of any facility being demolished or renovated for the presence of all friable and Class I and Class II non-friable ACM.

California Health and Safety Code (HSC), Division 20, Chapter 6.8, Hazardous Substances Account

Chapter 6.8 of Division 20 of the California Health and Safety Code (HSC) also establishes a program for State cleanup processes to provide for response authority for releases of hazardous substances, including spills and hazardous waste disposal sites, that pose a threat to the public health or the environment. Section 25319.5 of Chapter 6.8 of the HSC requires the preparation of a Preliminary Endangerment Assessment (PEA) to determine if a past release has occurred on a site and if it has the potential to result in a threat to public health or the environment. PEAs contain much of the information required in PA/SIs under CERCLA (DTSC 2015), but also involve completion of screening level Human Health Risk Assessments and possibly Ecological Risk Assessments. Completion of a PEA is a formal step in the State cleanup process and can also be used to satisfy AAI under CERCLA (DTSC 2015).

DTSC oversees the PEA process and grants some flexibility regarding the focus of the PEA (DTSC 2015). As under CERCLA, the PEA process is a public process involving public noticing and a public comment period (DTSC 2015).

Local

Los Angeles County Department of Environmental Health

The Los Angeles County Department of Environmental Health operates the Household and Small Business Hazardous Waste Collection Program.

Los Angeles County Fire Department (LACFD)

The Los Angeles County Fire Department operates the Community Emergency Response Team (CERT) program. The Program trains and certifies members of the public in basic emergency response and organizational skills, including light fire suppression, hazardous materials awareness, first aid, light search and rescue techniques, and disaster response assistance.

> ***LACFD, Health Hazardous Materials Division (HHMD).*** The HHMD requires a business plan to be prepared, submitted, and implemented by any business handling hazardous materials or a mixture containing a hazardous material. The HHMD requires business plans for all hazardous waste generators, regardless of quantity generated, and for any business that uses quantities of hazardous materials, including insecticides, fungicides, rodenticides, and Class I explosives. County inspections reduce risks associated with exposure to hazardous materials and adverse effects on the environment. The federal government and the State of California require all businesses that handle more than a specified amount of hazardous materials or extremely hazardous materials to submit a business plan to its local Certified Unified Program Agency (CUPA). The Monrovia Fire Department is the local CUPA. The Site Mitigation Unit of the HHMD has been delegated some authority by DTSC to oversee the investigation and remediation of certain contaminated sites undergoing voluntary cleanups in Los Angeles County under Chapter 6.5 of Division 20 of California Health and Safety Code (LACoFD 2019).

Monrovia Fire and Rescue

Monrovia Fire and Rescue is the local lead for emergency response in the City, although mutual aid agreements exist for neighboring cities and LACFD. There are two fire stations in Monrovia; Fire Station 102 is approximately 0.5 mile southeast of the Project area. More discussion on the impacts on Fire Protection Services is contained in Chapter 18.0, Public Services.

12.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts related to hazards and hazardous materials that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts. A program-level analysis was conducted for t ZCA Areas A and C and a project-level analysis was conducted for the proposed Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

12.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: Items IX (a) through (g), implementation of the Project would have a significant impact related to hazards and hazardous materials if it would:

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

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

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

(d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;

(e) For a project located within an airport Land Use Plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in or outside the Planning Area;

(f) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan; or

(g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

Impacts on emergency response (criteria [f]) and wildland fire (criteria [g]) are discussed in Chapter 18.0, Public Services, and are not discussed further in this Chapter.

12.2.2 Environmental Impacts

IMPACT HAZ-1 HAZARDOUS MATERIALS MANAGEMENT

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Construction under the Project would involve the temporary use and transport of fuels, lubricating fluids, solvents, paints, and other hazardous materials that have the potential to be spilled. However, implementation of standard Best Management Practices (BMPs) for management of hazardous materials during construction would be required through the land use clearance and building permit processes. Therefore, construction impacts on hazardous materials management would be less than significant.

Proposed new residential units under the Project would not be expected to result in an increased use of hazardous materials. Rather, replacement of residential uses for industrial uses would result in a decreased use in hazardous materials. Therefore, the Project is expected to result in a net benefit on hazardous materials management over the long term.

Mitigation Measures

No mitigation measures are required.

IMPACT HAZ-2 HAZARDOUS WASTE

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Trichlorofluoromethane, a refrigerant, was detected in one soil gas sample. No soil gas regulatory guidelines are currently established for the detected refrigerant (see Appendix G). In addition, tertiary-butyl alcohol (TBA) was detected in one soil sample, but a deeper sample in the same boring was non-detect for volatile organic compounds indicating very localized contamination on the soil surface. In addition, the organochlorine pesticide, Endosulfan I, was detected in one composite soil sample at concentrations below available regulatory guidelines (i.e., Regional Screening Levels, please see Appendix G). The peak concentration of Endosulfan I detected was 5.5 µg/kg, a small fraction of the Regional Screening Level of 370,000 µg/kg for residential areas. Metals were also detected in soil samples, but at levels below applicable regulatory guidelines (see Appendix G). Other than trichlorofluoromethane discussed above, there were no other elevated concentrations of target contaminants, detected in soil gas or soil during the investigation.

Detection of trichlorofluoromethane in soil vapor, and detection of tertiary-butyl alcohol (TBA) and Endosulfan I in soil samples above Practical Quantitation Limits (PQLs), indicate a potential release of hazardous substances onto the subject property. This evidence of a release is subject to notification under CERCLA and the California Health and Safety Code Division 20, Chapter 6.8. As such, DTSC, or another regulatory agency delegated authority by DTSC to investigate and remediate the contaminated property (i.e., the Los Angeles County Fire Department's Health Hazardous Materials Division's Site Mitigation Unit) (herein referred to as designee), must be notified of the potential release and a Pre-CERCLA Screening/scoping process must be performed by DTSC, or designee, to determine if the potential release is subject to review under the CERCLA process and California Health and Safety Code Division 20, Chapter 6.8.

Project construction activities have the potential to exacerbate conditions by spreading contamination resulting in exposure of construction workers and future occupants of the buildings to hazardous substances. The presence of these materials will be addressed by the

applicant in accordance with all applicable laws, including without limitation as they relate to worker protection (e.g., pursuant to Occupational Safety and Health Administration ["OSHA"] and California-OSHA guidelines) and plans to excavate the TBA-affected soil for off-site disposal at a licensed disposal facility, in accordance with all applicable laws. Further, if the source of trichlorofluoromethane is identified, the applicant would be required to excavate all trichlorofluoromethane-impacted soil for off-site disposal at a licensed disposal facility, in accordance with all applicable laws.

However, failure to fully investigate and remove or remediate the contamination as required pursuant to CERCLA and the California Health and Safety Code Division 20, Chapter 6.8, as dictated by DTSC or its designee, would potentially result in exposure of construction workers or future residents to hazardous substances having the potential to cause adverse health effects. Without mitigation, impacts would be significant.

Similarly, potential releases of hazardous substances within ZCA Areas A and C and failure to fully investigate and remove or remediate the contamination as required pursuant to CERCLA and California Health and Safety Code Division 20, Chapter 6.8, as dictated by DTSC or its designee, would potentially result in exposure of construction workers or future residents to hazardous substances having the potential to cause adverse health effects. Without mitigation, impacts would be significant.

Mitigation measures HAZ-1 and HAZ-2 require compliance with the CERCLA and California Health and Safety Code Division 20, Chapter 6.8 processes for the investigation and removal or remediation of contamination on the Project site, if required, prior to grading. With implementation of these mitigation measures, the hazardous substances detected on the Project site would be effectively addressed and worker protection and future residents would be safeguarded.

Finally, one existing residence in the Alexan Foothills Specific Plan area (at 418 W. Evergreen), is known to contain asbestos-containing material and lead-based paint. Additional structures older than 1950 in ZCA Areas A and C may also contain asbestos-containing material and/or lead-based paint. Demolition of these structures without proper testing and abatement of these materials would be a significant impact. Therefore, implementation of mitigation measure MM HAZ-3 shall be required to properly test for and abate ACM and LBP in the Project area. With implementation of this measure, ACM and LBP impacts would be reduced to less than significant levels.

Mitigation Measures

Mitigation measure MM HAZ-1 applies to the Alexan Foothills Specific Plan. Mitigation measure MM HAZ-2 applies to future development within ZCA Areas A and C. Mitigation measure MM HAZ-3 applies to both.

MM HAZ-1: To the extent required under law on the concentrations detected a the Project, the Department of Toxic Substances Control (DTSC), or another regulatory agency delegated authority by DTSC to investigate and remediate the contaminated property (i.e., the Los Angeles County Fire Department's Health Hazardous Materials Division's Site Mitigation Unit) (herein referred to as designee), shall be notified of the results of the results of the Phase I Environmental Site Assessments (ESA) and Phase II (ESA) prepared for the Alexan Foothills Specific Plan. All requirements of DTSC, or its designee, shall be complied with prior to issuance of grading and demolition permits for the portion of the development subject to CERCLA or California Health and Safety Code Division 20, Chapter 6.8. The TBA-impacted soil will be excavated for off-site disposal at a licensed disposal facility, in accordance with all applicable laws. In addition, soil sampling will be performed in the vicinity of the

trichlorofluoromethane impacts to soil vapor and, if the source of trichlorofluoromethane in soil is identified, the trichlorofluoromethane-affected soil will also be excavated for off-site disposal at a licensed disposal facility, in accordance with all applicable laws. **Requirements and Timing:** The measures specified above shall be performed prior to grading and demolition in the portions of the development subject to CERCLA or California Health and Safety Code Division 20, Chapter 6.8 **Monitoring:** To the extent that contaminant concentrations are detected at levels exceeding prescribed volumetric thresholds, prior to issuance of grading and demolition permits for any portion of the development subject to CERCLA or California Health and Safety Code Division 20, Chapter 6.8, City Planning shall obtain documentation that DTSC, or its designee, signs off and approves of the development to commence grading and demolition.

MM HAZ-2. Prior to receipt of land use clearance for developments involving ground disturbance in ZCA Area A and C, a Phase I Environmental Site Assessment (ESA) must be performed in accordance with ASTM standards to determine the potential for contamination at the project site and need for further investigation or cleanup. If results of the Phase I ESA indicate the need for further investigation, a Phase II ESA shall be performed to further determine the nature and extent of contamination and forwarded to the DTSC, or another regulatory agency delegated authority by DTSC to investigate and remediate the contaminated property (i.e., the Los Angeles County Fire Department's Health Hazardous Materials Division's Site Mitigation Unit) (herein referred to as designee). If a Phase II ESA is required, all requirements of DTSC, or its designee, shall be complied with prior to issuance of grading and demolition permits for the portion of the development subject to CERCLA and the California Health and Safety Code. **Requirements and Timing:** The measures specified above shall be performed prior to grading and demolition in the portions of the development subject to CERCLA and California Health and Safety Code Division 20, Chapter 6.8. **Monitoring:** Prior to issuance of grading and demolition permits for any portion of the development subject to CERCLA and California Health and Safety Code, City Planning shall obtain documentation that DTSC, or its designee, signs off and approves of the development to commence grading and demolition.

MM HAZ-3. Prior to demolition of structures older than 1950 in the Project area, a survey for lead-based paint (LBP) and asbestos containing material (ACM) shall be performed. Prior to issuance of demolition or building permits, copies of the survey report(s) shall be submitted to the City of Monrovia for review and sign off. Prior to the start of demolition or construction, the applicant shall provide the City with copies of all notifications submitted to the South Coast Air Quality Management District (SCAQMD) for proposed demolition, as well as documentation of agency sign off on any abatement activities completed. **Requirements and Timing:** A LBP and ACM survey report shall be submitted to the City for review and approval prior to issuance of demolition and building permits. Notifications shall also be submitted to the SCAQMD prior to issuance of demolition and building permits. Documentation of signoff by the SCAQMD on any abatement activities performed shall be provided prior to City sign off on demolition or construction. **Monitoring:** City staff shall review and approve of LBP and ACM reports and shall confirm notifications are made to the SCAQMD prior to issuance of demolition or building permits. City staff shall confirm that the SCAQMD has signed off on any abatement activities prior to City sign off on demolition or construction.

IMPACT HAZ-3 RADIOFREQUENCY RADIATION

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The two existing telecommunications towers at 410 W. Evergreen Avenue were located and oriented to comply with FCC regulations and Chapter 17.46, Wireless Telecommunications Facilities, of the Monrovia Municipal Code, which ensures that exposure limits to workers and to the public are met. Existing protective fencing and warning signs are in place to ensure the public adheres to safe setbacks from the cell towers. No new structures are currently proposed in closer proximity than existing structures to the two existing telecommunications towers in the Alexan Foothills Specific Plan area or in ZCA Areas A and C.

Project features within the Alexan Foothills Specific Plan have also been designed around the telecommunications towers and the existing structures beneath them to reflect they are proposed to remain in place. However, new buildings associated with the Alexan Foothills Specific Plan area would be taller than existing structures near the telecommunications towers. In addition, one new structure located near the towers to the southwest would incorporate a rooftop deck for use by residents. Therefore, RF radiation emissions were modeled for the existing telecommunications towers to determine exposure levels for the new development both on the ground and at the elevation of the rooftop decks (EBI 2018). Table 12-2 presents the results of modeled RF emissions as percentages of the maximum possible exposure (MPE) limits set by the FCC.

Table 12-2 Modeled RF Emissions at Resident Locations Compared with Maximum Permissible Exposure (MPE) Limits

Location	% of FCC General Public/Uncontrolled Exposure Limit	% of FCC Occupational/Controlled Exposure Limit	Power Density (mW/cm^2)
All Carrier Equipment			
Ground	10.20	2.04	0.1020
Roof Deck	1.29	0.26	0.0129

Using worst-case predictive modeling, it was determined that exposure limits would be met - that the new proposed development would not create or expose people to a hazardous situation or exacerbate public or worker exposure to RF radiation (EBI 2018). The RF Report does recommend that members of the public maintain a minimum of a 3-foot setback from the antenna; this measure is already met through the existing protective fencing and signage. Therefore, no members of the public would be expected to be that close to the antenna, and, this setback is met. Therefore, potential impacts from RF radiation would be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT HAZ-4 AIRPORTS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

There are no private or public airports near the Project area. Therefore, implementation of the Project would not result in a safety hazard related to airports and would not conflict with any airport Land Use Plan. No impact would occur.

Mitigation Measures

No mitigation measures are required.

12.2.3 Impact Conclusions

With implementation of mitigation measures MM HAZ-1 through MM HAZ-3, potentially significant hazards and hazardous materials/waste impacts would be reduced to less than significant levels.

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
A/m	amperes per meter
ACM	asbestos containing materials
ASTM	American Society for Testing and Materials
BMPs	Best Management Practices
Cal/EPA	California Environmental Protection Agency
CalOSHA	California Occupational Safety and Health Administration
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Emergency Response, Compensation, and Liability Act
CERT	Community Emergency Response Team
CHP	California Highway Patrol
CUPA	Certified Unified Program Agency
DOT	Department of Transportation
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
ESA	Environmental Site Assessment
FCC	Federal Communications Commission
GP	General Plan
HHMD	Health Hazardous Materials Division
LACFD	Los Angeles County Fire Department
LBP	lead-based paint
LUST	Leaking underground storage tank
mHz	megahertz
MPE	maximum permissible exposure
mW/cm^2	milliwatts per square centimeter
NIH	National Institutes of Health
NPDES	National Pollutant Discharge Elimination System
OES	Office of Emergency Services
OSHA	Occupational Safety and Health Administration
PQL	Practical Quantitation Limits
REC	recognized environmental condition
RF	radiofrequency radiation

RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District
SWRCB	State Water Resources Control Board
V/m	volts per meter
ZCA	Zoning Code Amendment
µg/kg	micrograms per kilogram

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13. HYDROLOGY AND WATER QUALITY

This EIR Chapter describes existing hydrology and water quality conditions in the Project area. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project and describes potential impacts that could result from the Project.

This analysis is based in part upon a Hydrology and LID Report prepared for the Alexan Foothills Specific Plan (PSOMAS 2018) (Appendix H), a Water Supply Assessment (WSA) prepared for the Alexan Foothills Specific Plan (Stetson Engineers 2018) (Appendix K), and various sub-pages available on the Monrovia's website at:

http://www.cityofmonrovia.org/your-government/public-works

Impacts on groundwater supply and other water-supply related issues are discussed also in EIR Chapter 20 (Utilities and Service Systems).

13.1 SETTING

13.1.1 Environmental Setting

Groundwater

The Project area is within the Main San Gabriel groundwater basin, Monrovia's primary water source. The Main San Gabriel Basin freshwater storage capacity is estimated to be approximately 8.7 million acre-feet (AF). Approximately 1.0 million AF of this groundwater basin is actively managed to provide the local public water supply, including importing supplemental water to recharge the basin. The City pumps groundwater from five active wells with a combined capacity of approximately 10,000 gallons per minute (gpm). Water from these wells currently serves approximately 36,600 people with 9,600 service connections.

Surface Hydrology and Water Quality

The Project area contains commercial, industrial, and residential buildings, paved parking surfaces, other hardscape, and landscaping. The City's drainage channel segment adjacent to the Alexan Foothills Specific Plan and within the Project area does not typically contain water (PSOMAS 2017). At the Mayflower Avenue/Evergreen Avenue intersection northwest of the Project area, water within the City's channel is normally routed along Mayflower Avenue within a drainage system maintained by Los Angeles County. However, during high flow events, water will continue down the portion of the City's channel within the Project area. South of the Project area, the City's channel continues below Genoa Street before entering the Peck Road Channel, a reinforced concrete pipe, maintained by Los Angeles County.

Under existing conditions, the Alexan Foothills Specific Plan area drains in a southerly direction through a concrete swale and pavement and sheet flow into the southwest existing concrete channel. No formal stormwater retention facilities are located in the Project area other than the drainage channel. Existing surface hydrologic conditions in the Alexan Foothills Specific Plan area are depicted in Figure 13-1 (PSOMAS 2018) and summarized in Table 13-1.

Table 13-1 Specific Plan Pre-Developed/Existing Condition in a 50-Year Storm Frequency

Drainage Area	Area (acres)	Imperviousness	Q_{50} (cfs)	V_{50} (acre-feet)
1A	6.72	90%	20.7	3.33

Source: Psomas 2018 (see Appendix H).
Notes:
Cfs cubic feet per second
Q_{50} Flow rate during a 50-year storm
V_{50} Volume during a 50-year storm

Flooding and Other Hydrologic Hazards

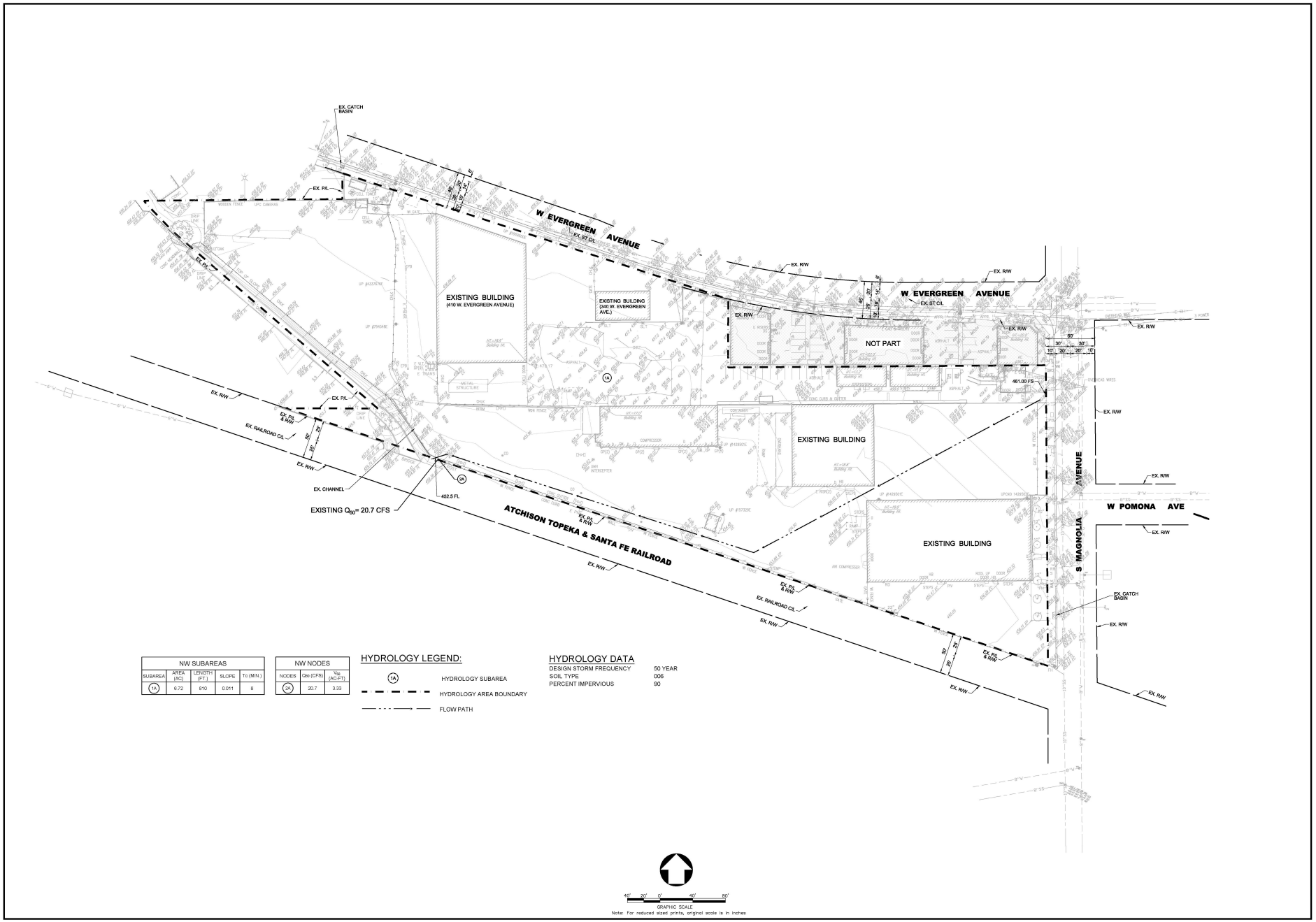
According to the San Gabriel Valley Association of Cities (2018), no area within Monrovia is subject to 100-year floods. A review of Federal Emergency Management Agency (FEMA) maps (FEMA 2018), also confirms that the Project area is not located within a mapped floodplain.

According to the Safety Element of the City's General Plan (City of Monrovia 2002), the Project area is within the inundation areas of the Santa Anita Dam, and the Sawpit Debris Basin. The combined capacity of the Santa Anita Dam and Sawpit Debris Dam is 1,852 AF. Santa Anita Dam, built in 1927, is located northwest of downtown Monrovia and has a capacity of 1,376 AF. The Santa Anita Wash leads from the Santa Anita Dam and is located along Monrovia's western boundary. The Sawpit Debris Basin is located in the Monrovia foothills and has a capacity of 476 AF. The Sawpit Wash leads from the Sawpit Debris Basin and is located in east Monrovia. Both the Santa Anita Wash and Sawpit Wash generally flow in a southerly direction and converge at a point south of Live Oak Avenue outside of city limits. Both drainages are maintained by the Los Angeles County Flood Control District (LACFCD).

A seiche is typically caused when strong winds and rapid changes in atmospheric pressure push water from one end of a body of water to the other. When the wind stops, the water rebounds to the other side of the enclosed area. The water then continues to oscillate back and forth for hours or even days. Earthquakes, tsunamis, or severe storm fronts may also cause seiches. In the context of this Project area, a seiche could occur in the body of water behind Santa Anita Dam.

13.1.2 Regulatory Setting

This Section briefly summarizes the various Federal, State, regional, and local agencies' regulations and policies related to protection of groundwater and surface water quality, and protection against flooding and other hydrologic hazards.



Source: PSOMAS 2018

Figure 13-1 Existing Surface Hydrology Map, Alexan Foothills Specific Plan Area

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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Federal

Clean Water Act

The Federal Clean Water Act (1972) (CWA) is the primary Federal Law that protects the quality of the nation's surface waters, including lakes, rivers, aquifers, and coastal areas. The CWA focuses on the protection of surface water, but certain sections also apply to groundwater. Under the CWA, the U.S. Environmental Protection Agency (EPA) sets national standards and effluent limitations, and delegates many regulatory responsibilities to the California State Water Resources Control Board (SWRCB). The CWA established a permit system based on the concept that all discharges into the nation's waters are unlawful unless specifically authorized. The CWA contains several provisions to protect water quality, including Sections 303(c)(2)(B), 303(d), 401, 402(p), and 404, and the Toxics Rule. Section 303(d) of the CWA is discussed briefly below.

National Pollution Discharge Elimination System (NPDES). This is a program created for consistency with the CWA. The Act prohibits discharging "pollutants" through a "point source" into a "water of the United States" unless they have an NPDES permit. The permit contains limits on what can be discharged, creates monitoring and reporting requirements, and implements other provisions to ensure that the discharge does not diminish water quality and/or people's health.

CWA Section 303(d). Section 303(d) of the CWA requires that States develop a list of water bodies that do not meet water quality standards (i.e., impaired water bodies), establish priority rankings for waters on the list, and develop action plans, called Total Maximum Daily Loads (TMDLs), to improve water quality. The list of impaired water bodies is revised periodically (typically every two years). Many entities provide data to the SWRCB to compile the 303(d) List and to develop TMDLs.

National Flood Insurance Act

FEMA is responsible for managing the National Flood Insurance Program (NFIP), which makes federally-backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.

The NFIP, established in 1968 under the National Flood Insurance Act, requires that participating communities adopt certain minimum floodplain management standards, including restrictions on new development in designated floodways, a requirement that new structures in the 100-year flood zone be elevated to or above the 100-year flood level (known as base flood elevation), and a requirement that subdivisions be designed to minimize exposure to flood hazards.

To facilitate identifying areas with flood potential, FEMA has developed Flood Insurance Rate Maps that can be used for planning purposes, including floodplain management, flood insurance, and enforcement of mandatory flood insurance purchase requirements. Los Angeles County is a participating jurisdiction in the NFIP and, therefore, all new development must comply with the minimum requirements of the NFIP.

State

Porter-Cologne Act

Under the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), the SWRCB has authority over state water rights and water quality policy. Porter-Cologne also established nine RWQCBs to oversee water quality on a day-to-day basis at the local/regional level. RWQCBs engage in a number of water quality functions in their respective regions. One of the most important responsibilities is preparing and periodically updating the water quality control plans. Each Plan establishes:

- Beneficial uses of water designated for each water body to be protected;
- Water quality standards, known as water quality objectives, for both surface water and groundwater; and
- Actions necessary to maintain these standards in order to control non-point and point sources of pollution to the State's waters.

Permits issued to control pollution (i.e., waste discharge requirements) must implement Basin Plan requirements (i.e., water quality standards), taking into consideration beneficial uses to be protected. The RWQCBs regulate all pollutant or nuisance discharges that may affect either surface water or groundwater. Any person proposing to discharge waste within any region must file a report of waste discharge with the appropriate RWQCB. No discharge may take place until the RWQCB issues waste discharge requirements or a waiver of the waste discharge requirements.

The State Water Resources Control Board and the nine RWQCBs protect water quality in the State of California. Monrovia is under the jurisdiction of the Los Angeles RWQCB (Region 4) (herein referred to as RWQCB).

Title 22 of the California Code of Regulations

California Code of Regulations Title 22, Division 4 establishes both maximum contaminant levels (MCLs) and secondary MCLs that shall not be exceeded in water supplied to the public. This section is equivalent to the federal Safe Drinking Water Act. Division 4.5 establishes standards for treatment, storage, and disposal facilities (TSDF) constructed, operated, or maintained within certain distances of fault lines, floodplains, or the maximum high tide and standards for establishing groundwater and underground water above the water table zone protection.

California Water Code 10912

Section 10912 of the Water Code requires a city or county that determines that a project, as defined, is subject to CEQA to identify any public water system that may supply water for the project and to request those public water systems to prepare a specified water supply assessment.

Local

Municipal Regional Stormwater NPDES Permit

On November 8, 2012, the RWQCB adopted Order R4-2012-0175 (Waste Discharge Requirements for Municipal Separate Storm Sewer System) (MS4) Discharges within Coastal Watersheds of Los Angeles County (MS4 Permit). Order R4-2012-0175 became effective on December 28, 2013 and serves as the NPDES permit for stormwater and non-stormwater discharges originating from the Los Angeles County Region. The permit covers the land areas in the Los Angeles County Flood Control jurisdiction, unincorporated areas of Los Angeles County, and 84 cities within the County of Los Angeles. The City of Monrovia is included in the MS4 Permit as a permittee under Order R4-2012-0175. The City of Monrovia is a member of the Los Angeles County Storm Water Program, which regulates and controls storm water and urban runoff into the Los Angeles River, San Gabriel River, tributaries to these rivers, and ultimately the Pacific Ocean.

The MS4 permit prohibits future projects from causing an increase in the volume or rate of stormwater runoff from a project site (i.e., prohibits hydromodification of a project site), and requires treatment of runoff from a project site. To accomplish this, the RWQCB and Los Angeles County encourage the use of Low Impact Development (LID) technology to infiltrate and treat stormwater runoff during operation of new projects (i.e., through bioswales, use of pervious pavers etc.). In order to comply with the current MS4 Permit, a “Low Impact Development (LID) Standards Manual” was developed by the County (2014) that details actions for compliance with the MS4 Permit.

13.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts on hydrology and water quality that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts. A program-level analysis was conducted for the proposed ZCA Areas A and C and a project-level analysis was conducted for the proposed Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

13.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: X (a) through (j), implementation of the Project would have a significant impact related to hydrology and water quality if it would:

(a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface water or groundwater quality;

(b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin;

(c) Substantially alter the existing drainage pattern of the project area or vicinity, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

i) result in substantial erosion or siltation in or outside the project area;

ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;

iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of additional runoff; or

iv) impede or redirect flood flows.

(d) Result in a flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or

(e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

Impacts on groundwater are discussed in EIR Chapter 20 (Utilities and Service Systems).

13.2.2 Analysis Methodology

The methodology for evaluating potential environmental impacts related to hydrology and water quality followed this basic sequence:

(1) Background reports were evaluated to identify existing environmental conditions and issues related to hydrology and water quality, including the regulatory framework that applies to these issues.

(2) The CEQA Statute and Guidelines were consulted to identify environmental impact topics and issues that should be addressed in the EIR.

(3) The Project was analyzed to determine if any significant impacts to hydrology and water quality would occur.

(4) For potential environmental impacts, mitigation measures were designed to avoid or reduce any significant impact to a less than significant level, where possible.

13.2.3 Environmental Impacts

IMPACT HYD-1 SURFACE HYDROLOGY AND WATER QUALITY

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

This discussion evaluates the potential of the Project to:

- Violate any water quality standards or waste discharge requirements;
- Conflict with a water quality control plan;

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

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

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

- Otherwise substantially degrade water quality.

The majority of the Project area is currently developed with hardscape and structures, including both the Alexan Foothills Specific Plan area as well as ZCA Areas A and C. However, buildout of the Project area has the potential to increase the amount of impervious surfaces, which would cause an increase in the volume and rate of stormwater runoff and potentially result in degradation of water quality in offsite water bodies. Future buildout of the Project would be subject to MS4 Permit requirements and Standard Condition SC HYD-1 would ensure that future development does not result in hydromodification of the area. Therefore, with implementation of Standard Condition SC HYD-1 would ensure that operational impacts on water quality under buildout of the full Project would be less than significant.

In addition, preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) would be required for construction of developments greater than one acre pursuant to an NPDES Permit for Construction Activities. With implementation of Best Management Practices (BMPs) and other measures that would be required through this process, water quality impacts associated with construction activities in the Project area would also be less than significant.

Alexan Foothills Specific Plan

A Hydrology and LID report was completed for the Alexan Foothills Specific Plan (PSOMAS 2018) to document compliance with SC HYD-1. The proposed site plan for the Alexan Foothills Specific Plan was divided into three drainage areas (PSOMAS 2018): the northwest and southwest areas, and a northeast area. The northwest area drains to an existing street catch basin in S. Evergreen Avenue. The northeast area drains to a street catch basin in S. Magnolia Avenue. The southwest area drains to an existing 10-foot wide open drainage channel owned and operated by the City of Monrovia.

In the Alexan Foothills Specific Plan area, the applicant intends to manage stormwater runoff from the Specific Plan area through installation of several dry wells. Figures 13-2 and 13-3 depict post-development hydrology conditions as well as proposed LID improvements and stormwater Best Management Practices (BMPs). The Hydrology and LID report concludes that these dry wells would adequately capture and treat runoff generated by buildout of the Alexan Foothills Specific Plan. The report concludes that post-development conditions would decrease the amount of runoff from current conditions with the inclusion of the proposed infiltration dry wells. Table 13-2 depicts post-development conditions and Table 13-3 compares them against pre-development conditions in the Alexan Foothills Specific Plan area. Table 13-4 depicts performance of the

proposed dry wells. Therefore, the Alexan Foothills Specific Plan would result in less than significant impacts on water quality during operation of the Alexan Foothills Specific Plan.

Table 13-2 Post-Development of Alexan Foothills Specific Plan in a 50-Year Storm Frequency

Drainage Subarea	Area (acres)	Imperviousness	Q_{50} (cfs)	V_{50} (acre-feet)
Northwest	1.71	90%	4.1	0.42
Northeast	3.58	90%	6.9	1.08
Southwest	1.43	90%	3.6	0.42
Total	**6.72**	**90%**	**14.6**	
Source: Psomas 2018 (see Appendix H)				

Table 13-3 Comparison of Specific Plan Pre- and Post-Development Conditions in a 50-Year Storm Frequency

Drainage Subarea	Area (acres)	Q_{50} (cfs)
Pre-developed conditions	6.72	20.7
Post-developed conditions	6.72	15.3
Difference	**0**	**- 5.4**
Source: Psomas 2018 (see Appendix H)		

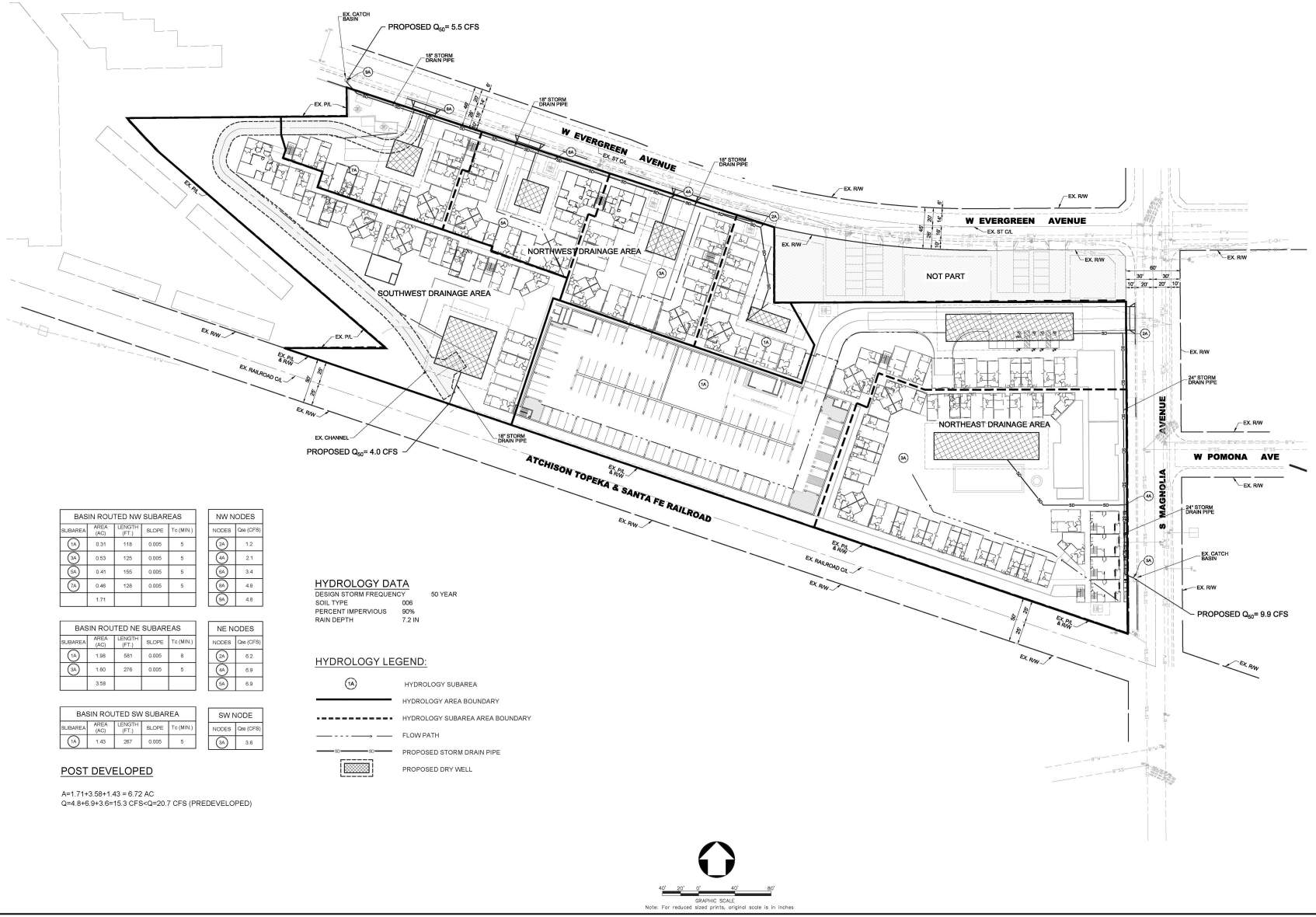
Table 13-4 Specific Plan Water Quality Volume / Dry Well Area Calculations

Drainage Subarea	Area (acres)	Water Quality Volume (cubic feet)	dmax (feet)[(A)]	Area Required (square feet)	Area Required (square feet)
1A	0.46	1,495	3.84	974	1,024
2A	0.41	1,332	3.84	868	900
3A	0.53	1,772	3.84	1,122	1,156
4A	0.31	1,008	3.84	657	676
5A	1.98	6,430	3.84	4,186	4,225
6A	1.60	5,196	3.84	3,383	3,480
7A	1.43	4,644	3.84	3,023	3,025
Total Site	**6.72**	**21,827**		**14,213**	**14,487**

Source: Psomas 2018 (see Appendix H)

Notes:

(A) Bottom of dry well is set at 15 feet below ground. It is subject to change per recommendations of soils engineer.



BASIN ROUTED NW SUBAREAS				
SUBAREA	AREA (AC)	LENGTH (FT.)	SLOPE	Tc (MIN.)
1A	0.31	118	0.005	5
3A	0.53	125	0.005	5
5A	0.41	155	0.005	5
7A	0.46	128	0.005	5
	1.71			

NW NODES	
NODES	Qas (CFS)
2A	1.2
4A	2.1
6A	3.4
8A	4.8
9A	4.8

BASIN ROUTED NE SUBAREAS				
SUBAREA	AREA (AC)	LENGTH (FT.)	SLOPE	Tc (MIN.)
1A	1.98	581	0.005	8
3A	1.60	276	0.005	5
	3.58			

NE NODES	
NODES	Qas (CFS)
2A	6.2
4A	6.9
5A	6.9

BASIN ROUTED SW SUBAREA				
SUBAREA	AREA (AC)	LENGTH (FT.)	SLOPE	Tc (MIN.)
1A	1.43	267	0.005	5

SW NODE	
NODES	Qas (CFS)
3A	3.6

POST DEVELOPED

A=1.71+3.58+1.43 = 6.72 AC
Q=4.8+6.9+3.6=15.3 CFS<Q=20.7 CFS (PREDEVELOPED)

HYDROLOGY DATA

DESIGN STORM FREQUENCY	50 YEAR
SOIL TYPE	006
PERCENT IMPERVIOUS	90%
RAIN DEPTH	7.2 IN

HYDROLOGY LEGEND:

- 1A — HYDROLOGY SUBAREA
- HYDROLOGY AREA BOUNDARY
- HYDROLOGY SUBAREA AREA BOUNDARY
- FLOW PATH
- PROPOSED STORM DRAIN PIPE
- PROPOSED DRY WELL

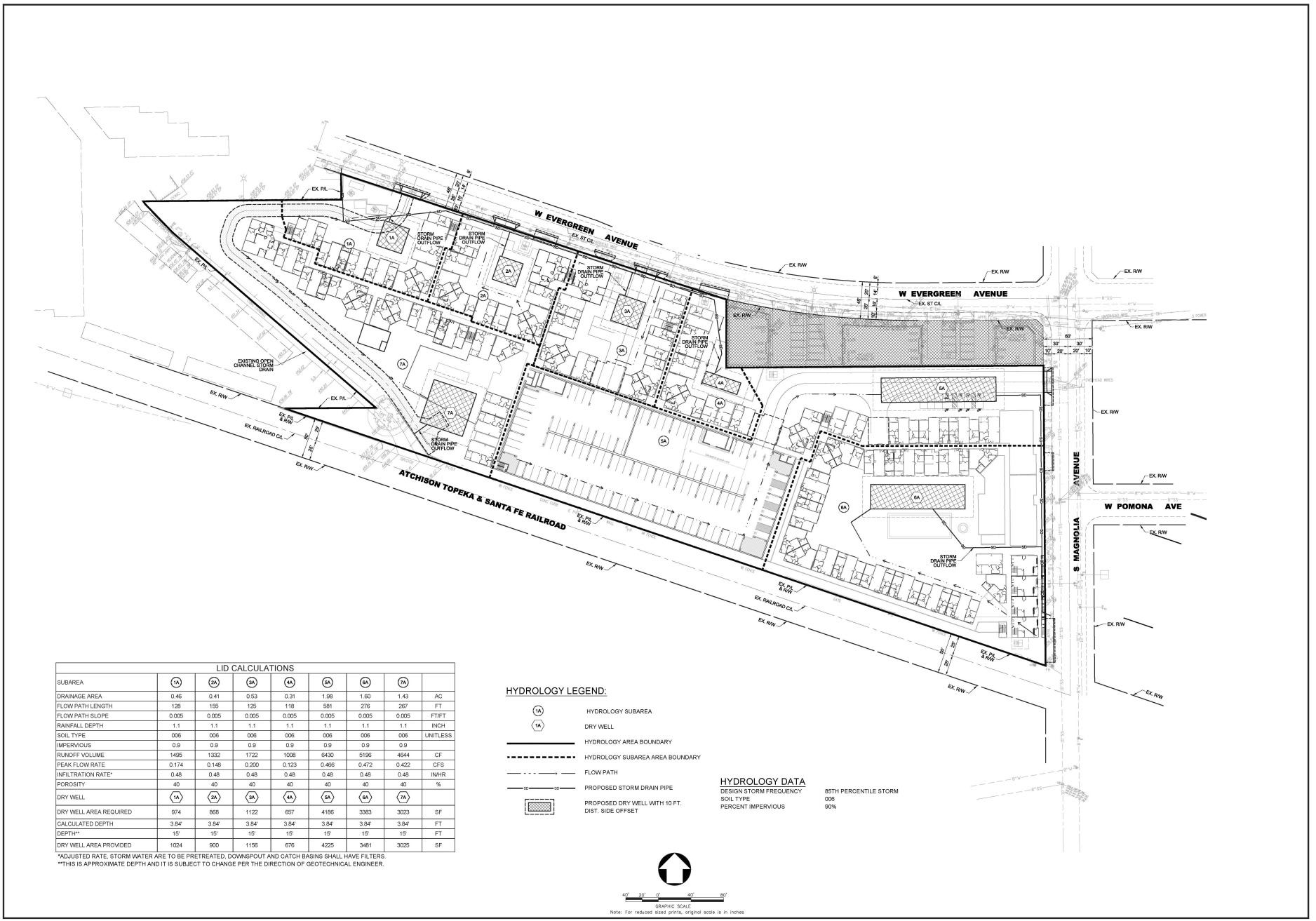
40' 20' 0' 40' 80'
GRAPHIC SCALE
Note: For reduced sized prints, original scale is in inches

Source: PSOMAS 2018

Figure 13-2 Post-Development Hydrology Map, Alexan Foothills Specific Plan

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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LID CALCULATIONS

SUBAREA	1A	2A	3A	4A	5A	6A	7A	
DRAINAGE AREA	0.46	0.41	0.53	0.31	1.98	1.60	1.43	AC
FLOW PATH LENGTH	128	155	125	118	581	276	267	FT
FLOW PATH SLOPE	0.005	0.005	0.005	0.005	0.005	0.005	0.005	FT/FT
RAINFALL DEPTH	1.1	1.1	1.1	1.1	1.1	1.1	1.1	INCH
SOIL TYPE	006	006	006	006	006	006	006	UNITLESS
IMPERVIOUS	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
RUNOFF VOLUME	1495	1332	1722	1008	6430	5196	4644	CF
PEAK FLOW RATE	0.174	0.148	0.200	0.123	0.466	0.472	0.422	CFS
INFILTRATION RATE*	0.48	0.48	0.48	0.48	0.48	0.48	0.48	IN/HR
POROSITY	40	40	40	40	40	40	40	%
DRY WELL	1A	2A	3A	4A	5A	6A	7A	
DRY WELL AREA REQUIRED	974	868	1122	657	4186	3383	3023	SF
CALCULATED DEPTH	3.84'	3.84'	3.84'	3.84'	3.84'	3.84'	3.84'	FT
DEPTH**	15'	15'	15'	15'	15'	15'	15'	FT
DRY WELL AREA PROVIDED	1024	900	1156	676	4225	3481	3025	SF

*ADJUSTED RATE, STORM WATER ARE TO BE PRETREATED, DOWNSPOUT AND CATCH BASINS SHALL HAVE FILTERS.
**THIS IS APPROXIMATE DEPTH AND IT IS SUBJECT TO CHANGE PER THE DIRECTION OF GEOTECHNICAL ENGINEER.

HYDROLOGY LEGEND:

- 1A — HYDROLOGY SUBAREA
- 1A — DRY WELL
- HYDROLOGY AREA BOUNDARY
- HYDROLOGY SUBAREA AREA BOUNDARY
- FLOW PATH
- PROPOSED STORM DRAIN PIPE
- PROPOSED DRY WELL WITH 10 FT. DIST. SIDE OFFSET

HYDROLOGY DATA

DESIGN STORM FREQUENCY	85TH PERCENTILE STORM
SOIL TYPE	006
PERCENT IMPERVIOUS	90%

GRAPHIC SCALE
Note: For reduced sized prints, original scale is in inches

Source: PSOMAS 2018

Figure 13-3 Preliminary LID/BMP Hydrology Map, Alexan Foothills Specific Plan

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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ZCA Areas A and C

As required in Standard Condition SC HYD-1, Finally, future buildout of remaining GP/ZCA areas would also be subject to the same requirements under the MS4 Permit as well as NPDES Permits for Construction Activities. Preparation of a Hydrology and LID report would be required for future development in those areas to document that the development would not result in hydromodification of the area. Approval of the drainage plans would be required prior to issuance of building permits. Therefore, operational and construction impacts on water quality for future development in ZCA Areas A and C would be less than significant.

Standard Conditions

Standard Condition SC HYD-1 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

SC HYD-1: Based upon the requirements of the City's Stormwater Management Ordinance, MMC 12.36 and the Los Angeles County Municipal Storm Water National Pollutant Discharge Elimination System (MS4 NPDES) Permit issued by California Regional Water Quality Control Board, Los Angeles Region, the following shall be incorporated into development applications:

- Minimize impacts from storm water runoff on the biological integrity of natural drainage systems and water bodies in accordance with requirements under the California Environmental Quality Act (California Public Resources Code Section 21100), Section 13369 of the California Water Code, Sections 319, 402(p), and 404 of the Clean Water Act, Section 6217(g) of the Coastal Zone Act Reauthorization Amendments, Section 7 of the Environmental Protection Act, and local governmental ordinances.
- Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground.
- Minimize the amount of storm water directed to impermeable surfaces.
- Minimize pollution emanating from parking lots through the use of appropriate treatment control using best management and good housekeeping practices.
- The applicant shall integrate Best Management Practices to ensure compliance with NPDES guidelines and the City's Stormwater Management Ordinance, MMC 12.36 to the satisfaction of the City Engineer, prior to the issuance of the grading permit. The design, implementation, construction activities and maintenance of the management devices shall mitigate and reduce pollutants in storm water discharges to the maximum extent practicable and shall be identified as on a "site specific mitigation plan." Site Specific Mitigation Plan must specifically address and provide best management practices (BMPs) either structural or non-structural to mitigate pollutants.
- The applicant or any successor in interest shall conduct annual maintenance inspections by the manufacturer or by a City approved inspector of all structural and/or treatment control storm water devices by following best management practices which shall also verify the legibility of all required stencils and signs which shall be repainted and labeled as necessary. Proof of such inspection shall be retained by the applicant or any successor in interest and a copy submitted to the City of Monrovia on a yearly basis.

Mitigation Measures

No mitigation measures are required.

IMPACT HYD-2 FLOODING AND OTHER HYDROLOGIC HAZARDS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

This discussion evaluates the potential of the Project to:

- Substantially alter the existing drainage patterns so as to impede or redirect flood flows; or

- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation

The Project area is not located within a 100-year flood hazard area. The Project area is, however, located within the inundation areas for the Santa Anita Dam, and Sawpit Debris Dam. A rupture of these dams (i.e., in the event of an earthquake, seiche, or catastrophic failure during a rain event) could result in inundation of the Project area. However, these reservoirs, as well as others in California, are continually monitored by various governmental agencies (such as the State of California Division of Safety of Dams and the U.S. Army Corps of Engineers) to guard against the threat of dam failure. Current design, construction practices, and ongoing programs of review, modification, or total reconstruction of existing dams are intended to ensure that all dams are capable of withstanding the maximum considered earthquake for the site. Therefore, the potential for dam failure is considered low. Also, evacuation plans have been developed in dam inundation areas by the County of Los Angeles Office of Emergency Management in emergency response plans. Therefore, impacts on safety as a result of a dam failure are also considered low. Impacts would be less than significant.

As the Project area is not adjacent to the water body behind the Santa Anita Dam, there would be no risk of direct impacts from a seiche on this water body.

Mitigation Measures

No mitigation measures are required.

13.2.4 Impact Conclusions

Compliance with the requirements of the MS4 Permit and NPDES Permits for Construction Activities would ensure that the Project would result in less than significant impacts on water quality. The Project would have less than significant impacts on flooding potential as well. No mitigation is required.

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
AF	acre-feet
BMP	Best Management Practice
CEQA	California Environmental Quality Act
cfs	cubic feet per second

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
CWA	Clean Water Act
dmax	Maximum depth of the facility
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
gpm	gallons per minute
GPA	General Plan Amendment
LACFCD	Los Angeles County Flood Control District
LID	Low Impact Development
MCL	maximum contaminant levels
MS4	Municipal Separate Storm Sewer System
NFIP	National Flood Insurance Program
NPDES	National Pollutant Discharge Elimination System
PD	Planned Development
RWQCB	Regional Water Quality Control Board
Q_{50}	Flow rate under a 50-year event
SWRCB	State Water Resources Control Board
SWPPP	Storm Water Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TSDF	treatment, storage, and disposal facilities
V_{50}	Flow volume under a 50-year event
WSA	Water Supply Assessment
ZCA	Zoning Code Amendment

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14. LAND USE AND PLANNING

This EIR Chapter describes existing land use and planning in the Project area. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project, describes potential impacts that could result from the Project, and includes mitigation measures that would avoid or reduce those potential impacts.

14.1 SETTING

The environmental and regulatory setting with respect to land use and planning is described generally within the City, as well as specifically at the Project area and its surroundings. The City's land use and zoning designation maps (City of Monrovia 2018 and 2010, respectively), along with the City's Land Use Element (City of Monrovia 2018), are used to describe these local conditions.

14.1.1 Environmental Setting

The City of Monrovia is approximately 14 square miles (8,960 acres) in size. The City is bounded by the City of Arcadia to the west, Los Angeles National Forest to the north, the Cities of Bradbury and Duarte to the east, and unincorporated Los Angeles County and the City of Irwindale to the south. As one of the older incorporated cities in Los Angeles County, Monrovia has very little undeveloped vacant land. Monrovia is largely a residential community that experienced most of its residential growth in the 1960s. Some vacant land exists in the hillside areas. However, Monrovia residents voted overwhelmingly in July 2000 to preserve open space and tax themselves to help buy hillside land from private owners to prevent further residential development.

The Project area comprises one City block and approximately 9.63 acres. The block is by bounded by West Evergreen Avenue to the north, South Magnolia Avenue to the east, South Mayflower Avenue to the west, and the METRO Gold Line light rail to the south.

The Project area is designated as Manufacturing under the City's Land Use Element. This allows for light manufacturing and limited heavy manufacturing uses. Additionally, under the current zoning, the entire Project area is designated as Manufacturing. Industrial uses are permitted in this zone, either by right or subject to a conditional use permit. Various commercial uses are also allowed under this zoning as well institutional uses, with the exception of cemeteries and government buildings. Under this zone, mobile home parks are the only residential uses allowed and require a conditional use permit. The current land uses within the Project area include a mix of light industrial, warehouse/storage, office, a church, single family residential, private surface parking, and two cellular towers.

The Project area is surrounded by a variety of land uses (Table 14-1). Single and multi-family residential land uses exist to the south and west of the Project area. The I-210 Freeway lies to the north of the Project area. The Station Square Transit Village lies east of the Project area across Magnolia Avenue. Specific land uses allowed within the Station Square Transit Village planning area include residential, commercial, office, light manufacturing, hospitality, open space, and parking. Older single-family residential and industrial land uses currently exist north of Pomona Avenue but are proposed for multi-family residential uses. Multi-family land uses,

known as the MODA Apartments at Station Square, lie south of Pomona Avenue and north of the railroad tracks. Station Square South lies south of the railroad tracks at the northeast corner of South Magnolia and West Duarte Road. This area is currently developed with older industrial uses, but a Specific Plan is approved for development of a transit-oriented development consisting of 296 residential units, including 6-live work units, public open space, a publicly accessible driveway and drop-off area for the adjacent METRO Gold Line Station in a portion of Peck Road, and parking.

Table 14-1: Surrounding Zoning and Land Use Designations

Direction	Zoning	Land Use
Project Area	Manufacturing	Manufacturing
North	I-210 Freeway	I-210 Freeway
South	Residential – High Density (across railroad tracks)	Residential – High Density (across railroad tracks)
East	Planned Development – 12 (Station Square Transit Village)	Planned Development
West	Residential - Medium Density - 2500	Residential – Medium

14.1.2 Regulatory Setting

Federal

There are no applicable federal regulations for this issue area.

State

General Plan Law (California Government Code Section 65300)

California Government Code Section 65300 regulates the substantive and topical requirements of General Plans. State Law requires each city and county to adopt a General Plan "for the physical development of the County or City, and any land outside its boundaries which bears relation to its planning." The California Supreme Court has called the General Plan the "constitution for future development." The General Plan expresses the community's development goals and embodies public policy relative to the distribution of future land uses, both public and private.

Since the General Plan affects the welfare of current and future generations, State Law requires that the plan take a long-term perspective (typically 15 to 25 years). The General Plan projects conditions and needs into the future and establishes long-term policy for day-to-day decision-making.

Policies of the General Plan are intended to guide most land use decisions. Pursuant to State Law, subdivisions, capital improvements, development agreements, and many other land use actions must be consistent with the adopted General Plan. In counties and general Law cities, zoning regulations and Specific Plans are required to conform to the General Plan. In addition, by preparing, adopting, implementing, and maintaining the General Plan, a city or county puts in place a policy framework that:

- Serves to identify the community's land use, circulation, environmental, economic and social goals and policies as they relate to land use and development;

- Provides a basis for local government decision-making, including decisions on development approvals and exactions;

- Provides residents and other community members with opportunities to participate in the planning and decision-making processes of their communities; and

- Informs residents, developers, decision-makers and other cities and counties of the ground rules that guide development within a particular community.

State Law requires General Plans to address seven mandatory Elements (or topics): Land Use, Circulation, Housing, Conservation, Open Space, Noise, and Safety. Jurisdictions may also adopt additional Elements that cover topics outside the seven mandated Elements (such as economic development and historic preservation). In addition to including mandatory Elements, a General Plan must be internally consistent; as described by State Law, policy conflicts cannot exist, either textual or diagrammatic, between the components of a General Plan. Different policies must be balanced and reconciled within the plan. The internal consistency requirement has five dimensions:

- **Equal Status among Elements.** All Elements of the General Plan have equal legal status.

- **Consistency between Elements.** All Elements of a General Plan, whether mandatory or optional, must be consistent with one another.

- **Consistency within Elements.** Each Element's data, analyses, goals, policies and implementation programs must be consistent with, and complement, one another.

- **Area Plan Consistency.** All principles, goals, objectives, policies, and plan proposals set forth in an Area or Community Plan must be consistent with the overall General Plan.

- **Text and Diagram Consistency.** The General Plan's text and its accompanying diagrams are integral parts of the plan. They must be in agreement.

General Plan Guidelines (California Government Code Section 65301)

Section 65301 of the California Government Code requires a General Plan to address the geographic territory of the local jurisdiction and any other territory outside its boundaries that bears relation to the planning of the jurisdiction. The jurisdiction may utilize judgment in determining what areas outside of its boundaries to include in the planning area. The State of California General Plan Guidelines state that the Planning Area for a City should include (at minimum) all land within the City limits and all land within the City's sphere of influence.

Specific Plan Law (California Government Code Section 65451)

California Government Code Section 65451 regulates the substantive and topical requirements of Specific Plans. A Specific Plan is a tool for the systematic implementation of the General Plan and, similar to zoning regulations, it establishes a link between implementing policies of the General Plan and individual development proposals. A Specific Plan differs from zoning in that it applies to a defined geographic area and has tailored development regulations. A Specific Plan may be as general as setting forth broad policy concepts, or as detailed as providing direction

on every facet of development, from the type, location, and intensity of uses to the design and capacity of infrastructure. The City has utilized the Specific Plan process for projects that have produced affordable units, reduced setbacks and parking standards, and increased densities.

Regional

Regional Comprehensive Plan and Guide

The Southern California Association of Governments (SCAG) assists cities, counties, and other agencies by reviewing local government plans and individual projects for consistency with the regional plans, including the Regional Comprehensive Plan and Guide, the Regional Mobility Element/Regional Transportation Plan (RTP), the Growth Management Plan, and the federally mandated Air Quality Management Plan. This program provides a framework to coordinate local and regional decisions regarding future growth forecasts at intervals ranging from three to five years. The adopted growth forecasts become the basis for SCAG's functional plans (transportation, housing, air, and water) for the region. The population totals and growth distribution are used to plan the future capacity of highways and transit systems, quantity and location of housing, water supply, and siting and sizing of sewage treatment systems.

Monrovia is one of 30 members of the San Gabriel Valley Council of Governments (SGVCOG), a subregion of SCAG, made up of the 30 cities in the San Gabriel Valley. SGVCOG's mission is to "ensure our Valley's 'fair share' of scarce federal, State, and local resources by fostering consensus among cities in the San Gabriel Valley regarding policies and programs that address issues relating to land use, air quality, transportation, solid waste and other matters deemed essential to our cities." SGVCOG's current priorities ensure that SCAG's RTP updates and METRO's Long Range Plan updates include SGVCOG's adopted high priority projects.

The Growth Management Chapter of the Regional Comprehensive Plan and Guide contains goals designed to improve the regional standard of living, regional quality of life, and provide social, political, and cultural equity.

The Project area qualifies as a "Transit Priority Area (TPA)" as defined in Section 21099(a)(7) of CEQA, as well as a "High Quality Transit Area" (HQTA) defined by SCAG in their 2016-2040 RTP/SCS (SCAG 2016). TPAs and HQTAs are defined as areas within one-half mile of a major transit stop that are existing or planned where a "major transit stop" is a "site containing an existing rail transit station, a ferry terminal served by either a bus or rail transit service, or the intersection of two or more major bus routes with a frequency of service interval of 15 minutes or less during the morning and afternoon peak commute periods" (Section 21064.3 of CEQA).

TPAs and HQTAs are areas where people benefit from increased mobility, more active lifestyles, increased economic opportunity, and an overall higher quality of life (SCAG 2016). High density development in TPAs and HQTAs result in increased ridership on important public transit and result in increased pedestrian and bike infrastructure. Housing near transit helps to increase connectivity to employment opportunities and reduce reliance on automobile ownership. HQTAs account for only three percent of total land area in SCAG region and two percent of the developable land in the region (SCAG 2016). However, these areas are planned and projected to accommodate 46 percent of the region's future household growth and 55 percent of the future employment growth (SCAG 2016).

Local

City of Monrovia General Plan

The Land Use Element establishes land use policy and land use patterns that will govern growth in Monrovia until 2030. The Land Use Element promotes new development opportunities at key locations while ensuring compatibility with established neighborhoods. The objectives of this Element include:

- To attain a balanced mix of land use within the City, thereby providing residents with ready access to housing, employment, and commercial services;
- To work toward regional jobs/housing balance goals;
- To encourage private investment in the City;
- To ensure that residents from all income levels have access to decent, affordable housing;
- To revitalize specific areas of the City which could benefit from public and private redevelopment efforts;
- To create a City environment which makes Monrovia a pleasant place to live, work, shop, and do business; and
- To ensure development in Monrovia is sensitive to the City's existing architectural and natural/open space resources.

City of Monrovia Subdivision and Zoning Ordinances

The Subdivisions and Zoning Ordinances, Titles 16 and 17 of the City's Municipal Code, provide additional development and performance standards for development of land uses and related activities in Monrovia. The Zoning Ordinance serves as the primary implementation tool for the Land Use Element and the goals and policies it contains. A Zoning Map, consistent with the General Plan Land Use Policy Map, has been adopted to identify the zoning categories applied to each parcel of land within Monrovia. Together, the Zoning Ordinance and Map are used to identify the specific types of use, intensity, and development standards applicable to given parcels or areas of land.

14.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts related to land use and planning that could result from the Project. A program-level analysis was conducted for ZCA Areas A and C and a project-level analysis was conducted for the Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

14.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: XI (a) through (b), implementation of the Project would have a significant impact related to land use and planning if it would:

(a) Physically divide an established community; or

(b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

14.2.2 Analysis Methodology

The methodology for evaluating potential environmental impacts related to land use and planning followed this basic sequence:

(1) City and other applicable planning documents were reviewed to identify existing environmental conditions and issues related to land use and planning**,** including the regulatory framework that applies to these issues.

(2) The CEQA Statute and Guidelines, including Appendix G (Environmental Checklist Form), were consulted to identify environmental impact topics and issues that should be addressed.

(3) The Project was qualitatively assessed to determine whether any significant impacts to land use and planning would occur. If the Project was determined to conflict with a relevant plan, a determination was then made as to whether the conflict or inconsistency would result in a significant physical environmental impact that would otherwise be mitigated or avoided without implementation of the Project.

(4) For potential environmental impacts, mitigation measures were designed to avoid or reduce each impact to a less than significant level, where possible.

14.2.3 Environmental Impacts

The Project includes the following components: General Plan Amendment, Zoning Code Amendment, and the Alexan Foothills Specific Plan. Each component is summarized below, and is described separately in more detail in Sections 3.6, 3.7, and 3.8, respectively.

General Plan Amendment

The entire 9.63-acre Project area is proposed for a General Plan Amendment from Manufacturing to Planned Development Area (PD-27: Station Square West) at 54 dwelling units/acre (du/ac). As such, the General Plan Amendment would not physically divide an established community.

Zoning Code Amendment

The Zoning Code Amendment would establish a Planned Development Area (PD-27: Station Square West [PD-27]) for the entire 9.63-acre Project area in order to be consistent with the

General Plan Amendment. The Zoning Code Amendment (ZCA) includes Areas A and C (2.86 acres), Area B (6.77 acres).

Alexan Foothills Specific Plan

Trammell Crow Residential proposes to implement the Alexan Foothills Specific Plan, which would establish the zoning for the 6.77-acre site located at 1625 South Magnolia Avenue, Monrovia, California. The Specific Plan area would be located within ZCA Area B.

IMPACT LUP-1 PHYSICALLY DIVIDE AN ESTABLISHED COMMUNITY

The Project area is surrounded by a variety of land uses including the Station Square Transit Village to the east, Interstate-210 to the north, medium density residential land uses to the west, and high density residential land uses to the south (south of the METRO Gold Line light rail tracks). The current land uses within the Project area include a mix of light industrial, warehouse/storage, office, a church, single family residential, private surface parking, and two cellular towers.

General Plan Amendment

The entire 9.63-acre Project area is proposed for a General Plan Amendment from Manufacturing to Planned Development Area (PD-27: Station Square West) at 54 dwelling units/acre (du/ac). As such, the General Plan Amendment would not physically divide an established community and impacts would be less than significant.

Zoning Code Amendment

The Zoning Code Amendment would establish a Planned Development Area (PD-27: Station Square West [PD-27]) for the entire 9.63-acre Project area in order to be consistent with the General Plan Amendment.

ZCA Areas A and C

A zone change for 2.86 acres is proposed from Manufacturing to a Planned Development Area to include high density residential development as well as other uses identified in PD-27 for Areas A and C (ZCA Areas A and C). Existing uses would be allowed to continue as legal conforming uses in ZCA Areas A and C. However, high density residential development would now be allowed these areas. The addition of high density residential development would increase compatibility of the area with adjacent proposed residential uses. Therefore, future development of ZCA Areas A and C would not physically divide an established community and impacts would be less than significant.

Alexan Foothills Specific Plan

The Alexan Foothills Specific Plan is within ZCA Area B. Three light industrial structures, one residential unit, a church, and a commercial office building would be removed to make way for development of the 6.77-acre Alexan Foothills Specific Plan, which comprises a 436-unit apartment complex and parking structure. The purpose of the Alexan Foothills Specific Plan is to enhance the established community by establishing higher density residential units near public transportation. Two major goals of the Alexan Foothills Specific Plan are to upgrade the

existing physical conditions of the site to a more compatible urban form with the surrounding residential neighborhood, and to accommodate sustainable site and architectural design. The Alexan Foothills Specific Plan is designed to introduce additional residential units to the area, which would be more compatible with residential areas on all sides of the Project area than the existing primarily industrial uses. Furthermore, the Specific Plan does not propose the construction of any roadway, flood control channel, or other structure that would physically divide any portion of the community. Therefore, the Alexan Foothills Specific Plan would not physically divide an established community and impacts would be less than significant..

Mitigation Measures

No mitigation measures are required.

IMPACT LUP-2 CONFLICT WITH ANY APPLICABLE LAND USE PLAN, POLICY, OR REGULATION

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Consistency with the City's General Plan and Zoning

The Project area currently has a Manufacturing General Plan land use designation and zone category. The GPA and ZCA would authorize development of high-density residential land uses within ZCA Areas A, B, and C.

The Alexan Foothills Specific Plan (ZCA Area B) would provide a vision for the area, a development plan that addresses mobility, open space, and sustainability, and would include specific land use and development standards as well as design guidelines. Major goals of the Specific Plan are to increase housing stock in Monrovia, to provide live/work opportunities, to upgrade the existing physical conditions of the site to a more compatible urban form with the surrounding residential neighborhood, and to accommodate sustainable site and architectural design.

ZCA Areas A and C would allow for additional high density residential development near transit, which helps the City accomplish many of the goals of the Housing Element, Circulation Element, and Land Use Element as discussed further below. Existing uses would be allowed to continue as legal conforming uses under the GPA and ZCA.

Table 14-2 presents an evaluation of the Project's consistency with the General Plan including the Land Use, Housing, Circulation, Noise, Safety, Open Space, and Conservation Elements. The table lists the goals and policies relevant to the Project and provides a summary of how the Project is consistent.

Table 14-2: Consistency with General Plan Goals and Policies

General Plan Goals and Policies	Consistency Statement
Land Use Element	
Goal 1: Provide for a mix of land uses which provides a balanced community. Policy 1.4 (P 1.4) Encourage the location of new high density residential development in close proximity (i.e., within walking distance) of the downtown, other major retail commercial areas, and/or transit facilities. G 1, P 1.2: Allow the development of mixed use projects consisting of residential, retail, and office along existing and future transit corridors such as Myrtle Avenue and the Station Square Planning Area. G 1, P 1.8: Develop higher density residential area in close proximity to employment centers.	**Consistent.** New Planned Development (PD)-27 allows for high density residential development near a METRO Gold Line Light Rail Station which runs to employment centers throughout the City and the region. Specific Provisions of PD-27 also incentivize new commercial development near the METRO station, including transit-serving commercial uses. The Alexan Foothills Specific Plan contains four live/work units as well.
Goal 2: Provide adequate infrastructure for all development. G 2, P 2.1: Ensure that land use intensities are consistent with the capacities of existing and planned infrastructure and public services.	**Consistent.** The Project is being built in an urbanized area comprised of older industrial/manufacturing buildings which already supports urban infrastructure. Minor improvements to area intersections and water supply infrastructure would be required for the proposed Alexan Specific Plan, and no major infrastructure improvements are anticipated for future buildout of the ZCA Areas A and C.
Goal 4: Promote land use patterns and development which contribute to community and neighborhood identity. G 4, P 4.1: Require new developments in established neighborhoods to consider the established architectural styles, development patterns, building materials, and scale of buildings within the vicinity of the proposed project.	**Consistent.** The Specific Plan contains development standards and design objectives to ensure that the proposed multi-family development is designed to be compatible with the land uses approved for the Station Square Transit Village area as well as adjacent residential development. Buildout of the Alexan Foothills Specific Plan and ZCA Areas and C would be subject to design review by the City, ensuring that new development is compatible with the neighborhood (see Chapter 5, Aesthetics and Visual Resources).
Goal 6: Reduce the impact of noise on residential uses. G 6, P 6.1: Residences constructed near the Foothill Freeway (I-210) or near the railroad tracks shall be designed to reduce the intrusion of sound into the dwelling.	**Consistent.** Mitigation measure MM NOI-1 requires implementation of design features along units facing the I-210 and railroad tracks to ensure that interior and exterior noise standards by the City and State are met and confirmed through required acoustical analysis for all proposed developments in the PD-27 area.
Goal 12: Expand recreational and park use opportunities. G 12, P 12.2: Maintain or increase multiple-family residential recreation space development standards as a supplement to park space.	**Consistent.** The Alexan Foothills Specific Plan is a multi-family residential development that includes onsite recreational amenities including two swimming pools, a fitness room, a bicycle repair shop, and many plazas for use by residents. Any proposed high density residential development in the ZCA Areas A and C would also be subject to review and approval as well, where incorporation of open space for residents would also be required.

Table 14-2: Consistency with General Plan Goals and Policies

General Plan Goals and Policies	Consistency Statement
Housing Element	
Goal 2: Provide adequate housing site to facilitate the provision of a range of housing types to meet community needs. G 2, P 2.1. Provide site opportunities for development of housing that responds to diverse community needs in terms of housing types, cost and location, emphasizing locations near services and transit that promote walkability. G 2, P 2.2. Encourage and facilitate the development of mixed use and high density residential development in specified areas (e.g. Station Square, Old Town Extension).	**Consistent.** The Project would introduce high density residential development that is near the METRO Gold Line Light Rail Station near Station Square Transit Village area. Multi-family housing would be developed under the Alexan Foothills Specific Additional high-density residential development would be allowed in ZCA Areas A and C. Thus, the Project would increase the overall diversity and number of housing units in the area.
Goal 6: Promote a healthy and sustainable Monrovia through support of existing and new housing which minimizes reliance on natural resources and automobile use. G 6, P 6.5: Incorporate transit and other transportation alternatives including walking and bicycling into the design of new development, particularly in areas within a half mile of designated transit stops.	**Consistent.** The Alexan Foothills Specific Plan development would replace one single family residence with 436 apartments. An additional 82 residential units are possible in ZCA Areas A and C. The Project is in very close proximity to the METRO Gold Line Light Rail Station, and public parking for the METRO station would be included in the Alexan Foothills Specific Plan. Finally, pedestrian walkways and bicycle parking are provided in the Alexan Foothills Specific Plan.
Circulation Element	
Goal 1: Minimize traffic congestion on arterial and collector streets during peak hours in order to ensure a safe and efficient movement of people and goods within the City. G 1, P 1:1: Regulate the intensity of land use to keep traffic on any arterial in balance with roadway capacity. G 1, P 1:2: Limit direct private property access to arterials, where dual access is possible, to minimize interference with through traffic. G 1 , P 1:5: Implement traffic signal coordination on City arterial streets to the maximum extent practical, and integrate signal coordination efforts with those of adjacent jurisdictions. G 1, P 1:6: Develop and implement intersection capacity improvements where feasible and justified by existing or projected traffic demands. Opportunities to improve intersection operations throughout the City are expected to arise as future development occurs, including the area around the planned light rail station. G 1, P 1:7: Design and employ traffic control measures, including signalization, limiting access, limiting on-street parking during peak periods, constructing turn lanes, and modifying lane striping and signage to ensure City streets and roads function as needed. One specific location identified for potential re-striping	**Consistent.** The Project provides pedestrian-oriented development adjacent to a transit station and within easy walking distance to commercial areas in Monrovia. Public parking for the METRO station would be included in the Alexan Foothills Specific Plan. Finally, pedestrian walkways and bicycle parking are provided in the Alexan Foothills Specific Plan, and would be required for future development within ZCA Areas A and C.

Table 14-2: Consistency with General Plan Goals and Policies

General Plan Goals and Policies	Consistency Statement
improvements is the eastbound segment of Huntington Drive beneath the I-210 freeway, where the roadway narrows from three through lanes to two. G 1, P 1:9: Improve intersection and street sections wherever possible to maintain an acceptable level of service for peak traffic flows. With the recognition that the City is largely built out and that major physical improvements to the circulation system will be limited to certain areas, establish level of service (LOS) D as the minimum standard to be maintained, except at locations where LOS F conditions currently exist. When reviewing impacts at locations where existing development constrains the ability to widen or otherwise improve roadways to achieve the desired LOS, consider improvements to pedestrian and transit facilities as acceptable traffic mitigation measures. The City has determined that a project would have a significant traffic impact under California Environmental Quality Act (CEQA) at an intersection if the conditions in Table II-1 were found. For the purpose of applying these significance criteria, the V/C ratio shall be reported using the Intersection Capacity Utilization (ICU) methodology. LOS at two-way stop-controlled intersections shall be based on the Highway Capacity Manual (HCM) methodology and the incremental change in volume-to-capacity (V/C) ratio calculated by analyzing such intersections with the ICU methodology assuming a two-phase signal. G 1, P 1:10: For daily traffic, the desired levels of service differ according to the functional classification of the street: LOS D on primary arterials (V/C < 0.90), mid-D on secondary arterials (V/C < 0.85), LOS C on collector streets (V/C < 0.80) and LOS A on local streets (V/C < 0.60). The City has determined that a project would have a significant traffic impact under CEQA on a street if the conditions in Table II-2 are met. G 1, P 1:12: Promote ridesharing through publicity and provision of information to the public.	
GOAL 2: Provide a system of streets and alleys that meets the needs of current and future residents, local and commuter traffic demands and ensures the safe and efficient movement of vehicles, people and goods throughout the City. Improve streets and alleys to their full design standards	**Consistent.** Implementation of mitigation measures MM T-1 and MM T-2 under the Alexan Foothills Specific Plan would ensure that area intersections operate at a sufficient Level of Service to enable safe and efficient movement of people and goods through the area after buildout of the Specific Plan. Future buildout in ZCA Areas

Table 14-2: Consistency with General Plan Goals and Policies

General Plan Goals and Policies	Consistency Statement
G 2, P 2:2: All street improvements should be designed with sufficient capacity to accommodate anticipated traffic volumes based on the intensity of existing and planned land use. G 2, P 2:3: Design and employ traffic control measures to ensure that City streets and roads function safely and efficiently. G 2, P 2:6: Discourage through traffic from using local collector and residential streets. G 2, P 2:7: Seek to maintain at least LOS E during peak hours at intersections, except at locations where LOS F currently exists.	A and C is not expected to trigger the need for future roadway improvements based upon the TIA prepared for the Project.
G 2, P 2:8: Regulate the intensity and stages of development so that traffic on any arterial remains in balance with roadway capacity. G 2, P 2:9: As new development or redevelopment occurs, limit driveway and alley access onto arterial streets wherever possible to enhance the quality of traffic flow. G 2, P 2:10: Consider locating bus turn-outs where appropriate along heavily-traveled arterials or where the lack of a turn-out would be detrimental to traffic flow. G 2, P 2:13: Require future dedication for widening of streets and alleys as new development occurs. Prepare and maintain a master map of right-of-way dedications to be pursued as new development proposals are considered. Establish a maintenance program for utilities in alleys (e.g., lighting), access and upgrading of existing alleys	
Goal 4: Support the use of the public transportation, including light rail transit, to provide mobility to all City residents and encourage use of public transportation as an alternative to automobile travel. Policy 4:1: Comply with the requirements of Americans with Disabilities Act (ADA) to ensure accessibility of elderly and disabled persons to public transportation. Continue to support Access Services, which provides ADA-compliant Para transit services (dial-a-ride service) in the City. Policy 4:3: Continue to coordinate with METRO and Foothill Transit to identify improvements to local and express bus service to Monrovia. Coordinate with these agencies to develop common standards for transit stops in the City, including seating, lighting, shelters and signage. Identify funding sources to implement the improvements determined to be necessary. Policy 4:5: Require new development along arterial streets to provide transit facilities, such	**Consistent.** See Goal 1 above. In addition, the Specific Plan site is located 0.2 miles from bus stops serviced both by Foothill Transit and METRO. All public pedestrian access paths within the Specific Plan area and leading to transit stops would be ADA accessible. Future development with ZCA Areas and C would be also be required to install ADA accessible paths.

Table 14-2: Consistency with General Plan Goals and Policies

General Plan Goals and Policies	Consistency Statement
as bus shelters and turn-outs designed to established standards and specifications, where deemed necessary.	
GOAL 6: Protect and encourage non-motorized transportation such as bicycle and pedestrian travel. G 6, P 6:3: Maintain existing pedestrian facilities (sidewalks and trails) and encourage new development to provide pedestrian routes to adjacent developments. Respond in a timely manner to citizen requests regarding maintenance concerns on all public pedestrian facilities. G 6, P 6:4: Continue to improve the accessibility of pedestrian facilities to the elderly and disabled, through such measures as construction of wheelchair ramps. G 6, P 6:5: Encourage the provision of an accessible and secure area for bicycle storage at all new and existing developments. G 6, P 6:6: Encourage provision of bicycle racks or storage facilities at public gathering places. G 6, P 6:8: Require new developments to provide adequate pedestrian paths on adjacent streets, including wheelchair ramps, and through the development projects, where determined to be appropriate. G 6, P 6:9: Continue installation of facilities accessible for disabled persons and link public facilities and commercial areas to residential neighborhoods. The use of audible warning devices at intersections along these routes should be considered.	**Consistent.** See Goal 1 above. For ZCA Area B, efficient pedestrian circulation would be provided throughout the Specific Plan development via multiple pedestrian access points and pathways. Four resident-restricted pedestrian access points are located on West Evergreen Avenue, with another via the Woonerf. Additional private pedestrian paths are located elsewhere throughout the site, including along the southern edge, adjacent to the METRO Gold Line right-of-way. Public pedestrian access is along South Magnolia Avenue and into the site via the Woonerf. All access points and pathways would be ADA accessible. Elevators located within the parking structure would allow for handicap accessibility to all levels, with ADA compliant paths and hallways provided. Interior pedestrian movement would operate by a network of interior halls, outdoor pathways/walkways, and connections from the parking structure. Courtyards would have direct access and handicap access. The Specific Plan includes bike parking for METRO users and; long-term resident bicycle parking and storage is located in the parking structure and in two locations within the residential structure, A total of 282 bicycle parking spaces are provided throughout the site, 58 of which are public. Improved pedestrian traffic and connection to Station Square Transit Village (PD-12) to the east, is also encouraged in ZCA Area C under the Specific Provisions of PD-27. Specifically, the addition of well-designed storefronts to the existing commercial/industrial complex is encouraged and shall be permitted to create openings on the north and east building elevations. In addition, the existing commercial/industrial complex may be permitted to be incorporated into an adjacent Specific Plan Area as a mixed-use component, through an amendment to the Specific Plan, if new store fronts and pedestrian paths of travel are oriented toward the Specific Plan Area to create pedestrian linkages. Future redevelopment of the site may also include pedestrian-oriented commercial uses

Table 14-2: Consistency with General Plan Goals and Policies

General Plan Goals and Policies	Consistency Statement
	and activities that support the transit oriented neighborhood.
Goal 8: Provide an adequate supply of convenient parking for all developments in the City, in a manner consistent with the goals of managing transportation demand and providing efficient arterial traffic flows. G 8, P 8:2: Require all new developments to provide off-street parking in compliance with the City's Zoning Code and the requirements of the ADA.	**Consistent.** All developments under the Project would be required to provide off-street parking in accordance with the City's Zoning Code and Specific Provisions of the new PD-27, as well as meet all ADA requirements. In addition, the Alexan Foothills Specific Plan would provide a parking structure containing adequate parking for residents as well as additional parking for the public utilizing the nearby METRO station nearby.
Noise Element	
Program No. 2: The City will extend the California Building Code (California Code of Regulations, Title 24, Part 2, Appendix Chapter 12) requirements for noise mitigation in the design and construction of new multi-family residential developments, hotels, motels, dormitories, and apartment houses to include all types of residential developments.	**Consistent.** Mitigation measure MM NOI-1 requires implementation of design features along units facing the I-210 and railroad tracks to ensure that interior and exterior noise standards by the City and State are met and confirmed through required acoustical analysis for all proposed developments under the Project.
Safety Element	
Goal 1: Reduce to a minimum the loss of life, disruption of goods and services and destruction of property associated with an earthquake. G 1, P 1.3.2: If through an EIR, or if detailed geologic investigation confirms existence of seismic hazards, the City shall require special earthquake resistant design features or use limitations, as appropriate, to protect the public health and safety and to reduce the exposure of individuals and property to seismic risks.	**Consistent.** As discussed in Chapter 10, Geology and Soils, mitigation measure MM GEO-1 requires that a Geotechnical Report be prepared for all proposed development in the PD-27 area, and that all recommended measures in the study are implemented to ensure the stability of the all proposed structures in compliance with California Building Code.
Open Space Element	
Goal 1: Expand the physical and social connections linking the City together and bridging to its neighbors. G 1, P 1.3: Promote walking and biking connections throughout the Station Square area with integrated public spaces and direct links to the public transportation network.	**Consistent.** See Goals 1 and 6 of the Circulation Element and Goal 1 of the Land Use Element.
Conservation Element	
Objective 1. Protection against potential public health dangers through the provision of adequate facilities.	**Consistent.** The City conducted a feasibility study to determine the need for additional water and wastewater infrastructure to serve the Alexan Foothills Specific Plan (Stetson Engineers 2019). The study concluded that no additional wastewater infrastructure would be required to serve the Project, but that additional potable water infrastructure would be required. Specifically, additional booster pump capacity at the City's Forebay Pump Station is recommended in addition to 980 feet of pipeline replacements or upgrades along Magnolia Avenue. Under

Table 14-2: Consistency with General Plan Goals and Policies

General Plan Goals and Policies	Consistency Statement
	mitigation measure UT-1, payment of in-lieu fees would be required to ensure payment of the fair share of required improvements. Any future buildout in ZCA Areas A and C would also be subject to review and approval of a Specific Plan, where the need for future infrastructure improvements would also be evaluated on a project-specific basis. Finally, mitigation measure UT-2 would ensure that "can and will serve letters" are issued for water and wastewater service prior to issuance of building permits or approval of the final map (whichever occurs first) for new proposed development under the Project.
Objective 2. Determine areas requiring utilities required for the future.	**Consistent.** See Objective 1.

Based on the analysis contained in Table 14-2, the Project would be consistent with the policies and standards of the General Plan. Finally, impacts of the Project on all issue areas including aesthetics/visual resources, noise, biological resources, cultural resources, water supply and water quality, and transportation would be less than significant or less than significant with implementation of mitigation measures, as discussed in other chapters of this EIR. Therefore, buildout of the Alexan Foothills Specific Plan and ZCA Areas A and C would not conflict City's General Plan and impacts would be less than significant.

Consistency with SCAG's RTP/SCS

Full buildout of the Project would potentially result in 518 residential units in the 9.63-acre Project area, inclusive of the 436 units proposed under the Alexan Foothills Specific Plan. According to Section 15206(b) of the CEQA Guidelines, a project of this magnitude has the potential to be considered "a project of Statewide, areawide, or regional significance." Specifically, projects in this category should be noticed to metropolitan planning organizations according to Section 15206(a) of the CEQA Guidelines. For this Project, the applicable metropolitan planning organization is SCAG. Below is an evaluation of the Project's consistency with SCAG's 2016 RTP/SCS.

Buildout of the Project would result in a population increase representing approximately one-third of the amount of growth projected in SCAG's 2016-2040 RTP/SCS for Monrovia. Buildout of the Project with other proposed projects in Monrovia could approach or exceed RTP/SCS growth projections. The Project facilitates infill residential development and transit-oriented development that is expected to reduce overall vehicle trips in the City and region and associated emissions of criteria pollutants and greenhouse gases consistent with the RTP/SCS. Because the Project only contributes one third of projected growth, the contribution of the Project population would be less than considerable.

In addition, a major initiative of SCAG's 2016-2040 RTP/SCS, is to focus new growth around transit (SCAG 2016). Specifically, the 2016-2040 RTP/SCS supports the development of HQTAs for focusing new growth around transit in the following ways:

- Identifies regional strategic areas for infill and investment;

- Structures the Plan on centers of development;
- Plans for additional housing and jobs near transit; and
- Plans for changing demand in types of housing.

The Project is in a HQTA and represents the type of Project contemplated by the RTP/SCS in the limited number of HQTAs in the region. Specifically, the General Provisions and the Specific Provisions of the new PD-27 discussed in Chapter 3 encourage development of high density residential and commercial uses to increase housing and jobs in close proximity to the METRO Gold Line Station. Table 14-3 provides a summary of the Project's consistency with applicable goals of the RTP/SCS.

Table 14-3: Consistency with RTP/SCS Goals

Goals	Consistency Statement
1. Align the plan investments and policies with improving regional economic development and competitiveness.	Not Applicable.
2. Maximize mobility and accessibility for all people and goods in the region.	**Consistent.** The Project is within an HQTA. The Project, including the Alexan Foothills Specific Plan as well as future development within ZCA Areas A and C, provide pedestrian-oriented development adjacent to a transit station and within easy walking distance to commercial areas in Monrovia. Specifically, the Specific Provisions of the new Planned Development (PD)-27 incentivize placement of residential and commercial uses adjacent to transit as well as pedestrian-oriented development. Public parking for the METRO station would be included in the Alexan Foothills Specific Plan as well. Finally, pedestrian walkways and bicycle parking are provided in the Alexan Foothills Specific Plan.
3. Ensure travel safety and reliability for all people and goods in the region.	**Consistent.** See Goal 2 above.
4. Preserve and ensure a sustainable regional transportation system.	**Consistent.** See Goal 2 above.
5. Maximize the productivity of our transportation system.	**Consistent.** See Goal 2 above.
6. Protect the environment and health of our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking).	**Consistent.** See Goal 2 above.
7. Actively encourage and create incentives for energy efficiency, where possible.	**Consistent.** All development under the Project would be required to comply with Title 24 of the California Building Code requiring the use of energy efficient technologies and methods. The Alexan Foothills Specific Plan also contains development standards and design goals for use of energy efficient techniques
8. Encourage land use and growth patterns that facilitate transit and active transportation.	**Consistent.** See Goal 2 above.

Table 14-3: Consistency with RTP/SCS Goals

Goals	Consistency Statement
9. Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	Not Applicable.

Therefore, overall the Project would be consistent with the goals and objectives of the RTP/SCS. As such, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

14.2.4 Impact Conclusions

Based on the methodology described above, the Project, would be consistent with the Monrovia General Plan, as well as the RTP/SCS. Many aspects of the development plan and development standards for the Alexan Foothills Specific Plan are consistent with the policies of the General Plan and RTP/SCS related to land use, site planning, architectural design, areawide minimum/maximum parameters. In addition, the Project is within an HQTA and enables the type of high density residential development near transit stations identified as a goal of the RTP/SCS. Therefore, the Project is consistent with the applicable land use plans and policies, and Project impacts on land use and planning would be less than significant and no mitigation is required.

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
ADA	Americans with Disabilities Act
CEQA	California Environmental Quality Act
EIR	Environmental Impact Report
GPA	General Plan Amendment
HCM	Highway Capacity Manual
HCP	Habitat Conservation Plan
HQTA	High Quality Transit Area
ICU	Intersection Capacity Utilization
LOS	Level of Service
METRO	Los Angeles County Metropolitan Transportation Authority
NCCP	Natural Community Conservation Plan
PD	Planned Development
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
SGVCOG	San Gabriel Valley Council of Governments
TIA	Traffic Impact Analysis
TPA	Transit Priority Area
V/C	Volume-to-capacity ratio

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
ZCA	Zoning Code Amendment

References Cited

City of Monrovia
2002 Noise Element. June 12.
1966 Public Service/Conservation Element.
2010 City of Monrovia Zoning Map. March.
2012 Circulation Element. November 6.
2014 2014-2021 Housing Element. February 4.
2018 General Plan, Land Use Element. September.

Southern California Association of Governments (SCAG)
2016 2016-2040Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Los Angeles, CA.

Stetson Engineers, Inc. (Stetson Engineers)
2019 Water Capacity Study for Proposed Station Square Transit Village Projects. Prepared for the City of Monrovia. January 15.

15. MINERAL RESOURCES

This EIR chapter describes existing mineral resources at the Project site. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project and describes potential impacts that could result from the Project.

Information related to mineral resources was obtained from the "Mines Online" resource on the California Department of Conservation, Division of Mine Reclamation website. The following website was used to obtain information about mineral resources in Monrovia (California Department of Conservation 2017):

http://maps.conservation.ca.gov/mol/index.html

According to the California Department of Conservation, Division of Mine Reclamation, the City of Monrovia has no active mines (California Department of Conservation 2018). Additionally, there are no proposals for new mining operations in the City; as there are no lands zoned for mining activities in the City.

15.1 SETTING

15.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts on mineral resources that could result from the Project. A project-level analysis was conducted for the GPA area, ZCA Areas A and C, and the Alexan Foothills Specific Plan area (ZCA Area B).

15.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: Items XII (a) and (b), implementation of the Project would have a significant impact related to mineral resources if it would:

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

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

15.2.2 Environmental Impacts

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The Project area contains no active mines or known mineral resources that would require preservation and/or be impacted due to Project implementation. Therefore, there would be no impacts on mineral resources.

Mitigation Measures

No mitigation measures are required.

15.2.3 Impact Conclusions

The Project would have no impact on mineral resources and no mitigation is required.

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
CEQA	California Environmental Quality Act
EIR	Environmental Impact Report
GPA	General Plan Amendment
ZCA	Zoning Code Amendment

References Cited

California Department of Conservation
2017 Mines Online. Sacramento, CA. Accessed December 19, 2017. http://maps.conservation.ca.gov/mol/index.html
2018 SMARA Statutes & Associated Regulations. Sacramento, CA. Accessed May 30, 2018. http://www.conservation.ca.gov/dmr/lawsandregulations/Pages/SMARA.aspx

16. NOISE AND VIBRATION

This Chapter provides pertinent background information on the nature of sound transmission, describes the existing noise environment in the Project area, includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project, describes potential impacts that could result from the Project, and includes mitigation measures that would avoid or reduce those potential impacts.

16.1 SETTING

The environmental and regulatory setting of the Project area with respect to noise and vibration is described based on local, state, and federal regulations along with information from the City of Monrovia General Plan.

16.1.1 Existing Setting

Fundamentals of Environmental Acoustics

Noise is generally defined as unwanted sound and widely recognized as a form of environmental degradation. Airborne sound is the rapid fluctuation of air pressure above and below atmospheric pressure. The frequency (pitch), amplitude (intensity or loudness), and duration of a sound all contribute to the effect on a listener, or receptor, and whether or not the receptor perceives the sound as “noisy” or annoying.

Pitch is the height or depth of a tone or sound and depends on the frequency of the vibrations by which it is produced. Sound frequency is expressed in terms of cycles per second, or Hertz (Hz). Humans generally hear sounds with frequencies between 20 and 20,000 Hz and perceive higher frequency sounds, or high pitch noise, as louder than low-frequency sound or sounds low in pitch. Sound intensity or loudness is a function of the amplitude of the pressure wave generated by a noise source combined with the reception characteristics of the human ear. Atmospheric factors and obstructions between the noise source and receptor also affect the loudness perceived by the receptor. Sound pressure levels are typically expressed on a logarithmic scale in terms of decibels (dB). A dB is a unit of measurement that indicates the relative amplitude (i.e., intensity or loudness) of a sound, with 0 dB corresponding roughly to the threshold of hearing for the healthy, unimpaired human ear.

Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dBs represents a ten-fold increase in acoustic energy, while 20 dBs is 100 times more intense, 30 dBs is 1,000 times more intense, etc. In general, there is a relationship between the subjective noisiness or loudness of a sound and its intensity, with each 10 dB increase in sound level perceived as approximately a doubling of loudness. Due to the logarithmic basis, decibels cannot be directly added or subtracted together using common arithmetic operations:

$$50\ decibels + 50\ decibels\ \neq 100\ decibels$$

Instead, the combined sound level from two or more sources must be combined logarithmically. For example, if one noise source produces a sound power level of 50 dBA, two of the same sources would combine to produce 53 dB as shown below.

$$10 * \ 10\,log\left(10^{\left(\frac{50}{10}\right)} + \ 10^{\left(\frac{50}{10}\right)}\right) = 53\ decibels$$

In general, when one source is 10 dB higher than another source, the quieter source does not add to the sound levels produced by the louder source because the louder source contains ten times more sound energy than the quieter source.

Sound Characterization

Although humans generally can hear sounds with frequencies between 20 and 20,000 Hz, most of the sounds that humans are normally exposed to do not consist of a single frequency, but rather a broad range of frequencies perceived differently by the human ear. In general, humans are most sensitive to the frequency range of 1,000–8,000 Hz and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. Instruments used to measure sound, therefore, include an electrical filter that enables the instrument's detectors to replicate human hearing. This filter, known as the "A-weighting" or "A-weighted sound level" filters low and very high frequencies, giving greater weight to the frequencies of sound to which the human ear is typically most sensitive. Most environmental measurements are reported in dBA, meaning decibels on the A-scale. See Table 16-1 for a list common noise sources and their A-weighted noise levels.

Sound levels are usually not steady and vary over time. Therefore, a method for describing either the average character of the sound or the statistical behavior of the variations over a period of time is necessary. The continuous equivalent noise level (Leq) descriptor is used to represent the average character of the sound over a period of time. The Leq represents the level of steady-state noise that would have the same acoustical energy as the sum of the time-varying noise measured over a given time period. Leq is useful for evaluating shorter time periods over the course of a day. The most common Leq averaging period is hourly, but Leq can describe any series of noise events over a given time period.

Variable noise levels are the values that are exceeded for a portion of the measured time period. Thus, the L1, L10, L50, and L90 descriptors represent the sound levels exceeded 1%, 10%, 50%, and 90% of the time the measurement was performed. The L90 value usually corresponds to the background sound level at the measurement location.

When considering environmental noise, it is important to account for the different responses people have to daytime and nighttime noise. During the nighttime, background noise levels are generally quieter than during the daytime but also more noticeable due to the fact that household noise has decreased as people begin to retire and sleep. Noise exposure over the course of an entire day is described by the day/night average sound level, DNL (or Ldn), and the community noise equivalent level, or CNEL, descriptors. Both descriptors represent the 24-hour noise exposure in a community or area. For DNL, the 24-hour day is divided into a 15-hour daytime period (7 AM to 10 PM) and a 9-hour nighttime period (10 PM to 7 AM) and a 10 dB "penalty" is added to measure nighttime noise levels when calculating the 24-hour average noise level. For example, a 45 dBA nighttime sound level would contribute as much to the overall day-night average as a 55 dBA daytime sound level. The CNEL descriptor is similar to Ldn, except that it includes an additional 5 dBA penalty for noise events that occur during the evening time period (7 PM to 10 PM). The artificial penalties imposed during DNL and CNEL calculations are intended to account for a receptor's increased sensitivity to noise levels during quieter nighttime periods.

Table 16-1: Typical Outdoor and Indoor Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	-110-	Rock Band
Jet flyover at 1,000 feet		
	-100-	
Gas lawn mower at 3 feet		
	-90-	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	-80-	Garbage disposal at 3 feet
Noise urban area, daytime		
Gas lawnmower, 100 feet	-70-	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	-60-	
		Large business office
Quiet urban daytime	-50	Dishwasher next room
Quite urban nighttime	-40-	Theater, large conference room (background)
Quiet suburban nighttime		
	-30-	Library
Quite rural nighttime		Bedroom at night
	-20-	
		Broadcast/recording studio
	-10-	
Typical threshold of human hearing	-0-	Typical threshold of human hearing

Source: Caltrans 2013a

Sound Propagation

The energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out and travels away from the noise generating source. The strength of the source is often characterized by its “sound power level.” Sound power level is independent of the distance a receiver is from the source and is a property of the source alone. Knowing the sound power level of an idealized source and its distance from a receiver, the sound pressure level at a specific point (e.g., a property line or a receiver) can be calculated based on geometrical spreading and attenuation (noise reduction) as a result of distance and environmental factors, such as ground cover (asphalt vs. grass or trees), atmospheric absorption, and shielding by terrain or barriers.

For an ideal “point” source of sound, such as mechanical equipment, the energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out in a spherical pattern and travels away from the point source. Theoretically, the sound level attenuates, or decreases, by 6 dB with each doubling of distance from the point source. In contrast, a “line” source of sound, such as roadway traffic or a rail line, spreads out in a cylindrical pattern and theoretically attenuates by 3 dB with each doubling of distance from the line source; however, the sound level at a receptor location can be modified further by additional factors. The first is the presence of a reflecting plane such as the ground. For hard ground, a reflecting plane typically increases A-weighted sound pressure levels by 3 dB. If some of the reflected sound is absorbed by the surface, this increase will be less than 3 dB. Other factors affecting the predicted sound pressure level are often lumped together into a term called “excess attenuation.” Excess attenuation is the amount of additional attenuation that occurs beyond simple spherical or cylindrical spreading. For sound propagation outdoors, there is almost always excess attenuation, producing lower levels than what would be predicted by spherical or cylindrical spreading. Some examples include attenuation by sound absorption in air; attenuation by barriers; attenuation by rain, sleet, snow, or fog; attenuation by grass, shrubbery, and trees; and attenuation from shadow zones created by wind and temperature gradients. Under certain meteorological conditions, like fog and low-level clouds, some of these excess attenuation mechanisms are reduced or eliminated due to noise reflection.

Noise Effects

Noise effects on human beings are generally categorized as:

- Subjective effects of annoyance, nuisance, and/or dissatisfaction;
- Interference with activities such as speech, sleep, learning, or relaxing; or
- Physiological effects such as startling and hearing loss.

Most environmental noise levels produce subjective or interference effects; physiological effects are usually limited to high noise environments, such as industrial manufacturing facilities or airports.

Predicting the subjective and interference effects of noise is difficult due to the wide variation in individual thresholds of annoyance and past experiences with noise; however, an accepted method to determine a person’s subjective reaction to a new noise source is to compare it to the existing environment without the noise source, or the “ambient” noise environment. In general, the more a new noise source exceeds the ambient noise level, the more likely it is to be considered annoying and to disturb normal activities.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels when exposed to steady, single-frequency (“pure-tone”) signals in the mid-frequency (1,000–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness that would almost certainly cause an adverse response from community noise receptors.

Groundborne Vibration and Noise

Vibration is the movement of particles within a medium or object such as the ground or a building. Vibration may be caused by natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or humans (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources are usually characterized as continuous, such as factory machinery, or transient, such as explosions.

As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency; however, unlike airborne sound, there is no standard way of measuring and reporting amplitude. Vibration amplitudes can be expressed in terms of velocity (inches per second) or discussed in dB units in order to compress the range of numbers required to describe vibration. Vibration impacts to buildings are usually discussed in terms of peak particle velocity (PPV) in inches per second (in/sec). PPV represents the maximum instantaneous positive or negative peak of a vibration signal and is most appropriate for evaluating the potential for building damage. Vibration can also be measured in vibration velocity levels or velocity decibels (V_{db}).

Vibration can impact people, structures, and sensitive equipment. The primary concern related to vibration and people is the potential to annoy those working and residing in the area. Vibration with high enough amplitudes can damage structures (such as crack plaster or destroy windows). Ground-borne vibration can also disrupt the use of sensitive medical and scientific instruments, such as electron microscopes.

Common sources of vibration within communities include construction activities and railroads. Ground-borne vibration generated by construction projects is usually highest during pile driving, rock blasting, soil compacting, jack hammering, and demolition-related activities. Next to pile driving, grading activity has the greatest potential for vibration impacts if large bulldozers, large trucks, or other heavy equipment are used.

Existing Noise and Vibration Environment

Located in the southern part of the City of Monrovia, the Project area is generally configured in an east-west orientation and is bounded by South Magnolia Avenue to the east, South Mayflower Avenue to the west, Evergreen Avenue and Interstate-210 (I-210, or the Foothill Freeway) to the north, and the METRO Gold Line light rail to the south. The Project area consists mostly of a mix of light industrial and commercial land uses, although five residential units are present in the Project area. In general, medium and high density residential development borders the Project area, across Magnolia Avenue, Mayflower Avenue, and the METRO Gold Line.

The Project is adjacent to the City's Station Square Transit Village, and the Gold Line Monrovia Station is located less than 500 feet east of the Project (addressed at 1641 South Primrose Avenue). Several transit-oriented, multi-family developments are planned for the near future (e.g., the Station Square South project, located adjacent to the Project, across South Magnolia Avenue and South of the Gold Line). The closest airport to the Project is the San Gabriel Valley Airport, located approximately 3.7 miles southwest of the Project.

The General Plan Noise Element identifies traffic noise on major arterial streets and the I-210 as the most pervasive source of noise in certain areas of the City. The General Plan specifically notes that residential areas south of I-210 are impacted by freeway noise. The eastbound segment of I-210 includes an approximately 12-foot high wall that terminates on the eastern

side of South Mayflower Avenue; a similar wall begins 200 feet west of South Magnolia Avenue. For the most part the segment of I-210 directly adjacent to the Project (i.e., between South Mayflower and South Magnolia Avenue) does not contain a sound wall. This portion of the I-210 is elevated, approximately 20 feet above the Project area.

The General Plan Noise Element was prepared in 2002, before the METRO Gold Line began operation, and does not identify potential noise levels associated with Gold Line operation; however, the Gold Line Foothill Extension Pasadena to Montclair Final Environmental Impact Report predicted the following noise levels for eastbound and westbound light rail service at residential receptors in the City:

- Eastbound Gold Line noise levels south of the right of way (ROW) were predicted to be 72 DNL or less within approximately 40 feet of the eastbound track, 65 DNL or less within approximately 50 feet of the eastbound track, and less than 60 DNL approximately 100 feet of the eastbound track (Metro Gold Line Foothill Extension Construction Authority [MGLFECA] 2007, Table 3-11.6).
- Westbound Gold Line noise levels north of the ROW were predicted to be 71 DNL or less within approximately 40 feet of the westbound track, 68 DNL or less within approximately 60 feet of the westbound track, and less than 60 DNL approximately 100 feet of the eastbound track (MGLFECA 2007, Table 3-11.6).

The City's 2008 General Plan Land Use Policy 6.1 requires that new residences proposed near the I-210 and METRO railroad tracks are designed to reduce the intrusion of sound into the dwellings.

The existing ambient noise and vibration environment at and near the Project area is described in more detail below.

Measured Ambient Noise Levels

The existing ambient noise levels in the Project area were monitored in June 2018 (MIG 2019; see Appendix I). Ambient noise levels were measured with two Larson Davis SoundTrack LxT Type 1 sound level meters; ambient noise measurements were collected in 10-minute intervals. Conditions during the monitoring were generally clear and sunny during the daytime, with a daily high of approximately 90 degrees Fahrenheit and winds from the west/southwest between approximately five to 10 miles per hour.

The ambient noise monitoring conducted for this EIR included five short-term (ST) and two long-term (LT) measurements at locations selected to:

- Provide direct observations of existing noise sources at and in the vicinity of the Project;
- Determine typical ambient noise levels at and in the vicinity of the Project; and
- Evaluate potential Project noise levels at nearby sensitive receptors (see Noise Sensitive Receptors below).

The ambient noise monitoring locations are described below and shown in Figure 16-1.

- **Location ST-1** was at the intersection of South Magnolia Avenue and the METRO Gold Line, at the southeast corner of the Project area. The ambient noise levels measured at

location ST-1 are considered representative of background daytime noise levels associated with local commercial land uses in the area, the METRO Gold Line, and traffic on South Magnolia Avenue.

- **Location ST-2** was at the intersection of South Magnolia Avenue and West Evergreen Avenue, at the northeast corner of the Project area. The ambient noise levels measured at location ST-2 are considered representative of background daytime noise levels associated with the local commercial and other lands uses in the area, as well as traffic noise levels associated with I-210**.**

- **Location ST-3** was at the intersection of South Mayflower Avenue and West Evergreen Avenue, at the northwest corner of the Project area. The ambient noise levels measured at location ST-3 are considered representative of background daytime noise levels associated with the local commercial and other land uses in the area, as well as traffic noise levels associated with I-210.

- **Location ST-4** was at the intersection of South Mayflower Avenue and the METRO Gold Line, at the southwest corner of the Project area. The ambient noise levels measured at location ST-4 are considered representative of background daytime noise levels associated with the local residential land uses in the area, the METRO Gold Line, and traffic on South Mayflower Avenue.

- **Location ST-5** was on Evergreen Avenue, approximately 100 feet east of Mayflower Avenue. The ambient noise levels measured at location ST-5 are considered representative of background daytime noise levels associated with the local commercial and other land uses in the area, as well as traffic noise levels associated with I-210.

- **Location LT-1** was on Evergreen Avenue, approximately 205 feet west of South Magnolia Avenue. The ambient noise levels measured at location LT-1 are considered representative of 24-hour ambient noise exposure levels in the northern half of the Project area.

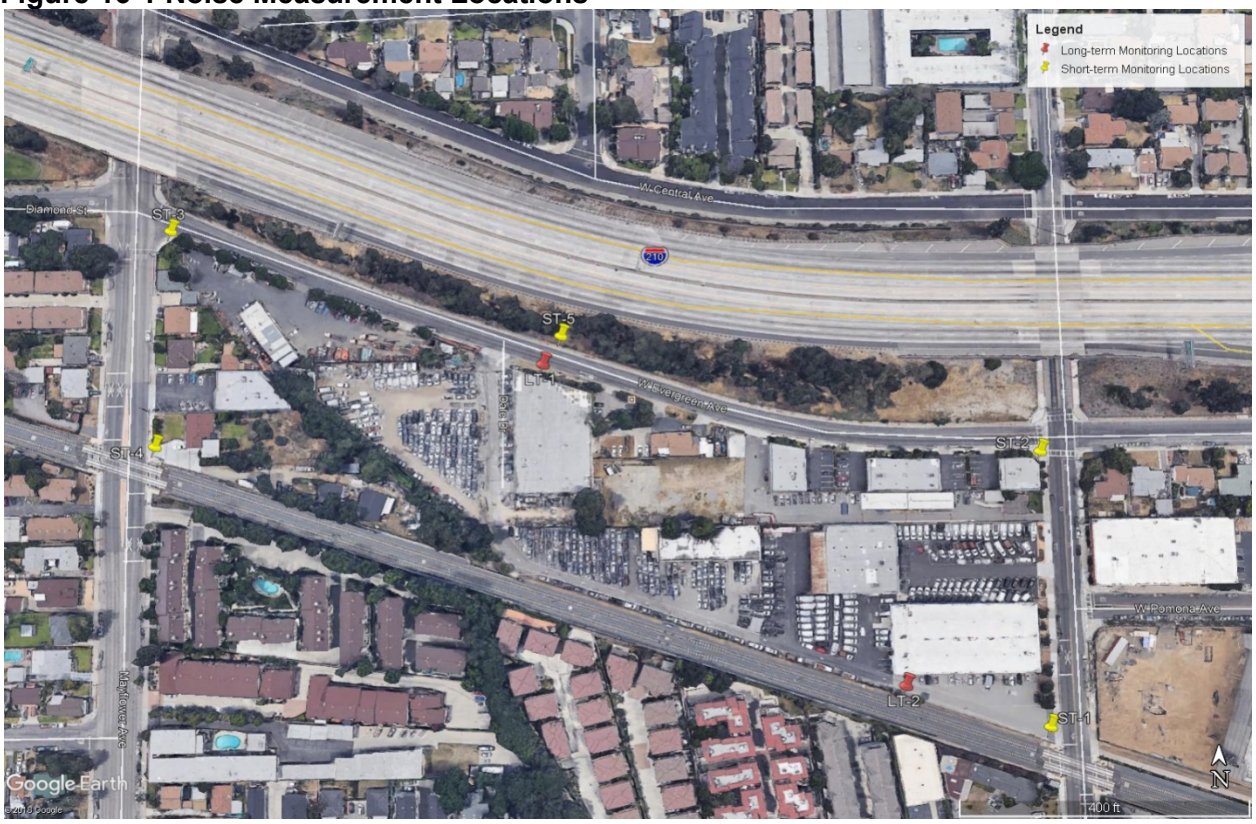
- **Location LT-2** was adjacent to the METRO Gold Line, approximately 215 feet west of South Magnolia Avenue (as measured along the METRO right-of-way [ROW]). The ambient noise levels measured at location LT-2 are considered representative of 24-hour ambient noise exposure levels in the southern half of the Project area.

Based on observations made during the ambient noise monitoring, the existing noise environment in the Project vicinity consists primarily of transportation noise sources, particularly vehicular traffic on I-210 and rail activity on the METRO Gold Line. Table 16-2 summarizes the results of the ambient noise monitoring conducted for this EIR.

Table 16-2 Existing Ambient Noise Levels in the Project Area (dBA)

Monitoring Site	Duration	Lmin	Lmax	Leq Range			CNEL
				Daytime (7 AM - 7 PM)	Evening (7 PM - 10 PM)	Nighttime (10 PM - 7 AM)	
ST-1	30 Minutes	49.7	87.9	63.7 - 70.3	--	--	--
ST-2	30 Minutes	60.3	79.4	66.2 - 77.4	--	--	--
ST-3	30 Minutes	57.9	86.7	67.8 - 68.7	--	--	--
ST-4	30 Minutes	53.5	94.4	67.5 - 73.9	--	--	--
ST-5	20 Minutes	61.1	78.2	66.5 - 66.9	--	--	--
LT-1	24-Hours	47.8	92.3	64.3 - 70.3	67.0 - 73.1	62.1 - 70.0	73.5
LT-2	24-Hours	39.2	93.5	68.9 - 73.5	68.2 - 71.8	61.6 - 71.5	75.1
Source: MIG 2019 (see Appendix I)							

Figure 16-1 Noise Measurement Locations



Existing METRO Gold Line Noise and Vibration Levels

The Project area is located adjacent to the METRO Gold Line. Rail-related noise comes from several potential sources. A locomotive engine's propulsion system generates noise from mechanical and electrical systems. The interaction of wheels with the track produces various noises, particularly where the wheel encounters a flaw or defect along smooth wheel / track surfaces. Finally, train horn or bells and railroad crossing warning devices generate short but loud alerts pursuant to federal safety regulations.

The METRO Gold Line is a commuter rail line with eastbound and westbound service at the Monrovia Station every 7 to 14 minutes Monday through Friday. Peak hourly weekday activity occurs during the AM and PM commuter periods when 9 eastbound and westbound trains can occur in an hour; typical service involves 4 to 5 eastbound and westbound trains per hour. During the weekday, service runs nearly 20 hours a day. Weekend service also runs nearly 24 hours a day, with 3 to 5 eastbound and westbound trains per hour. The METRO Gold Line crosses South Magnolia and South Mayflower Avenue at grade, with guards and warning bells provided for safety.

During the ambient noise monitoring, noise levels associated with the METRO Gold Line were observed to be in the range of 69 to 94 dB while passing at distance of approximately 5 to 20 feet from the center of the westbound track. The higher noise levels were associated with longer light rail trains (4 cars instead of 3 cars) accelerating westbound from the Monrovia Station.

Vibration monitoring was not conducted specifically for the Project; however, vibration monitoring was conducted in January 2018 for the Initial Study/Mitigated Negative Declaration for the adjacent South Station Square project (City of Monrovia 2018). The vibration monitoring for the South Station Square project was conducted approximately 525 feet from the Project, at a distance of 20 feet from the track centerline. The results of this monitoring indicate vibration levels generated by the existing METRO Gold Line are less than 0.002 PPV and 61 velocity decibels (VdB) (a measure of the vibration velocity level).

Noise Sensitive Receptors

Noise sensitive receptors are buildings or areas where unwanted sound or increases in sound may have an adverse effect on people or land uses. Residential areas, motels and hotels, hospitals and health care facilities, school facilities, and parks are examples of noise receptors that could be sensitive to changes in existing environmental noise levels. Table 16-3 summarizes the noise sensitive receptors in proximity of the proposed boundary of the Alexan Specific Plan as well as the boundary of ZCA Areas A and C.

Table 16-3 Sensitive Receptor Locations

Receptor	Land Use	Direction / Location	Distance From	
			Alexan Foothills Specific Plan	ZCA Areas A and C[A]
R-1A	Single-Family Residential	East; along S. Magnolia Ave, W. Evergreen Ave, and Pomona Ave	60 ft	60ft
R-1B	Multi-Family Residential			
R-2	Multi-Family Residential	South; across the METRO Gold Line ROW (accessed via S. Mayflower Ave and Genoa St)	70 ft	70 ft
R-3	Single-Family Residential	West; along Diamond Street and the western portion of S. Mayflower Ave	260 ft	80 ft
R-4	Single-Family Residential	West; along the eastern portion of S. Mayflower Ave	70 ft	--[B]

Source: MIG 2019.

Notes:

(A) ZCA Areas A and C are comprised of a western portion (Parcels 4, 5, 6, 9, 14, and 15).

(B) There is no distance reported because R-4 is located within ZCA Areas A and C.

In addition, once constructed and occupied, the residential receptors associated within the Alexan Foothills Specific Plan would represent new sensitive noise receptors. However, the nearest receptor locations to each Project component are shown in Table 16-3.

16.1.2 Regulatory Setting

Federal

Federal Transit Administration (FTA)

No federal regulations apply to noise or vibration from the Project, but the FTA's 2006 *Transit Noise and Vibration Impact Assessment* document sets ground-borne vibration annoyance criteria for general assessments. The criteria vary by the type of building being subjected to the vibrations, and the overall number of vibration events occurring each day. Category 1 buildings are considered buildings where vibration would interfere with operation, even at levels that are below human detection. These include buildings with sensitive equipment, such as research facilities and hospitals. Category 2 buildings include residential lands and buildings were people sleep, such as hotels and hospitals. Category 3 buildings consist of institutional land uses with primary daytime uses. The FTA standards vary for "frequent" events (occurring more than 70 times per day such as a rapid transit project), "occasional" events (occurring between 30 to 70 times per day) and "infrequent" events (occurring less than 30 times per day). The FTA's vibration annoyance criteria are summarized in Table 16-4.

Table 16-4 FTA Ground-Borne Vibration Impact Criteria for General Assessment

Vibration Land Use Category/Type	Frequent Events	Occasional Events	Infrequent Events
Category 1 – Buildings with sensitive equipment	65 VdB	65 VdB	65 VdB
Category 2 – Buildings where people sleep	72 VdB	75 VdB	80 VdB
Category 3 – Institutional buildings	75 VdB	78 VdB	83 VdB
Source: FTA 2006 Note: VdB = Velocity decibel			

State

California Building Standards Code

The California Building Standards Code is contained in Title 24 of the California Code of Regulations and consists of 11 different parts that set various construction and building requirements. Part 2, California Building Code, Section 1207, Sound Transmission, establishes sound transmission standards for interior walls, partitions, and floor/ceiling assemblies. Specifically, Section 1207.4 establishes that interior noise levels attributable to exterior noise sources shall not exceed 45 dBA DNL or CNEL (as set by the local General Plan) in any habitable room.

California Green Building Standards Code

The California Green Building Standards Code is Part 11 to the California Building Standards Code. Relevant sections of Chapter 5, Nonresidential Mandatory Standards are noted below:

- Section 5.507.4.1.1 sets forth that buildings exposed to a noise level of 65 dB Leq (1-hour) during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composting sound transmission class (STC) rating of at least 45 (or an outdoor indoor transmission class (OITC) of 35, with exterior windows of a minimum STC of 40.

- Section 5.507.4.2 sets forth that wall and roof assemblies for buildings exposed to a 65 dBA Leq pursuant to Section 5.507.4.1.1, shall be constructed to provide an interior noise environment attributable to exterior sources that does not exceed 50 dBA Leq in occupied areas during any hour of operation. This requirement shall be documented by preparing an acoustical analysis documenting interior sound levels prepared by personnel approved by the architect or engineer of record.

Caltrans

The California Department of Transportation's (Caltrans) *Transportation and Construction Vibration Guidance Manual* provides a summary of vibration criteria that have been reported by researchers, organizations, and governmental agencies (Caltrans 2013). Chapters Six and Seven of this manual summarize vibration detection and annoyance criteria from various agencies and provide Caltrans' recommended guidelines and thresholds for evaluating potential vibration impacts on buildings and humans from transportation and construction projects. These thresholds are summarized in Table 16-5 and Table 16-6.

Table 16-5 Caltrans' Vibration Threshold Criteria for Building Damage

Structural Integrity	Maximum PPV (in/sec)	
	Transient	Continuous
Extremely fragile buildings, ruins, monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some older buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial and commercial structures	2.00	0.50
Source: Caltrans 2013b Note: PPV = peak particle velocity		

Table 16-6 Caltrans' Vibration Threshold Criteria for Human Response

Human Response	Maximum PPV (in/sec)	
	Transient	Continuous
Barely perceptible	0.035	0.012
Distinctly perceptible	0.24	0.035
Strongly perceptible	0.90	0.10
Severely perceptible	2.00	0.40
Source: Caltrans 2013b Note: PPV = peak particle velocity		

County

Section 12.08.560 of the Los Angeles County Noise Control Ordinance limits vibration levels from a source to other properties of 0.01 in/sec PPV.

Local

The City of Monrovia General Plan and Municipal Code establish standards related to noise and vibration control.

City of Monrovia General Plan Noise Element

The City of Monrovia Noise Element includes several noise control programs designed to protect the City's residents from the adverse effects of uncontrolled noise by controlling noise at its source, as well as attenuating noise between the source and the receiver. The General Plan includes the following noise control programs that are relevant to the Project:

- **Program No. 1:** The City will continue to implement and enforce the City of Monrovia's noise ordinance for the control of unnecessary and unwanted noises. The ordinance should be enforced by the Building and Planning Department and the Police Department. The noise ordinance enforcement program should be provided with the necessary funding and expertise to ensure its effective enforcement.

- **Program No. 2:** The City will extend the California Building Code (California Code of Regulations, Title 24, Part 2, Appendix Chapter 12) requirements for noise mitigation in the design and construction of new multi-family residential developments, hotels, motels, dormitories, and apartment houses to include all types of residential developments. The regulations state: "Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either ... Ldn or ... CNEL, consistent with the noise element of the general plan." Additionally, an acoustical design analysis shall be required of any planned residential building or structure which is to be located where the exterior CNEL or Ldn exceed 60 dB. The residential design should be such that the interior living spaces are exposed to an Ldn or CNEL of no more than 45 dB. This may be accomplished by implementing a combination of the following:

  1. A reduction of the exterior noise to which the dwelling is exposed.
  2. Installing sound rated windows suitable for the noise reduction required.
  3. Configuring and insulating exterior walls and roofing systems to reduce the interior noise to acceptable levels.
  4. Locating (or eliminating) vents, mail slots, etc., to minimize sound propagation into the home.
  5. Installing forced air ventilation as needed to provide a habitable living space if the interior Ldn or CNEL level is to be met with all or some windows closed.

- **Program No. 3:** The City may implement a noise zoning code, defining compatible land usage requirements based on the guidelines of Figure 2. The City would require an analysis of whether or not the proposed development would be in compliance with this code. If the development falls in the CNEL or Ldn range above that indicated for the normally acceptable category, noise control design steps must be included in the project plans.

- **Program No. 6:** Future projects within the City will reflect a consciousness on the part of the City regarding the reduction of unnecessary noise near noise-sensitive areas such as residences, schools, parks, hospitals, libraries, and convalescent homes. Actions that can be taken to implement this program can include:

  1. Maintain liaison with transportation agencies such as Caltrans and the FHWA regarding the reduction of noise from existing facilities. The design and location of new facilities will also be considered.
  2. Consideration should be given to buffering noise-sensitive areas from noise-generating land uses.
  3. Noise monitoring within the City will be an ongoing process conducted by the appropriate departments.
  4. Ensure that the segment of the Pasadena Blue Line Extension project that would go through the City of Monrovia will be designed to meet FTA and other relevant noise criteria; close attention shall be paid to the potential adverse noise effects on residences and other noise sensitive receptors located in the vicinity of the proposed Blue Line station near the Myrtle Avenue / Duarte Road intersection, as well along the transit route.[1]

[1] The Noise Element was adopted in 2002, which was before the light rail extension was completed. All the other actions listed under Program No. 6 are applicable to future development projects.

5. Close attention shall be paid to the noise evaluation in environmental assessments, environmental impact reports and environmental impact statements.

Regarding Noise Control Program No. 3, the land use compatibility guidelines referenced in the 2002 General Plan Noise Element are reproduced in Table 16-7; however, the City has not adopted nor incorporated land use noise compatibility standards into its zoning code.

Table 16-7 General Plan Land Use Compatibility Guidelines

Land Use Category	Community Noise Equivalent Level (in dBA, CNEL)			
	Normally Acceptable	**Conditionally Acceptable**	**Normally Unacceptable**	**Clearly Unacceptable**
Residential – Low Density Single Family, Duplex, Mobile homes	≤ 60	≤ 70	≤ 75	> 75
Residential – Multi Family	≤ 65	≤ 70	≤ 75	> 75
Transient Lodging – Motels, Hotels	≤ 65	≤ 70	≤ 80	> 80
Schools, Libraries, Churches, Hospitals, Nursing Homes	≤ 70	≤ 70	≤ 80	> 80
Auditoriums, Concert Halls, Amphitheaters	--	≤ 65	--	> 80
Sports Arenas, Outdoor Spectator Sports	--	≤ 70	--	> 70
Playground, Neighborhood Parks	≤ 70	--	≤ 75	> 75
Golf Course, Riding Stables, Water Recreation, Cemeteries	≤ 75	--	≤ 80	> 80
Office Buildings, Business Commercial and Professional	≤ 70	≤ 77.5	> 77.5	--
Industrial, Manufacturing, Utilities, Agriculture	≤ 75	≤ 80	> 80	--

Source: City of Monrovia General Plan Noise Element

Notes:

Land Use Compatibility Interpretation:

Normally Acceptable: Specific land use is satisfactory based upon the assumption buildings involved are of normal conventional construction, without any special noise insulation requirements.

Conditionally Acceptable: New construction or development should be undertaken only after a detailed analyses of noise reduction requirements are made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

Normally Unacceptable: New construction or development should be generally discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.

Clearly Unacceptable: New development should generally not be undertaken.

City of Monrovia Municipal Code

The City's existing Municipal Code regulates unnecessary, excessive, and annoying noise and vibration generated by certain sources of noise. The City's code is intended to maintain quiet residential areas that exhibit low noise levels, and to implement programs that reduce noise in residential areas where noise levels are above acceptable values.

Existing Municipal Code Title 9, Public Peace, Morals, and Safety, Chapter 9.44, Noise, includes the following standards related to noise:

- Section 9.44.030, General Prohibition, sets forth that it is unlawful for any person to willfully generate any loud, unnecessary, or unusual noise which unreasonably disturbs the peace and quiet of any neighborhood or which causes any discomfort or annoyance to any reasonable person of normal sensitivity, given factors such as the volume, intensity, nature, duration, and timing of the noise.

- Section 9.44.040, Allowable Noise Levels, sets forth that no person shall create or allow the creation of noise on any residential property which causes the noise level to exceed the actual measured median ambient noise level, or the following presumed ambient noise level, whichever is greater:

    - During the daytime (7 AM to 9 PM), the allowable noise level is 55 dBA
    - During the nighttime (9 PM to 7 AM), the allowable noise level is 50 dBA

    If the intruding noise source is continuous and cannot be reasonably discontinued for sufficient time in which the ambient noise level can be determined, the presumed ambient noise level shall be used.

- Section 9.44.060, Permitted Increases in Noise Levels, sets forth that increase in the allowable noise levels described above are permitted as follows:
    - A 5 dBA increase is permitted for 15 minutes per hour
    - A 10 dBA increase is permitted for 5 minutes per hour
    - A 15 dBA increase is permitted for 1 minute per hour
    - A 20 dBA increase is permitted for less than one minute per hour.

- Section 9.44.080, Exemptions, sets forth that the following activities are exempt from the noise control provisions of the City's Municipal Code:
    - Emergency sounds
    - Noise generating activities made while performing governmental duties
    - Noise generating activities conducted on public playgrounds and public or private school grounds
    - The handling of boxes, crates, containers, garbage cans, or other similar objects between the hours of 7 AM and 7 PM
    - The operation of mechanically powered saws, drills, grinders, lawn or garden tool, or similar tool between 7 AM and 7 PM Monday to Friday and 10 AM and 10 PM on weekends and holidays
    - Construction or demolition work conducted between the hours of 7 AM and 7 PM Monday to Friday and 9 AM and 6 PM on weekends and holidays

- Section 9.44.090, Radios, Television Sets, and Similar Devices, sets forth that it is unlawful for any person within any residential zone to use or operate any radio, musical instrument, stereo system, entertainment system, television set, or other machine or device for producing or reproducing sound between the hours of 10 PM and 7 AM in a manner that disturbs the peace, quiet, and comfort of neighboring residents or any reasonable person of normal sensitivity residing in the area.

Existing Municipal Code Title 17, Zoning, Chapter 17.32, Performance Standards, includes the following standards related to noise and vibration:

- Section 17.32.040, Noises, sets forth that the maximum sound level radiated by any use of facility, when measured at the boundary line of the property on which the sound is generated, shall not be obnoxious by reason of its intensity, pitch or dynamic characteristics, as determined by the City.

- Section 17.32.040, Vibration, sets forth that no vibration shall be permitted which causes a noticeable tremor beyond the boundary line of the property upon which the vibration exists.

16.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts related to noise and vibration that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts. A program-level analysis was conducted for ZCA Areas A and C and a project-level analysis was conducted for the Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

16.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: Items XIII (a) through (c), implementation of the Project would have a significant impact related to noise and vibration if it would:

(a)Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in:

- The City of Monrovia Municipal Code Title 9, Public Peace, Morals, and Safety, Chapter 9.44, Noise; or
- The City of Monrovia Municipal Code Title 17, Zoning, Chapter 17.31, Performance Standards; or
- The City of Monrovia General Plan Noise Element; or
- Other potentially applicable state or agency standards.

(b)Generate excessive ground vibration or ground-borne noise levels.

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

For the purposes of this EIR, the Project would result in a substantial permanent increase in ambient noise levels if it would:

- Cause the Ldn at an adjacent land use to increase by 5.0 dBA or more where noise levels would remain below the land use compatibility guidelines referenced in the 2002 General Plan Noise Element (reproduced in Table 16-7); or

- Cause the Ldn at an adjacent land use to increase by 3.0 dBA or more where noise levels would equal or exceed the land use compatibility guidelines referenced in the 2002 General Plan Noise Element (reproduced in Table 16-7).

For the purposes of this EIR, the Project would result in a substantial temporary or periodic noise impact if it would:

- Result in a 10 dB or greater increase in hourly noise levels above ambient conditions for two or more hours per day, five days a week, for a period of 12 months or more.

For temporary construction noise, the City considers construction activities resulting in a 10 dB increase in hourly noise levels above ambient conditions to be a temporary and substantial increase in noise levels, provided this increase occurs for two or more hours a day, five days a week, for more than 12 months. A 10 dB increase above existing ambient conditions is typically perceived as a "doubling" of loudness, which in limited doses would not be substantial. Prolonged exposure to project-specific construction noise levels that are twice as loud as the ambient environmental level in which the receiver is accustomed to, however, would be considered substantial, even if such noise levels occur on a temporary basis.

16.2.2 Environmental Impacts

IMPACT NOI-1: EXPOSURE TO OR GENERATION OF NOISE LEVELS THAT EXCEED STANDARDS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The Project would result in the placement of new, noise-sensitive, residential land uses in close proximity to the I-210 and METRO Gold Line. The following analysis evaluates if new residential receptors in the Project area would be exposed to noise levels that exceed City standards. The analysis also evaluates if the new residential developments would generate noise levels that could exceed City standards.

Exposure to Noise Levels that Exceed Standards

As shown earlier in Table 16-2, the Project area is subject to high ambient noise levels that are primarily associated with traffic noise from I-210 and rail noise from the METRO Gold Line. Measures daytime and nighttime hourly noise levels were generally above 65 dBA Leq (as measured at the Project area boundary) and did not fluctuate significantly, indicating noise levels associated with the I-120 and the METRO Gold Line are consistent throughout the daytime and nighttime period.

The calculated CNEL (at the Project area boundary) adjacent to the I-210 and METRO Gold Line is 73.5 and 75.1 CNEL, respectively (Table 16-2). Although these noise levels represent

existing conditions, they are not expected to change substantially in the future since traffic volumes on I-210 are already substantial and the METRO Gold Line currently operates with a high level of frequency.

Alexan Foothills Specific Plan Noise Exposure

The current conceptual site plan for the Alexan Foothills Specific Plan includes a number of design features that would reduce noise levels at exterior building facades and corresponding interior noise levels, including:

- Building setbacks of at least 20 feet or more from the edge of the West Evergreen and METRO Gold Line ROWs.

- Building orientation that limits exterior residential wall exposure to direct noise from the I-210 and the METRO Gold Line. The current conceptual site plan shows 27 units with exterior wall exposure to the I-210 (plus one exterior roof deck) and 45 units with exterior wall exposure to the METRO Gold Line. Thus, only 16% of the total available units would be subject to the worst-case noise levels at the site.

- Residential unit design that places bedrooms on the interior of the unit and less sensitive spaces (kitchens, closets, etc.) along the exterior wall facing the I-210 and METRO Gold Line ROW.

- Use of outdoor recreation space and the proposed parking garage to buffer residential units from noise associated with the I-210 and the METRO Gold Line. Higher noise levels are generally acceptable in outdoor recreation spaces due to the shorter exposure period (i.e., non-continuous, short-term exposure) and the fact that outdoor activities are typically less sensitive to the subjective and interference effects of noise (e.g., annoyance, nuisance, interference with sleep or speech).

- Incorporation of a vegetated screening wall along the southern property line to limit line of sight / direct observation of METRO Gold trains.

With building setbacks, the CNEL at exterior building facades for the Alexan Foothills Specific Plan would likely be in the range of 71 to 72 CNEL in the northern and southern parts of the Alexan Foothills Specific Plan area. Exterior noise levels at proposed Courtyard #3 and the secondary recreation courtyard would not exceed 70 dB CNEL.

ZCA Areas A and C Noise Exposure

The ZCA would allow for development of multi-family land use(s) in ZCA Areas A and C that would likely be similar to the proposed Alexan Foothills Specific Plan area (i.e., a multi-story residential development); however, no specific development is proposed at this time. Since building setbacks would be similar to those proposed for the Alexan Foothills Specific Plan, future residential buildings within the ZCA Areas A and C would likely be exposed to similar noise levels as the Alexan Foothills Specific Plan (72 to 74 CNEL in the northern and southern parts of the Project area, respectively).

Impact Significance Determination

Based on the ambient noise measurements performed for the Project, potential residential units within the Project area that front West Evergreen Avenue and the I-210 would be exposed to noise levels of approximately 72 CNEL, while potential residential units that front the METRO Gold Line ROW would be exposed to noise levels of approximately 74 CNEL.

Ambient noise levels greater than 70 dB CNEL in the Project area exceed the levels at which the California Building Standards Code, California Green Building Standards Code, and the General Plan require the preparation of an acoustical analysis documenting compliance with applicable interior noise standards of 45 CNEL in any habitable room (pursuant to the Section 1207.4 of the California Building Code, Part 2, Volume 1) and 50 dBA Leq (1-hour) for any occupied room (pursuant to Section 5.507.4.2 of the California Green Building Standards Code)[1].

Standard construction techniques and materials are commonly accepted to provide a minimum exterior to interior noise attenuation (i.e., reduction) of 22 to 25 dBA with all windows and doors closed, which would result in interior noise levels of approximately 47 to 50 CNEL dBA for units fronting I-210 and approximately 49 to 52 CNEL for units fronting the METRO Gold Line ROW[2]. Since interior noise levels would continue to exceed applicable City and State standards, this is considered a potentially significant impact.

To ensure potential interior noise levels meet applicable standards, the City shall require all development proposals in the Project area, including the Alexan Foothills Specific Plan, to implement mitigation measure MM NOI-1, which requires the preparation of an acoustical analysis to document compliance with interior noise level requirements. Mitigation measure MM NOI-1 would ensure applicable exterior and interior noise standards are met by new development within the Project area. Thus, this measure would ensure that buildout of the Project would not expose people to noise levels that exceed standards and impacts would be reduced to a less than significant level.

Mitigation Measures

Mitigation Measure MM NOI-1 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

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1 Part 2 of the California Building Code, Section 1207, Sound Transmission, establishes sound transmission standards for interior walls, partitions, and floor/ceiling assemblies. Specifically, Section 1207.4 establishes that interior noise levels attributable to exterior noise sources shall not exceed 45 dBA DNL or CNEL (as set by the local General Plan) in any habitable room. Chapter 5 of the California Green Building Standards Code, Section 5.507 sets forth environmental comfort/acoustical control requirements for building assemblies that are prescriptive- based (i.e., assemblies meet certain prescribed exterior to interior noise attenuation levels) or performance-based (i.e., the interior noise environment shall not exceed 50 dBA on an hourly equivalent noise level basis in occupied areas. Both the prescriptive and performance standard contained in the Green Building Standards Code apply to projects located within a 65 CNEL noise contour of an airport, freeway, railroad, industrial source, etc. or otherwise exposed to a noise level of 65 dBA on an hourly Leq basis.

2 The U.S. Department of Housing and Urban Development (HUD) Noise Guidebook and supplement (2009a, 2009b) includes information on noise attenuation provided by building materials and different construction techniques. As a reference, a standard exterior wall consisting of 5/8-inch siding, wall sheathing, fiberglass insulation, two by four wall studs on 16-inch centers, and 1/2-inch gypsum wall board with single strength windows provides approximately 35 dBs of attenuation between exterior and interior noise levels. This reduction may be slightly lower (2-3 dBs) for traffic noise due to the specific frequencies associated with traffic noise. Increasing window space may also decrease attenuation, with a reduction of 10 dBs possible if windows occupy 30% of the exterior wall façade.

MM NOI-1: Confirm Compliance with Applicable Interior Noise Standard Requirements. Prior to the issuance of a building permit for any development in the Project area, the City shall review and approve an acoustical analysis, prepared by or on behalf of the applicant, and based on the final design, that:

1) Identifies the exterior noise levels at the:
   a. Exterior building facades that face West Evergreen Avenue/I-210, South Magnolia Avenue, and the METRO Gold Line ROW; and
   b. Exterior recreation areas, including patios, that face and have a line of sight to West Evergreen Avenue/I-210, South Magnolia Avenue, and the METRO Gold Line ROW.
2) Identifies the final site and building design features that would:
   a. Attenuate exterior building façade noise levels to interior levels that do not exceed 45 CNEL in habitable rooms and 50 dBA Leq (1-hour) in other occupied rooms. Potential noise insulation site and building design features capable of achieving this requirement may include, but are not limited to:
      - Sound barriers;
      - Enhanced exterior wall construction/noise insulation design;
      - Use of enhanced window, door, and roof assemblies with above average sound transmission class (STC) or outdoor/indoor transmission class (OITC) values; or
      - Use of mechanical, forced air ventilation systems to permit a windows closed condition in residential units.

Requirements and Timing: An acoustical report shall be submitted to City Planning for review and approval prior to the issuance of building permits, documenting that actual interior and exterior noise level at the locations indicated in this measure, meet City and State standards. **Monitoring:** City staff shall approve the acoustical analysis prior to issuance of building permits.

Project Generation of Noise Levels that Exceed Standards

Once constructed, the proposed Alexan Foothills Specific Plan and future development in ZCA Areas A and C would generate noise levels from increased vehicle parking activities, stationary sources of equipment such as potential heating, ventilation, and air conditioning (HVAC) equipment, and a back-up generator and fire pump. The potential noise levels generated by these activities and equipment are described below.

Alexan Foothills Specific Plan Operational Noise Generation

Parking Garage Noise. The proposed Alexan Foothills Specific Plan parking garage would increase the noise levels at the site by providing additional parking capacity, reflection of sound waves, etc. Noise sources associated with the parking garage (e.g., car horns, doors slamming, cars starting, etc.) would be intermittent. These types of noises would not differ substantially from the noise generated by existing parking activities in the Project area, but the frequency of these events would increase. Potential increases in noise resulting from the new parking garage were quantified using the following equations contained in the FTA's *Transit Noise and Vibration Impact Assessment* manual (FTA 2006).

$$\textbf{Leq(h)} = \textbf{SEL}_{ref} + \textbf{C}_N - \textbf{36.5}$$

and

$$\textbf{C}_N = \textbf{10 x log}(\textbf{N}_A / \textbf{1,000})$$

Where:

Leq(h)	=	Hourly Leq at 50 feet
SEL_{ref}	=	Source Reference Level at 50 feet
C_N	=	Volume Adjustment (SEL_{ref} is based on 1,000 cars in peak activity hour)
N_A	=	Number of Automobiles per Hour

To calculate the Leq and CNEL at 50 feet from the parking garage, hourly noise levels were first calculated throughout the day using the equations above, where, according to the FTA, the SEL_{ref} for parking garages is 92 dBA. The AM peak hour calculations accounted for 143 hourly trips, the PM peak hour (calculations accounted for 194 hourly trips, and the remaining 1,601 trips were divided evenly throughout the remaining 22 hours in the day (i.e., approximately 73 average trips her hour). This methodology is considered conservative (i.e., likely to overestimate CNEL) since it likely overestimates activity at the parking garage from the hours of 10:00 PM to 7:00 AM, when a 10 dBA penalty is applied to the hourly noise levels used to calculate the CNEL (see Section 16.1).

The results of the calculation indicate the parking garage would result in a worst-case hourly Leq value of 49.3 dBA (during the PM peak hour activity) and a CNEL of 51.8, which is more than 20 dBA lower than the existing ambient noise level measured at LT-2 (75.1 CNEL). In general, when two noise levels are 10 dB or more apart, the lower value does not contribute significantly (less than 0.5 dB) to the total noise level. Thus, potential noise levels from the Alexan Foothills Specific Plan parking garage would comply with the standards contained in Municipal Code Section 9.44.040 and would not result in a substantial increase in ambient noise levels in the vicinity of the Project.

Mechanical Equipment. The proposed parking garage would be an open air structure and would not require fresh air supply or exhaust supply fans to provide ventilation throughout the garage.

Mechanical equipment associated with the Alexan Foothills Specific Plan would include pool equipment (e.g., pumps), elevators, and individual HVAC units. Pool and elevator equipment would be contained within mechanical rooms, and the HVAC units necessary to cool and ventilate residential units would be small charge/load units mounted on each rooftop and contained behind a parapet wall that would direct sound upwards. The mechanical equipment associated with the proposed Alexan Foothills Specific Plan would comply with the standards contained in Municipal Code Section 9.44.040 and would not result in a substantial increase in ambient noise levels in the vicinity of the Project.

Other Operational Noise Sources Including Stationary Noise Sources. The Alexan Foothills Specific Plan would include ground level and rooftop recreational spaces, resident amenities such as a pet spa and fitness center, refuse collection services, a 50-horsepower emergency generator, and a 50-horsepower emergency fire pump which could be tested approximately one-half hour to one-hour per month.

The Specific Plan's recreational spaces and amenities would provide residents recreation and residential services, including areas to sit, eat, and socialize. This type of anticipated activity is consistent with other land uses in the area and would not result in a substantial increase in noise levels in the immediate area.

Refuse collection services would be congregated in the center of the Specific Plan area, with collection services occurring on West Evergreen Avenue, adjacent to the I-210 and away from sensitive receptors. Thus, refuse collection services would not generate substantial noise levels at noise sensitive receptor locations.

The 50-horsepower back-up generator and 50 hp emergency fire pump would be located within designated mechanical rooms. These pieces of equipment would only be used on an intermittent emergency basis with the exception of regular testing (assumed to be one hour per month). Noise from these pieces of equipment would also be shielded by their enclosures, and therefore, would not exceed noise standards at the locations of residences.

Therefore, operational noise impacts generated by the proposed Alexan Foothills Specific Plan would be less than significant.

Mitigation Measures

No mitigation measures are required.

Operational Noise Generation in ZCA Areas A and C

Although a specific development is not proposed at this time, future development in ZCA Areas A and C would be likely to generate noise levels from the same type of sources as the Alexan Foothills Specific Plan. However, the overall noise generating activities in these areas would likely be approximately 80% less than that of the Alexan Foothills Specific Plan, based on potential development capacity in ZCA Areas A and C. As described above, the Alexan Foothills Specific Plan would not generate onsite noise levels that have the potential to exceed City standards or result in a substantial permanent increase in ambient noise levels. Since the ZCA would result in less noise generating activities and equipment than the Alexan Foothills Specific Plan, it would also not have the potential to generate onsite noise levels that have the potential to exceed City standards or result in a substantial permanent increase in ambient noise levels. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Operational Noise Levels Associated with Entire Project

The potential for noise sources in the Alexan Foothills Specific Plan area and ZCA Areas A and C to combine is limited to two areas where the different properties would abut each other. Otherwise, residential buildings, parking garage, and other structures in the proposed development under the Alexan Foothills Specific Plan, would shield adjacent properties.

The first area would be in the northeast corner of the Project area, near the intersection of South Magnolia Avenue and West Evergreen Avenue. The noise generating activities from the Alexan Foothills Specific Plan in this area would generally be limited to low-speed vehicle noise

associated with vehicles entering and exiting the development, as well as some office and commercial activities associated with the leasing office in this area. Although there is no specific development proposal for this ZCA area (Area C) at this time, because this area is currently an industrial use, sensitive receptors are not expected in this area in the future. Therefore, combined noise levels in this area could only affect receptors R-1A and R-1B, located approximately 60 feet east of the Project, across South Magnolia Avenue.

The second area would be in the interior of the Project area, where the western boundary of the Alexan Foothills Specific Plan abuts the eastern boundary of the ZCA Area A along Mayflower Avenue. The noise generating activities from the Alexan Foothills Specific Plan in this area would generally be limited to use of the secondary recreation courtyard, residential uses, and roof deck activities. Although there is no specific development proposal for ZCA Area A at this time, it is assumed that the noise generating activities from future development in this area would consist of similar noise generating activities. The combined noise levels in this area could only affect the residence located approximately 70 feet south of the Project, across the METRO Gold Line ROW (i.e., sensitive receptor location R-2; see Table 16-3).

The combined noise levels generated by the Alexan Foothills Specific Plan and future development in ZCA Areas A and C, would not be substantially different than the individual noise levels associated with each Project component. As described in Section 16.1.1, when two or more sources of equivalent noise are combined, the resulting increase in noise levels is approximately 3 dB. An increase in 3 dB is barely perceptible by humans and would not be significant. Therefore, this impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT NOI-2: SUBSTANTIAL PERMANENT INCREASES IN AMBIENT NOISE LEVELS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

As described under Impact NOI-1, the proposed Alexan Foothills Specific Plan and other future development in ZCA Areas A and C would not generate noise levels that exceed City standards or result in a substantial permanent increase in noise at or in the Project area.

However, the Alexan Foothills Specific Plan and future development in ZCA Areas A and C would generate traffic that would be distributed onto the local roadway system, potentially increasing noise levels along travel routes. The following analysis evaluates the potential increases in traffic noise levels resulting from the Alexan Foothills Specific Plan, future development of ZCA Areas A and C, and both combined.

Caltrans considers a doubling of total traffic volume to result in a 3 dBA increase in traffic-related noise levels (Caltrans 2013a). If the Project would not result in a doubling of traffic volumes on the local roadway system, it would not result in a substantial permanent increase in traffic-related noise levels. A noise level of less than 3 dBA is typically not perceptible to the human ear in an outdoor environment.

Alexan Foothills Specific Plan Increases in Traffic Noise Levels

The TIA identifies that the Alexan Foothills Specific Plan would result in a net increase in trip generation equal to 1,938 vehicle trips (LSA 2018). Tables 16-8 and 16-9 identify the increases in traffic noise levels attributable to the Alexan Foothills Specific Plan under existing (2018) and cumulative (2035) conditions, based on the trip distribution assumptions contained in the TIA.

Table 16-8 Alexan Foothills Specific Plan Net Change in ADT (Existing 2018)

ID	Road	Segment	Existing ADT	Existing Plus Specific Plan ADT	Percent Change
1A	Duarte Road	West of Mayflower	21,445	21,545	0.47%
1B	Duarte Road	Mayflower to Magnolia	17,531	17,531	0.00%
1C	Duarte Road	Magnolia to Myrtle	17,531	17,731	1.14%
1D	Duarte Road	East of Myrtle	10,667	10,767	0.94%
2A	**W. Evergreen Avenue**	**Mayflower to Magnolia**	**2,300**	**2,900**	**26.09%**
2B	W. Evergreen Avenue	Magnolia to Myrtle	2,500	2,700	8.00%
3A	Huntington Drive	Mayflower to Magnolia	25,299	25,499	0.79%
3B	Huntington Drive	Magnolia to Myrtle	25,29	25,399	0.40%
4A	Mayflower Avenue	North of Evergreen	15,416	15,716	1.95%
4B	Mayflower Avenue	Evergreen to Duarte	15,236	15,336	0.66%
4C	Mayflower Avenue	South of Duarte	7,200	7,200	0.00%
5A	Magnolia Avenue	Huntington to Evergreen	6,790	7,490	10.31%
5B	Magnolia Avenue	Evergreen to Duarte	6,255	6,755	7.99%
6A	Myrtle Avenue	Huntington to Central	21,331	21,531	0.94%
6B	Myrtle Avenue	Central to Duarte	19,904	19,904	0.00%
6C	Myrtle Avenue	South of Duarte	21,578	21,678	0.46%
Source: LSA 2018 (see Appendix J)					

Table 16-9 Alexan Foothills Specific Plan Net Change in ADT (Future 2035)

ID	Road	Segment	Future ADT	Future Plus Specific Plan ADT	Percent Change
1A	Duarte Road	West of Mayflower	23,900	24,000	0.42%
1B	Duarte Road	Mayflower to Magnolia	19,700	19,700	0.00%
1C	Duarte Road	Magnolia to Myrtle	19,800	20,000	1.01%
1D	Duarte Road	East of Myrtle	12,100	12,200	0.83%
2A	**W. Evergreen Avenue**	**Mayflower to Magnolia**	**2,500**	**3,100**	**24.00%**
2B	W. Evergreen Avenue	Magnolia to Myrtle	2,700	2,900	7.41%
3A	Huntington Drive	Mayflower to Magnolia	28,600	28,800	0.70%
3B	Huntington Drive	Magnolia to Myrtle	28,500	28,600	0.35%
4A	Mayflower Avenue	North of Evergreen	16,900	17,200	1.78%
4B	Mayflower Avenue	Evergreen to Duarte	16,700	16,800	0.60%

Table 16-9 Alexan Foothills Specific Plan Net Change in ADT (Future 2035)

ID	Road	Segment	Future ADT	Future Plus Specific Plan ADT	Percent Change
4C	Mayflower Avenue	South of Duarte	7,900	7,900	0.00%
5A	Magnolia Avenue	Huntington to Evergreen	8,100	8,800	8.64%
5B	Magnolia Avenue	Evergreen to Duarte	7,700	8,200	6.49%
6A	Myrtle Avenue	Huntington to Central	24,900	25,100	0.80%
6B	Myrtle Avenue	Central to Duarte	24,000	24,000	0.00%
6C	Myrtle Avenue	South of Duarte	24,100	24,200	0.41%
Source: LSA 2018 (see Appendix J)					

As shown in Tables 16-8 and 16-9, the Alexan Foothills Specific Plan could result in up to an additional 26% increase in traffic volumes on roadways segments near the Project (West Evergreen Avenue). Since the Alexan Foothills Specific Plan would not double traffic volumes on roadways in the Project vicinity, traffic noise would not increase by 3 dBA. Therefore, this impact is less than significant.

Mitigation Measures

No mitigation measures are required.

ZCA Areas A and C Increases in Traffic Noise Levels

The TIA identifies that future development in the ZCA Areas A and C would result in a net increase in trip generation equal to 425 vehicle trips (LSA 2018). Tables 16-10 and 16-11 identify the increases in traffic noise levels attributable to future development in the ZCA Areas A and C under existing (2018) and cumulative (2035) conditions, based on the trip distribution assumptions contained in the TIA.

Table 16-10 ZCA Areas A and C Net Change in ADT (Existing 2018)

ID	Road	Segment	Existing ADT	Existing Plus ZCA Areas A and C ADT	Percent Change
1A	Duarte Road	West of Mayflower	21,445	21,545	0.47%
1B	Duarte Road	Mayflower to Magnolia	17,531	17,531	0.00%
1C	Duarte Road	Magnolia to Myrtle	17,531	17,531	0.00%
1D	Duarte Road	East of Myrtle	10,667	10,767	0.94%
2A	**W. Evergreen Avenue**	**Mayflower to Magnolia**	**2,300**	**2,400**	**4.35%**
2B	W. Evergreen Avenue	Magnolia to Myrtle	2,500	2,500	0.00%
3A	Huntington Drive	Mayflower to Magnolia	25,299	25,399	0.40%
3B	Huntington Drive	Magnolia to Myrtle	25,29	25,299	0.00%
4A	Mayflower Avenue	North of Evergreen	15,416	15,416	0.00%
4B	Mayflower Avenue	Evergreen to Duarte	15,236	15,236	0.00%
4C	Mayflower Avenue	South of Duarte	7,200	7,200	0.00%

Table 16-10 ZCA Areas A and C Net Change in ADT (Existing 2018)

ID	Road	Segment	Existing ADT	Existing Plus ZCA Areas A and C ADT	Percent Change
5A	Magnolia Avenue	Huntington to Evergreen	6,790	6,990	2.95%
5B	Magnolia Avenue	Evergreen to Duarte	6,255	6,355	1.60%
6A	Myrtle Avenue	Huntington to Central	21,331	21,331	0.00%
6B	Myrtle Avenue	Central to Duarte	19,904	19,904	0.00%
6C	Myrtle Avenue	South of Duarte	21,578	21,578	0.00%
Source: LSA 2018 (see Appendix J)					

Table 16-11 ZCA Areas A and C Net Change in ADT (Future 2035)

ID	Road	Segment	Future ADT	Future Plus ZCA Areas A and C ADT	Percent Change
1A	Duarte Road	West of Mayflower	23,900	24,000	0.42%
1B	Duarte Road	Mayflower to Magnolia	19,700	19,700	0.00%
1C	Duarte Road	Magnolia to Myrtle	19,800	19,800	0.00%
1D	Duarte Road	East of Myrtle	12,100	12,200	0.83%
2A	**W. Evergreen Avenue**	**Mayflower to Magnolia**	**2,500**	**2,600**	**4.00%**
2B	W. Evergreen Avenue	Magnolia to Myrtle	2,700	2,700	0.00%
3A	Huntington Drive	Mayflower to Magnolia	28,600	28,700	0.35%
3B	Huntington Drive	Magnolia to Myrtle	28,500	28,500	0.00%
4A	Mayflower Avenue	North of Evergreen	16,900	16,900	0.00%
4B	Mayflower Avenue	Evergreen to Duarte	16,700	16,700	0.00%
4C	Mayflower Avenue	South of Duarte	7,900	7,900	0.00%
5A	Magnolia Avenue	Huntington to Evergreen	8,100	8,300	2.47%
5B	Magnolia Avenue	Evergreen to Duarte	7,700	7,800	1.30%
6A	Myrtle Avenue	Huntington to Central	24,900	24,900	0.00%
6B	Myrtle Avenue	Central to Duarte	24,000	24,000	0.00%
6C	Myrtle Avenue	South of Duarte	24,100	24,100	0.00%
Source: LSA 2018 (see Appendix J)					

As shown in Tables 16-10 and 16-11, ZCA Areas A and C could result in up to an additional 4.35% increase in traffic volumes on roadways segments near the Project (West Evergreen Avenue). Since potential future development in ZCA Areas A and C would not double traffic volumes on roadways in the Project vicinity, traffic noise would not increase by 3 dBA. Therefore, this impact is less than significant.

Mitigation Measures

No mitigation measures are required.

Combined Project Increases in Traffic Noise Levels

The TIA identifies that the Alexan Foothills Specific Plan and potential future development in ZCA Areas A and C would result in a combined net increase in trip generation equal to 2,363 vehicle trips (LSA 2018). Tables 16-12 and 16-13 identify the increases in traffic noise levels attributable to the Alexan Foothills Specific Plan and potential future development in ZCA Areas A and C under existing (2018) and cumulative (2035) conditions, based on the trip distribution assumptions contained in the TIA.

As shown in Table 16-12 and 16-13, the Project could result in up to an additional 30.4% increase in traffic volumes on roadway segments near the Project (West Evergreen Avenue). Since the combined Project development would not double traffic volumes on roadways in the Project vicinity, traffic noise would not increase by 3 dBA. Therefore, this impact is less than significant.

Table 16-12 Project Net Change in ADT (Existing 2018)

ID	Road	Segment	Existing ADT	Existing Plus Project ADT	Percent Change
1A	Duarte Road	West of Mayflower	21,445	21,645	0.93%
1B	Duarte Road	Mayflower to Magnolia	17,531	17,531	0.00%
1C	Duarte Road	Magnolia to Myrtle	17,531	17,731	1.14%
1D	Duarte Road	East of Myrtle	10,667	10,867	1.87%
2A	**W. Evergreen Avenue**	**Mayflower to Magnolia**	**2,300**	**3,000**	**30.43%**
2B	W. Evergreen Avenue	Magnolia to Myrtle	2,500	2,700	8.00%
3A	Huntington Drive	Mayflower to Magnolia	25,299	25,599	1.19%
3B	Huntington Drive	Magnolia to Myrtle	25,29	25,399	0.40%
4A	Mayflower Avenue	North of Evergreen	15,416	15,716	1.95%
4B	Mayflower Avenue	Evergreen to Duarte	15,236	15,336	0.66%
4C	Mayflower Avenue	South of Duarte	7,200	7,200	0.00%
5A	Magnolia Avenue	Huntington to Evergreen	6,790	7,690	13.25%
5B	Magnolia Avenue	Evergreen to Duarte	6,255	6,855	9.59%
6A	Myrtle Avenue	Huntington to Central	21,331	21,531	0.94%
6B	Myrtle Avenue	Central to Duarte	19,904	19,904	0.00%
6C	Myrtle Avenue	South of Duarte	21,578	21,678	0.46%
Source: LSA 2018 (see Appendix J)					

Table 16-13 Project Net Change in ADT (Future 2035)

ID	Road	Segment	Future ADT	Future Plus Project ADT	Percent Change
1A	Duarte Road	West of Mayflower	23,900	24,100	0.84%
1B	Duarte Road	Mayflower to Magnolia	19,700	19,700	0.00%
1C	Duarte Road	Magnolia to Myrtle	19,800	20,000	1.01%
1D	Duarte Road	East of Myrtle	12,100	12,300	1.65%
2A	**W. Evergreen Avenue**	**Mayflower to Magnolia**	**2,500**	**3,200**	**28.00%**
2B	W. Evergreen Avenue	Magnolia to Myrtle	2,700	2,900	7.41%
3A	Huntington Drive	Mayflower to Magnolia	28,600	28,900	1.05%
3B	Huntington Drive	Magnolia to Myrtle	28,500	28,600	0.35%
4A	Mayflower Avenue	North of Evergreen	16,900	17,200	1.78%
4B	Mayflower Avenue	Evergreen to Duarte	16,700	16,800	0.60%
4C	Mayflower Avenue	South of Duarte	7,900	7,900	0.00%
5A	Magnolia Avenue	Huntington to Evergreen	8,100	9,000	11.11%
5B	Magnolia Avenue	Evergreen to Duarte	7,700	8,300	7.79%
6A	Myrtle Avenue	Huntington to Central	24,900	25,100	0.80%
6B	Myrtle Avenue	Central to Duarte	24,000	24,000	0.00%
6C	Myrtle Avenue	South of Duarte	24,100	24,200	0.41%
Source: LSA 2018 (see Appendix J)					

Mitigation Measures

No mitigation measures are required.

IMPACT NOI-3: SUBSTANTIAL TEMPORARY OR PERIODIC INCREASES IN AMBIENT NOISE LEVELS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The construction of the Alexan Foothills Specific Plan and other future development within ZCA Areas A and C would generate a temporary and periodic increase in ambient noise levels over an approximately two-and-a-half-year period. The construction of the Alexan Foothills Specific Plan is anticipated to occur over an approximately 30-month period between 2020 and 2022, while construction of future development in ZCA Areas A and C is anticipated to occur over a 12-month period between 2021 and 2022. As a conservative approach, this EIR's analysis assumes future development of the ZCA Areas A and C would occur during the final twelve months of the Alexan Foothills Specific Plan construction schedule (i.e., construction activities in the Alexan Foothills Specific Plan and ZCA Areas A and C would occur at the same time). The following analysis first presents the estimated construction noise levels associated with the Alexan Foothills Specific Plan, then the construction noise levels associated with future development in ZCA Areas A and C, and finally the combined noise levels associated with simultaneous development of both Project components.

Demolition of existing buildings as well as erection of new structures associated with the Alexan Foothills Specific Plan and buildout within ZCA Areas A and C would require the use of heavy-

duty, off-road construction equipment throughout development activities. Table 16-14 presents the noise levels associated with typical types of construction equipment that could be used during construction activities.

Table 16-14 Typical Construction Equipment Noise Levels (dBA)

Equipment	Reference Noise Level at 50 Feet (Lmax)[A]	Percent Usage Factor[B]	Predicted Noise Levels (Leq) at Distance[C]					
			50 Feet	100 Feet	150 Feet	250 Feet	350 Feet	450 Feet
Bulldozer	85	40	81	75	71	67	64	62
Backhoe	80	40	76	70	66	62	59	57
Compact Roller	80	20	73	67	63	59	56	54
Concrete Mixer	85	40	81	75	71	67	64	62
Crane	85	16	77	71	67	63	60	58
Excavator	85	40	81	75	71	67	64	62
Generator	82	50	79	73	69	65	62	60
Pneumatic tools	85	50	82	76	72	68	65	63
Scraper	85	40	82	76	72	68	64	62
Delivery Truck	85	40	81	75	71	67	64	62
Vibratory Roller	80	20	73	67	63	59	56	54

Sources: Caltrans 2013a and FHWA 2010.
Notes:
(A) L_{max} noise levels based on manufacturer's specifications.
(B) Usage factor refers to the amount of time the equipment produces noise over the time period.
(C) Estimate does not account for any atmospheric or ground attenuation factors. Calculated noise levels based on Caltrans, 2009: L_{eq} (hourly) = L_{max} at 50 feet – 20log (D/50) + 10log (UF), where: L_{max} = reference L_{max} from manufacturer or other source; D = distance of interest; UF = usage fraction or fraction of time period of interest equipment is in use.

Alexan Foothills Specific Plan Construction Noise Levels

The Alexan Foothills Specific Plan area is generally located within the center of the overall Project area and extends to the eastern boundary of the site. Parcel 7, located in the northwestern portion of the Project area is identified as ZCA Area C.

Construction activities associated with buildout of the five-story residential buildings and six-story parking structure would generate a variety of noise levels from operation of different kinds of construction equipment. Day-to-day noise levels at individual locations would vary depending on the equipment staging, location of operation, where materials are being stored onsite, and access routes used to import materials. Demolition, site preparation, grading / excavation, building construction, paving, and architectural coating processes involve equipment and vehicles that are known to produce temporary but intrusive levels of noise when operated in close proximity to sensitive residential receptors, particularly if equipment operation occurs during early morning, evening, or nighttime hours.

In general, construction noise levels would be highest during site preparation, grading, and excavation phases, when large pieces of earthmoving equipment would be required. Bulldozers, excavators, and graders would likely be the largest pieces of equipment operating at the same time during these phases. As a conservative approach, it is estimated up to three such pieces of

equipment could be operating concurrently near a property line for an hour or two at a time. At a distance of 50 feet, the hourly Leq noise level associated with operation of a bulldozer, excavator, and grader would be approximately 86 dBA. Table 16-15 summarizes the hourly Leq noise levels that would be generated by the operation of these three pieces of equipment at sensitive receptor locations and compares these estimated noise levels against the existing ambient noise level environment.

Table 16-15 Alexan Foothills Specific Plan: Estimated Construction Noise Levels

Receptor	Distance from Construction Activity	Noise Level (dBA)			
		Existing Ambient	Construction	With Barrier Attenuation[A]	Change[B]
R-1A / 1B	60 ft	63.7[C]	84.2	--	**+20.5**
R-2	70 ft	63.7[D]	82.9	72.9	+9.2
R-3	260 ft	67.5[E]	71.8	--	+4.3
R-4	70 ft	67.5[E]	82.9	--	**+15.4**

Source: MIG 2019 (see Appendix I)

Notes:

(A) A permanent noise barrier is located along the southern side of the METRO Gold Line, adjacent to receptors represented by R-2. Effective noise barriers can reduce noise levels by 10 to 15 dBA. The attenuation provided by this barrier (assumed to be 10 dBA) has been factored into the estimated noise level at R-2.

(B) Per the criterion outlined in Section 16.2.1, a significant temporary or periodic noise impact would occur if construction activities resulted in an increase of 10 dBA Leq or more at sensitive receptor locations. Bold values indicate an increase of more than 10 dBA above the ambient level.

(C) The Leq value measured at ST-1 is considered representative of ambient conditions at receptor location R-1A and R-1B. Both ST-1 and ST-2 were taken along South Magnolia Ave, along which Receptor R-1A and R-1B are located. Between ST-1 and ST-2, ST-1 had the lowest Leq value recorded, and therefore represents a conservative indication of ambient noise levels at receptor locations east of the Project.

(D) The Leq value measured at ST-1 is considered representative of ambient conditions at the property boundaries of receptor location R-2. Measurements at ST-1, LT-1, and ST-4 were all located along the southern boundary of the Project area, adjacent to the METRO Gold Line. ST-1 had the lowest Leq value recorded, and therefore represents a conservative indication of ambient noise levels at receptor locations south of the Project.

(E) The Leq value measured at ST-4 is considered representative of ambient conditions at receptor locations R-3 and R-4. Both ST-3 and ST-4 were taken along Mayflower Ave, along which Receptors R-3 and R-4 are located. Between ST-3 and ST-4, ST-4 had the lowest Leq value recorded, and therefore represents a conservative indication of ambient noise levels at receptor locations east of the Project.

The values presented in Table 16-15 reflect conservative (i.e., worst-case), yet realistic estimate of potential hourly Leq noise levels. The above estimates assume all equipment is operating at the Project's boundary nearest the receptor location. In actuality, equipment onsite would move around the work area and would generally not be situated at the same location for more than a few hours at a time. Equipment operating further away would produce lower noise levels than those presented. Nonetheless, as shown in Table 16-15, construction activities associated with the Alexan Foothills Specific Plan are anticipated to increase hourly ambient noise levels by 10 dB or more for two or more hours per day, seven days a week, for a period of 12 months or more. This is considered a potentially significant impact.

To reduce noise levels during construction of the Alexan Foothills Specific Plan, the City would require the applicant and/or the applicant's contractors to implement mitigation measure MM NOI-2, which requires preparation of a construction noise plan and implementation of the plan to minimize noise disturbance at adjacent sensitive receptor locations, to establish designated truck routes to minimize noise disturbance associated with deliveries to the site, and to install

noise barriers along the eastern and western perimeters of the Alexan Foothills Specific Plan area to reduce noise levels by a minimum of 11 dBA. These requirements would reduce construction noise levels such that sensitive receptor locations would not be exposed to noise levels in excess of 10 dBA above ambient conditions for more than year. Implementation of this measure would reduce impacts to a less than significant level.

Mitigation Measures

Mitigation Measure MM NOI-2 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

MM NOI-2: To reduce temporary construction noise impacts on adjacent land uses, the applicant or the applicant's construction contractor shall implement the following construction-period noise abatement measures for any development within the Project area:

- *Construction Activity Notification.* All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule for the proposed development. A sign, legible at a distance of 50 feet shall also be posted at the construction site. All notices and signs shall indicate the dates and duration of construction activities, as well as provide a telephone number where residents can enquire about the construction process and register complaints.
- *Noise Disturbance Coordinator.* A "noise disturbance coordinator" shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved. All notices that are sent to residential units within 500 feet of the construction site and all signs posted at the construction site shall list the telephone number for the disturbance coordinator.
- *Construction Traffic.* Route all construction traffic to and from the construction site via designated truck routes to the maximum extent feasible. Prohibit construction-related heavy truck traffic in residential areas where feasible.
- *Equipment Noise Controls:* The applicant and/or its construction contractor shall implement the following equipment noise control measures during all phases of construction:
  - *Mufflers*. All construction equipment shall be equipped with muffles and other suitable noise attenuation devices (e.g., engine shields).
  - *Equipment Selection.* Grading and construction contractors shall use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment), to the maximum extent feasible.
  - *Provide Electric Hook-Ups.* If feasible, electric hook-ups shall be provided to avoid the use of generators. If electric service is determined to be infeasible for the site, only whisper-quiet generators shall be used (i.e., inverter generators capable of providing variable load
- *Temporary Barriers.* During all demolition and construction activities, one or more physical barriers capable of achieving a minimum reduction in predicated noise levels by 11 dB shall be installed between future development and Magnolia Avenue and Mayflower Avenue, and between the western boundary of the Alexan Foothills Specific

Plan and ZCA Area A. Potential options for achieving this level of attenuation can include, but are not limited to:

- A concrete, wood, or other barrier installed at-grade (or mounted to structures located at-grade, such as K-Rail) along the property line. Such a wall/barrier shall consist of material that has a minimum rated transmission loss value of 21 dB (or equivalent rating) and shall contain no gaps in the structure through which noise may pass.
- Commercially available acoustic panels or other products such as acoustic barrier blankets installed along the property line, building envelope or, if feasible and necessary, at or near sensitive residential receptor areas.
- Any combination of noise barriers and commercial products capable of achieving an 11-dB reduction in construction noise levels at sensitive receptor locations.

Requirements and Planning: This measure shall be printed on all construction drawings and included in construction contracts. **Monitoring:** City staff shall ensure that this measure is located on final construction drawings. City staff shall conduct inspections during construction to ensure that measures are implemented.

Construction Noise Levels in ZCA Areas A and C

The type of equipment required to buildout ZCA Areas A and C would be similar to those required for the Alexan Foothills Specific Plan. Based on the smaller area of ZCA Areas A and C, it is estimated that only two large pieces of off-road equipment would be needed during the most intensive phases of construction (e.g., bulldozers, graders, excavators) of future development in ZCA Area A, and one large and small piece of equipment (e.g., bulldozer and backhoe) are assumed to be involved in any future redevelopment of ZCA Area C. Table 16-16 summarizes the hourly Leq noise levels that would be generated by construction activities at the nearest sensitive receptor locations in ZCA Areas A and C and compares these estimated noise levels against the existing ambient noise level environment.

Table 16-16 ZCA Areas A and C: Estimated Construction Noise Levels

Receptor	Distance from Construction Activity	Noise Level (dBA)			
		Existing Ambient	Construction	With Barrier Attenuation[(A)]	Change[(B)]
R-1A	60 ft	66.2[(C)]	80.6	--	**+14.4**
R-2	70 ft	67.5[(D)]	82.9	72.9	+5.4
R-3	80 ft	67.5[(E)]	81.7	--	**+14.2**

Source: MIG 2019

Notes:

(A) A permanent noise barrier is located along the southern side of the METRO Gold Line, adjacent to receptors represented by R-2. Effective noise barriers can reduce noise levels by 10 to 15 dBA. The attenuation provided by this barrier (assumed to be 10 dBA) has been factored into the estimated noise level at R-2.

(B) Per the criterion outlined in Section 16.2.1, a significant temporary or periodic noise impact would occur if construction activities resulted in an increase of 10 dBA Leq or more at sensitive receptor locations. **Bold** values indicate an increase of more than 10 dBA above the ambient level.

(C) The Leq value measured at ST-2 is considered representative of ambient conditions at receptor location R-1A, because the eastern portion of construction associated with the ZCA areas is closest to ST-2.

(D) The Leq value measured at ST-4 is considered representative of ambient conditions at the property boundaries of receptor location R-2, because ST-4 is the closest measurement location to R-2 in relation to where

Table 16-16 ZCA Areas A and C: Estimated Construction Noise Levels

Receptor	Distance from Construction Activity	Noise Level (dBA)			
		Existing Ambient	Construction	With Barrier Attenuation[A]	Change[B]
construction activities associated with the western side of theZCA areas would occur.					
(E) The Leq value measured at ST-4 is considered representative of ambient conditions at receptor location R-3. Both ST-3 and ST-4 were taken along S Mayflower Ave, along which Receptor R-3 is located. Between ST-3 and ST-4, ST-4 had the lowest Leq value recorded, and therefore represents a conservative indication of ambient noise levels at receptor locations east of the Project.					

As shown in Table 16-16, the estimated construction noise levels attributable to development of ZCA Areas A and C would result in potentially significant impacts at receptor locations R-1A and R-3, whether or not construction associated with ZCA Areas A and C were to occur concurrently with implementation of the Alexan Foothills Specific Plan. Consistent with the discussion presented under the construction noise analysis for the development of the Alexan Foothills Specific Plan, these noise values represent conservative (i.e., worst-case) yet realistic estimate of potential hourly Leq noise levels. In actuality, equipment onsite would move around the work area and would generally not be situated at the same location for more than a few hours at a time. Equipment operating further away would produce lower noise levels than those presented.

Nevertheless, impacts would be potentially significant. Implementation of mitigation measure MM NOI-2 would reduce impacts to less than significant levels.

Mitigation Measures

Refer to mitigation measure MM NOI-2.

Combined Project Noise Levels

As described previously, the Project being analyzed is the buildout of the Alexan Foothills Specific Plan over an approximately 30-month period, with future development of ZCA Areas A and C potentially occurring during the final 12 months of the Alexan Foothills Specific Plan construction.

Development in the Specific Plan area would be well underway by the time demolition and earthmoving activities would begin in ZCA Areas A and C. The residential buildings and parking garage would likely be into vertical building construction phases by the time site preparation, grading, and/or excavation would begin in ZCA Areas A and C. The types of equipment needed for vertical structure development would generally include a crane, pneumatic tools (e.g., nail gun), and a forklift (similar in terms of horsepower as a backhoe). At a distance of 50 feet, the hourly Leq noise level associated with operation of a crane, pneumatic tool, and forklift would be approximately 84 dBA. Table 16-17 summarizes the hourly Leq noise levels that would be generated by vertical structure development within the Alexan Foothills Specific Plan area, and Table 16-18 presents the worst-case, combined noise level under full buildout of the Project area.

Table 16-17 Alexan Foothills Specific Plan: Construction Noise Levels (Structure Development)

Receptor	Distance from Construction Activity	Construction Noise Level (dBA)
R-1A / R-1B	60 ft	82.4
R-2	70 ft	81.0
R-3	260 ft	69.6
Source: MIG 2018 (Appendix I)		

Table 16-18 Combined Construction Noise Levels of the Alexan Foothills Specific Plan and ZCA Areas A and C

Receptor	Distance from Construction Activity	Noise Level (dBA)			
		Existing Ambient	Construction	With Barrier Attenuation(A)	Change(B)
R-1A / R-1B	60 ft	66.2(C)	84.6	--	**+18.4**
R-2	70 ft	67.5(D)	85.1	75.1	+7.6
R-3	80 / 260 ft	67.5(E)	82.0	--	**+14.5**

Source: MIG 2018 (Appendix I)

Notes:

(A) A permanent noise barrier is located along the southern side of the METRO Gold Line, adjacent to receptors represented by R-2. Effective noise barriers can reduce noise levels by 10 to 15 dBA. The attenuation provided by this barrier (assumed to be 10 dBA) has been factored into the estimated noise level at R-2.

(B) Per the criterion outlined in Section 16.2.1, a significant temporary or periodic noise impact would occur if construction activities resulted in an increase of 10 dBA Leq or more at sensitive receptor locations. **Bold** values indicate an increase of more than 10 dBA above the ambient level.

(C) The Leq value measured at ST-2 is considered representative of ambient conditions at receptor location R-1A and R-1B, because the most affected receptor by construction in the eastern portion of the Project would be across, or near, ST-2.

(D) The Leq value measured at ST-4 is considered representative of ambient conditions at the property boundaries of receptor location R-2, because the most affected receptor south of the Project would have combined noise levels from construction in the Alexan Foothills Specific Plan area and the ZCA areas (on the western side).

(E) The Leq value measured at ST-4 is considered representative of ambient conditions at receptor location R-3, because of ST-3 and ST-4, ST-4 had the lowest Leq value recorded. ST-4 therefore represents a conservative indication of ambient noise levels at receptor locations east of the Project.

As shown in Table 16-18, combined unmitigated construction noise levels could be as high as 18.4 dBA above the existing ambient environment, under a worst-case scenario at sensitive receptor locations R-1A and R-1B. This change is less than the incremental increase identified for R-1A and R-1B (see Table 16-15), which would occur during earthmoving activities associated with development of the Alexan Foothills Specific Plan. As such, implementation of mitigation measure MM NOI-2, which requires a noise barrier be constructed along the eastern and western portions of active construction areas, capable of reducing noise levels by a minimum of 11 dBA, would also ensure that combined, construction noise levels associated with development of the entire Project area would not increase ambient noise levels at sensitive receptor locations by more than 10 dBA during construction activities. With implementation of mitigation measure MM NOI-2, impacts would be reduced to less than significant impacts.

Mitigation Measures

Refer to mitigation measure MM NOI-2.

IMPACT NOI-4: EXPOSE PEOPLE TO OR GENERATE EXCESSIVE GROUNDBORNE VIBRATION OR NOISE

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Buildout of the Project would require the use of heavy construction equipment that could produce groundborne vibration. The following analysis evaluates if construction of the Project would generate excessive groundborne vibration levels. Once operational, development in the Project area would not result in the use of equipment or machinery that could generate significant groundborne vibration. However, the Project is situated adjacent to the METRO Gold Line ROW, and trains travelling within the ROW would generate groundborne vibration. The analysis also evaluates if new residential receptors in the Project area would be exposed to excessive groundborne vibration from the operation of the METRO Gold Line.

Construction Vibration

There is the potential that site preparation, grading, foundation construction, and other construction activities associated with the Alexan Foothills Specific Plan and other future development in ZCA Areas A and C could result in groundborne vibration that would, at worst case, occur approximately 60 feet from existing structures on South Magnolia Ave (sensitive receptor locations R-1A and R-1B, see Table 16-3). Table 16-19 lists the groundborne vibration levels associated with the potential type of construction equipment that would most likely be required while undertaking construction in the Project area.

Table 16-19 Estimated Project Construction Groundborne Vibration Levels

Equipment	Peak Particle Velocity (in/sec) (A)			Velocity Decibels (VdB) (B)		
	25 feet	60 feet	100 feet	25 feet	60 feet	100 feet
Large bulldozer	0.089	0.034	0.019	87.0	75.6	68.9
Small bulldozer	0.03	0.011	0.007	58.0	46.6	39.9
Loaded truck	0.076	0.029	0.017	86.0	74.6	67.9
Jackhammer	0.035	0.013	0.008	79.0	67.6	60.9

Sources: Caltrans 2013b and FTA 2006.

Notes:

(A) Estimated PPV calculated as: PPV(D)=PPV(ref)*(25/D)^1.1 where PPV(D)= Estimated PPV at distance; PPVref= Reference PPV at 25 ft; D= Distance from equipment to receiver; and n= ground attenuation rate (1.1 for dense compacted hard soils).

(B) Estimated Lv calculated as: Lv(D)=Lv(25 feet)-30Log(D/25) where Lv(D)= estimated velocity level in decibels at distance, Lv(25 feet)= RMS velocity amplitude at 25 f; and D= distance from equipment to receiver.

As shown in Table 16-19, receptors 60 feet away from construction activities could be exposed to groundborne vibration levels of up to 0.034 in/sec PPV and 75.6 VdB during operation of large bulldozers. Based on Caltrans' transient criteria (see Table 16-6), these vibration levels would be "barely perceptible." Therefore, groundborne vibration levels are not predicted to

exceed Caltrans' vibration damage threshold criteria for historic or older buildings (0.25 in/sec PPV), a threshold considered protective of all nearby buildings, which are presumed to be of more recent construction, and thus, not as susceptible to damage from vibration as older, unreinforced structures. Groundborne vibration from construction activities would also be infrequent and short in duration (lasting a few hours or days as equipment would not operate in the same location for a prolonged amount of time), would not damage buildings or structures, would not result in long-term incompatibility with existing land uses, and would, therefore, not be excessive. Thus, this impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Exposure to Excessive Groundborne Vibration from the METRO Gold Line

The Monrovia General Plan Proposed Land Use and Circulation Elements EIR (City of Monrovia 2008) requires consideration of potential METRO Gold Line vibration impacts on residential projects located within 300 feet of the Gold Line (EIR Mitigation Measure NOI-B). Accordingly, a discussion of potential METRO Gold Line vibration impacts on development in the Project area is provided below.

The approval of the proposed Alexan Foothills Specific Plan and other future development within ZCA Areas A and C would result in the placement of new, sensitive residential land uses in close proximity to the METRO Gold Line. As explained in Section 7.1, "Existing METRO Gold Line Noise and Vibration Levels," vibration monitoring was not conducted for the Project; however, vibration monitoring was conducted in January 2018 for the Station Square South Specific Plan, an approximately 3.79-acre residential project located approximately 100 feet southwest of the Project (City of Monrovia 2018). The vibration monitoring for the South Station Square project was conducted approximately 525 feet from the Project, at a distance of 20 feet from the track centerline (Veneklassen 2018). The results of the vibration monitoring conducted for the Station Square South Specific Plan indicate groundborne vibration from passing METRO Gold Line trains was below 0.002 in/sec PPV and 65 VdB. These vibration levels are below both the Los Angeles County Vibration Limit of 0.01 in/sec PPV and the FTA's recommended vibration limit of 72 VdB for frequent events where people sleep (see Table 16-4).

The proposed Alexan Foothills Specific Plan and other future development within ZCA Areas A and C would not result in the placement of structures 20 feet or closer to the METRO Gold Line due to the width of the METRO ROW and City zoning setback requirements. Thus, the operation of the METRO Gold Line would not expose people living in the Project area to excessive groundborne vibration or groundborne noise levels. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT NOI-5: AIRPORT-RELATED NOISE LEVELS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The closest airport to the Project area is San Gabriel Valley Airport, located approximately 3.7 miles southwest of the Project area. This public airport has one runway and does not generate substantial airport-related noise in the City of Monrovia. Development of the Project would not expose people living or working in the Project area to excessive airport-related noise levels. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

16.2.3 Impact Conclusions

Buildout of the Project has the potential to place residents in areas where ambient noise levels exceed City and State standards for interior noise levels due to the proximity of the Project to I-210 and the METRO line. Impacts would be potentially significant, but they would be reduced to less than significant levels with implementation of mitigation measure MM NOI-1, which requires implementation of design features to ensure interior noise standards can be met and an acoustical analysis to confirm that standards can be met.

In addition, construction under buildout of the Alexan Foothills Specific Plan, ZCA Areas A and C, and both have the potential to result in a significant temporary increase in noise at sensitive receptor locations along Mayflower Avenue and Magnolia Avenue or between the western boundary of the Alexan Foothills Specific Plan and ZCA Areas A and C. Mitigation measure MM NOI-2 would require installation of noise barriers to reduce construction noise at sensitive receptor locations, thereby reducing impacts to less than significant levels.

Traffic noise impacts, noise impacts associated with stationary equipment, and vibration impacts would be less than significant.

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dB	Decibel
dBA	Decibels, A-Weighted
dBV / VdB	Velocity Decibels
Ldn / DNL	Day-Night Noise Level
EIR	Environmental Impact Report
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GPA	General Plan Amendment
HVAC	Heating, Ventilation, and Air Conditioning

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
HUD	Department of Housing and Urban Development
Hz	Hertz
Leq	Average / Equivalent Noise Level
Lmax	Maximum Noise Level
Lmin	Minimum Noise Level
LT	Long Term (noise measurement)
METRO	Los Angeles County Metropolitan Transportation Authority
OITC	Outdoor/Indoor Transmission Class
PPV	Peak Particle Velocity
ROW	Right of Way
SEL_{ref}	Source Reference Level
ST	Short Term (noise measurement)
STC	Sound Transmission Class
TIA	Traffic Impact Analysis
ZCA	Zoning Code Amendment

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17. POPULATION AND HOUSING

This EIR Chapter describes existing population and housing in the Project area. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project and describes potential impacts that could result from the Project.

17.1 SETTING

The environmental and regulatory setting of the Project area is described based on data provided by the U.S. Census Bureau, the Southern California Association of Governments (SCAG), and the California Department of Finance.

17.1.1 Environmental Setting

Population

Monrovia did not experience substantial population and housing growth between 1990 and 2000. According to the U.S. Census Bureau, the City's population was 35,761 in 1990 and grew by 3.3 percent to 36,929 in 2000. The City has continued to grow slowly this century (since 2000). The U.S. Census Bureau (2018) showed the City on Monrovia's population as 36,590 in 2010 (very little change since 2000). The U.S. Census Bureau estimated the City's population of 37,061 in 2017.

Population growth in the City of Monrovia is projected in SCAG's 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) utilizing a comprehensive analysis of fertility, mortality, migration, labor force, housing units, and local policies such as land use plans. According to SCAG (2016), the population of Monrovia is anticipated to grow to 40,300 by 2040, while Los Angeles County as a whole is anticipated to add approximately one million residents over the same time frame.

The Monrovia General Plan Proposed Land Use and Circulation Elements EIR (City of Monrovia 2008) notes that the population of the City will increase substantially more (58,805 in 2030) in large part due to the planned development of medium- and high-density residential, and mixed-use developments.

The City's 2014-2021 Housing Element (City of Monrovia 2014) projected that the population of Monrovia would be 37,700 by 2020, using SCAG's projections at that time.

Housing

The California Department of Finance (2018) reports the number of housing units as 15,010 in the City (2018); in 2010, there were 14,473 housing units in the City. In 2017, over two-thirds (10,431) of the housing units were single detached units; about 3,500 of the units were a part of multiple unit buildings with five of more units.

The City's 2014-2021 Housing Element (City of Monrovia 2014) also reported 14,470 housing units in Monrovia in 2010.

Currently, there is one unoccupied residential unit in the Alexan Foothills Specific Plan area and

four additional single family residences in ZCA Areas A and C.

Employment

The SCAG RTP/SCS (2016) reported employment in Monrovia as 19,700 in 2012 and projected employment as 23,300 in 2040.

The City's 2014-2021 Housing Element (City of Monrovia 2014) reported 17,700 jobs in Monrovia in 2008 and projected 18,200 jobs in 2020 according to SCAG projections at that time.

17.1.2 Regulatory Setting

Housing Element Law (California Government Code Article 10.6)

State Law requires each City and County to prepare and maintain a current Housing Element as part of the community's General Plan to attain a Statewide Goal of providing "decent housing and a suitable living environment for every California family." Under State Law, Housing Elements must be updated every five years and reviewed by the State Department of Housing and Community Development.

City of Monrovia 2014-2021 Housing Element

The 2014-2021 Housing Element presents Monrovia's housing plan for the planning period and contains goals, policies, and implementation programs to maintain, preserve, improve, and develop housing for all economic segments of the community (City of Monrovia 2014). The following goals are included in the Housing Element:

- **Goal #1:** Preserve and improve the quality of existing housing and neighborhoods in Monrovia.
- **Goal #2:** Provide adequate housing sites to facilitate the provision of a range of housing types to meet community needs.
- **Goal #3:** Enhance housing affordability so that modest income households can remain an integral part of the Monrovia community.
- **Goal #4:** Reduce governmental constraints on the maintenance, improvement and development of housing while maintaining community character.
- **Goal #5:** Promote equal housing opportunities for all residents, including Monrovia's special needs populations, so that residents can reside in the housing of their choice.
- **Goal #6:** Promote a healthy and sustainable Monrovia through support of existing and new housing which minimizes reliance on natural resources and automobile use.

17.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts related to population and housing that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts. A program-level analysis was conducted for the proposed GPA and ZCA Areas A and

C and a project-level analysis was conducted for the proposed Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

17.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: Items XIV (a) through (b), implementation of the Project would have a significant impact related to population and housing if it would:

(a) Induce substantial unplanned population growth either directly (e.g., by proposing new homes and businesses) or indirectly (e.g., through extension of roads or other infrastructure); or

(b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere.

17.2.2 Analysis Methodology

The population increase projected under the Project was compared with both SCAG's growth projection for the City from the 2016 RTP/SCS and what is anticipated under the Monrovia General Plan. The anticipated change of employment levels was also considered and compared.

17.2.3 Environmental Impacts

IMPACT POP-1 INDUCE SUBSTANTIAL UNPLANNED POPULATION GROWTH

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

A total of five existing single family residences occur in the Project area. According to the U.S. Census Bureau (2018), the average household size in Monrovia is 2.77 persons. Therefore, the current estimated population in the Project area is approximately 14 people.

A 436-unit, five-story apartment complex would be constructed in the Alexan Foothills Specific Plan area. According to the U.S. Census Bureau, the average persons per bedroom in Monrovia is 1.536. Given this, the Specific Plan area is anticipated to accommodate approximately 942 residents based on the number and types of units included in the Specific Plan area.

For ZCA Areas A and C, it was determined that up to 82 housing units could be accommodated based on a permitted land use density of 54 units/acre. Using the U.S. Census Bureau's (2018) average household size in Monrovia of 2.77 persons, this would result in approximately 227 residents at full buildout of ZCA Areas A and C. In total, the Project could result in housing for 1,169 new residents. Statistics are provided in Table 17-1.

Table 17-1 Population Growth Expected from the Project

Project Component	Type of Unit	Number of Units	Number of Bedrooms	Persons per Bedroom[(A)]	Expected Residents
Alexan Foothills Specific Plan	Studios	20	20	1.536	31
	1 bedroom	254	254	1.536	390
	2 bedroom	147	294	1.536	452
	3 bedroom	15	45	1.536	69
	Subtotal				942
ZCA Areas A and C	**Max Number of Units**		**Persons per Unit[(B)]**		**Expected Residents**
	82		2.77		227
Total of Full Buildout					**1,169**

Notes:
(A) Average persons per bedroom in Monrovia is 1.536
(B) Average household size in Monrovia is 2.77 persons

The U.S. Census Bureau (2018) estimated the City's population of 37,061 in 2017. As discussed above, SCAG (2016) projects the City of Monrovia's population to increase to 40,300 in 2040 (an 8.7 percent increase). The Monrovia General Plan Proposed Land Use and Circulation Elements EIR (2008) notes that the population of the City will increase substantially more (to 58,805 by 2030); this would represent nearly a 60 percent increase compared to the 2017 population. The population increase associated with the Project (1,169 residents) represents about a 3% increase in the City's current population. This represents about one-third of the total anticipated population increase anticipated under the SCAG 2016 RTP/SCS and about 5 percent of the projected population increase under the Monrovia General Plan Proposed Land Use and Circulation Elements EIR. A total of 518 dwelling units would also represent an 3% increase in the number of dwelling units in the City in 2018 (based on 15,010 dwelling units present in 2018) (Department of Finance 2018).

The population increase as a result of the Project is generally consistent with the projected increase in density and increase in transit-oriented development anticipated in the Monrovia General Plan Proposed Land Use and Circulation Elements EIR (2008) as well. The EIR states the following: "…land designated for housing will in many places be developed at a higher density than what was typical in the past in the focus areas, thus providing housing for a greater number of people per acre and providing transit-oriented development opportunities (p. 3.8-3)." The EIR goes on to state that this growth does not qualify as a significant impact to population and housing, in part due to the growth management policies and environmental regulations established by the City, as well as the State and Federal governments. This Project is similar to the types of projects considered in the Land Use and Circulation Elements.

In addition, because buildout of the Project would still remain within the amount of growth projected in SCAG's 2016-2040 RTP/SCS for Monrovia, the Project would be consistent with the RTP/SCS.

Therefore, the Project would not induce substantial population growth in the area, and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT POP-2 DISPLACE PEOPLE OR HOUSING

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The Project area contains a total of five residences, only one of which is planned for demolition under the Alexan Foothills Specific Plan. It is unknown at this time whether the other four residences would be removed as a result of future buildout in ZCA Areas A and C. However, even if all four residences within ZCA Areas A and C are removed, the Project would not result in displacement of a substantial number of residences given the small number of residences in the Project area.

In addition, the estimated existing population in the Project area, including residents, employees, churchgoers, etc., is 188 (see Chapter 11, Greenhouse Gas Emissions and Energy Consumption) with 133 people estimated in the Alexan Foothills Specific Plan area and 55 people estimated in the /ZCA Areas A and C. It is expected that this number of individuals would likely be able to work in nearby areas within the City without the need to find new housing and relocate. In addition, there would be a short-term increase in construction jobs during Project construction. Therefore, the Project is not anticipated to displace a substantial number of workers such that construction of replacement housing would be required. Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

17.2.4 Impact Conclusions

The increase in dwelling units and population under the Project would be consistent and within projections in SCAG's RTP/SCS and the City's General Plan. Implementation of the Project would also not result in the displacement of a substantial number of dwelling units and/or people, but rather, would result in a substantial net gain in the amount of housing in the community. Impacts would be less than significant.

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
EIR	Environmental Impact Report
GPA	General Plan Amendment
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
ZCA	Zoning Code Amendment

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18. PUBLIC SERVICES AND RECREATION

This EIR Chapter describes existing conditions for fire protection and emergency medical services, police protection, public schools, parks and recreation, and other public facilities serving the Project area, including libraries. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project, describes potential impacts that could result from the Project, and includes mitigation measures that would avoid or reduce those potential impacts.

18.1 SETTING

The environmental and regulatory setting of the City of Monrovia with respect to public services and recreation is described on the City of Monrovia Public Works website (City of Monrovia 2018a). The website details the streets, parks, utilities, facilities, engineering, and environmental services the City provides, a description of the setting, and is located at:

http://www.cityofmonrovia.org/your-government/public-works/about-us

18.1.1 Environmental Setting

Fire Protection and Emergency Medical Services

The Monrovia Fire and Rescue Department (MFRD) is the primary provider of fire protection, fire suppression, and emergency medical services in the City, although mutual and automatic aid agreements with neighboring cities and the Los Angeles County Fire Department. MFRD serves Monrovia's residents over approximately 13.7 square miles. The MFRD has two (2) Fire Stations:

- **Station 101** – Located at 141 E. Lemon Avenue in Monrovia. This is the MFRD Headquarters location.
- **Station 102** – Located at 2055 S. Myrtle Avenue in Monrovia.

MFRD states that "it takes between 3-5 minutes for engines to arrive after a 9-1-1 call is received for a fire or medical emergency" (City of Monrovia 2018b).

Wildland Fire

The City of Monrovia's Safety Element states "The greatest fire danger to the City is from wildland urban interface, where homes meet the 30- to 50-year brush growth" (City of Monrovia 2002). "The major fire threat exists in the steeper slopes of the San Gabriel Mountains to the north and their potential to sweep into the hillsides and residential foothill developments." This wildland urban interface in the northern part of developed Monrovia is the only land mapped as a High Fire Hazard Zone within the Safety Element. The Project area is separated from the High Fire Hazard Zone mapped in the Safety Element by approximately two miles of continuous development.

Likewise, the Project area is located approximately two miles from Very High Fire Hazard Severity Zones mapped by CalFIRE (Figure 18-1). The Project area is not within or adjacent to any areas of statewide responsibility mapped by CalFIRE as well.

Police Protection

The Monrovia Police Department (MPD) provides police services in the Project area with the headquarters building located on 140 East Lime Avenue (about 1.5 miles north of the Project area) (City of Monrovia 2018c). The Monrovia General Plan Proposed Land Use and Circulation Elements EIR (City of Monrovia 2008) projects that the population of Monrovia would be approximately 58,805 total residents by 2030. The EIR notes that higher density development under the General Plan will result in an increased number of calls, however, it will not increase the response times in the City, inclusive of the Project area.

Schools

The Project area is served by the Monrovia Unified School District; the district operates one pre-school, five elementary schools, two middle schools, one traditional high school, and one alternative high school (Table 18-1). The Monrovia Unified School District had a total of 5,563 students enrolled in 2017 to 2018 (California Department of Education 2018).

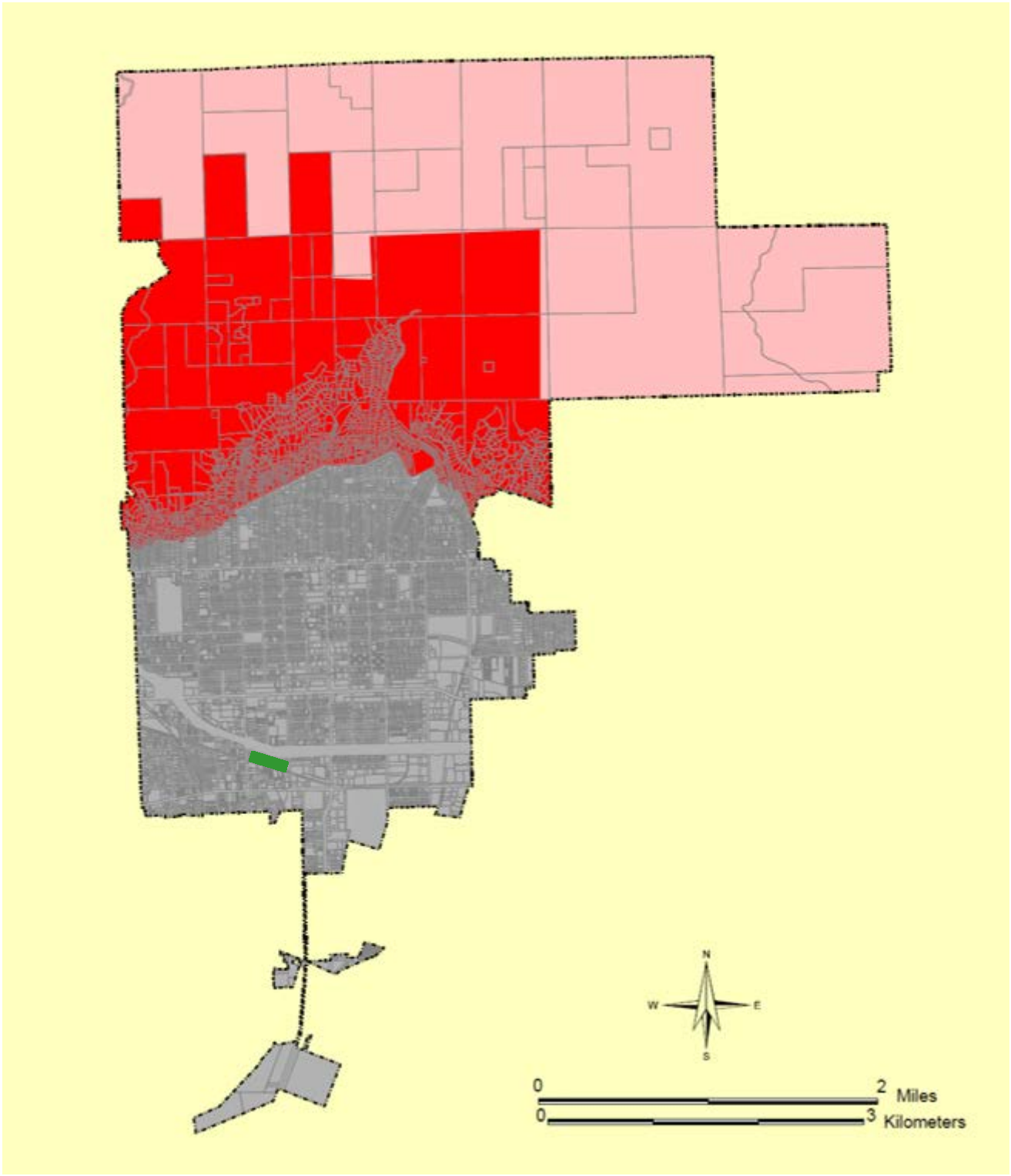
Table 18-1: Schools and Enrollment in Monrovia

School Name	Enrollment 2017-2018	District
Bradoaks Elementary School	462	Monrovia Unified School District
Mayflower Elementary School	524	
Monroe Elementary School	651	
Plymouth Elementary School	450	
Wild Rose Elementary School	444	
Clifton Middle School	682	
Santa Fe Computer Magnet School	527	
Monrovia High School	1,689	
Canyon Oaks High School	84	
Mountain Park School	35	
Non-Public Non-Sectarian Schools (i.e., Canyon Early Learning Center, Monrovia Community Adult School)	15	
Total	**5,563**	
Source: California Department of Education (2018)		

Parks and Recreation

City of Monrovia

The City of Monrovia has eight (8) parks that provide a wide array of recreation opportunities for the residents of, and visitors to, the City (City of Monrovia 2018e). Table 18-2 shows the parks, their locations and number of acres the parks cover. Overall, the City manages just over 112 acres of parklands (developed and undeveloped). The largest park is Monrovia Canyon Park, which is primarily open space with hiking trails totaling 80 acres.



Source: CAL FIRE

Figure 18-1 Monrovia Very High Fire Hazard Severity Zone Map

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The City also owns and manages the Hillside Wilderness, totaling over 1,416 acres of conserved natural area. Los Angeles County Parks maintains regional recreational facilities in adjacent communities, including Arcadia Community Regional Park, the Arboretum and Botanical Garden in Arcadia, and Pamela County Park in Duarte. Finally, Monrovia is adjacent to the Angeles National Forest, which provides thousands of acres of outdoor recreation opportunities.

Table 18-2: Parklands in Monrovia

Park Name	Location	Acres(A)
1. Julian Fisher Park	915 S. California Avenue	1.2
2. Kiwanis Park	340 N. Grand Avenue	3.5
3. Lucinda Garcia Park	502 W. Olive Avenue	1.5
4. Recreation Park	620 S. Shamrock Avenue	18.9
5. Rotary Park	401 S. California Avenue	0.9
6. Station Square Park	1629 S. Myrtle Avenue	1.7
7. Monrovia Canyon Park	1200 N. Canyon Boulevard	80
8. Library Park	321 S. Myrtle Avenue	4.6
Parks Total	**32.3 – Developed Parkland** **80 – Undeveloped Parkland** **112.3 – Total Parkland**	

Notes: Developed acres consist of parklands that have been improved including outdoor sports fields, turf fields, playgrounds, and other similar recreational amenities.

(A) Acreages were obtained from Google Earth/ArcGIS, in conjunction with the Citywide Parks Master Plan (City of Monrovia 2018f).

Los Angeles County

In 2016, Los Angeles County conducted a Park Needs Assessment for communities with the County (Los Angeles County Department of Parks & Recreation 2016). Communities were ranked from “very high” park need to “very low” based on five factors: (1) park acreage per 1,000 people; (2) percentage of population within ½ mile of a park; (3) population density around parks; (4) amenities available at the parks; and (5) park condition. The community of Monrovia was classified as having a “low park need,” and it should be noted that the assessment did not consider Monrovia Canyon Park or the Hillside Wilderness.

Libraries and Community Facilities

Monrovia Public Library is located at 321 S. Myrtle Avenue. Ten full-time and 19 part-time employees operate the library (City of Monrovia 2017). The Library Manager oversees the overall operation and an annual budget of around $1.68 million. The Monrovia Public Library enriches lives by fostering life-long learning. This is achieved by ensuring every member of the community has access to a range of ideas and information, in a variety of formats, to meet the educational, informational, and recreational needs of the community. The library is a place for the community to meet, discover, and learn.

18.1.2 Regulatory Setting

Fire Protection and Emergency Medical Services

California Fire Code (Title 24, Part 9, California Code of Regulations)

The 2016 California Building Code (CBC) became effective January 1, 2017, including Part 9 of Title 24, the 2016 California Fire Code. The California Fire Code incorporates the Uniform Fire Code with necessary California amendments. This Code prescribes regulations consistent with nationally recognized good practices for the safeguarding, to a reasonable degree, of life and property from the hazards of fire. It also addresses dangerous conditions arising from the storage, handling, and use of hazardous materials and devices; conditions hazardous to life or property in the use or occupancy of buildings or premises; and provisions to assist emergency response personnel. The CBC requires that new buildings located in any Fire Hazard Severity Zone within State Responsibility Areas, any Local Agency in a Very-High Fire Hazard Severity Zone, or any Wildland-Urban Interface Fire Area designated by the enforcing agency for which an application for a building permit is submitted, comply with all sections of the Chapter.

California Health and Safety Code (Sections 13000 et seq.)

This Code establishes State fire regulations, including regulations for building standards (also set forth in the California Building Code), fire protection and notification systems, fire protection devices such as extinguishers and smoke alarms, high-rise building and childcare facility standards, and fire suppression training.

City of Monrovia General Plan, Safety Element

The following policies from the Safety Element are relevant to fire services and the Project:

- **Policy 3.1.2 -** Landscape materials for the coverage and stabilization of graded slopes shall be selected to be compatible with surrounding natural vegetation and shall recognize climatic, soil, exposure, and ecological characteristics of the site. Plant materials that require substantial water after becoming established shall be avoided. Native dry climate grasses and other xerophytic materials shall be selected wherever feasible. (Fire Department approval required).

- **Policy 3.1.3 -** Cantilevered construction, including stairs, balconies, porches, open structure under buildings shall be fire retardant construction and shall be protected by fire sprinklers, when applicable, which have been reviewed and approved by the Fire Department.

- **Policy 3.1.5 -** New roofs shall be class "All non-flammable materials."

- **Policy 3.1.7 -** Fire hydrants shall be provided and located within 300 feet of structures except where a greater distance is allowed by the Fire Chief in conjunction with the installation of automatic fire sprinklers. All water main installations will be "looped" with no dead-end main allowed.

- **Policy 3.2.1 -** Enforce installation of fire alarm systems and or sprinklers to provide protection to life and property.

- **Policy 3.2.2 -** Enforce regulations requiring smoke detectors in all structures.

Police Protection

City of Monrovia General Plan, Safety Element

- **Objective 4.1 -** Maximize the efficiency of City's Office of Emergency Services (O.E.S.) System

Schools

Education Code Section 17620

Education Code Section 17620 allows school districts to assess fees on new residential and commercial construction within their respective boundaries. These fees can be collected without special City or County approval, to fund the construction of new school facilities necessitated by the impact of residential and commercial development activity. In addition, these fees can also be used to fund the reconstruction of school facilities or reopening schools to accommodate development-related enrollment growth. Fees are collected immediately prior to the time of the issuance of a building permit by the City or the County.

Leroy F. Green School Facilities Act (1998)

California Government Code Section 65995 (The Leroy F. Green School Facilities Act of 1998) sets base limits and additional provisions for school districts to levy development impact fees and to help fund expanded facilities to house new pupils that may be generated by the development project. Sections 65996(a) and (b) state that such fees collected by school districts provide full and complete school facilities mitigation under CEQA. These fees may be adjusted by the District over time as conditions change.

Parks and Recreation

State Public Park Preservation Act (California Public Resource Code Section 5400 – 5409)

The State Public Park Preservation Act is the primary instrument for protecting and preserving parkland in California. Under the act, cities and counties may not acquire any real property that is in use as a public park for any non-park use unless compensation or land, or both, are provided to replace the parkland acquired. This ensures a no net loss of parkland and facilities.

Quimby Act (1975)

The Quimby Act allows cities and counties to adopt park dedication standards/ordinances requiring developers to set aside land, donate conservation easements, or pay in lieu fees towards parklands.

Library Services

There are no Federal, State, or local mandatory regulations that pertain to library services.

18.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts related to public services and recreation that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts. A program-level analysis was conducted for t ZCA Areas A and C and a project-level analysis was conducted for the Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

18.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: Items XV (a), and XVI (a) and (b), implementation of the Project would have a significant impact related to public services, as well as recreation, if it would:

Public Services (Item XV):

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

- Fire Protection and Emergency Medical Service
- Police Protection
- Public Schools
- Parks
- Libraries or other Public Facilities

Recreation (Item XVI):

(b) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated;

(c) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

In addition, based on the CEQA Guidelines, Appendix G: Items IX (f) and (g), and XX (a) through (d), implementation of the Project would have a significant impact related to wildland fire management if it would:

Hazards (Item IX):

(f) Impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan (see also Appendix G: Items XX [a]); or

(g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires.

In addition, for areas located in or near state responsibility areas or lands classified as very high fire hazard severity zones, based on the CEQA Guidelines, Appendix G: Items XX (b) through (d), implementation of the Project would also have a significant impact related to wildland fire management if it would:

Wildland Fire (Item XX):

(b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;

(c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or

(d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

18.2.2 Environmental Impacts

IMPACT PS-1 FIRE PROTECTION SERVICES

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The increase in population of 1,169 residents associated with full buildout of the Project could result in an increase in the number of EMS calls in the service area. However, applicants would be required to pay development impact fees listed as standard condition SC PS-1 below, commensurate with the proposed scale of development, prior to receipt of building permits. Therefore, impacts on fire protection services would be less than significant.

Alexan Foothills Specific Plan

The MRFD staff have reviewed and commented on the Alexan Foothills Specific Plan and proposed development along with City staff review to ensure proper access and response times to the area. The Specific Plan has been designed to be consistent with the MRFD's required development standards and the MRFD review and approval of plan sets during plan check conducted during the building permit process. The Specific Plan Project does not include any component, such as a road closure, that would extend response times within the City. The streets around the Project would continue to be open and allow for emergency vehicles to pass unimpeded and thus would not increase response times. Therefore, the Alexan Foothills Specific Plan would have a less than significant impact on fire protection services with implementation of SC PS-1 as well.

Standard Conditions

Standard Condition SC PS-1 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

MM PS-1: Parkland Dedication Fee. Prior to the issuance of building permits, the applicant shall pay an in-lieu park impact fee to provide for parkland resources consistent with General Plan policy of three acres of parkland per 1,000 residents, or a CFD shall be established along with the approval of the special tax set at the amount established by the City. This fee either shall be paid directly to the City or shall be incorporated into a Community Facilities District fee to be paid by the applicant. **Requirement and Timing:** The in-lieu fee shall be paid to the City, or the establishment of the CFD along with the approval of the special tax set at the amount established by the City shall occur prior to issuance of building permits. **Monitoring:** City staff shall confirm payment of the in-lieu fee or the establishment of the CFD and the approval of the special tax prior to issuance of building permits or the recording of the final parcel map.

Mitigation Measures

No mitigation measures are required.

IMPACT PS-2 POLICE SERVICES

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Similar to fire protection services, the Project is not anticipated to increase response times; however, the number of calls for police services could increase over time with buildout given the anticipated population increase of 1,169 residents. However, because the Project would result in overall population growth consistent with the City's General Plan, impacts on police services are anticipated to be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT PS-3 SCHOOL SERVICES

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

According to the Monrovia Unified School District service maps, the Project area would be served by Wild Rose Elementary School, Santa Fe Middle School, and Monrovia High School. The Project would result in incremental population growth and potential associated growth in the student population within the Monrovia Unified School District.

The U.S. Census Bureau Community Survey estimates that 17% of the population of Monrovia is between the ages of five and 19 (roughly the ages of the K-12 population; U.S. Census Bureau 2016). The Project is estimated to house 1,169 new residents: 942 under the Alexan Foothills Specific Plan and 227 under ZCA Areas A and C. Using this as an assumption, the Project would add 199 youth in the K-12 age range to the Monrovia Unified School District facilities; 160 of these students would be from the Alexan Foothills Specific Plan and 39 of these students would be anticipated from ZCA Areas A and C. This would result in a maximum estimate of 12.3 students per grade from the Alexan Foothills Specific Plan and 3 students per grade from ZCA Areas A and C.

Table 18-3 summarizes the projected addition of students to each school serving the Project area.

Table 18-3 Projected Additional Students under Alexan Foothills Specific Plan and ZCA Areas A and C

School	New Students from the Alexan Foothills Specific Plan	New Students from ZCA Areas A and C
K-5 Wild Rose Elementary	74	18
Grades 6-8 Santa Fe Middle School	37	9
Monrovia High School	49	12
Total	**160**	**39**

The estimated number of students from the Alexan Foothills Specific Plan is a high estimate given the relatively large number of studios and one-bedroom units which would likely house single residents or couples with no children. Additionally, some parents or guardians would likely send their children to private schools. In addition, the number of new students would be introduced to area schools over time.

According to the Monrovia General Plan Proposed Land Use and Circulation Elements EIR (City of Monrovia 2008), "…the City acknowledges that new development will increase demand on school facilities, the City is precluded by Senate Bill 50 (SB 50, also known as Proposition 1A, codified in Government Code Section 65995) from considering this a significant impact for the purposes of CEQA…the environmental impacts of construction and operation of additional school facilities will be evaluated by the Monrovia Unified School District when planning for the construction of new or expanded school facilities." The Monrovia Unified School District did not submit comments during the scoping period for the EIR, nor did the School District respond to requests for information during preparation of this EIR. The Project could cause nearby schools to near or exceed capacity. Impacts would be potentially significant and adverse. However, in accordance with California Government Code and the Monrovia Unified School District and as indicated in standard condition SC PS-2, applicants must pay standard school facility development impact fees to offset any incremental impacts of buildout of the Project on existing school facilities. According to AB 2926, payment of development impact fees constitutes full mitigation for impacts to school facilities. Therefore, impacts to the school facilities would be less than significant with implementation of this condition.

Standard Conditions

Standard Condition SC PS-2 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

SC PS-2: Prior to the issuance of building permits, a Project applicant shall pay school facility development impact fees to the Monrovia Unified School District. Proof of payment shall be provided to the City of Monrovia. **Requirement and Timing:** Development impact fees shall be paid prior to issuance of building permits. **Monitoring:** City staff shall confirm payment of development impact fees prior to issuance of building permits.

Mitigation Measures

No mitigation measures are required.

IMPACT PS-4 PARKS AND RECREATION

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The Project, including the Alexan Foothills Specific Plan, does not include active recreational facilities for the public and could increase use of offsite recreational facilities, although the Alexan Foothills Specific Plan does include some public open space in the form of public plazas (see open space plan contained in Appendix M). The public open space provided by the Alexan Foothills Specific Plan would partially reduce the need for use of offsite recreational facilities. However, it is anticipated that an increase in the use of offsite recreational facilities by residents of the Project would still occur as compared to baseline conditions. This would be considered a potentially significant impact.

As a part of mitigation for the Monrovia General Plan Proposed Land Use and Circulation Elements (City of Monrovia 2008), the following measure was included in the EIR:

> **PS-B.** The City shall require developers of projects greater than 200 residential units to dedicate land based on the standard of 3 acres per 1,000 residents.

Buildout of the Project would be subject to this requirement. Under the Alexan Foothills Specific Plan, this would equate to 2.83 acres of new parkland. The Citywide Park Master Plan (City of Monrovia 2018f), discusses future potential park acquisitions to provide parks in neighborhoods currently underserved. Seven areas in the City are identified, ranging from 0.5 to 1.0 acres in size; the plan also identifies a potential new recreational facility as the Peck Lake Wetlands Project. The Master Plan discusses partnering with Monrovia Unified School District to improve school facilities to also meet local recreational needs.

Alternatively, the City would accept payment of in lieu fees or the formation of a Community Facilities District and payment of special tax as an option to fund City acquisition of parkland to mitigate for the potential increased demand on recreational facilities.

As such, mitigation measure MM PS-1 is required to reduce impacts on recreation to below a significant level.

ZCA Areas A and C

Future development of ZCA Areas A and C would also likely result in an increase in use of offsite recreational facilities.

Mitigation Measures

Mitigation Measure MM PS-1 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

MM PS-1: Parkland Dedication Fee. Prior to the issuance of building permits, the applicant shall pay an in-lieu park impact fee to provide for parkland resources consistent with General Plan policy of three acres of parkland per 1,000 residents, or a CFD shall be established along with the approval of the special tax set at the amount established by the City. This fee either shall be paid directly to the City or shall be incorporated into a Community Facilities District fee to be paid by the applicant. **Requirement and Timing:** The in-lieu fee shall be paid to the City, or the establishment of the CFD along with the approval of the special tax set at the amount established by the City shall occur prior to issuance of building permits. **Monitoring:** City staff shall confirm payment of the in-lieu fee or the establishment of the CFD and the approval of the special tax prior to issuance of building permits or the recording of the final parcel map.

IMPACT PS-5 LIBRARY SERVICES AND PUBLIC FACILITIES

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The Project would result in population growth that would incrementally affect other public services such as libraries. Any incremental impact would be addressed through payment of parcel taxes (i.e., approximately $62 per year per residential unit). These tax dollars would appropriately support library services in the City and a less than significant impact would occur.

Mitigation Measures

No mitigation measures are required.

IMPACT PS-6 WILDLAND FIRE MANAGEMENT

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The Project is not located in or near a state responsibility areas or lands classified as a very high fire hazard severity zone. In addition, the Project is surrounded by development on all sides for miles, and buildout of the Project would comprise dense development, therefore resulting in minimal risk of exposure to, or generation of, wildland fires. Therefore, the Project would not increase the risk of wildland fires in these areas and impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

18.2.3 Impact Conclusions

With implementation of mitigation measure MM PS-1, and payment of development impact fees (standard conditions) by Project applicants, or the establishment of a Community Facilities District and the approval of a special tax, impacts on public services and recreation would remain less than significant or reduced to less than significant levels. Also, the Project would not increase the risk of wildland fires in these areas and impacts would be less than significant.

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
AB	Assembly Bill
CBC	California Building Code
EIR	Environmental Impact Report
EMS	Emergency Medical Services
GPA	General Plan Amendment
MPD	Monrovia Police Department
MFRD	Monrovia Fire and Rescue Department
OES	Office of Emergency Services
SP	Specific Plan
ZCA	Zoning Code Amendment

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19. TRANSPORTATION AND CIRCULATION

This EIR Chapter describes the existing setting for transportation and circulation in the Project area. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project, describes potential impacts that could result from the Project, and includes mitigation measures that would avoid or reduce those potential impacts.

The Traffic Impact Analysis (TIA), prepared by LSA (May 2018), is included in Appendix J of this EIR, including an addendum prepared in 2019 (LSA 2019). The TIA is the source of the impact evaluation and mitigation measures described in this EIR Chapter. In the TIA, the "Project" and "cumulative (2022) conditions" scenarios involve construction and operation of the Alexan Foothills Specific Plan only, whereas the "future year 2035 conditions – program scenario" represent implementation of the Alexan Foothills Specific Plan plus ZCA Areas A and C. The "future year 2035 conditions – program scenario," therefore, represents the full Project.

19.1 SETTING

The environmental and regulatory setting of the City of Monrovia with respect to transportation and circulation is described in the Circulation Element of the Monrovia General Plan (2012). Pursuant to CEQA Guidelines Section 15150 (Incorporation by Reference), this document is incorporated into the EIR by reference. The General Plan Circulation Element is available for download from the City's website at:

http://www.cityofmonrovia.org/home/showdocument?id=1476

19.1.1 Environmental Setting

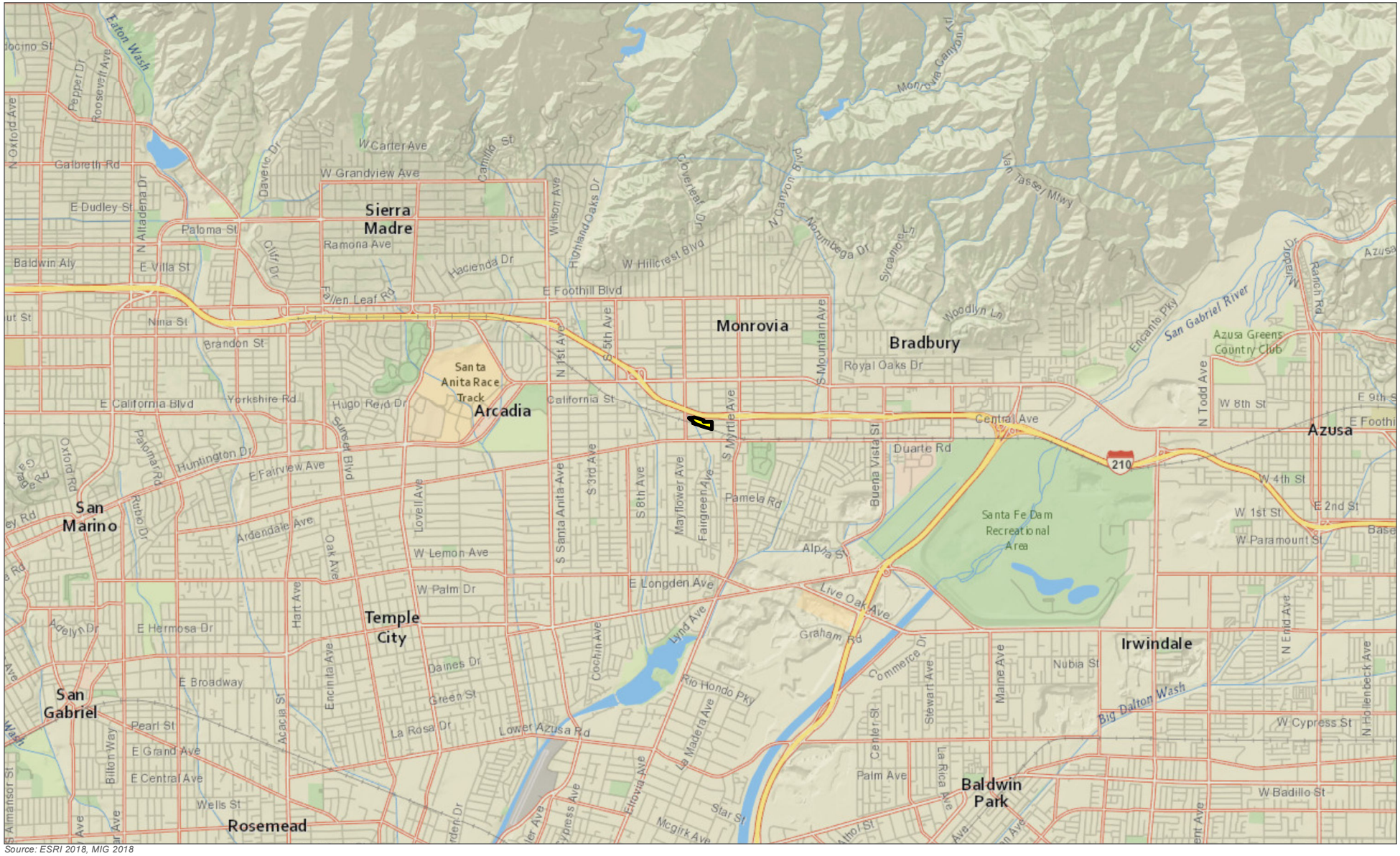
Regional Transportation

The City of Monrovia is located in the San Gabriel Valley of Los Angeles County (Figure 19-1, Regional Vicinity). The City is connected to the regional transportation network by Interstate-210 (I-210), which crosses the southern portion of the City in an east-west direction.

I-210 runs between eastern and northern San Fernando Valley and San Bernardino County. I-210 has five lanes in each direction in the portion through Monrovia. A full interchange (i.e., providing access in all directions) is located near the western edge of Monrovia at Huntington Drive. Full interchanges are also located at Myrtle Avenue and at Mountain Avenue, which are connected by the one-way frontage roads of Evergreen Avenue and Central Avenue.

Interstate-605 (I-605) is a north-south freeway approximately 1.5 miles east of Monrovia. This freeway runs between the northeastern San Gabriel Valley (the City of Duarte) and the City of Long Beach in southeast Los Angeles County. The segment of I-605 closest to Monrovia has four lanes in each direction. The freeway has a northern terminus at Huntington Drive and an interchange with the eastbound and westbound I-210. Partial interchanges are located east of Monrovia, at Live Oak Avenue and Arrow Highway.

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Source: ESRI 2018, MIG 2018

Project Boundary

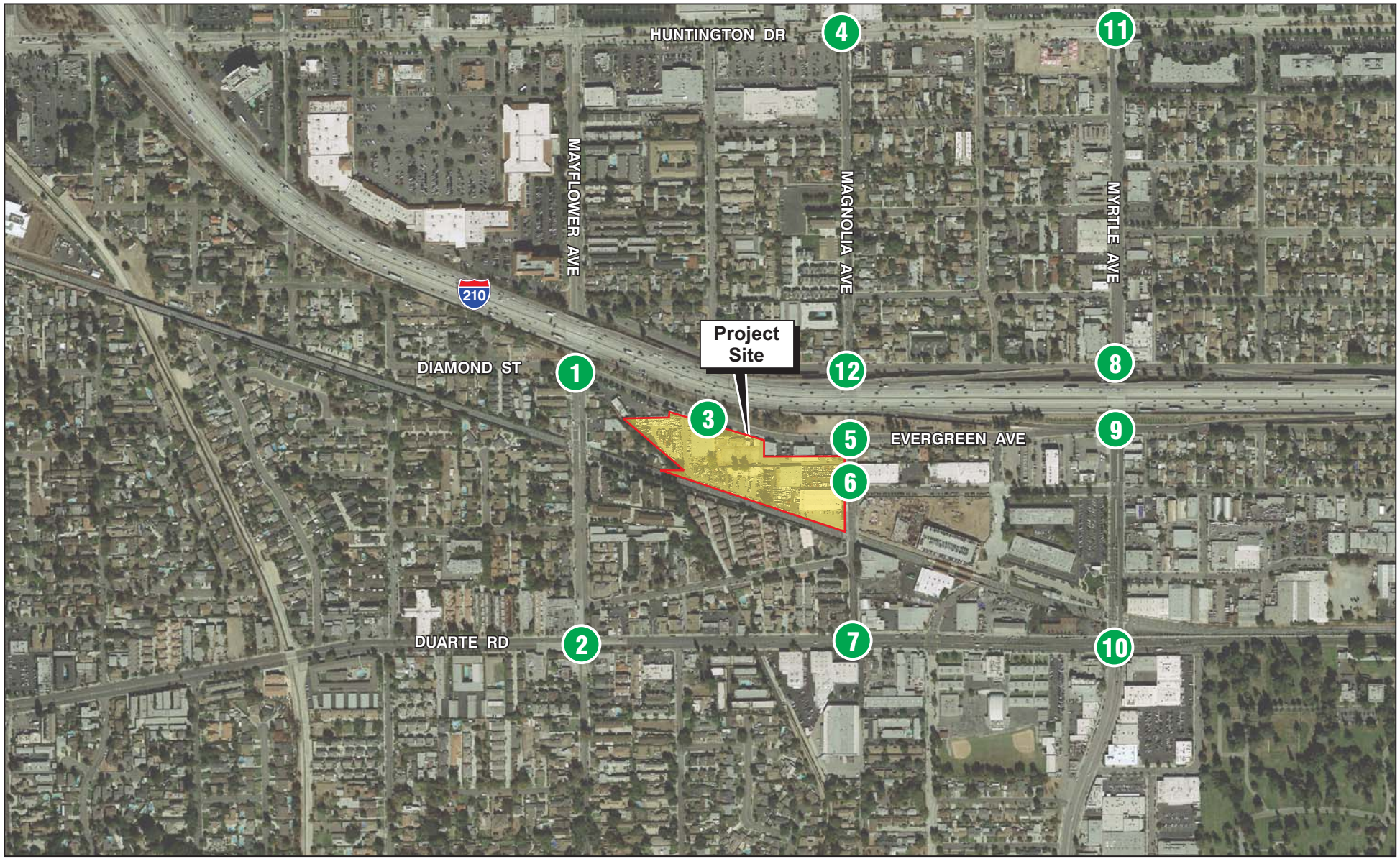
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Figure 19-1 Regional Vicinity Map

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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Source: Google Earth, 2018; LSA, 2018

- Project Site
- # - Study Area Intersection

0 350 700
FEET

N

Figure 19-2 Project Locations and Study Intersections

PD GPA, PD ZCA & Alexan Foothills Specific Plan Project

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Local Transportation

The Project area is bound by Evergreen Avenue to the north, the METRO Gold Line light rail to the south, Mayflower Avenue to the west, and Magnolia Avenue to the east (Figure 19-2).

In the Project area vicinity, Evergreen Avenue is a local street that runs along the south side of I-210 between Mayflower Avenue and Mountain Avenue. Evergreen Avenue provides two-way travel (one lane in each direction) west of Magnolia Avenue and one-way eastbound travel east of Magnolia Avenue. Moving eastward, Evergreen Avenue has two travel lanes from Magnolia Avenue to California Avenue and three lanes of travel from California Avenue to Mountain Avenue. On- and off-ramps of eastbound I-210 intersect with Evergreen Avenue near Myrtle Avenue and Mountain Avenue.

Parking is generally permitted on the south side of Evergreen Avenue west of California Avenue. Parking is prohibited on the north side of Evergreen Avenue and on both sides of the street east of California Avenue. Parking is generally available on both sides of Magnolia Avenue.

Mayflower Avenue is a north-south collector street that runs the length of the City. It has one through lane in each direction from Hillcrest Boulevard to Duarte Road. Left-turn lanes are not provided at most intersections.

Existing Pedestrian, Bicycle and Transit Facilities

The Project area is currently accessible from nearby public sidewalks, bicycle network, public bus transit and rail transit.

Bicycle access to the Project area is facilitated by the City of Monrovia bicycle roadway network. The existing and proposed facilities (e.g., Class I Bicycle Path, Class II Bicycle Lanes, Class III Bicycle Route, etc.) in the City's Bicycle Master Plan are located within an approximately one-mile radius of the Project area as illustrated in Figure 19-3.

The Federal and State transportation system recognizes three primary bikeway facilities: Bicycle Paths (Class I), Bicycle Lanes (Class II), and Bicycle Routes (Class III). Bicycle paths (Class I) are exclusive car free facilities that are typically not located within a roadway area. Bicycle Lanes (Class II) are part of the street design that is dedicated only for bicycles and identified by a striped lane separating vehicle lanes from bicycle lanes. Bicycle Routes (Class III) are preferably located on collector and lower volume arterials streets.

Bicycle facilities in the City's bicycle network located within an approximate one-mile radius from the Project area include:

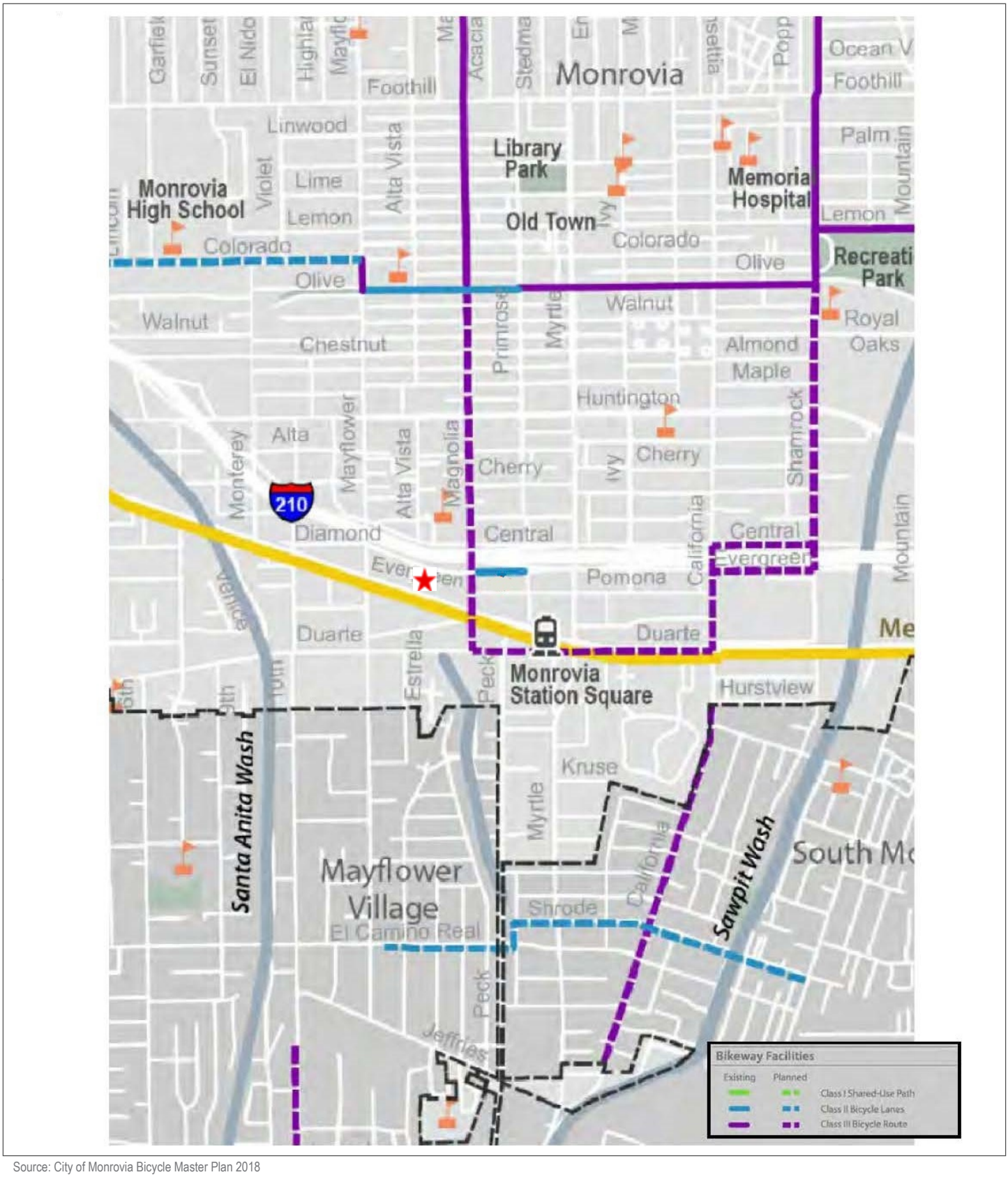
East-West Routes

- Evergreen Avenue: Class II Bike Lane
- Pomona Avenue: Class III Bike Route
- Duarte Road: Class III Bike Route

North-South Routes

- Magnolia Avenue: Class III Bike Route
- California Avenue: Class III Bike Route

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Source: City of Monrovia Bicycle Master Plan 2018

★ Project Site

Figure 19-3: Existing and Planned Bikeway Network in the City of Monrovia

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Public bus transit service is currently provided by Foothill Transit and the Metropolitan Transportation Authority (METRO). The METRO Gold Line Monrovia Station is located one block south of the Project area. A summary of existing transit services in the Project area is presented in Table 19-1. As discussed in Chapter 3, the Project area is in a Transit Priority Area defined in CEQA as well as a High Quality Transit Area (HQTA) identified in the Southern California Association of Governments' (SCAG's) Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2016).

Table 19-1 Existing Transit Routes Near Project Area

Route	Destinations	Roadways Near Project
Foothill Transit 187	Azusa to Pasadena via Duarte, Monrovia, Arcadia and Sierra Madre	Myrtle Avenue, Huntington Drive
Foothill Transit 270	El Monte to Monrovia via Irwindale	Myrtle Avenue, Huntington Drive, Duarte Road
METRO 264	Altadena to El Monte via Pasadena, Arcadia and Duarte	Magnolia Avenue, Myrtle Avenue, California Avenue, Duarte Road
METRO Gold Line	East Los Angeles to Azusa via Downtown Los Angeles,	Monrovia Station
	Lincoln Heights, Highland Park, South Pasadena, Pasadena,	
	Arcadia, Monrovia, Duarte and Irwindale	

19.1.2 Regulatory Setting

Regional

Regional agencies, plans, and programs relevant to transportation and circulation issues in Monrovia include:

- Los Angeles County Metropolitan Transportation Authority (METRO)
- Los Angeles County METRO Active Transportation Strategic Plan (ATSP)
- Los Angeles County METRO Congestion Management Program (CMP)
- Metropolitan Transportation Commission (MTC)
- Southern California Association of Governments (SCAG) – Regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS)

METRO's Long Range Transportation Plan

The Long Range Transportation Plan (LRTP), prepared by METRO, is the long range plan that responds to emerging environmental challenges through the provision of new initiatives and recommendations that include driving alternatives, mobility improvements, enhanced public transit, expanded rail, and the development of major corridor projects in Los Angeles County.

SCAG's Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS)

The RTP/SCS has numerous goals to increase mobility for the region's residents and visitors, and an emphasis on sustainability and integrated planning to collectively improve the region's mobility, and economy. Chapter 3 describes the RTP/SCS goals for HQTAs.

Congestion Management Plan (CMP)

Los Angeles County's Congestion Management Program (CMP) is intended to reduce the impact of local growth on the regional transportation system. Compliance with the CMP includes monitoring LOS on the CMP Highway and Roadway network, measuring public transit operation metrics, implementing the Transportation Demand Management and Land Use Analysis Program Ordinances, and assisting local jurisdictions with meeting CMP requirements. The program recommends allocation of transportation funding based on several measurable goals: traffic congestion relief, local land use actions and their impacts on transportation, and transportation control measures to meet air quality goals.

Even though the City adopted a resolution opting out of the CMP on March 19, 2019, new projects in Los Angeles County must comply with the CMP for Los Angeles County, which was first adopted by METRO in November 1995 pursuant to State law and has been periodically updated since then. The CMP involves (1) monitoring of traffic conditions and performance measures on the designated transportation network, (2) analysis of the impact of land use decisions on the transportation network, and (3) mitigation to reduce impacts on the transportation network.

Appendix D of the CMP includes guidelines for the preparation of TIAs. The TIA guidelines require analysis at monitored street intersections and segments, including freeway on- and off-ramp intersections where a project is expected to add 50 or more peak-hour vehicle trips, and at mainline freeway or ramp monitoring locations where a project is expected to add 150 or more peak-hour trips.

None of the streets in Monrovia are CMP arterial monitoring locations. The nearest CMP monitoring intersections are located outside of Monrovia, including Rosemead Boulevard and Foothill Boulevard in Pasadena, and Azusa Avenue and Foothill Boulevard in Azusa.

There are seven mainline freeway segments within and near Monrovia. These include the following:

- I-210 west of Santa Anita Avenue
- I-210 west of I-605
- I-210 east of I-605
- I-605 south of I-210
- I-605 north of State Route (SR)-60
- I-10 east of Peck Road
- I-10 east of I-605

Local

Monrovia Circulation Element

The Circulation Element of the City's General Plan is the City's guide to development of Monrovia's roads and streets as well as a guide to planning pedestrian, bike, and transit routes and facilities in Monrovia. Below are relevant policies of the Circulation Element that are applicable to the Project:

- **Policy 1:1:** Regulate the intensity of land use to keep traffic on any arterial in balance with roadway capacity.

- **Policy 1:2:** Limit direct private property access to arterials, where dual access is possible, to minimize interference with through traffic.

- **Policy 1:5:** Implement traffic signal coordination on City arterial streets to the maximum extent practical and integrate signal coordination efforts with those of adjacent jurisdictions.

- **Policy 1:6:** Develop and implement intersection capacity improvements where feasible and justified by existing or projected traffic demands. Opportunities to improve intersection operations throughout the City are expected to arise as future development occurs, including the area around the planned light rail station.

- **Policy 1:7:** Design and employ traffic control measures, including signalization, limiting access, limiting on-street parking during peak periods, constructing turn lanes, and modifying lane striping and signage to ensure City streets and roads function as needed. One specific location identified for potential re-striping improvements is the eastbound segment of Huntington Drive beneath the I-210 freeway, where the roadway narrows from three through lanes to two.

- **Policy 1:9:** Improve intersection and street sections wherever possible to maintain an acceptable level of service for peak traffic flows. With the recognition that the City is largely built out and that major physical improvements to the circulation system will be limited to certain areas, establish level of service (LOS) D as the minimum standard to be maintained, except at locations where LOS F conditions currently exist. When reviewing impacts at locations where existing development constrains the ability to widen or otherwise improve roadways to achieve the desired LOS, consider improvements to pedestrian and transit facilities as acceptable traffic mitigation measures. The City has determined that a project would have a significant traffic impact under California Environmental Quality Act (CEQA) at an intersection if the conditions in Table II-1 were found[1]. For the purpose of applying these significance criteria, the V/C ratio shall be reported using the Intersection Capacity Utilization (ICU) methodology. LOS at two-way stop-controlled intersections shall be based on the Highway Capacity Manual (HCM)

[1] Table II-1 comprises the City of Monrovia's significance thresholds for intersections.

methodology and the incremental change in volume-to-capacity (V/C) ratio calculated by analyzing such intersections with the ICU methodology assuming a two-phase signal.

- **Policy 1:10:** For daily traffic, the desired levels of service differ according to the functional classification of the street: LOS D on primary arterials (V/C < 0.90), mid-D on secondary arterials (V/C < 0.85), LOS C on collector streets (V/C < 0.80) and LOS A on local streets (V/C < 0.60). The City has determined that a project would have a significant traffic impact under CEQA on a street if the conditions in Table II-2 are met[2].

- **Policy 1:12:** Promote ridesharing through publicity and provision of information to the public.

- **Policy 2:2:** All street improvements should be designed with sufficient capacity to accommodate anticipated traffic volumes based on the intensity of existing and planned land use.

- **Policy 2:3:** Design and employ traffic control measures to ensure that City streets and roads function safely and efficiently.

- **Policy 2:6:** Discourage through traffic from using local collector and residential streets.

- **Policy 2:7:** Seek to maintain at least LOS E during peak hours at intersections, except at locations where LOS F currently exists.

- **Policy 2:8:** Regulate the intensity and stages of development so that traffic on any arterial remains in balance with roadway capacity.

- **Policy 2:9:** As new development or redevelopment occurs, limit driveway and alley access onto arterial streets wherever possible to enhance the quality of traffic flow.

- **Policy 2:10:** Consider locating bus turn-outs where appropriate along heavily-traveled arterials or where the lack of a turn-out would be detrimental to traffic flow.

- **Policy 2:13:** Require future dedication for widening of streets and alleys as new development occurs. Prepare and maintain a master map of right-of-way dedications to be pursued as new development proposals are considered. Establish a maintenance program for utilities in alleys (e.g., lighting), access and upgrading of existing alleys.

- **Policy 3:3:** Develop and implement safe and efficient designs to minimize the impact of at-grade arterial railroad crossings. These efforts should be coordinated with the planning for the METRO Gold Line Foothill Extension light rail project, which will affect every grade crossing in the City.

[2] Table II-2 comprises the City of Monrovia's significance thresholds for road segments.

- **Policy 3:6:** Provide continuity to the sidewalk system, including wheelchair ramps, when new development occurs, to minimize pedestrian/vehicle conflicts.

- **Policy 3:7:** Expand bicycle routes where opportunities arise and demand warrants to minimize conflicts between cyclists and motorists.

- **Policy 3:9:** In response to resident complaints, prepare studies to establish the need for speed bumps and other traffic calming devices in residential areas. Prepare neighborhood traffic protection plans as appropriate.

- **Policy 4:1:** Comply with the requirements of Americans with Disabilities Act (ADA) to ensure accessibility of elderly and disabled persons to public transportation. Continue to support Access Services, which provides ADA-compliant Para transit services (dial-a-ride service) in the City.

- **Policy 4:3:** Continue to coordinate with METRO and Foothill Transit to identify improvements to local and express bus service to Monrovia. Coordinate with these agencies to develop common standards for transit stops in the City, including seating, lighting, shelters and signage. Identify funding sources to implement the improvements determined to be necessary.

- **Policy 4:5:** Require new development along arterial streets to provide transit facilities, such as bus shelters and turn-outs designed to established standards and specifications, where deemed necessary.

- **Policy 6:3:** Maintain existing pedestrian facilities (sidewalks and trails) and encourage new development to provide pedestrian routes to adjacent developments. Respond in a timely manner to citizen requests regarding maintenance concerns on all public pedestrian facilities.

- **Policy 6:4:** Continue to improve the accessibility of pedestrian facilities to the elderly and disabled, through such measures as construction of wheelchair ramps.

- **Policy 6:5:** Encourage the provision of an accessible and secure area for bicycle storage at all new and existing developments.

- **Policy 6:6:** Encourage provision of bicycle racks or storage facilities at public gathering places.

- **Policy 6:8:** Require new developments to provide adequate pedestrian paths on adjacent streets, including wheelchair ramps, and through the development projects, where determined to be appropriate.

- **Policy 6:9:** Continue installation of facilities accessible for disabled persons and link public facilities and commercial areas to residential neighborhoods. The use of audible warning devices at intersections along these routes should be considered.

- **Policy 8:2:** Require all new developments to provide off-street parking in compliance with the City's Zoning Code and the requirements of the ADA.

19.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts on transportation and circulation that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts**.** A program-level analysis was conducted for ZCA Areas A and C and a project-level analysis was conducted for the Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

19.2.1 Significance Criteria

Based on current CEQA Guidelines, Appendix G: Items XVII (a) through (d), implementation of the Project would have a significant impact on transportation and circulation if it would:

(a) Conflict with an applicable program, plan, ordinance or policy addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities;

(b) Conflict with or be inconsistent with CEQA Guidelines section 15064.3(b);

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

(d) Result in inadequate emergency access.

19.2.2 Analysis Methodology

Study Area Boundary

As illustrated on Figure 19-2 (Project Location and Study Area Intersections), the traffic study area includes the following intersections:

1. Mayflower Avenue/Diamond Street-Evergreen Avenue (unsignalized)
2. Mayflower Avenue/Duarte Road (signalized)
3. Project Driveway 1/Evergreen Avenue (unsignalized)
4. Magnolia Avenue/Huntington Drive (signalized)
5. Magnolia Avenue/Evergreen Avenue (unsignalized)
6. Magnolia Avenue/Project Driveway 2 (unsignalized)
7. Magnolia Avenue/Duarte Road (signalized)
8. Myrtle Avenue/Central Avenue-Interstate 210 (I-210) Westbound (WB) Ramps (signalized)
9. Myrtle Avenue/Evergreen Avenue-I-210 Eastbound (EB) Ramps (signalized)
10. Myrtle Avenue/Duarte Road (signalized)
11. Myrtle Avenue/Huntington Drive (signalized)
12. Magnolia Avenue/Central Avenue (unsignalized)

Additionally, impacts on the following I-210 ramp intersections under California Department of Transportation's (Caltrans) jurisdiction were analyzed:

- Myrtle Avenue/Central Avenue-I-210 Freeway Westbound Ramps
- Myrtle Avenue/Evergreen Avenue-I-210 Freeway Eastbound Ramps

Finally, impacts on the following City's road segments were also studied:

- Duarte Road
    - West of Mayflower (Segment #1)
    - Mayflower to Magnolia (Segment #2)
    - Magnolia to Myrtle (Segment #3)
    - East of Myrtle (Segment #4)
- Evergreen Avenue
    - Mayflower to Magnolia (Segment #5)
    - Magnolia to Myrtle (Segment #6)
- Huntington Drive
    - Mayflower to Magnolia (Segment #7)
    - Magnolia to Myrtle (Segment #8)
- Mayflower Avenue
    - North of Evergreen (Segment #9)
    - Evergreen to Duarte (Segment #10)
    - South of Duarte (Segment #11)
- Magnolia Avenue
    - Huntington to Evergreen (Segment #12)
    - Evergreen to Duarte (Segment #13)
- Myrtle Avenue
    - Huntington to Central (Segment #14)
    - Central to Duarte (Segment #15)
    - South of Duarte (Segment #16)

Performance Criteria

Intersection Criteria

The intersection capacity utilization (ICU) methodology was used to determine the peak-hour operations at signalized intersections in the study area. The ICU methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The resulting ICU is expressed in terms of level of service (LOS), where LOS A represents free-flow activity and LOS F represents overcapacity operation. Parameters set by the City for ICU calculations - including lane capacity, right-turn treatment, and clearance interval - are incorporated into the analysis.

According to the Monrovia General Plan Circulation Element, LOS at an intersection is considered to be unsatisfactory when the ICU exceeds 0.90 (LOS D) within the City, except at locations where LOS F conditions currently exist. The relationship of ICU to LOS is demonstrated in the Table 19-2.

Table 19-2 Comparison of Level of Service (LOS) and Intersection Capacity Utilization (ICU)

LOS	ICU
A	0.00–0.60
B	0.61–0.70
C	0.71–0.80
D	0.81–0.90
E	0.91–1.00
F	> 1.00
Source: Highway Capacity Manual (Transportation Research Board 2016).	

Based on discussion with the City of Monrovia Traffic Engineer, a project impact occurs when the intersection in question exceeds the acceptable LOS of E or F, or the impact of a proposed development results in an increase of ICU of 0.04 or greater for LOS C, 0.03 or greater for LOS D, 0.02 or greater for LOS E, or 0.01 or greater for LOS F. Project mitigation will be required to achieve acceptable levels, or to achieve the baseline condition if the baseline ICU is already greater than 0.90.

In addition to the ICU methodology of calculating signalized intersection LOS, the Highway Capacity Manual (HCM 6th Edition, Transportation Resources Board 2016) methodology was used to determine the LOS at unsignalized study area intersections and signalized intersections at freeway interchanges. The HCM unsignalized and signalized intersection methodology looks at delay (in seconds per vehicle), as opposed to capacity, as the measure of effectiveness. The resulting delay is expressed in terms of LOS, much like the ICU methodology. The relationship of delay to LOS is illustrated in Table 19-3.

Table 19-3 Comparison of Level of Service (LOS) and Intersection Delay

LOS	Signalized Intersection Delay (seconds)	Unsignalized Intersection Delay (seconds)
A	≤10.0	≤10.0
B	>10.0 and ≤20.0	>10.0 and ≤15.0
C	>20.0 and ≤35.0	>15.0 and ≤25.0
D	>35.0 and ≤55.0	>25.0 and ≤35.0
E	>55.0 and ≤80.0	>35.0 and ≤50.0
F	>80.0	>50.0
Source: Highway Capacity Manual (Transportation Research Board 2016).		

The TIA, consistent with City guidelines, evaluates traffic impacts based on the ICU methodology. The HCM methodology is another method to evaluate operational conditions at signalized intersections, takes into consideration signal timing, and can calculate queue lengths at turn lanes. The HCM methodology is required by Caltrans to analyze impacts on Caltrans' ramp intersections. Acceptable LOS for Caltrans intersections is LOS D or better. Further details of the HCM methodology are contained in the TIA in Appendix J of this EIR.

Roadway Segment Criteria

Facility types for studied roadways were taken from the City's General Plan Circulation Element. The roadway segments of Huntington Drive and Myrtle Avenue are classified as primary arterials, Duarte Road is classified as a secondary arterial, and the segments of Mayflower Avenue, Magnolia Avenue, and Evergreen Avenue are classified as collector streets.

The City has established the maximum desirable daily LOS and v/c for specific facility types, as shown in Table 19-4.

Table 19-4 Monrovia Maximum Desirable Daily LOS and V/C

Type of Street	Maximum Desirable Daily LOS and V/C
Primary Arterial	LOS D (v/c ≤0.90)
Secondary Arterial	LOS Mid-D (v/c ≤0.85)
Collector Street	LOS C (v/c ≤0.80)
Local Street	LOS A (v/c ≤0.60)
Source: City of Monrovia General Plan Circulation Element (2012). Notes: LOS level of service v/c volume-to-capacity ratio	

A project impact occurs when the roadway segment in question exceeds the acceptable LOS and the project-related traffic increases the daily traffic by 2.5 percent or more.

For the Project ("future year 2035 conditions – program scenario"), v/c ratios were determined using the City's theoretical daily capacity of 9,000 vehicles per lane for primary arterials, secondary arterials, and collector streets as assumed in the Traffic Study prepared for the proposed amendments to the Monrovia General Plan's Land Use and Circulation Elements (City of Monrovia 2007).

Traffic Scenarios

The following traffic scenarios were analyzed for the proposed Alexan Foothills Specific Plan and ZCA Areas A and C (collectively referred to as the "Project" in this Chapter):

- Existing (2018) Conditions;
- Existing Plus Specific Plan Conditions;
- Cumulative Year (2022) Conditions;
- Cumulative Year (2022) Plus Specific Plan Conditions;
- Future Year (2035) Conditions;
- Future Year (2035) Plus Specific Plan Conditions; and
- Future Year (2035) Plus Program Conditions.

Each of these scenarios is explained in more detail below.

Existing (2018) Conditions. This scenario identifies current traffic conditions in the study area. In order to take the existing onsite traffic into account, 24-hour counts were taken at the shared driveways of the existing facilities in the Alexan Foothills Specific Plan area. Peak-hour

intersection turn volumes and roadway segment average daily traffic (ADT) volumes for the study area were obtained from the City. All counts used in the traffic study were conducted on a Tuesday, Wednesday, or Thursday. Counts were collected at the time the initial TIA was prepared, between 2016 and 2017.

Time passed between the completion of the TIA and the processing of the Project application. The original traffic counts were factored up to account for any potential changes that occurred between the time the counts were taken and the beginning of 2018. A regional ambient traffic growth rate of 0.82 percent per year was added to the existing traffic volumes to escalate the counts to the year 2018. This growth rate was obtained from the Los Angeles County Congestion Management Program.

Existing Plus Specific Plan Conditions. This scenario is used to evaluate impacts associated with the Alexan Foothills Specific Plan. The analysis assumes that the existing Specific Plan area land uses would be removed and replaced by the proposed Alexan Foothills Specific Plan where 432 apartments and 4 live/work units are proposed. Based on discussions with the City Traffic Engineer, vehicle trip generation has been reduced by 20 percent for trip credits based on transit use. Trip distribution for the Specific Plan was based on its location in relation to local and regional transportation facilities and origins/destinations, along with input and concurrence from the City Traffic Engineer.

Cumulative Year (2022) Conditions. To forecast cumulative traffic conditions, a regional ambient traffic growth rate was determined plus traffic volumes for near-future developments in the Project vicinity were developed, which were then added to the existing traffic counts.

To reflect regional growth in the study area, an ambient traffic growth rate of 0.82 percent per year was calculated from year 2018 to year 2022 and added to the existing traffic volumes. This growth rate was obtained from the Los Angeles County Congestion Management Program. The list of cumulative projects was provided by the City of Monrovia Planning Division (see the TIA in Appendix J of this EIR).

Cumulative Year (2022) Plus Specific Plan Conditions. This scenario is used to evaluate cumulative impacts associated with only implementation of the Alexan Foothills Specific Plan (ZCA Areas A and C are excluded from this scenario). Cumulative plus Specific Plan conditions were developed by adding Alexan Foothills Specific Plan traffic to the cumulative conditions. This scenario assumes no change in existing intersection designs (i.e., geometrics). Construction of the Alexan Foothills Specific Plan is anticipated to start in 2020 and is expected to take 30 months to complete, with an anticipated operation date of 2022. Buildout of the ZCA Areas A and C is still anticipated to start in 2021 and take 12 months to complete, with full buildout assumed to be completed in 2022.

Future Year (2035) Conditions. A future year 2035 roadway link analysis was performed consistent with the General Plan Traffic Study (2007). A regional ambient growth rate (7.65 percent, 0.45 percent per year for 17 years) and the traffic volumes from the cumulative projects were applied to the existing roadway segment average daily traffic volumes (ADT) to forecast 2035 conditions. The growth rate was obtained from the Los Angeles County Congestion Management Program.

Future Year (2035) Plus Specific Plan Conditions. This scenario is used to evaluate year 2035 cumulative impacts of the Alexan Foothills Specific Plan only (ZCA Areas A and C are excluded).

Future plus Specific Plan conditions were developed by adding Alexan Foothills Specific Plan traffic to the future conditions. This scenario assumes no change in existing intersection designs (i.e., geometrics).

Future Year (2035) Plus Program Conditions. This scenario is used to evaluate the Alexan Foothills Specific Plan and ZCA Areas A and C. This consolidated project- and program-level analysis evaluates impacts associated with the Alexan Foothills Specific Plan development (a total of 436 residential units) plus an additional 82 dwelling units in ZCA Areas A and C, for a total of up to 518 residential units. Traffic associated with ZCA Areas A and C (i.e., 82 more units) was added to the year 2035 roadway link analysis using the same trip generation and trip distribution as the existing and cumulative conditions scenarios, based on the daily and peak-hour trip rates taken from the Trip Generation Manual, 9th Edition[3] (ITE 2012), with a 20 percent trip credit based on transit use. This scenario assumes no change in existing intersection designs (i.e., geometrics). The purpose of this scenario is to evaluate the potential transportation and circulation impacts of maximum development potential over the entire 9.63-acre Project area.

19.2.3 Environmental Impacts

IMPACT T-1 ALEXAN FOOTHILLS SPECIFIC PLAN INTERSECTION ANALYSIS

Existing (2018) Conditions

Table 19-5 summarizes the results of the existing AM and PM peak-hour LOS analysis. All ten study area intersections currently operate at satisfactory LOS.

Alexan Foothills Specific Plan Trip Generation

Trip generation calculations for the Alexan Foothills Specific Plan were based on the daily and peak-hour trip rates taken from the Institute of Transportation Engineers (ITE) Trip Generation Manual, 9th Edition (2012) (see TIA in Appendix J of this EIR). It is noted that the ITE recently published a 10th edition of this Trip Generation Manual. The trip rates for apartment use are greater in the 9th edition than the 10th edition. At the direction of City staff during the time of preparation of the TIA, the 9th edition rates were used for a more conservative assessment. Based on discussions with the City Traffic Engineer, vehicle trip generation has been reduced by 20 percent for trip credits based on transit use. The trip credits based on transit use account for the Project area's proximity to the METRO Gold Line station, as well as to four bus stations, at Mayflower Avenue/Duarte Road and Magnolia Avenue/Duarte Road.

Existing land uses within the Alexan Foothills Specific Plan area generate 393 trips per day, including 36 trips during the AM peak hour (25 inbound and 11 outbound) and 25 trips in the PM peak hour (8 inbound and 17 outbound). With transit use, projected trips generated under the Alexan Foothills Specific Plan would result in a trip generation of 2,331 trips per day, including 179 trips in the A.M. peak hour (37 inbound and 142 outbound) and 219 trips in the PM peak hour (140 inbound and 79 outbound). The total net trip generation (i.e., future Alexan Foothills Specific Plan trips minus existing trips) would add 1,938 trips per day to study area intersections, including

[3] At the time the TIA was prepared, the 10th Edition of Trip Generation Manual had not been released. However, trip generation rates from the 9th Edition are more conservative. Therefore, the analysis was not revised using the 10th Edition.

143 trips in the AM peak hour (12 inbound and 131 outbound) and 194 trips in the PM peak hour (132 inbound and 62 outbound).

Trip Distribution and Assignment

Trip distribution for the Specific Plan was based on its location in relation to local and regional transportation facilities and origins/destinations, along with input and concurrence from the City Traffic Engineer.

Existing Plus Specific Plan Conditions

Table 19-5 summarizes the results of the existing plus Alexan Foothills Specific Plan AM and PM peak-hour LOS analysis, and compares those results with existing LOS conditions. All study area intersections would continue to operate at a satisfactory LOS according to the City's thresholds of significance with the addition of traffic associated with the proposed Alexan Foothills Specific Plan. Therefore, the impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Cumulative Year (2022) Without Specific Plan Conditions

Table 19-6 summarizes the results of the AM and PM peak-hour LOS analysis under cumulative conditions without the proposed Alexan Foothills Specific Plan. All study area intersections are anticipated to operate at satisfactory LOS, with the exception of:

#8. Myrtle Avenue/Central Avenue and I-210 Westbound Ramps during the PM peak hour
#9. Myrtle Avenue/Evergreen Avenue and I-210 Eastbound Ramps during the PM peak hour
#10. Myrtle Avenue/Duarte Road during the PM peak hour

Cumulative Year (2022) Plus Specific Plan Conditions

Table 19-6 summarizes the results of the cumulative plus Alexan Foothills Specific Plan AM and PM peak-hour LOS analysis, and compares those results with cumulative LOS conditions without the Specific Plan. With the addition of the proposed Alexan Foothills Specific Plan, all study area intersections would continue to operate at satisfactory LOS, with the exception of the three previously identified deficient intersections above (#8, #9, and #10) plus:

#5. Magnolia Avenue/Evergreen Avenue during the PM peak hour
#8. Myrtle Avenue/Central Avenue and I-210 Westbound Ramps during the AM peak hour

The addition of Alexan Foothills Specific Plan trips would exceed City thresholds of significance at the intersections of Magnolia Avenue/Evergreen Avenue in the PM peak hour (i.e., would result in an increase of the ICU by 0.04 or greater) and at the Myrtle Avenue/Central Avenue–I-210 westbound ramps in the PM peak hours (i.e., would result in an increase of the ICU by 0.02 or greater). Therefore, impacts on these two intersections by the Alexan Foothills Specific Plan are considered potentially significant.

The TIA for the Alexan Foothills Specific Plan recommends the following improvements to the intersection of Magnolia Avenue/Evergreen Avenue (Intersection #5):

- Restripe and move the centerline for the northern and southern legs of the intersection two feet to the west to allow for de facto northbound right-turns.

The TIA for the Alexan Foothills Specific Plan recommends the following improvements to the intersection of Myrtle Avenue/Central Avenue and I-210 Westbound Ramps (Intersection #8):

- Restripe the southbound travel lanes from a shared southbound through-right lane and a southbound through lane to an exclusive southbound right-turn lane and two southbound through lanes. This solution appears to be feasible within the existing right-of-way without modifying the existing curb or centerline; the center median on the southern leg of Myrtle Avenue at the intersection may require minor modifications.

Mitigation measure MM T-1 is proposed to ensure that the applicant pays their fair share of improvements to area roadways to reduce cumulative impacts associated with the Alexan Foothills Specific Plan to less than significant levels. With implementation of mitigation, impacts would be less than significant.

Mitigation Measures

Mitigation measure MM T-1 is applicable to the Alexan Foothills Specific Plan.

MM T-1: The City of Monrovia has conducted an Area Traffic Study and is devising a Development Impact Fee (DIF) program to address the cumulative effects of major development projects on the transportation system in the vicinity of the Monrovia Gold Line Station. The DIF will include each project's fair share cost of the traffic study and the recommended mitigation measure(s) identified for that project's specific impact(s). If the City Council adopts the DIF, it shall be paid prior to recording the Final Map or the amount of the DIF included in the bonds. Payment or bonding of the DIF shall fully satisfy the project's mitigation obligation for those improvements covered by the DIF. If the City Council does not adopt a DIF but does approve an Area Traffic Study that commits future applicants to pay fair share fees and obligates the City to spend those fees on specified improvements, the project will not pay a DIF, but will be responsible for their fair share as a fee in-lieu of improvements for mitigating the specific impacts identified in the project's Traffic Study. **Requirements and Timing:** The costs of those improvements or fee-in-lieu-of mitigation shall be paid prior to the Final Map recording, or a bond equal to the determined amount shall be posted prior to the Final Map recording. **Monitoring:** City staff shall confirm payment of either the costs of those improvements or fee-in-lieu of mitigation prior to recordation of the Final Map.

IMPACT T-2 ALEXAN FOOTHILLS SPECIFIC PLAN RAMP INTERSECTION ANALYSIS

Existing and Existing Plus Specific Plan Ramp Intersection Analysis (Caltrans Criteria)

To demonstrate the effect that the Alexan Foothills Specific Plan would have on the ramp intersections under Caltrans' jurisdiction, an Existing (2018) Conditions and an Existing Plus Specific Plan (Alexan Foothills Specific Plan only) HCM analysis was prepared, as required by Caltrans (see Section 19.2.2, Analysis Methodology/Performance Criteria, of this Chapter). Table 19-7 presents a summary of Existing and Existing Plus Specific Plan ramp intersection operations.

All study area ramp intersections currently operate at satisfactory LOS during the AM and PM peak hours. With the addition of the Alexan Foothills Specific Plan, all study area freeway ramp intersections would continue to operate at satisfactory LOS. Therefore, under Existing Plus Specific Plan Conditions, the impact of the Alexan Foothills Specific Plan on peak-hour ramp intersection operations under Caltrans significance thresholds would be less than significant.

Mitigation Measures

No mitigation measures are required.

Cumulative and Cumulative Plus Specific Plan Ramp Intersection Analysis (Caltrans Criteria)

To demonstrate the effect that the Alexan Foothills Specific Plan would have on the ramp intersections under Caltrans' jurisdiction, a Cumulative Year (2022) Conditions, a Cumulative Plus Specific Plan (Alexan Foothills Specific Plan only) HCM analysis was prepared, as required by Caltrans (see Section 19.2.2, Analysis Methodology/Performance Criteria, of this Chapter). Table 19-8 presents a summary of Cumulative and Cumulative Plus Specific Plan ramp intersection operations.

The Cumulative Plus Specific Plan scenario would exceed Caltrans' thresholds of significance at the ramp intersection of Myrtle Avenue/Central Avenue–I-210 eastbound ramp in the PM peak hours. Therefore, impacts on this ramp intersection by the Alexan Foothills Specific Plan are considered potentially significant.

The TIA for the Alexan Foothills Specific Plan recommends the following improvements to the intersection of Myrtle Avenue/Central Avenue and I-210 Eastbound Ramps (Intersection #9):

- Reassigning the eastbound through movement to an eastbound through-left movement.

Implementation of mitigation measure MM T-1 would ensure that the applicant pays their fair share of improvements to area roadways to reduce cumulative impacts associated with the Alexan Foothills Specific Plan to less than significant levels. With implementation of mitigation, impacts would be less than significant.

Mitigation Measures

Refer to mitigation measure MM T-1 above.

Table 19-5 Existing Baseline and Existing Plus Specific Plan LOS Summary

Intersection		Existing				Plus Specific Plan				Peak-Hour Δ ICU/HCM		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	AM	PM	
1	Mayflower Avenue/Diamond Street-Evergreen Avenue	22.6	C	19.7	C	23.8	C	22.1	C	1.2	2.4	No
2	Mayflower Avenue/Duarte Road	0.695	B	0.654	B	0.696	B	0.659	B	0.001	0.005	No
3	Project Driveway 1/Evergreen Avenue	N/A	-	N/A	-	10.3	B	10.3	B	-	-	No
4	Magnolia Avenue/Huntington Drive	0.709	C	0.742	C	0.722	C	0.754	C	0.013	0.012	No
5	Magnolia Avenue/Evergreen Avenue	15.5	C	18.2	C	19.2	C	25.8	D	3.7	7.6	No
6	Magnolia Avenue/Project Driveway 2	N/A	-	N/A	-	14.8	B	17.1	C	-	-	No
7	Magnolia Avenue/Duarte Road	0.628	B	0.591	A	0.636	B	0.598	A	0.008	0.007	No
8	Myrtle Avenue/Central Avenue-I-210 WB	0.774	C	0.877	D	0.788	C	0.898	D	0.014	0.021	No
9	Myrtle Avenue/Evergreen Avenue-I-210 EB	0.671	B	0.835	D	0.680	B	0.849	D	0.009	0.014	No
10	Myrtle Avenue/Duarte Road	0.776	C	0.875	D	0.777	C	0.881	D	0.001	0.006	No

Source: LSA (May 2018). See Appendix J of this EIR.
Notes:
Δ change
EB eastbound
I-210 Interstate 210
ICU intersection capacity utilization ratio
HCM Highway Capacity Manual delay (seconds per vehicle)
LOS = level of service
N/A = not applicable; driveway does not currently exist
WB = westbound

Table 19-6 Cumulative Baseline (2022) and Cumulative Plus Specific Plan LOS Summary

Intersection		Cumulative				Cumulative Plus Specific Plan				Peak-Hour Δ ICU/HCM		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	AM	PM	
1	Mayflower Avenue/Diamond Street- Evergreen Avenue (unsignalized)	25.1	D	21.5	C	26.4	D	24.5	C	1.3	3.0	No
2	Mayflower Avenue/Duarte	0.723	C	0.676	B	0.724	C	0.681	B	0.001	0.005	No
3	Project Driveway 1/Evergreen Avenue	N/A	-	N/A	-	10.4	B	10.3	B	-	-	No
4	Magnolia Avenue/Huntington	0.752	C	0.785	C	0.764	C	0.797	C	0.012	0.012	No
5	Magnolia Avenue/Evergreen Avenue (unsignalized)	20.4	C	23.8	C	28.7	C	40.8	E	8.3	17.0	Yes
6	Magnolia Avenue/Project Driveway 2 (unsignalized)	N/A	-	N/A	-	16.8	C	19.0	C	-	-	No
7	Magnolia Avenue/Duarte	0.672	B	0.631	B	0.680	B	0.636	B	0.008	0.005	No
8	Myrtle Avenue/Central Avenue-I-210 WB Ramps	0.894	D	0.958	E	0.908	E	0.980	E	0.014	0.022	Yes
9	Myrtle Avenue/Evergreen Avenue-I-210 EB Ramps	0.775	C	0.936	E	0.784	C	0.950	E	0.009	0.014	No
10	Myrtle Avenue/Duarte Road	0.818	D	0.919	E	0.819	D	0.925	E	0.001	0.006	No

Source: LSA (2018, 2019). See Appendix J of this EIR.
Notes:
Gray shading indicates that values exceed City of Monrovia's level of service criteria.
Δ = change
I-210 = Interstate 210
EB = eastbound
HCM = Highway Capacity Manual delay (seconds per vehicle)
ICU = intersection capacity utilization ratio
LOS = level of service
N/A = not applicable; driveway does not currently exist
WB = westbound

Table 19-7 Existing and Existing Plus Specific Plan Ramp Intersection Summary (Caltrans Criteria)

Intersection		Existing				Existing Plus Specific Plan				Peak-Hour Δ HCM		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		HCM	LOS	HCM	LO	HCM	LO	HCM	LO	AM	PM	
8	Myrtle Avenue/ Central Avenue-I-210 WB Ramps	21.4	C	33.6	C	22.2	C	36.6	D	0.8	3.0	No
9	Myrtle Avenue/ Evergreen Avenue-I-210 EB Ramps	21.9	C	30.2	C	22.1	C	32.5	C	0.2	2.3	No

Source: LSA (May 2018). See Appendix J of this EIR.
Notes:
Δ = change
EB = eastbound
HCM = Highway Capacity Manual delay (seconds per vehicle)

Table 19-8 Cumulative and Cumulative Plus Alexan Foothills Specific Plan Ramp Intersection Summary (Caltrans Criteria)

Intersection		Cumulative				Cumulative Plus Specific Plan				Peak-Hour Δ HCM		Significant Impact?
		AM Peak		PM Peak		AM Peak		PM Peak				
		HCM	LO	HCM	LO	HCM	LO	HCM	LO	AM	PM	
8	Myrtle Avenue/ Central Avenue-I-210 WB Ramps	39.8	D	47.7	D	42.3	D	51.6	D	2.5	3.9	No
9	Myrtle Avenue/ Evergreen Avenue-I-210 EB Ramps	28.7	C	50.2	D	30.0	C	55.5	E	1.3	5.3	No

Source: LSA (2018, 2019). See Appendix J of this EIR.
Notes:
Gray shading indicates that values exceed City of Monrovia's LOS criteria
Δ = change
EB = eastbound
HCM = Highway Capacity Manual delay (seconds per vehicle)
I-210 = Interstate 210
LOS = level of Service
WB = westbound

IMPACT T-3 FULL PROJECT ROAD SEGMENT ANALYSIS

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Future Year (2035) Conditions

A future year 2035 roadway link analysis was performed consistent with the City's General Plan Traffic Study (City of Monrovia 2007). The regional ambient growth rate (7.65 percent, 0.45 percent per year for 17 years) and the traffic volumes from the cumulative projects were applied to the existing roadway segment ADT to forecast 2035 conditions. The growth rate was obtained from the Los Angeles County Congestion Management Program. An impact analysis on study area intersections could not be performed on the programmatic level as the City does not have a traffic demand model where hourly traffic volumes through study area intersections could be projected.

Table 19-9 summarizes the results of the roadway segment LOS analyses under future conditions without the Project. All study area roadway segments are anticipated to operate at satisfactory LOS.

Future Year (2035) Plus Specific Plan Conditions

Table 19-9 summarizes the results of the Future Year (2035) Plus the Alexan Foothills Specific Plan roadway segment LOS analysis and compares those results with future 2035 conditions without the Alexan Foothills Specific Plan. All study area roadway segments would continue to operate at satisfactory LOS pursuant to City thresholds of significance with the addition of the proposed Alexan Foothills Specific Plan traffic. The impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Future Year (2035) Program Conditions

The Year 2035 Plus Program scenario is used to evaluate overall impacts on road segments from the Alexan Foothills Specific Plan plus ZCA Areas A and C. This consolidated project- and program-level analysis evaluates overall impacts associated with the Alexan Foothills Specific Plan development (a total of 436 residential units) plus an additional 82 potential units in ZCA Areas A and C, for a total of up to 518 residential units, minus the existing land uses onsite. Traffic associated with ZCA Areas A and C was added to the Year 2035 roadway link analysis using the same trip generation and trip distribution as the Existing and Cumulative Conditions scenarios, based on the daily and peak-hour trip rates taken from the Trip Generation Manual, 9th Edition (ITE 2012), with a 20 percent trip credit based on transit use. This scenario assumes no change in existing intersection designs (i.e., geometrics). The purpose of this scenario is to evaluate the potential transportation and circulation impacts of maximum development potential over the entire 9.63-acre Project area.

Table 19-10 summarizes the results of the Year 2035 roadway segment analysis without and with the full Project (Alexan Foothills Specific Plan and ZCA Areas A and C). The net trip generation with the Alexan Foothills Specific Plan and ZCA Areas A and C would be 2,363 ADT. All study

area roadway segments would operate at satisfactory LOS pursuant to City thresholds of significance both without and with the full Project. The impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT T-4 OFF-RAMP QUEUING ANALYSIS

Alexan Foothills Specific Plan

A queuing analysis was conducted for the Alexan Foothills Specific Plan at the I-210 eastbound and westbound off-ramps intersecting Myrtle Avenue, for the AM and PM peak hours, in order to anticipate any spill-back of vehicles from the off-ramps onto the I-210 freeway. The queuing analysis was calculated using the *Synchro 10* software package which includes a microsimulation module (SimTraffic). In forecasting vehicle queuing, the *Synchro* software considers traffic volume data, lane configurations, and available vehicle storage lengths for the respective traffic movements.

The I-210 eastbound off-ramp is a dual-lane ramp approximately 815 feet long, for a total of 1,630 feet of queue storage. The off-ramp queuing analysis utilized the traffic volumes available at the intersection of Myrtle Avenue/Evergreen Avenue and I-210 eastbound off-ramp. The I-210 westbound off-ramp is a single-lane ramp with approximately 990 feet of queue storage. The off-ramp queuing analysis utilized the traffic volumes available at the intersection of Myrtle Avenue/Central Avenue-I-210 westbound off-ramp. Complete details of the analysis are included in the TIA (Appendix J of this EIR). Based on this analysis, all off-ramp queues are forecast to operate within the provided capacity along the I-210 eastbound and westbound off-ramps. This impact would be less than significant.

ZCA Areas A and C

A queuing analysis was not performed for the ZCA Areas A and C because project-specific development has not been identified at this time. Future development projects within ZCA Areas A and C would undergo analysis to determine impacts and whether site improvements or mitigation measures are needed.

Mitigation Measures

No mitigation measures are required.

IMPACT T-5 ALTERNATIVE MOBILITY MODES

ZCA Areas A and C

It is too speculative at this time to review access to and use alternative mobility modes for ZCA Areas A and C, as no development projects have been proposed. These topics would be reviewed as future projects are proposed within Areas A and C.

Alexan Foothills Specific Plan

The Alexan Foothills Specific Plan incorporates design features to accommodate pedestrian circulation onsite. For example, bike parking is provided and pedestrian traffic would be afforded safe travel via plazas and sidewalks throughout the site that connect to the public right-of-way (see Figures 3-4 and 3-12).

Transit facilities are accessible to and from the Specific Plan area within a 0.25-mile radius. METRO bus stops are provided at the northeast and southwest corners of Mayflower Avenue/Duarte Road (Routes 264 and 267), and at the northwest and southeast corners of Magnolia Avenue/Duarte Road (Routes 264 and 267). These METRO bus routes travel to the cities of Altadena, Pasadena, Arcadia, El Monte, and Duarte.

The METRO Gold Line station is southeast of the Specific Plan area, within a 0.2-mile walk. The METRO Gold Line provides transportation from Azusa to East Los Angeles via downtown Los Angeles. The applicant for the Alexan Foothills Specific Plan and the City conducted consultation with METRO as well as the California Public Utilities Commission (CPUC) in accordance with METRO's *Adjacent Development Handbook* (METRO 2018).

METRO and CPUC expressed safety concerns with pedestrians attempting to access the METRO Gold Line station from the Alexan Foothills Specific Plan area across the street at Magnolia Avenue without a cross walk, immediately north of the railroad tracks. Therefore, the applicant for the Alexan Foothills Specific Plan and the City propose an alternate route from the Specific Plan area to the METRO Gold Line via a pathway internal to the new apartment complex leading from the parking structure to a new striped crosswalk at the intersection of Magnolia Avenue and Evergreen Avenue, further north of the railroad tracks. The applicant also proposes to remove a formerly proposed pedestrian walkway on the southeast end of the property and to now gate pedestrian access to Magnolia Avenue at the southeast corner of the property to discourage pedestrians from attempting to cross Magnolia Avenue close to the railroad tracks.

In the Project vicinity, on-street (Class III) bicycle routes are indicated along Magnolia Avenue in the Monrovia General Plan. As indicated in Figures 3-4 and 3-12, the Project provides bicycle parking affords access to this bicycle route.

The Alexan Foothills Specific Plan would provide enhanced access for pedestrians, bicyclists, and transit users in the area. Therefore, the impact on alternative mobility modes, including walking, bicycling, and transit, would be less than significant.

Mitigation Measures

No mitigation measures are required.

IMPACT T-6 CONSISTENCY WITH CEQA GUIDELINES SECTION 15064.3(B)

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Changes to CEQA and the CEQA Guidelines recently went into effect on December 28, 2018, whereby Section 15064.3 of the CEQA Guidelines titled "Determining the Significance of Traffic Impacts" was added and states:

"(a) Purpose.

This section describes specific considerations for evaluating a project's transportation impacts. Generally, vehicle miles traveled is the most appropriate measure of transportation impacts. For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project's effect on automobile delay shall not constitute a significant environmental impact.

(b) Criteria for Analyzing Transportation Impacts.
Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.

(2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

(3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

(4) Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

(c) Applicability. The provisions of this section shall apply prospectively as described in section 15007. A lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide."

As described in Chapter 3, the Project qualifies as a project within one-half mile of an existing major transit stop and therefore, is a mixed-use project in a TPA and in a HQTA. According to the new CEQA Guidelines, the proposed Project "should be presumed to cause a less than significant transportation impact." However, this statement is based upon an analysis of vehicle miles

traveled from developments of this type. Vehicle Miles Traveled (VMT) is a measure of the number of miles traveled by vehicles within a specified region for a specific time period. VMT enables evaluation of a project's impacts on accessibility of a region rather than intersection delay measured by LOS. Evidence must be provided to substantiate a statement that impacts "should be presumed to cause a less than significant transportation impact." In the TIA for the Alexan Foothills Specific Plan, VMT for the Specific Plan were calculated using the California Emissions Estimator Model (CalEEMod); based on the CalEEMod run in the TIA, the proposed Alexan Foothills Specific Plan would result in a net increase of 19,837 VMT, with a 20 percent transit credit incorporated into the trip generation (see Appendix J, TIA). VMT were not reported in the TIA for ZCA Areas A and C, as specific land uses are currently unknown for these areas.

The Project is located proximate to a METRO Gold Line transit station and other TOD development designed to encourage walking and use of public transit. The Alexan Foothills Specific Plan promotes City-wide TOD goals by building on the synergy of the adjacent Station Square Planning Area. The Alexan Foothills Specific Plan would activate the area surrounding the transit station and other adjacent TOD development by enhancing the attractiveness and walkability of the area with landscaping, public art, and pedestrian pathways. While VMT may increase at the site due to the increase in residential units, locating development within close proximity to transit and other TOD development is precisely the land use strategy promoted by the state and the City to reduce VMT on a regional and state-wide basis.

However, the City of Monrovia, has not yet developed thresholds of significance based upon VMT and therefore, has elected to wait to adopt the provisions of Section 15064.3(b) of the CEQA Guidelines until the required date of July 1, 2020. In addition, the TIA was prepared using LOS as the threshold of significance. Therefore, use of LOS as the threshold of significance for transportation impacts was used for the Alexan Foothills Specific Plan.

Mitigation Measures

No mitigation measures are required.

IMPACT T-7 HAZARDS AND EMERGENCY ACCESS

ZCA Areas A and C

It is too speculative at this time to review hazards, emergency access, driveway access, or site distance for ZCA Areas A and C, as no development projects have been proposed. These topics would be reviewed as future projects are proposed within Areas A and C.

Alexan Foothills Specific Plan

Hazards and emergency access to and from the Alexan Foothills Specific Plan area were evaluated in a driveway access analysis and a sight distance analysis as discussed below.

Driveway Access Analysis

Access to the Alexan Foothills Specific Plan area would be provided by two full-access driveways, one each along Evergreen Avenue and Magnolia Avenue. Each driveway would have one lane for inbound travel and another lane for outbound travel. An HCM-based intersection analysis was utilized to evaluate the adequacy and performance of the two proposed unsignalized driveways.

As presented previously in Tables 19-5 and 19-6, the intersections of Project Driveway 1/Evergreen Avenue and Magnolia Avenue/Project Driveway 2 are anticipated to operate at satisfactory LOS during the AM and PM peak hours in both the Existing Plus Specific Plan and Cumulative Plus Specific Plan Scenarios. Consistent with HCM unsignalized intersection analysis methodology, the LOS results shown in Tables 19-5 and 19-6 represent the delay in seconds for the worst affected movement, in this case the outbound left-turn movements.

To assess the performance of inbound vehicles coming off Evergreen Avenue and Magnolia Avenue, the calculated delay values of the inbound left-turn movements are presented in Table 19-11. All inbound left-turn movements are anticipated to operate at LOS A. Right-turning vehicles entering either driveway from the uncontrolled (i.e., no stop sign or traffic signal) adjacent roadway should not experience any control delay and, therefore, are not represented in the table. The Alexan Foothills Specific Plan would not result in inadequate emergency access and the impact on driveway access would be less than significant.

Sight Distance Analysis

Sight distance has been reviewed for both proposed Specific Plan driveways. Evergreen Avenue and Magnolia Avenue have a speed limit of 35 miles per hour (mph). The Caltrans Highway Design Manual (2017) recommends a corner sight distance of 385 feet for a design speed of 35 mph. More than 385 feet of sight distance is available for the driveway along Evergreen Avenue in both directions. Also, more than 385 feet of sight distance is available for the driveway along Magnolia Avenue in both directions. Based on existing roadway design and the proposed site layout, no obstructions are anticipated for outbound Project vehicles onto the immediately adjacent streets from the Alexan Foothills Specific Plan driveways. There are no incompatible uses nearby, such as a farm, which include the use of slow-moving vehicles. The impact on site distance would be less than significant.

Accordingly, the Alexan Foothills Specific Plan would not substantially increase hazards due to geometric design features (e.g., sharp curves or dangerous intersections). Impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Table 19-9 Year 2035 Conditions ADT Volumes and V/C Ratios

Segment #	Roadway	Segment	Capacity[1]	Future Year 2035			Future Year 2035 Plus Specific Plan				Δ v/c Ratio	Increase	Significant Impact?[3]
				ADT[2]	v/c Ratio	LOS	Project ADT	ADT[2]	v/c Ratio	LOS			
1	Duarte Road	west of Mayflower	36,000	23,900	0.67	B	96	24,000	0.67	B	0.000	0.40%	No
2		Mayflower to Magnolia	36,000	19,700	0.55	A	0	19,700	0.55	A	0.000	0.00%	No
3		Magnolia to Myrtle	36,000	19,800	0.55	A	193	20,000	0.56	A	0.010	0.98%	No
4		east of Myrtle	18,000	12,100	0.67	B	96	12,200	0.68	B	0.010	0.79%	No
5	Evergreen Avenue	Mayflower to Magnolia	18,000	2,500	0.14	A	582	3,100	0.17	A	0.030	23.12%	No
6		Magnolia to Myrtle	18,000	2,700	0.15	A	218	2,900	0.16	A	0.010	8.13%	No
7	Huntington Drive	Mayflower to Magnolia	36,000	28,600	0.80	C	193	28,800	0.80	C	0.000	0.67%	No
8		Magnolia to Myrtle	36,000	28,500	0.79	C	96	28,600	0.79	C	0.000	0.34%	No
9	Mayflower Avenue	north of Evergreen	36,000	16,900	0.47	A	291	17,200	0.48	A	0.010	1.73%	No
10		Evergreen to Duarte	36,000	16,700	0.46	A	96	16,800	0.47	A	0.010	0.58%	No
11		south of Duarte	18,000	7,900	0.44	A	0	7,900	0.44	A	0.000	0.00%	No
12	Magnolia Avenue	Huntington to Evergreen	18,000	8,100	0.45	A	678	8,800	0.49	A	0.040	8.34%	No
13		Evergreen to Duarte	18,000	7,700	0.43	A	461	8,200	0.45	A	0.020	5.97%	No
14	Myrtle Avenue	Huntington to Central	36,000	24,900	0.69	B	194	25,100	0.70	B	0.010	0.78%	No
15		Central to Duarte	36,000	24,000	0.67	B	24	24,000	0.67	B	0.000	0.10%	No
16		south of Duarte	36,000	24,100	0.67	B	96	24,200	0.67	B	0.000	0.40%	No

Source: LSA (2018). See Appendix J of this EIR.

1 Average daily traffic roadway segment capacity is determined as 9,000 vehicles per lane, per the City of Monrovia's General Plan Circulation Element (2012).

2 Average daily traffic volume is displayed with rounding to the nearest hundredths digit. However, the v/c ratio is calculated using the unrounded volume.

3 A significant impact occurs when the roadway link exceeds the acceptable LOS and the project-related traffic increases the ADT by 2.5 percent or more.

Δ = change
ADT = average daily traffic
LOS = level of service
v/c = volume-to-capacity

Table 19-10 Program Scenario Year 2035 Conditions ADT Volumes and V/C Ratios

Segment #	Roadway	Segment	Capacity[1]	Future Year 2035			Future Year 2035 Plus Maximum Potential Project Buildout				Δ v/c Ratio	Increase	Significant Impact?[3]
				ADT[2]	v/c Ratio	LOS	Project ADT	ADT2	v/c Ratio	LOS			
1	Duarte Road	west of Mayflower	36,000	23,900	0.67	B	118	24,100	0.67	B	0.000	0.49%	No
2		Mayflower to	36,000	19,700	0.55	A	0	19,700	0.55	A	0.000	0.00%	No
3		Magnolia to Myrtle	36,000	19,800	0.55	A	236	20,000	0.56	A	0.010	1.19%	No
4		east of Myrtle	18,000	12,100	0.67	B	118	12,300	0.68	B	0.000	0.97%	No
5	Evergreen Avenue	Mayflower to	18,000	2,500	0.14	A	708	3,200	0.18	A	0.040	28.13%	No
6		Magnolia to Myrtle	18,000	2,700	0.15	A	266	2,900	0.16	A	0.010	9.93%	No
7	Huntington	Mayflower to	36,000	28,600	0.80	C	236	28,900	0.80	C	0.000	0.82%	No
8		Magnolia to Myrtle	36,000	28,500	0.79	C	118	28,600	0.79	C	0.000	0.41%	No
9	Mayflower Avenue	north of Evergreen	36,000	16,900	0.47	A	354	17,200	0.48	A	0.010	2.10%	No
10		Evergreen to	36,000	16,700	0.46	A	118	16,800	0.47	A	0.010	0.71%	No
11		south of Duarte	18,000	7,900	0.44	A	0	7,900	0.44	A	0.000	0.00%	No
12	Magnolia Avenue	Huntington to	18,000	8,100	0.45	A	826	9,000	0.50	A	0.050	10.15%	No
13		Evergreen to	18,000	7,700	0.43	A	561	8,300	0.46	A	0.030	7.26%	No
14	Myrtle Avenue	Huntington to	36,000	24,900	0.69	B	236	25,100	0.70	B	0.010	0.95%	No
15		Central to Duarte	36,000	24,000	0.67	B	30	24,000	0.67	B	0.000	0.13%	No
16		south of Duarte	36,000	24,100	0.67	B	118	24,200	0.67	B	0.000	0.49%	No

Source: LSA (May 2018). See Appendix J of this EIR.

Notes:

1 Average daily traffic roadway segment capacity is determined as 9,000 vehicles per lane, per the City of Monrovia's General Plan Circulation Element (2012).

2 Average daily traffic volume is displayed with rounding to the nearest hundredths digit. However, the v/c ratio is calculated using the unrounded volume.

3 A significant impact occurs when the roadway link exceeds the acceptable LOS and the project-related traffic increases the ADT by 2.5 percent or more.

Δ = change

ADT = average daily traffic

LOS = level of service

v/c = volume-to-capacity

Table 19-11 Driveway Access Analysis

Intersection		Movement	Existing Plus Specific Plan				Cumulative Plus Specific Plan			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS
3	Project Driveway 1/ Evergreen Avenue	WBL	7.7	A	7.9	A	7.7	A	7.9	A
6	Magnolia Avenue/ Project Driveway 2	NBL	7.9	A	8.3	A	7.9	A	8.4	A

Source: LSA (2018). See Appendix J of this EIR.
Notes:
LOS = level of service
NBL = Northbound left
WBL = Westbound left

19.2.4 Impact Conclusions

Mitigation measure MM T-1 would ensure that area roadway improvements are implemented to offset cumulative impacts on area intersections, including ramp intersections. With implementation of this measure, potentially significant traffic impacts associated with the Alexan Foothills Specific Plan would be reduced to less than significant levels.

List of Acronyms and Abbreviations	
Acronym/ Abbreviation	**Full Phrase or Description**
ADT	average daily traffic
CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
EB	eastbound
HCM	Highway Capacity Manual
I-210	Interstate 210
ICU	Intersection Capacity Utilization
LOS	level of service
NBL	northbound left
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAG	Southern California Association of Governments
TIA	Traffic Impact Analysis
v/c	volume-to-capacity
VMT	vehicle miles traveled
WB	westbound
WBL	westbound left

References Cited

California Air Pollution Officers Association (CAPCOA) and California Air Districts
2016 California Emissions Estimator Model (Cal EEMod)

City of Monrovia
2007 Traffic Study for the Proposed Amendment to the Land Use and Circulation Elements of the Monrovia General Plan.
2012 Circulation Element. November 6.

Institute of Transportation Engineers (ITE)
2012 Trip Generation Manual, 9th Edition
2017 Trip Generation Manual, 10th Edition

Los Angeles County Metropolitan Transportation Authority (METRO)
2010 Congestion Management Program
2018 METRO Adjacent Development Handbook. A Guide for Cities and Developers. May.

LSA
2018 Traffic Impact Analysis, 1625 Magnolia Avenue, Monrovia, Los Angeles County, California
2019 Addendum, 1625 Magnolia Avenue Traffic Study Cumulative (Year 2022) Analysis. June 26.

Southern California Association of Governments (SCAG)
2016 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Adopted April.

Transportation Research Board
2016 Highway Capacity Manual.

20. UTILITIES AND SERVICE SYSTEMS

This EIR Chapter describes the existing setting for water supply, wastewater facilities, and solid waste management within the Project area. The Chapter includes the regulatory framework necessary to evaluate potential environmental impacts resulting from the Project, describes potential impacts that could result from the Project, and includes mitigation measures that would avoid or reduce those potential impacts.

The analysis in this chapter is based upon the City of Monrovia's Urban Water Management Plan (Stetson Engineers 2016), the City's Sewer System Management Plan (City of Monrovia 2016), a Water Capacity Study completed by Stetson Engineers (2019), a Wastewater Capacity Study completed by David Evans and Associates (2018), and various sub-pages available on the Monrovia's website at:

http://www.cityofmonrovia.org/your-government/public-works

Impacts on stormwater quality and stormwater-related facilities are discussed in EIR Chapter 13 (Hydrology and Water Quality).

20.1 SETTING

20.1.1 Environmental Setting

Wastewater Collection and Treatment

Wastewater is treated at the San Jose Creek Water Reclamation Plant (WRP), located near the City of Industry. The San Jose Creek WRP currently treats 58.5 million gallons per day (mgd) and is permitted to treat up to 100 mgd (County Sanitation Districts of Los Angeles County [LACSD] 2019).

The majority of Monrovia's wastewater flows are conveyed to a 24-inch trunk sewer line at the intersection of Peck Road and Duarte Road, where the line runs along Peck Road in the southern area of Monrovia. The 24-inch trunk sewer line is operated by LACSD which has a capacity of 6.1 mgd and conveyed a peak flow of 3.3 mgd when last measured in 2013 (LACSD 2019).

The City's Public Services Department owns, operates, and maintains a sanitary sewer collection system including approximately 92 miles of City sewer lines with pipe sizes ranging in diameter from 6 to 24 inches (City of Monrovia 2018b). The City's two existing sewer main lines located near the Project (PSOMAS 2017, David Evans and Associates 2018) include:

- A 10-foot deep 24-inch Vitrified Clay Pipe (VCP) approximately six feet east of the center line of Mayflower Ave, which drains south along Mayflower Avenue until a turn eastward on Duarte Road, a turn southward at Peck Road, and then connection to the 24-inch trunk sewer line.

- An 8 to 10-foot deep 10-inch VCP sewer main approximately 10 feet west of the center line of Magnolia Avenue, which drains south along Magnolia Avenue until it connects to the 24-inch trunk sewer line.

The City of Monrovia is a member of the Consolidated Sewer Maintenance District (CSMD) of Los Angeles County administered and managed by the Los Angeles County Department of Public Works (LACDPW) which is responsible for maintaining the City's sewer pipelines.

Water Supply

The City adopted an Urban Water Management Plan (UWMP) pursuant to the requirements of the State of California Urban Water Management Planning Act and the California Water Code to describe future water demands and future availability of the water supply sources used by the City (Stetson Engineers 2016). The UWMP currently does not include the Project. However, a WSA was completed for the Project as required by Water Code section 10910 (Stetson Engineers 2018) (Appendix K).

The Project area is within the Main San Gabriel Groundwater Basin, which is the primary source of water for Monrovia. The Main San Gabriel Basin freshwater storage capacity is estimated to be approximately 8.7 million acre-feet (AF). Approximately 1.0 million AF of this groundwater basin is actively managed, including importing supplemental water to recharge the basin to ensure reliability of the available groundwater supply. The City's water system is a "public water system" as defined by California Water Code Section 10912(c), which currently serves approximately 36,600 people with 9,600 service connections. The City maintains 111 miles of underground water pipelines, 12 local reservoirs, 7 pressure zones to deliver water to various parts of Monrovia, 19 booster pumps, and 5 booster stations (City of Monrovia 2018a).

The City operates a water conservation program called Monrovia Conserves: A Community Effort. The City also has Drought Regulations and Water Conservation Standards (Ordinance No. 2015-05 and Resolution No. 2015-41) mandated by the 2015 UWMP whereby actions are required to respond to a severe or extended water shortage.

The Main San Gabriel Basin is an adjudicated groundwater basin, where entities that use the groundwater basin as a water supply must pay their fair share of the cost to import supplemental water to recharge the basin. However, there is no limit on the quantity of groundwater that may be extracted, even during drought years. The Main San Gabriel Basin serves three water districts: Upper San Gabriel Valley Municipal Water District's (USGVMWD), San Gabriel Valley Municipal Water District's (SGVMWD), and Three Valleys Municipal Water District (TVMWD). The City of Monrovia is located within USGVMWD's service area. Basin-wide, the five-year average production of water from the groundwater basin has been 214,375 acre-feet per year (AFY).

The City pumps groundwater from its five active wells with a combined capacity of approximately 10,000 gallons per minute (gpm). The reliable pumping capacity of City wells is 9,700 AFY or 8.6 million gallons per day (MGD), which assumes that wells are operating at 60 percent capacity (Stetson 2018).

Since 1998, water demand in Monrovia has ranged from 5,810 AFY in 2002 to 9,706 AFY in 2003 (Stetson Engineers 2018), with an average consumption of 7,690 AFY over the last 20 years. Existing water demand from land uses in the Alexan Foothills Specific Plan area is 1.2 AFY (Stetson Engineers 2018). The UWMP and WSA project future water demands up to 7,037 AFY through the year 2040, starting at 6,635 AFY in 2019-2020.

The City can receive imported water from the Metropolitan Water District from the USG-7 connection. However, the City has not received water from this connection, at any point, over the last 20 years.

Solid Waste

The City contracts with a private waste provider, Athens Services, for solid waste pick up and recycling services (City of Monrovia 2018c). As landfills throughout the region near capacity and the opportunities for new landfill sites become increasingly scarce, the need to reduce solid waste generation increases as hauling trash to distant locations has increased. In response to State directives for waste reduction, the City and its contracted hauler have coordinated efforts to reduce the volume of refuse entering the waste stream.

According to the CalRecycle Disposal Reporting System (CalRecycle 2018), Monrovia disposed 28,495 tons of solid waste in 2016, equating to approximately 4.2 pounds per day per resident. Solid waste was distributed over various landfills and recycling centers:

- Antelope Valley Public Landfill (72 tons—0.25%)
- Azusa Land Reclamation Co. Landfill (689 tons—2.42%)
- Chiquita Canyon Sanitary Landfill (363 tons—1.27%)
- El Sobrante Landfill (1,942 tons—6.82%)
- Frank. R. Bowerman Sanitary Landfill (1,075 tons—3.77%)
- Lancaster Landfill and Recycling Center (5 tons—0.2%)
- Mid-Valley Sanitary Landfill (13,177 tons—46.2%)
- Olinda Alpha Sanitary Landfill (2,958 tons—10.3%)
- San Timoteo Sanitary Landfill (5,294 tons—18.6%)
- Simi Valley Landfill & Recycling Center (256 tons—0.90%)
- Sunshine Canyon City/County Landfill (2,310 tons—8.12%)
- Victorville Sanitary Landfill (354 tons—1.24%)

CalRecycle projected landfill capacity countywide in their Remaining Lifetime Landfill Capacity Analysis for Los Angeles County (CalRecycle 2011). Under a “medium growth” scenario, CalRecycle projects 32 million tons of remaining capacity in 2025. Under a “medium growth” scenario, the following assumptions apply: (1) solid waste amounts increase due to population growth and medium economic growth; (2) no new facilities are built beyond those already planned; (3) no increase in recycling; and (4) current State regulations and policies continue without change.

20.1.2 Regulatory Setting

Wastewater Collection and Treatment

State

California Plumbing Code, Chapter 10. Chapter 10 of the California Plumbing Code has been adopted by the City of Monrovia and provides the Building Official with legal authority to require installation of interceptors/clarifiers where waste flow conditions require proper handling to protect the sewer system and the public (commonly at establishments that generate grease, oil, grit, acids, alkaline or flammable wastes).

Water Supply

State

Department of Water Resources. The California Department of Water Resources (DWR) is responsible for the management and regulation of water usage, including the delivery of water to two-thirds of California's population through the nation's largest State-built water development and conveyance system, the State Water Project. Working with other agencies and the public, DWR develops strategic goals and near-term and long-term actions to conserve, manage, develop, and sustain California's watersheds, water resources, and water management systems. DWR also works to prevent and respond to floods, droughts, and catastrophic events that would threaten public safety, water resources and management systems, the environment, and property.

California Safe Drinking Water Act. The Safe Drinking Water Act (SDWA), administered by the U.S. Environmental Protection Agency (EPA) in coordination with the California Department of Public Health (CDPH), is the main Federal law that ensures the quality of drinking water. Under SDWA, EPA sets standards for drinking water quality and oversees water suppliers who implement those standards.

Urban Water Management Planning Act. In 1983, the California legislature enacted the Urban Water Management Planning Act (Water Code Section 10610–10656). The Act states that every urban water supplier that provides water to 3,000 or more customers, or that provides over 3,000 AF annually, should make every effort to ensure the appropriate level of reliability in its water service to meet the needs of its various categories of customers during normal, dry, and multiple dry years. The Act requires that urban water suppliers adopt an UWMP at least once every 5 years and submit it to the DWR. Noncompliant urban water suppliers are ineligible to receive funding pursuant to Division 24 or Division 26 of the California Water Code, or receive drought assistance from the State, until the UWMP is submitted and deemed complete pursuant to the Act.

Senate Bills 610 and 221, Water Supply Assessment and Verification. Senate Bills (SB) 610 and 221 amended State law to improve the link between the information on water supply availability and certain land use decisions made by cities and counties. Both statutes require detailed information regarding water availability (i.e., a Water Supply Assessment or WSA) to be provided to city and county decision-makers prior to approval of development projects involving greater than 500 dwelling units. Both statutes require this detailed information to be included in the administrative record. Under SB 610, WSAs must be furnished to local governments for inclusion in any environmental document for certain projects as defined in Water Code 10912 subject to CEQA. Under SB 221, approval by a city or county of certain residential subdivisions requires an affirmative written verification of sufficient water supply.

Statewide Water Conservation Act of 2009 (Senate Bill X7-7). In November 2009, the California State legislature passed SB X7-7 addressing water conservation. In general, SB X7-7 requires a 20 percent reduction in per capita urban water use by 2020, with an interim target of 10 percent in 2015. The legislation requires urban water users to develop consistent water use targets and to use those targets in their UWMPs.

Local

City of Monrovia 2015 Urban Water Management Plan. The City of Monrovia is a water

supplier and is required to prepare an UWMP in accordance with the California Urban Water Management Planning Act. The Act requires every "urban water supplier" to prepare and adopt a Plan to provide a legal framework for long-term water management to ensure sufficient water supplies to meet existing and future demands. It also requires periodic review of the Plan by the City at least once every five years and any amendments or changes which are indicated by the review. The latest UWMP was prepared in 2015 by the City (City of Monrovia 2016).

City of Monrovia Landscape Regulations. In response to Executive Order (EO) B-29-15 to impose urban water use restrictions, in 2018 the City of Monrovia implemented a Landscape Ordinance to regulate:

- New residential and non-residential construction projects with a landscape area totaling 500 square feet (sf) or more; and

- Rehabilitated residential and non-residential landscape projects with a landscape area totaling 2,500 sf or more.

In accordance with the State's Model Water Efficient Landscape Ordinance (MWELO), a project applicant shall submit a complete Landscape Documentation Package containing a Water Efficient Landscape Application containing a licensed landscape professional's statement that the proposed design and documentation package complies with State's regulations regarding water conservation.

Solid Waste Disposal

State

California Department of Resources Recycling and Recovery (CalRecycle; formerly the California Integrated Waste Management Board). CalRecycle oversees, manages, and monitors waste generated in California. It provides limited grants and loans to help California cities, counties, businesses, and organizations meet the State waste reduction, reuse, and recycling goals. CalRecycle develops, manages, and enforces waste disposal and recycling regulations, including Assembly Bill (AB) 939 and Senate Bill (SB) 1016.

Assembly Bill (AB) 939. AB 939 (Public Resources Code 41780) requires cities and counties to prepare Integrated Waste Management Plans (IWMPs) and to divert 50 percent of solid waste from landfills beginning in calendar year 2000 and each year thereafter. AB 939 also requires cities and counties to prepare Source Reduction and Recycling Elements (SRRE) as part of their IWMPs. These Elements are designed to develop recycling services to achieve diversion goals, stimulate local recycling in manufacturing, and stimulate the purchase of recycled products.

Senate Bill (SB) 1016. SB 1016 requires that the 50 percent solid waste diversion requirement established by AB 939 be expressed in pounds per person per day. SB 1016 also changed the CalRecycle review process for each municipality's IWMP. The CalRecycle Board reviews a jurisdiction's compliance with diversion rate targets in accordance with a specified schedule. Beginning January 1, 2018, the Board will be required to review a jurisdiction's source Reduction and Recycling Element and Hazardous Waste Element every two years.

20.2 ENVIRONMENTAL EFFECTS

This Section describes potential impacts related to utilities and service systems that could result from the Project. The Section also recommends mitigation measures as needed to reduce significant impacts. A program-level analysis was conducted for ZCA Areas A and C and a project-level analysis was conducted for the Alexan Foothills Specific Plan area (ZCA Area B). The level of analysis conducted for the GPA depends upon whether the analysis is focusing on ZCA Areas A and C, the Alexan Foothills Specific Plan, or both.

20.2.1 Significance Criteria

Based on the CEQA Guidelines, Appendix G: Items XIX (a) through (e), implementation of the Project would result in a significant impact related to utilities if it would:

(a) Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction of which would cause significant environmental effects;

(b) Not have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years;

(c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the provider's existing commitments;

(d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or

(e) Fail to comply with Federal, State, and local management and reduction statutes and regulations related to solid waste.

In addition, based on the CEQA Guidelines, Appendix G: X (b) and X (e), implementation of the Project would have a significant impact on groundwater resources if it would:

(b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin; or

(e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

20.2.2 Analysis Methodology

The methodology for evaluating potential environmental impacts related to utilities and service systems followed this basic sequence:

(1) Background reports, along with information provided by other governmental organizations and local private utilities were evaluated to identify existing environmental conditions and problems related to utilities and service systems.

(2) The CEQA Statute and Guidelines, including Appendix G (Environmental Checklist Form), were consulted to identify environmental impact topics and issues that should be addressed in the EIR. In part, this process resulted in the significance criteria listed in subsection 20.2.1 above.

(3) Potential impacts to utilities and service systems were evaluated by comparing projected increased water use, generation of wastewater, and solid waste generation with existing capacity and availability of utility services to determine if a significant impact would occur.

(4) For potential environmental impacts, mitigation measures were designed to avoid or reduce each impact to a less than significant level, where possible.

20.2.3 Environmental Impacts

IMPACT UTIL-1 WASTEWATER COLLECTION AND TREATMENT

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

The Project's anticipated population increase would cause an increase in the amount of wastewater delivered to the San Jose Creek Water Reclamation Plant. Table 20-1 presents an estimated increase of 0.087 mgd in wastewater generated by new development under the Project once existing structures are demolished.

Table 20-1 Estimated Wastewater Generated by Project

Land Use	Wastewater Generation Rate[(A)]	Total Wastewater Generation (gpd)
Alexan Foothills Specific Plan		
436 DUs	156 gpd per DU	68,016
Commercial space associated with four live/work units (1,561 sf)	100 gpd per 1,000 sf	156.1
Two pools/spas[(B)]		5,714
Subtotal		**73,886.1**
ZCA Areas A and C		
82 DUs	156 gpd per DU	12,792
TOTAL		**86,678.1**

Notes:
DU dwelling unit
sf square feet
(A) Wastewater generation rates are from County Sanitation Districts of Los Angeles County, Table 1, Loadings by Each Class of Land Use (https://lacsd.org/civicax/filebank/blobdload.aspx?blobid=3531) (downloaded in July 2019)
(B) A competition pool, 50 meters by 25 yards (22.86 m), with an average pool depth of 6 feet (1.83 m), has a total pool volume of 2,091.69 m^3, or 552,566 gallons. It is estimated that the two pools and spas proposed in the Alexan Foothills Specific Plan would comprise the size of two competition pools. Replenishment of pool water with potable water is required from time to time to prevent the buildup of unacceptable levels of chloramines. Discharge of water from pools is required to be discharged to the sanitary sewer. The water filtration systems for the proposed new pools have not been designed to date, however, it is estimated that approximately 20,000 gallons of potable water per week per pool/spa complex, or 5,714 gpd would be required to replenish the water; and a commensurate amount of water would need to be discharged to the sanitary sewer each week.

This wastewater amount represents less than one percent of the remaining capacity at the San Jose Creek Water Reclamation Plant and would not require the construction of new facilities. Therefore, the Project would have a less than significant impact on the San Jose Creek Water Reclamation Plant and would not exceed wastewater treatment requirements of the Regional Water Quality Control Board. The Project would not result in a determination by the wastewater treatment provider serving the Project area that it does not have adequate capacity to serve the Project's projected demand in addition to its existing commitments.

In addition, the City of Monrovia's Department of Public Works commissioned a wastewater capacity study to evaluate the cumulative impacts of proposed new developments in the Project area on the size capacity of the City's sewer lines adjacent to the Project (David Evans and Associates 2018). The study concluded that one small segment of the City's sewer line along Magnolia Avenue, and two small segments of the City's sewer line along Duarte Road, would slightly exceed the LACSD's threshold for determining whether the capacity of a pipeline is full (i.e., the depth of flow over the pipe diameter), however, the remaining pipeline segments are projected to remain at capacity. Therefore, the City's wastewater capacity study does not recommend any additional wastewater infrastructure to serve the Project or other proposed projects in the area (David Evans and Associates 2019). Therefore, impacts of the Project on the capacity of the City's sewer lines would be less than significant and would not require mitigation measures.

A final determination by the City of Monrovia's Department of Public Works that it can provide wastewater service to the Project in compliance with LACSD requirements, however, would be required prior to issuance of building permits or recordation of final maps for the Alexan Foothills Specific Plan and for future developments in ZCA Areas A and C. Therefore, mitigation measure MM UT-1 is required to ensure that the City provides a "Can and Will Serve" letter to provide wastewater service for the Alexan Foothills Specific Plan and future development in ZCA Areas A and C. With implementation of this measure, potentially significant impacts would be reduced to less than significant levels.

Mitigation Measures

Mitigation Measure MM UT-1 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

MM UT-1. Prior to issuance of building permits or the approval of a final map, whichever occurs first, the applicant shall agree to the conditions as outlined herein and provide the following: a) provide a "Can and Will Serve" letter by the City of Monrovia's Department of Public Works to provide wastewater service to the development indicating the feasibility and conditions of providing service to the development, and b) identify and show on the site plans and tentative map the proposed layout and design of the development and how it will accomplish City Department of Public Works' conditions of approval for the development. **Requirements and Timing:** A Can and Will serve letter for wastewater service shall be obtained prior to issuance of building permits or approval of a final map, whichever occurs first. **Monitoring:** City staff shall confirm issuance of the Can and Will Serve letter for wastewater service prior to issuance of building permits or approval of a final map, whichever occurs first.

IMPACT UT-2 WATER SUPPLY AND GROUNDWATER RESOURCES

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Expanded conservation practices such as low water use toilets, appliances and gardening, and increased use of recycled water would likely improve the efficiency of new uses established by the Project as compared to the existing uses. The increase in mixed-use development typically results in lower household water use as lawn and garden irrigation practices are less compared to single family homes. Nevertheless, water use would be expected to rise with the anticipated increase in population and new landscaped areas. Water is a scarce resource, and droughts are common in southern California.

According to the WSA, indoor water use under the Alexan Foothills Specific Plan area is estimated to be 55 gallons per capita per day (GPCD). The WSA conservatively assumes a population of 1,090 individuals under the Alexan Foothills Specific Plan (higher than the actual projected population estimate of 942 - see Chapter 17, Population and Housing), resulting in a per capita water demand of approximately 67 AFY (55 GPCD x 1,090 x 365 days in a year/325,851 gallons per acre-foot).

The Alexan Foothills Specific Plan would also have just over an acre of irrigated landscaped area. Considering irrigation efficiency and evapotranspiration, the WSA estimates the annual total water use for irrigation is 2.7 AFY. Total water use for the Alexan Foothills Specific Plan is projected to be 70 AFY according to the WSA. However, the WSA did not include the water demand associated with replenishment of water in the two proposed pools and spas under the Alexan Foothills Specific Plan. Replenishment of pool and spa water would result in a total estimated water demand of 2,085,610 gallons per year (see Table 20-1), for 6.4 AFY. This would result in a net increase of 76.4 AFY in water demand in the Alexan Foothills Specific Plan area.

In addition to the Alexan Foothills Specific Plan, ZCA Areas A and C could accommodate up to 227 additional people from 82 additional units (see Chapter 17, Population and Housing). The 2015 UWMP states that the City's water demand per capita in 2015 was 153 GCPD (including indoor use and landscaping). As such, it is expected that buildout of ZCA Areas A and C would use approximately 34,731 gallons of water per day (0.11 AF), or approximately 39 AFY. This is likely a worst-case scenario, as future development would likely result in multi-family units and relatively small irrigated areas suggesting that the amount of water consumed would likely be less than the City's GCPD. In addition, this does not factor in existing water use in the area.

Therefore, the conservative estimate for the Project's combined increase in water demand would be 115.4 AFY. Based upon the analysis in the WSA, the total water demand in the City with the Alexan Foothills Specific Plan for the year 2040 is 7,106 AFY. The total Project, therefore, would result in a total water demand in the City of 7,151.4 AFY (including the pools/spas under the Alexan Foothills Specific Plan and future development of ZCA Areas A and C). The WSA concludes that the City would have a sufficient supply of 9,700 AFY to support the Project and City demand, in both single and multiple dry years. Therefore, the Project would not require new or expanded water supply entitlements and would have a less than significant impact on water supply.

The City conducted a water capacity study to determine if any additional water infrastructure improvements would be required to serve the Alexan Foothills Specific Plan and future development in the area including future buildout in ZCA Areas A and C (Stetson Engineers 2019). The study concluded that additional potable water infrastructure would be required to serve the Project and other nearby development. Specifically, additional booster pump capacity at the City's Forebay Pump Station is recommended in addition to 980 feet of pipeline

replacements or upgrades along Magnolia Avenue. These improvements would occur within a developed, urbanized area and would not result in any significant environmental impacts. Under mitigation measure MM UT-2, payment of in-lieu fees would be required to ensure payment of the fair-share of required improvements and to reduce impacts to less than significant levels.

A final determination by the City of Monrovia's Department of Public Works that it can provide water service to the Project, however, would be required prior to issuance of building permits or recordation of final maps for the Alexan Foothills Specific Plan and for future developments in ZCA Areas A and C. Therefore, mitigation measure MM UT-3 is required to ensure that the City provides a "Can and Will Serve" letter to provide water service for the Alexan Foothills Specific Plan and future development in ZCA Areas A and C. With implementation of this measure, potentially significant impacts would be reduced to less than significant levels.

Mitigation Measures

Mitigation measures MM UT-2 and MM UT-3 are applicable to the Alexan Foothills Specific Plan as well as to future developments in ZCA Areas A and C.

MM UT-2. The applicant for development shall pay fair-share in-lieu fees for completion of upgrades to the nearby water system to support the development. Improvements will include the addition of one booster pump and upgrade of 980 feet of pipeline along Magnolia Avenue between Duarte Road and Evergreen Avenue. **Requirement and Timing:** In lieu fees shall be paid prior to issuance of building permits. **Monitoring:** City staff shall confirm payment of in lieu fees prior to issuance of building permits.

MM UT-3. Prior to issuance of building permits or the approval of a final map, whichever occurs first, the applicant shall agree to the conditions as outlined herein and provide the following: a) provide a "Can and Will Serve" letter by the City of Monrovia's Department of Public Works to provide water service to the development indicating the feasibility and conditions of providing service to the development, and b) identify and show on the site plans and tentative map the proposed layout and design of the development and how it will accomplish City Department of Public Works' conditions of approval for the development. **Requirements and Timing:** A Can and Will serve letter for water service shall be obtained prior to issuance of building permits or approval of a final map, whichever occurs first. **Monitoring:** City staff shall confirm issuance of the Can and Will Serve letter for water service prior to issuance of building permits or approval of a final map, whichever occurs first.

IMPACT UT-3 SOLID WASTE

GPA, ZCA Areas A and C, and Alexan Foothills Specific Plan

Using a 2016 per capita waste generation rate of 4.2 pounds per resident per day, the approximate 1,169 residents that would live in the Project area would result in a generation of approximately of 896 tons of solid waste annually. This is likely a worse-case scenario as per-capita waste generation rates are expected to continue to decline through various solid waste management practices.

As stated above, solid waste generated by the City of Monrovia has been disposed of at the following facilities, which would also be used for waste generated by the Project:

- Antelope Valley Public Landfill
- Azusa Land Reclamation Co. Landfill
- Chiquita Canyon Sanitary Landfill
- El Sobrante Landfill
- Frank. R. Bowerman Sanitary Landfill
- Lancaster Landfill and Recycling Center
- Mid-Valley Sanitary Landfill
- Olinda Alpha Sanitary Landfill
- San Timoteo Sanitary Landfill
- Simi Valley Landfill & Recycling Center
- Sunshine Canyon City/County Landfill
- Victorville Sanitary Landfill

As stated above, CalRecycle projects 32 million tons of remaining capacity in 2025. Therefore, generation of 896 tons of solid waste would represent a very small percentage of the County's landfill capacity, and landfills with sufficient permitted capacity are available to serve the Project's solid waste disposal needs. Therefore, the Project would have a less than significant impact on landfill capacity. In addition, the City, working with private providers, will continue to implement a variety of solid waste reduction, recycling, and re-use measures to meet its obligation under AB 939. These efforts will be coordinated with waste management programs; therefore, future landfill diversion rates may further improve.

Buildout of the Alexan Foothills Specific Plan would involve the demolition of approximately 65,190 sf of existing structures in the area, and buildout of ZCA Areas A and C would also likely result in demolition of existing structures. However, a large percentage of construction and demolition (C&D) debris can be recycled. The City of Monrovia has a C&D Recycling Program under its IWMP, requiring individual project applicants to prepare a Waste Management Plan for individual projects and recycling of at least 50 percent of C&D waste as stipulated in standard condition SC UT-1. The City must review and approve Waste Management Plans for individual projects, and it requires submittal of Waste Management Reports, including receipts or weight tickets to document recycling of materials. The Project would comply with Federal, State, and local statutes and regulations related to solid waste. Therefore, with implementation of this program, buildout of the Project would result in less than significant solid waste impacts due to construction and demolition activities.

Standard Conditions

Standard condition SC UT-1 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

SC UT-1: Project Applicants shall comply with the City of Monrovia Construction and Demolition (C&D) Disposal and Recycling Program. The Program includes submitting a C&D Recycling Program Permit Application and a Waste Management Plan to the Public Works Department Environmental Services Division and diverting 50 percent of the total construction and demolition debris generated by the Project. **Requirements and Timing:** Applicants shall submit Waste Management Plans to the City Department of Public Works Environmental Services Division for review and approval prior to issuance of demolition permits or building permits. The Waste Management Plan shall be implemented and adhered to throughout demolition and construction. **Monitoring:** City Department of Public Works Environmental Services Division shall review and approve of Waste Management Plans prior to issuance of demolition or

building permits; City staff shall confirm approval of the Waste Management Plan prior to issuance of building permits and shall confirm compliance with the Waste Management Plan prior to sign off on construction.

Mitigation Measures

No mitigation measures are required.

20.2.4 Impact Conclusions

Sufficient potable water, wastewater capacity, and landfill capacity exists to accommodate increased demands with construction and implementation of the Project. Mitigation measures MM UT-1 and MM UT-3 would ensure that can and will serve letters are issued for water and wastewater service for all development under the Project, and mitigation measure MM UT-2 would ensure that adequate water infrastructure is in place in the Project area to accommodate the new planned growth. Project impacts on utilities would be less than significant with the incorporation of standard conditions and mitigation measures MM UT-1 through MM UT-3.

List of Acronyms, Abbreviations, and Symbols	
Acronym/ Abbreviation	**Full Phrase or Description**
AB	Assembly Bill
AF	acre-feet
AFY	acre-feet per year
CDPH	California Department of Public Health
CEQA	California Environmental Quality Act
CSMD	Consolidated Sewer Management District
DWR	Department of Water Resources
EIR	Environmental Impact Report
EO	Executive Order
EPA	United States Environmental Protection Agency
GPCD	gallons per capita per day
GPA	General Plan Amendment
IWMP	Integrated Waste Management Plan
LACDPW	Los Angeles County Department of Public Works
LACSD	Sanitation Districts of Los Angeles County
m	meters
mgd	million gallons per day
MWELO	Model Water Efficient Landscape Ordinance
SB	Senate Bill
SDWA	Safe Drinking Water Act
SGVMWD	San Gabriel Valley Municipal Water District
SRRE	Source Reduction and Recycling Element
TVMWD	Three Valleys Municipal Water District
USGVMWD	Upper San Gabriel Valley Municipal Water District
UWMP	Urban Water Management Plan
VCP	Vitrified Clap Pipe
WRP	Water Reclamation Plant
WSA	Water Supply Assessment

ZCA	Zoning Code Amendment

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21. ALTERNATIVES

Section 15126.6 of the CEQA Guidelines requires an EIR to "describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives." The Section also states that the discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if those alternatives would impede to some degree the attainment of the basic project objectives, or would be more costly. The Project does not result in significant and unavoidable environmental impacts. Accordingly, this Chapter focuses on Project alternatives that could potentially reduce environmental impacts as compared to the Project, while still meeting the Project objectives.

Pursuant to Section 15126.6, this Chapter describes three alternatives to the Project and compares their impacts to the Project. Pursuant to the CEQA Guidelines, the ability of the alternatives to meet the basic project objectives is also described, and the "environmentally superior" alternative among the four is identified.

In accordance with CEQA Guidelines Section 15126.6(a), this EIR does not evaluate every conceivable alternative. A reasonable range of feasible alternatives that will allow decision-makers to make a reasoned choice and that meet most of the project objectives has been evaluated. The project objectives are as follows below.

The objectives for the PD GPA are as follows:

Objective GPA-1. Create a cohesive and complementary land use plan that provides additional opportunities for transit oriented development opportunities to support Station Square Transit Village (PD-12).

The objectives for the PD ZCA are as follows:

Objective ZCA-1. Provide flexibility in land use types and intensities that will allow future development to respond to changes in the marketplace over time.

Objective ZCA-2. Provide land use guidance for three distinct areas (Areas A, B, and C) within the Planned Development Area PD-27: Station Square West area.

The objectives for the Alexan Foothills Specific Plan are as follows:

Objective SP-1. Provide more opportunities for high-density housing near transit within Area B and the City by increasing density to 54 units per acre to meet the goals of the City's Housing Element.

Objective SP-2. Broaden the type of housing options in the City by creating opportunities for modern, attractive, multi-family residential development.

Objective SP-3. Accommodate a walkable urban form in the City by improving the pedestrian environment with active, small-format ground-floor public spaces, accessible sidewalks and pathways, and pedestrian amenities.

Objective SP-4. Improve multi-modal accessibility, connectivity, and safety by providing public parking for METRO's Monrovia Gold Line Station, providing accessible pathways to enable safe access to the METRO station, and by promoting bicycle use by providing convenient bicycle amenities and storage options.

Objective SP-5. Improve the physical character and aesthetic appeal of the area with the gradual introduction of new developments that include attractive architectural styles, landscaping, connectivity and walkability, public art, and welcoming and unified gateway elements.

Objective SP-6. Integrate open space and resident amenities by integrating plazas and small gathering spaces, such as rooftop decks.

The following alternatives have been evaluated in comparison to the Project:

- Alternative 1: No Project Alternative
- Alternative 2: Buildout of Project Area Under Current Zoning
- Alternative 3: Reduced Specific Plan

Table 21-1 provides an overview of the development potential for the Project and the three alternatives.

Table 21-1 Summary Statistics for Project Alternatives

Project Component	Size (Acres)	Existing Uses (Square feet, Dwelling units)	Existing General Plan & Zoning Designations	Proposed Uses (Square feet, Dwelling units)	Proposed General Plan & Zoning Designation
Project	9.63	Light Industrial (incl warehouse, office, accessory structures) (approx. 80,870 sf) Single Family Residential Units (6,088 sf.; 5 DUs) Church & Accessory	General Plan Designation and Zoning: Manufacturing	Multi-Family Residential 518 DU under Full Buildout	General Plan: Planned Development (PD-27: Station Square West) Zoning: Planned Development (PD-27) with Alexan Foothills Specific Plan

Table 21-1 Summary Statistics for Project Alternatives

Project Component	Size (Acres)	Existing Uses (Square feet, Dwelling units)	Existing General Plan & Zoning Designations	Proposed Uses (Square feet, Dwelling units)	Proposed General Plan & Zoning Designation
		Structures (approx. 6,630 sf)			
Alternative 1: No Project Alternative	9.63		General Plan Designation and Zoning: Manufacturing	None Proposed	General Plan Designation and Zoning: Manufacturing
Alternative 2: Buildout of Project Area Under Current Zoning	9.63	Same as Alternative 1	General Plan Designation and Zoning: Manufacturing	Mobile Homes and/or Industrial and Commercial	General Plan Designation and Zoning: Manufacturing
Alternative 3: Reduced Specific Plan	9.63	Same as Alternative 1	General Plan Designation and Zoning: Manufacturing	Multi-Family Residential 482 DU under Full Buildout	General Plan: Planned Development (PD-27: Station Square West) Zoning: Planned Development (PD-27) with Alexan Foothills Specific Plan
Notes: DU dwelling units SF square feet					

A detailed description of each alternative and comparison of impacts on each issue area is provided below. Table 21-2 summarizes impacts of each alternative relative to the Project.

Table 21-2 Summary of Impacts Under Alternatives Relative to the Project

Issue Area	Project	Alternatives		
		Alternative 1: No Project Alternative	Alternative 2: Buildout of Project Area Under Current Zoning	Alternative 3: Reduced Specific Plan
Aesthetics and Visual Resources	Less Than Significant with Mitigation Incorporated	Less than Project: No Project Alternative would involve less development than under the Project.	Greater than Proposed Project: Alternative 2 would potentially result in more industrial units and mobile homes in the Project area than the Project.	Similar to proposed Project: Alternative 3 would result in construction of buildings slightly lower in height.
Agricultural and Forest Resources	No Impact	Same as Project.	Same as Project	Same as Project
Air Quality	Less Than Significant with Mitigation	Less than Project: No Project Alternative would involve less	Greater than Project: Alternative 2 would generate more trips.	Less than Project: Alternative 3 would generate less trips.

Table 21-2 Summary of Impacts Under Alternatives Relative to the Project

Issue Area	Project	Alternatives		
		Alternative 1: No Project Alternative	**Alternative 2: Buildout of Project Area Under Current Zoning**	**Alternative 3: Reduced Specific Plan**
	Incorporated	development than under the Project.		
Biological Resources	Less Than Significant with Mitigation Incorporated	Less than Project: No Project Alternative would involve less development than under the Project.	Same as Project: Overall area developed would not change under Alternative.	Same as Project: Overall area developed would not change under Alternative.
Cultural Resources and Tribal Resources	Less Than Significant with Mitigation Incorporated	Less than Project: No Project Alternative would involve less development than under the Project.	Same as Project: Overall area developed would not change under Alternative.	Same as Project: Overall area developed would not change under Alternative.
Geology and Soils	Less Than Significant	Less than Project: No Project Alternative would involve less development than under the Project.	Same as Project: Overall area developed would not change under Alternative.	Same as Project: Overall area developed would not change under Alternative.
Greenhouse Gas Emissions and Energy Consumption	Less Than Significant with Mitigation Incorporated	Less than Project: No Project Alternative would involve less development than under the Project.	Greater than Project: Alternative 2 would generate more trips.	Less than Project: Alternative 3 would generate less trips.
Hazards and Hazardous Materials	Less Than Significant with Mitigation Incorporated	Less than Project: No Project Alternative would involve less development than under the Project.	Same as Project: Overall area developed would not change under Alternative.	Same as Project: Overall area developed would not change under Alternative.
Hydrology and Water Quality	Less Than Significant	Less than Project: No Project Alternative would involve less development than under the Project.	Greater than Project: This alternative is expected to result in slightly more impervious surfaces than the Project due to more industrial units.	Same as Project: Overall area developed would not change under Alternative.
Land Use and Planning	Less Than Significant	Greater than Project: Numerous policies and objectives to ensure that new development would be compatible and integrated with established land use patterns would not be implemented. The benefits of improving transit use and walkability would not be implemented. Alternative 2 would be less effective at meeting the goals of the Housing Element.	Greater than Project: Alternative would result in less housing in the City than the Project, and therefore, would be less effective at meeting the City's housing goals outlined in the Housing Element.	Greater than Project: Alternative 3 would result in less housing in the City than the Project, and therefore, would be less effective at meeting the City's housing goals outlined in the Housing Element.
Mineral Resources	No Impact	Same as Project.	Same as Project.	Same as Project.
Noise	Less Than Significant with	Less than Project: No Project Alternative	Greater than Project: Alternative 2 would	Less than Project: Alternative 3 would

Table 21-2 Summary of Impacts Under Alternatives Relative to the Project

Issue Area	Project	Alternatives		
		Alternative 1: No Project Alternative	**Alternative 2: Buildout of Project Area Under Current Zoning**	**Alternative 3: Reduced Specific Plan**
	Mitigation Incorporated	would involve less development than under the Project.	generate more trips.	generate less trips.
Population and Housing	Less Than Significant	Greater than Project: There would be less new housing to meet the community and regional need for housing.	Greater than Project: Alternative would result in less housing in the City than the Project, and therefore, would be less effective at meeting the City's housing goals outlined in the Housing Element.	Greater than Project: Alternative would result in less housing in the City than the Project, and therefore, would be less effective at meeting the City's housing goals outlined in the Housing Element.
Public Services and Recreation	Less Than Significant with Mitigation Incorporated	Less than Project: No Project Alternative would involve less development than under the Project.	Less than Project: Alternative would result in less housing and therefore, less demand on public services and recreational facilities.	Less than Project: Alternative 3 would involve less demand on public services and recreational facilities.
Transportation and Circulation	Less Than Significant with Mitigation Incorporated	Less than Project: No Project Alternative would involve less development than under the Project.	Greater than Project: Alternative 2 would generate more trips.	Less than Project: Alternative 3 would involve fewer trips than under the Project.
Utilities and Service Systems	Less Than Significant with Mitigation Incorporated	Less than Project: No Project Alternative would involve less development than under the Project.	Similar to Project: Alternative would result in less housing but more potential industrial square footage. Therefore, impacts would be similar.	Less than Project: Alternative 3 would involve less development than under the Project.
Land Use and Planning	Less Than Significant	Greater than Project: Numerous policies and objectives to ensure that new development would be compatible and integrated with established land use patterns would not be implemented. The benefits of improving transit use and walkability would not be implemented. Alternative 2 would be less effective at meeting the goals of the Housing Element.	Greater than Project: Alternative would result in less housing in the City than the Project, and therefore, would be less effective at meeting the City's housing goals outlined in the Housing Element.	Greater than Project: Alternative 3 would result in less housing in the City than the Project, and therefore, would be less effective at meeting the City's housing goals outlined in the Housing Element.
Mineral Resources	No Impact	Same as Project.	Same as Project.	Same as Project.
Noise	Less Than Significant with Mitigation Incorporated	Less than Project: No Project Alternative would involve less development than under	Greater than Project: Alternative 2 would generate more trips.	Less than Project: Alternative 3 would generate less trips.

Table 21-2 Summary of Impacts Under Alternatives Relative to the Project				
Issue Area	**Project**	**Alternatives**		
		Alternative 1: No Project Alternative	**Alternative 2: Buildout of Project Area Under Current Zoning**	**Alternative 3: Reduced Specific Plan**
		the Project.		
Population and Housing	Less Than Significant	Greater than Project: There would be less new housing to meet the community and regional need for housing.	Greater than Project: Alternative would result in less housing in the City than the Project, and therefore, would be less effective at meeting the City's housing goals outlined in the Housing Element.	Greater than Project: Alternative would result in less housing in the City than the Project, and therefore, would be less effective at meeting the City's housing goals outlined in the Housing Element.
Public Services and Recreation	Less Than Significant with Mitigation Incorporated	Less than Project: No Project Alternative would involve less development than under the Project.	Less than Project: Alternative would result in less housing and therefore, less demand on public services and recreational facilities.	Less than Project: Alternative 3 would involve less demand on public services and recreational facilities.
Transportation and Circulation	Less Than Significant with Mitigation Incorporated	Less than Project: No Project Alternative would involve less development than under the Project.	Greater than Project: Alternative 2 would generate more trips.	Less than Project: Alternative 3 would involve fewer trips than under the Project.
Utilities and Service Systems	Less Than Significant with Mitigation Incorporated	Less than Project: No Project Alternative would involve less development than under the Project.	Similar to Project: Alternative would result in less housing but more potential industrial square footage. Therefore, impacts would be similar.	Less than Project: Alternative 3 would involve less development than under the Project.

21.1 ALTERNATIVE 1: NO PROJECT ALTERNATIVE

According to Section 15126.6(e)(2) of the CEQA Guidelines, the evaluation of alternatives in an EIR shall include a "no project" scenario. A "no project" scenario consists of the existing physical setting and "...what is reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services."

Under this alternative, the GPA and ZCA would not occur and the Alexan Foothills Specific Plan would not be adopted. The Project area would continue with a land use designation of Manufacturing under the City's Land Use Element. This land use designation allows for light manufacturing and limited heavy manufacturing uses. Additionally, under the current zoning, the entire Project area would continue to be designated as Manufacturing where industrial uses are allowed in this zone (with some uses requiring a conditional use permit). Office and institutional uses are also allowed in this zone, with the exception of cemeteries and government buildings. Under this zoning, the only residential uses that are allowed are mobile home parks with a conditional use permit.

Under this alternative, no buildout would occur in the Alexan Foothills Specific Plan area or ZCA Areas A and C, and all existing structures would remain. Specifically, three light industrial

structures, one legal nonconforming residential unit, one religious building and associated trailers, one commercial office building, and one asphalt covered storage lot, all constructed between 1942 and 1987, would remain.

Alternative 1 would not incorporate the smart growth guiding principles or objectives of the Project directed at developing a sustainable community by increasing walkability and accessibility for bicyclists, providing a greater range of transportation and housing choices through transit oriented development and mixed-use development, and prioritizing infill and redevelopment rather than development of open space. These guiding principles and objectives help mitigate overall impacts on air quality, global climate change, and transportation and circulation within the City. Also, existing structures would remain on the property and would therefore not include current techniques in achieving sustainability such as modern fixtures for water conservation and use of green building technology.

Project Objectives

Overall, Alternative 1 would involve less development within the City than under the Project. However, under Alternative 1, none of the project objectives would be met.

21.1.1 Comparison of Impacts

Aesthetics and Visual Resources

Alternative 1 would involve less overall development than the Project. Therefore, impacts on aesthetics and visual resources would be lower than the Project. There would be no visual impacts in the Alexan Foothills Specific Plan area, however, existing structures would remain in perpetuity and would continue to become inconsistent and incompatible with the character of planned development in areas adjacent to the Project area (such as the Station Square Transit Village) utilizing modern architectural styles and details.

Agricultural and Forest Resources

There are no agricultural or forest resource uses in the Project area. As such, there would be no impact under the Project and under Alternative 1.

Air Quality

Alternative 1 would involve less overall development than the Project. Therefore, localized impacts on air quality would be lower under Alternative 1 than the Project. However, the overall reduction in vehicle trips and associated emissions of criteria pollutants and greenhouse gases within the City and region as a result of increasing in-fill residential development, increasing transit oriented development, increasing mixed uses, and increasing walkability and accessibility for bicyclists would not be realized.

Biological Resources

Alternative 1 would involve less overall development than the Project. However, the benefits of facilitating in-fill residential development and mixed uses in the City to reduce development sprawl into open space would not be realized.

Cultural Resources and Tribal Cultural Resources

There are no known archaeological resources, Tribal Cultural Resources, significant historic structures, or paleontological resources in the Project area. However, Alternative 1 would involve less construction and grading than the Project. Therefore, Alternative 1 would have less risk of inadvertent discovery of archaeological resources, Tribal Cultural Resources, and paleontological resources.

Geology and Soils

With Alternative 1, there would be less development, and therefore, less potential for adverse impacts associated with geologic hazards (i.e., seismic impacts) than the Project. Impacts would be less than significant under both scenarios.

Greenhouse Gas Emissions and Energy Consumption

Alternative 1 would involve less overall development than the Project. Therefore, localized impacts on greenhouse gas emissions would be lower under Alternative 1 than the Project. However, the overall reduction in vehicle trips and associated emissions of criteria pollutants and greenhouse gases within the City and region as a result of increasing in-fill residential development, increasing transit oriented development, increasing mixed uses, and increasing walkability and accessibility for bicyclists would not be realized. Impacts would be less than significant under both scenarios.

In addition, Alternative 1 would involve less overall development than the Project. Therefore, localized impacts on energy consumption would be lower under Alternative 1 than the Project. However, the overall reduction in vehicle trips and associated emissions of criteria pollutants and greenhouse gases within the City and region as a result of increasing in-fill residential development, increasing transit oriented development, increasing mixed uses, and increasing walkability and accessibility for bicyclists would not be realized. Impacts would be less than significant under both scenarios.

Hazards and Hazardous Materials

Less development compared to the Project would result in less potential exposure of people and property to hazards and hazardous materials. Therefore, impacts would be lower under Alternative 1 than the Project.

Hydrology and Water Quality

Alternative 1 would involve less overall development than the Project. Therefore, localized impacts on stormwater runoff would be lower under Alternative 1 than the Project and would remain less than significant. However, the benefits of implementing Low Impact Development (LID) measures to increase infiltration and treatment of runoff, and the benefits of facilitating in-fill residential development and mixed uses in the City to reduce development sprawl into open space (thereby protecting the region's watersheds), would not be realized.

Land Use and Planning

Both Alternative 1 and the Project would be consistent with the City's land use policies and objectives as well as the development standards of the Zoning Code. Under Alternative 1, development of additional housing in the Project area would be unlikely. Therefore, Alternative 1 would be less effective at meeting the goals of the City's Housing Element than the Project.

Mineral Resources

There are no mineral resources in the City. Therefore, there would be no impacts under both scenarios.

Noise

Alternative 1 would involve less overall development than the Project. Therefore, localized noise impacts would be lower under Alternative 1 than the Project. However, the overall reduction in vehicle trips and associated traffic noise within the City and region as a result of increasing in-fill residential development, increasing transit oriented development, increasing mixed uses, and increasing walkability and accessibility for bicyclists would not be realized.

Population and Housing

Under Alternative 1, buildout would be expected to be less than or equal to the City's projected population growth under the Southern California Association of Governments' (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), as opposed to under the Project that would involve the addition of 518 units or growth approximately one third greater than projected under the 2016 RTP/SCS. However, there would be less new housing to meet the community and regional need for market-rate housing. Therefore, overall, impacts on population and housing would be greater under Alternative 1 than under the Project.

Public Services and Recreation

Alternative 1 would involve less overall development than the Project. Therefore, overall impacts would be lower than the Project.

Transportation and Circulation

Alternative 1 would involve less overall development than the Project. Therefore, localized impacts on traffic would be lower under Alternative 1 than the Project. However, the overall reduction in vehicle trips within the City and region as a result of increasing in-fill residential development, increasing transit oriented development, increasing mixed uses, and increasing walkability and accessibility for bicyclists would not be realized. Additional public parking for METRO's Monrovia Gold Line Station would not be provided.

Utilities

Alternative 1 would involve less overall development than the Project, and therefore, would result in less demand on utilities such as potable water, wastewater treatment, and solid waste disposal. Impacts would be less than significant.

21.2 ALTERNATIVE 2: BUILDOUT OF PROJECT AREA UNDER CURRENT ZONING

Under Alternative 2, the Alexan Foothills Specific Plan area and ZCA Areas A and C would be built out under existing land use and zoning.

Under this alternative, exactly as under Alternative 1, the GPA, ZCA and Specific Plan would not occur. The Project area would continue with a land use designation of Manufacturing under the City's Land Use Element. This land use designation allows for light manufacturing and limited heavy manufacturing uses. Additionally, under the current zoning, the entire Project area would continue to be designated as Manufacturing where industrial uses are allowed in this zone (with some uses requiring a conditional use permit). Office and institutional uses are also allowed in this zone, with the exception of cemeteries and government buildings. Under this zoning, the only residential uses that are allowed are mobile home parks with a conditional use permit.

Under this alternative, the 9.63acre area could be built out under the current Manufacturing land use designation and zone. Under this alternative, incremental development of manufacturing, office, and residential uses could still occur within the entire Project area under the existing land use designation and zoning. The current land uses within this area include a mix of light industrial, warehouse/storage, office, single family residential, private surface parking, and two cellular towers. Development of a limited number of mobile homes could be developed in the Project area, but much less than the 518 residential units possible under the Project because they are one-story structures. Development of the area would likely primarily involve remodels or demolition and rebuild of industrial or office uses.

Project Objectives

Alternative 2 would not incorporate the smart growth guiding principles or objectives of the Project directed at developing a sustainable community by increasing walkability and accessibility for bicyclists, providing a greater range of transportation and housing choices through transit oriented development and mixed-use development, and prioritizing infill and redevelopment rather than development of open space. These guiding principles and objectives help mitigate overall impacts on air quality, global climate change, and transportation and circulation within the City.

Under Alternative 2, Objective 1, to achieve a residential density of 54 units per acre in the Project area, would not be met. Other project objectives could be met under future proposals but likely not as well given the Manufacturing land use designation and zone. For example, future developments in the Manufacturing zone could still implement pedestrian and accessibility improvements, which would fulfill Objectives 3 and 4, but these kinds of improvements are more-often associated with residential and retail development. New manufacturing development also has the potential to improve the aesthetic appeal of the area, fulfilling Objective 5, though manufacturing project design typically focuses more on function than aesthetics.

Alternative 2 may not necessarily result in less overall development as the Project as well. Development of industrial or office uses of the same or greater size would still be feasible in the Project area under this alternative, especially if the property currently held by Trammell Crow Residential is sold to one owner.

21.2.1 Comparison of Impacts

Aesthetics and Visual Resources

Alternative 2 has the potential to involve greater, but still less than significant, impacts on aesthetics and visual resources than the Project given the potential for redevelopment of industrial or office uses in the 9.63-acre area currently proposed for the Project area. In addition, introduction of new industrial or office development in this area has the potential to become inconsistent and incompatible with the character of planned development in areas adjacent to the Project area (such as the Station Square Transit Village).

Agricultural and Forest Resources

There are no agricultural or forest resource uses in the Project area. As such, there would be no impacts related to Agricultural and Forest Resources under both scenarios.

Air Quality

Alternative 2 has the potential to involve greater vehicle trips and greater emissions of criteria pollutants and greenhouse gases than the Project given the potential for redevelopment of industrial or office uses in the 9.63-acre Project area.

Alternative 2 would involve less of an overall reduction in vehicle trips and associated emissions of criteria pollutants and greenhouse gases within the City and region associated with increasing in-fill residential development, increasing transit oriented development, increasing mixed uses, and increasing walkability and accessibility for bicyclists.

Biological Resources

Alternative 2 has an equal potential for the amount of development in the Project area as the Project (i.e., in terms of square footage). Therefore, localized impacts on biological resources would likely be similar under Alternative 2 as the Project and would remain less than significant with implementation of mitigation measures.

However, the benefits of the Project in facilitating in-fill residential development and transit oriented residential development would not be realized.

Cultural Resources and Tribal Cultural Resources

There are no known archaeological resources, Tribal Cultural Resources, significant historic structures, or paleontological resources in the Project area. Given that Alternative 2 has an equal potential for the amount of development in the Project area as the Project (i.e., in terms of square footage), Alternative 2 would have a similar risk of inadvertent discovery of archaeological resources, Tribal Cultural Resources, and paleontological resources as the Project. Impacts would be less than significant with implementation of mitigation measures.

Geology and Soils

Alternative 2 has an equal potential for the amount of development in the Project area as the Project (i.e., in terms of square footage). Therefore, the potential for adverse impacts associated with geologic hazards (i.e., seismic impacts) would be similar under Alternative 2 as the Project and would remain less than significant.

Greenhouse Gas Emissions and Energy Consumption

Alternative 2 has the potential to involve greater vehicle trips and greater emissions of criteria pollutants and greenhouse gases, as well as greater energy consumption, than the Project given the potential for redevelopment of industrial or office uses in the 9.63- acre Project area.

In addition, the overall reduction in vehicle trips and associated emissions of criteria pollutants and greenhouse gases within the City and region associated with the Project as a result of increasing in-fill residential development, increasing transit oriented development, increasing mixed uses would not be realized

Hazards and Hazardous Materials

Alternative 2 has the potential to involve greater impacts on hazards and hazardous materials than the Project given the potential for redevelopment of industrial or office uses in the 9.673-acre Project area as opposed to residential uses. Introduction of new industrial or office development in this area has a greater potential for use of hazardous materials. Therefore, impacts would be greater under Alternative 2 than the Project but would remain less than significant with implementation of mitigation measures.

Hydrology and Water Quality

Alternative 2 has an equal potential for the amount of development in the Project area as the Project (i.e., in terms of square footage). Therefore, localized impacts on stormwater runoff would likely be similar under Alternative 2 as the Project and would remain less than significant.

However, the benefits of implementing Low Impact Development (LID) measures to increase infiltration and treatment of runoff, and the benefits of facilitating in-fill residential development, transit oriented development and mixed uses in the City would not be realized.

Land Use and Planning

Both Alternative 2 and the Project would be consistent with the City's land use policies and objectives as well as the development standards of the Zoning Code. Under Alternative 2, development of additional housing in equivalent numbers to the Project would be unlikely. Therefore, Alternative 2 would be less effective at meeting the goals of the City's Housing Element than the Project. Therefore, impacts on land use and planning would be greater under Alternative 2, but would remain less than significant.

Mineral Resources

There are no mineral resources in the City. Therefore, there would be no impacts under either the Project or Alternative 2.

Noise

Alternative 2 has the potential to involve a greater number of vehicle trips and greater potential for use of noise-generating equipment than the Project given the potential for redevelopment of industrial or office uses in the 9.63--acre Project area. Therefore, noise impacts associated with Alternative 2 would likely be greater than the Project.

In addition, the overall reduction in vehicle trips within the City and region associated with the Project as a result of increasing in-fill residential development, increasing transit oriented development, increasing mixed uses, and increasing walkability and accessibility for bicyclists would not be realized. However, impacts related to development pursuant to Alternative 2 are expected to remain less than significant with implementation of mitigation measures.

Population and Housing

Alternative 2 would result in less new housing to meet the community and regional need for market-rate housing. In addition, the expansion of industrial or office uses in the Project area would increase the number of jobs in the area thereby potentially increasing the demand for housing as well. Therefore, overall, impacts on population and housing would be greater under Alternative 2 than under the Project, however, impacts would remain less than significant.

Public Services and Recreation

Alternative 2 has the potential for redevelopment of industrial or office uses in the 9.63-acre Project area, which would result in a lower demand on public services and recreational facilities in the City than the planned residential development under the Project. Impacts would remain less than significant. However, the benefits of the additional public spaces, including the public plazas and rooftop decks, associated with the Project would not be realized.

Transportation and Circulation

Alternative 2 has the potential to involve a greater number of vehicle trips than the Project given the potential for redevelopment of industrial or office uses in the 9.63-acre Project area.

In addition, the overall reduction in vehicle trips within the City and region associated with the Project as a result of increasing in-fill residential development, increasing transit oriented development, increasing mixed uses, and increasing walkability and accessibility for bicyclists would not be realized.

In addition, additional public parking for METRO's Monrovia Gold Line Station would not be provided. Impacts related to development pursuant to Alternative 2, however, would remain less than significant with implementation of mitigation measures.

Utilities

Alternative 2 has the potential for redevelopment of industrial or office uses in the 9.63-acre Project area, which would likely result in a higher demand on potable water, wastewater disposal and solid waste disposal, but impacts would remain less than significant.

21.3 ALTERNATIVE 3: REDUCED SPECIFIC PLAN

Alternative 3 would involve the development of 400 multi-family residential units within the Alexan Foothills Specific Plan area. Under this alternative, 36 units would be subtracted from the top floor of the apartment complex to minimize the height of the buildings. The same number of multi-family units (82 units) would be allowed within ZCA Areas A and C.

Under this alternative, amenities would remain such as the bike repair shop, swimming pools, public plazas and rooftop decks. However, the parking garage would be scaled back in size commensurate with the reduction in 36 residential units, and no public parking for METRO's Monrovia Gold Line Station would be provided.

Square footages and heights of new structures in the 6.77-acre Alexan Foothills Specific Plan area would be reduced; however, they would likely continue to be multi-story buildings given the size of the property.

Project Objectives

Under a Reduced Specific Plan alternative, only the minimum project objectives would be met and several features would be reduced.

21.3.1 Comparison of Impacts

Aesthetics and Visual Resources

Impacts on aesthetics and visual resources associated with Alternative 3 would continue to be similar to impacts under the Project given the likelihood for continued construction of multi-story buildings in the Alexan Foothills Specific Plan area under Alternative 3. However, the reduced height of the buildings would improve views of the San Gabriel Mountains from some locations. Impacts would remain less than significant.

Agricultural and Forest Resources

There are no agricultural or forest resource uses in the City. As such, there would be no impacts related to Agricultural and Forest Resources under both scenarios.

Air Quality

Due to the lower number of vehicle trips and building square footages associated with Alternative 3, there would be a slight decrease in emissions of criteria pollutants compared with the Project. Impacts would remain less than significant with implementation of mitigation measures.

In addition, the benefits associated with overall reduction in the number of vehicle trips and associated emissions of criteria pollutants and greenhouse gases within the City as a whole and region, as a result of increasing in-fill residential development, increasing transit oriented development, increasing mixed uses, and increasing walkability and accessibility for bicyclists would be less under Alternative 3 than the Project.

Biological Resources

Alternative 3 would only result in a slight reduction in the amount of development in the Project area as the Project (i.e., in terms of square footage). Therefore, localized impacts on biological resources would likely be similar under Alternative 3 as the Project and would remain less than significant with implementation of mitigation measures.

However, the benefits of the Project in providing additional housing and facilitating in-fill residential development and mixed uses in the City would be reduced.

Cultural Resources and Tribal Cultural Resources

There are no known archaeological resources, Tribal Cultural Resources, significant historic structures, or paleontological resources in the Project area. Given that Alternative 3 would result in only a slight reduction in the amount of development in the Project area as the Project (i.e., in terms of square footage), Alternative 3 would have a similar risk of inadvertent discovery of archaeological resources, Tribal Cultural Resources, and paleontological resources as the Project. Impacts would be less than significant with implementation of mitigation measures.

Geology and Soils

Alternative 3 would involve slightly less amount of development in the Project area as the Project (i.e., in terms of square footage). Therefore, the potential for adverse impacts associated with geologic hazards (i.e., seismic impacts) would be similar under Alternative 3 as the Project and would remain less than significant.

Greenhouse Gas Emissions and Energy Consumption

Due to the lower number of vehicle trips and building square footages associated with Alternative 3, there would be a slight decrease in emissions of greenhouse gases and decrease in energy consumption compared with the Project. However, due to the relatively small decrease in vehicle trips overall, the overall magnitude of impacts in the City are anticipated to be similar to the Project and would remain less than significant. This alternative would only have a slightly lower impact than the Project.

In addition, the benefits associated with overall reduction in the number of vehicle trips and associated emissions of criteria pollutants and greenhouse gases within the City as a whole and region as a result of increasing in-fill residential development, increasing transit oriented development, increasing mixed uses would be less under Alternative 3 than the Project.

Hazards and Hazardous Materials

With less housing units compared to the Project, buildout under Alternative 3 would result in a slight decrease in potential exposure of people and property to hazards and hazardous materials. However, due to the small relative changes in land uses associated with this alternative, overall impacts within the City would be similar and would remain less than significant.

Hydrology and Water Quality

Alternative 3 would only result in a slight reduction in the amount of development in the Project area as the Project (i.e., in terms of square footage). Therefore, localized impacts on stormwater runoff would likely be only slightly reduced and therefore, similar under Alternative 3 as the Project. Impacts would remain less than significant.

However, the benefits of the Project in facilitating in-fill residential development and mixed uses in the City to reduce development sprawl into open space, thereby protecting the region's watersheds, would be reduced.

Land Use and Planning

Both Alternative 3 and the Project would be consistent with the City's land use policies and objectives as well as the development standards of the Zoning Code. Alternative 3 would result in less housing than under the Project. Therefore, Alternative 3 would be less effective at meeting the goals of the City's Housing Element than the Project. Impacts would remain less than significant.

Mineral Resources

Mineral resources would not be affected by the Project or this alternative.

Noise

Due to the reduction in vehicle trips associated with Alternative 3, there would be a slight decrease in traffic and traffic noise levels in the area compared with the Project. However, due to the relatively small decrease in vehicle trips overall compared with the Project, the overall magnitude of impacts in the City is anticipated to be similar to the Project. Therefore, this alternative would only have a slight reduction in impacts on noise compared with the Project and impacts would remain less than significant with implementation of mitigation measures.

In addition, the benefits associated with the overall reduction in the number of vehicle trips and associated traffic noise within the City as a whole and region as a result of increasing in-fill residential development, increasing transit oriented development, and increasing mixed uses, would be less under Alternative 3 than the Project.

Population and Housing

Alternative 3 would result in less new housing to meet the community and regional need for market-rate housing. Therefore, overall, impacts on population and housing would be greater under Alternative 3 than under the Project, but would remain less than significant.

Public Services and Recreation

Alternative 3 would result in less population and housing in the City. Therefore, impacts on public services and recreational facilities in the City would be lower than under the Project and impacts would remain less than significant.

Transportation and Circulation

Due to the lower number of trips and building square footages associated with Alternative 3, there would be a slight decrease in vehicle trips compared with the Project. However, due to the relatively small decrease in trips overall, the overall magnitude of impacts in the City are anticipated to be similar to the Project. This alternative would only have a slightly lower impact than the Project. Impacts would remain less than significant with implementation of mitigation measures.

In addition, the benefits associated with overall reduction in vehicle trips within the City as a whole and region as a result of increasing in-fill residential development, increasing transit oriented development, and increasing mixed uses would be less under Alternative 3 than the Project.

Utilities

Alternative 3 would result in less population and housing, and less building square footage in the City than the Project. Therefore, Alternative 3 would result in less demand on potable water, wastewater treatment, and solid waste disposal than the Project. Impacts would be less than significant under either scenario.

21.4 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

The CEQA Guidelines (Section 15126[e][2]) stipulate, "If the environmentally superior alternative is the 'no project' alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Alternative 1 would result in the least environmental impacts but would not meet any of the project objectives. Alternative 2 would likely result in equal or greater impacts to most issue areas than the Project, with the exception of public services and recreation and utilities.

Alternative 3 would involve an overall lower level of development and would meet the project objectives, but to a lesser extent than the Project. Alternative 3 would, therefore, be the environmentally superior alternative. This alternative, however, would only result in a slight reduction in building square footages, site coverage, and number of vehicle trips compared with the Project, resulting in similar impacts on most issue areas with the exception of public services and recreation and utilities where there would be clearly less impacts. In addition, under Alternative 3, less housing would occur, resulting in a greater impact on population and housing and land use and planning. Alternative 3 would be less effective at meeting the goals of the City's Housing Element. In addition, the benefits associated with an overall reduction in vehicle trips and associated emissions and noise within Monrovia and the region as a result of increasing in-fill residential development, increasing transit oriented development, and increasing mixed uses would be less under Alternative 3 than the Project. This would result in less benefits to air quality, greenhouse gas emissions, noise, and traffic under Alternative 3 compared with the Project. Alternative 3 is identified as the Environmentally Superior Alternative.

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
CEQA	California Environmental Quality Act
EIR	Environmental Impact Report
GPA	General Plan Amendment

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
ITE	Institute of Transportation Engineers
RTP	Regional Transportation Plan
SCAG	Southern California Association of Governments
SCS	Sustainable Communities Strategy
ZCA	Zoning Code Amendment

22. CEQA-MANDATED SECTIONS

This Chapter evaluates potential cumulative impacts, growth-inducing effects, significant unavoidable impacts, and irreversible environmental changes. Section 15128 of the CEQA Guidelines requires that the EIR "contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR." This EIR evaluates all of the environmental topic areas and questions included in CEQA Guidelines Appendix G (Environmental Checklist Form). No possible significant effects of the Project were excluded from analysis in this EIR.

22.1 CUMULATIVE IMPACTS

Section 15130(a) of the CEQA Guidelines requires that the EIR "discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable...." The CEQA Guidelines (Section 15355) define "cumulative impacts" as "...two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts." The analyses of quantitative cumulative impacts in this EIR are based on the “summary of projections” method, as authorized by Section 15130(b)(1)(B) of the CEQA Guidelines.

22.1.1 Aesthetics and Visual Resources

Project impacts on public views or the visual character of the area would be less than significant. Public views of the San Gabriel Mountains to the north are only from area roadways and from the METRO Gold Line and are already partially obstructed by buildings and other structures. Buildout of the Project and cumulative projects has the potential to have a significant impact on the visual character of the area. However, required development standards under the new Planned Development – Area 27 (PD – 27) zone, as well as design review of other future development in the Project vicinity required in mitigation measure MM AES-1, would help ensure that future development is designed in a manner to soften the transition between adjacent residential areas and the Project area. Mitigation measures MM AES-2 would minimize temporary impacts on the visual character of the neighborhood during construction. The Alexan Foothills Specific Plan includes landscape design objectives and measures to buffer and screen the proposed development to minimize aesthetic impacts on the adjacent residential neighborhood. Implementation of these measures would minimize impacts of the Project on the visual character of the area. Development of the cumulative projects is anticipated to be subject to similar standards. Finally, mitigation measures MM AES-3 and MM AES-4 would ensure that lighting is minimized and appropriately directed and that use of materials causing glare is avoided. Development of the cumulative projects is anticipated to be subject to similar requirements. Therefore, the Project would not result in a considerable contribution to any cumulative impacts on aesthetics and visual resources in the region.

22.1.2 Air Quality

The South Coast Air Quality Management District’s (SCAQMD) 2016 Air Quality Management Plan (AQMP) (SCAQMD 2017) was designed to achieve attainment for all criteria air pollutants while still accommodating growth in the region. Projects that are consistent with the growth assumptions in the AQMP would not interfere with attainment of air quality standards, because this growth is included in the projections used to formulate the AQMP. Growth projections in the

Southern California Association of Governments' 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (SCAG 2016) were used as growth projections in the AQMP. The Project would result in an increase in growth representing approximately one-third of the projected population growth in the 2016-2040 RTP/SCS for Monrovia. The Traffic Study (see Appendix J) contains a list of projects that have recently been approved or are pending approval by the City. Population growth associated with the Project as well as the cumulative list of projects would not exceed the projected population growth in the 2016-2040 RTP/SCS and therefore, the AQMP. In addition, the Project's operational emissions would not exceed any SCAQMD emissions thresholds, including Localized Significance Thresholds (LSTs), and construction emissions would be reduced below SCAQMD emissions thresholds with implementation of standard conditions SC-1 through SC-3 and mitigation measure MM AIR-1. Implementation of mitigation measure MM AIR-2 would ensure that buildout under the Project would not exacerbate health risks associated with DPM emissions, including from the I-210. Therefore, the Project's contribution to cumulative air quality impacts in the region would be less than considerable and there would be less than significant cumulative impacts on air quality.

22.1.3 Agricultural Resources

There are no agricultural or forestry resources within and near Monrovia. Therefore, there would be no impacts, either from the Project or on a cumulative level.

22.1.4 Biological Resources

Implementation of the Project would consist of alteration of an already-developed area that does not support a wide diversity of biological resources. Though the majority of the Project area currently encompasses residential, commercial, industrial, and other urban development, sensitive habitat along an unnamed drainage and coast live oak trees exist that could support plant and wildlife species. Impacts to these resources could result in a potentially considerable contribution to significant cumulative impacts on these resources. However, project-specific mitigation measures BIO-1 through BIO-2d and standard condition SC BIO-1 to protect biological resources required in this EIR would ensure that impacts are avoided or minimized, and that buildout would have a less than considerable contribution to cumulative impacts on biological resources in the region.

22.1.5 Cultural and Tribal Cultural Resources

There are no known potential cultural resources or Tribal Cultural Resources within the Project area; the only potential impacts of the Project and cumulative projects would be inadvertent discovery of archaeological resources during construction. Mitigation measures MM CUL-1 through MM CUL-5 required by this EIR would also ensure that potentially significant impacts of the Project are avoided, and it is anticipated that cumulative projects would be subject to the same or substantially similar requirements. Therefore, the Project would not have a considerable contribution to cumulative impacts on cultural resources or Tribal Cultural Resources in the region.

22.1.6 Geology and Soils

The effects of the cumulative projects on Geology and Soils are not of a nature to cause cumulatively significant effects from geologic impacts, or on soils, because such impacts are

site-specific and would only have the potential to combine with impacts of the Project if they occurred in the same location. The Project and other projects in the vicinity would be required to comply with the California Building Code, the City's goals and policies, and mitigation measure MM GEO-1 designed to protect the population from geologic hazards. In addition, mitigation measures GEO-2 through GEO-5 would help protect against inadvertent disturbance of paleontological resources. Such requirements would ensure that potentially significant impacts are avoided. Therefore, buildout of the Project would not exacerbate exposure to geologic hazards, significantly affect paleontological resources, and would not have a considerable contribution to cumulative impacts on geology and soils.

22.1.7 Greenhouse Gas Emissions and Energy Consumption

Evaluation of a project's impact on global climate change is inherently a cumulative analysis. No one project will result in adverse effects due to global climate change; it is a project's contribution to global emissions that are evaluated. Project greenhouse gas (GHG) emissions would be below SCAQMD's interim emissions thresholds. In addition, the Project would be consistent with the SCAQMD's 2035 efficiency target of 3.0 $MTCO_2e$/yr/service population (see Chapter 11). These thresholds and targets are intended to control the emissions of individual projects so that the cumulative impact of regional development on global climate change and greenhouse gas emissions are less than significant. Thus, the Project would not impede progress towards the State's GHG reduction goals.

Although implementation of the Alexan Foothills Specific Plan, the GP/ZCA, and cumulative projects may increase vehicle miles traveled (VMT) and energy and natural gas usage within the Project area, as compared to current conditions, increased density would provide for more efficient use of resources within Monrovia and ensure that the Project would not result in wasteful or inefficient use of energy resources.

Therefore, the Project would not have a considerable contribution to cumulative impacts on climate change and greenhouse gas emissions, and energy use.

22.1.8 Hazards and Hazardous Materials

Risks related to hazards and hazardous materials are typically localized in nature since they tend to be related to on-site existing hazardous conditions and/or hazards caused by the project's construction or operation. There are no active hazardous waste cleanup actions within 1,000 feet of the Project area. Mitigation measure MM HAZ-1 would ensure that the Project is in compliance with CERCLA and the California Health and Safety Code, and that construction of the Project would not increase the risk of exposure to hazardous substances detected onsite. Mitigation measure MM HAZ-3 would ensure that any asbestos-containing material and lead-based paint is property removed during demolition of existing structures. Finally, due to the site's past use for manufacturing, there is potential for inadvertent discovery of hazardous waste during building demolition and/or in the soil from ground disturbing activities associated with future buildout of ZCA Areas A and C. However, any materials discovered would be required to be removed through implementation of mitigation measures MM HAZ-2 and MM HAZ-3. It is anticipated that cumulative projects would be subject to similar requirements. Therefore, the Project would not exacerbate risks of exposure to hazardous waste. The Project would not result in a considerable contribution to cumulative impacts associated with hazardous waste in the region, and there are no additional significant cumulative impacts associated with hazards or hazardous materials in the region.

22.1.9 Hydrology and Water Quality

Buildout of the Project would introduce impervious surfaces to the area and have the potential to increase pollutant loads into Monrovia waterways. This could have a significant effect offsite without implementation of mitigation measures. However, implementation of State regulations protecting water quality, the City's local water quality control standards imposed on new development and redevelopment, as well as City goals and policies that address water quality and urban runoff through standard condition SC HYD-1, would ensure that the Project's impacts when combined with the impact of the cumulative projects are minimized and less than cumulatively considerable. Therefore, buildout of the Project is not expected to have a considerable contribution to cumulative impacts on hydrology and water quality in the region.

22.1.10 Land Use and Planning

The anticipated impacts of the Project in conjunction with cumulative development in the vicinity of the Project would increase residential density within an already urbanized area. Potential land use impacts require evaluation on a case-by-case basis because of the interactive effects of a specific development and its immediate environment. Implementation of the Project would result in a net increase of the City's population. However, development would be consistent with the City's development standards and General Plan goals and objectives, which are designed to guide the overall development of the City. With approval of all discretionary requests, the Project would be an allowable use that would not conflict with the land use or zoning classification for the site. The City is not acquiring additional land, increasing its sphere of influence, nor proposing major changes to its infrastructure. A key feature of the GPA, ZCA, and Alexan Foothills Specific Plan is to facilitate appropriate development efficiently and effectively in an area where roads and infrastructure already exist. All cumulative projects would be required to undergo environmental review, in accordance with the requirements of CEQA. Each related project would also be required to demonstrate consistency with all applicable planning documents governing the particular project site, including the General Plan and Zoning Ordinance. Should potential impacts be identified, appropriate mitigation would be prescribed that would likely reduce potential impacts to less than significant levels. Therefore, the Project would not result in a cumulatively considerable impact regarding land use.

22.1.11 Mineral Resources

There are no mineral resources within and near Monrovia. Therefore, there would be no impacts, either from the Project or on a cumulative level.

22.1.12 Noise and Vibration

Due to the localized nature of noise impacts, noise from the Project would not combine with noise from other projects; therefore, the Project would not contribute to significant cumulative noise impacts. Construction activities associated with other projects in proximity to the Project could occur at the same time as the Project. Operational noise generated by the Project would be negligible due to the ambient noise that is generated by the Interstate-210 and the METRO Gold Line. These cumulative projects would also be subject to noise standards and established thresholds pertaining to increased noise at the locations of sensitive receptors, as well as similar mitigation measures to the Project.

Mitigation measure MM NOI-1 would ensure that interior and exterior noise standards are met, and acoustical analyses performed to confirm, in areas of the Project adjacent to the Interstate-210 and METRO railroad tracks. This would ensure that new sensitive receptors in the area are not exposed to elevated ambient noise levels already in excess of State and local standards. Therefore, the Project would not have a considerable contribution to operational noise impacts in the area.

Cumulative traffic noise impacts from buildout of the Project and other development in the area were also modeled in Chapter 16. Results indicate that the Project would not result in a significant increase in traffic noise in the area, nor would the Project result in a considerable contribution to cumulative impacts on traffic noise in the area.

The EIR recommends implementation of mitigation measure MM NOI-2 (i.e., temporary noise barriers) to reduce the magnitude of potential construction noise impacts associated with buildout of the Alexan Foothills Specific Plan and ZCA Areas A and C concurrently (see Chapter 16). These measures would control construction noise levels such that ambient noise levels at sensitive receptor locations on the corner of Evergreen Avenue and Magnolia Avenue and west of Mayflower Avenue, would not increase by more than 10 dBA during construction activities. There is potential for construction of projects immediately to the east of the Project to occur at the same time (i.e., the area between Magnolia and Primrose, north of the METRO Gold Line and south of Evergreen). However, this adjacent development would replace sensitive receptors on the corner of Evergreen Avenue and Magnolia Avenue with the new development and the new development is far enough away to not affect sensitive receptors west of Mayflower Avenue. Therefore, the Project would not have a considerable contribution to construction noise impacts in the area.

22.1.13 Population and Housing

Implementation of the Project would result in an increase in the population of Monrovia. However, the population increase, as a result of the proposed multi-unit residential development, is generally consistent with the projected increase in density and increase in transit oriented development anticipated in the Monrovia General Plan Land Use and Circulation Element EIR (2008). The EIR states the following: "…land designated for housing will in many places be developed at a higher density than what was typical in the past in the focus areas, thus providing housing for a greater number of people per acre and providing transit-oriented development opportunities (p. 3.8-3)." The EIR goes on to state that this growth does not qualify as a significant impact to population and housing, in part due to the growth management policies and environmental regulations established by the City, as well as the State and Federal governments. This Project is similar to the types of projects considered in the Land Use and Circulation Element. Overall, the Project would increase the population of Monrovia, but the Project would result in a less than significant increase in population even when combined with other residential projects that are being built in the City. Therefore, the Project would not have a considerable contribution to cumulative population impacts or cumulative impacts on housing in the region.

22.1.14 Public Services and Recreation

Buildout of the Project would place additional incremental demands on the City's fire protection and emergency medical services, police services, schools, recreational facilities, and other public facilities (e.g., libraries). Impacts on police services and other public facilities were determined to be less than significant as the proposed growth under the Project is consistent

with assumptions in the General Plan. Therefore, the Project would not have a considerable contribution to cumulative impacts on these services. In addition, the Project would be subject to the City's Development Impact fees or in lieu fees to offset additional incremental demand for fire protection services, for additional schools, or additional recreational facilities created by new and/or more intense development through standard conditions SC PS-1 and SC PS-2, and mitigation measure MM PS-1. Therefore, the Project would not have a considerable contribution to cumulative impacts on public services and recreation in the area.

22.1.15 Transportation and Circulation

The results of the Year 2035 roadway segment analysis, which accounts for the City's reasonably foreseeable development in the Project vicinity, without and with the full Project (Alexan Foothills Specific Plan and ZCA Areas A and C) show that all study area roadway segments would operate at satisfactory level of service (LOS) both without and with the Specific Plan and ZCA Areas A and C. Traffic impact fees would be required under mitigation measure MM T-1 to ensure that applicants pay their fair share of roadway intersection improvements identified in the Traffic Impact Analysis for the project as well. Therefore, the Project would not have a considerable contribution to cumulative impacts on traffic and transportation systems in the region.

22.1.16 Utilities and Service Systems

Significant cumulative impacts to utility systems would occur if the utility providers were unable to provide adequate services to serve all cumulative projects. The majority of the cumulative projects are similar to the Project regarding construction and operational activities. The cumulative projects would increase the demand for utility services. However, utility service providers are given the opportunity to respond to an inquiry for information regarding potential increase in demand on their services for all cumulative projects, and development fees are assessed on a project-specific basis to mitigate for the resulting increase in demand for service. As discussed in Chapter 20, buildout of the Project would increase demand on utilities and service systems including potable water, treatment of wastewater, and solid waste disposal. However, calculations indicate that there would be suitable capacity within existing systems to service the growth anticipated under the Project taking into account the expected overall growth within the City. In addition, many goals and policies proposed under the GPA, ZCA, and Alexan Foothills Specific Plan would encourage increased recycling and conservation to reduce demand on these utilities as well. Implementation of mitigation measures MM UT-1 through MM UT-3 would also ensure that can and will serve letters are obtained for water and wastewater service for all future development and that the applicant for the Alexan Foothills Specific Plan will pay in lieu fees for minor improvements to water infrastructure in the area (new booster pump and 980 feet of pipeline). Standard condition SC UT-1 would ensure that applicants comply with the City of Monrovia's Construction and Demolition Disposal and Recycling Program as well. Therefore, buildout of the Alexan Foothills Specific Plan and ZCA Areas A and C is not expected to have a considerable contribution to cumulative impacts on utilities and service systems in the region.

22.2 GROWTH-INDUCING EFFECTS

CEQA Guidelines Section 15126.2(d) requires that the EIR discuss "...the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment."

Implementation of the Project would result in a net increase of the population of Monrovia. The Project is an urban infill project and would not extend development or infrastructure to other sites. Development would be consistent with the City's development standards. The City is not acquiring additional land, increasing its sphere of influence, nor proposing major changes to its infrastructure. A key feature of the GPA, ZCA, and Alexan Foothills Specific Plan is to facilitate appropriate development efficiently and effectively in areas where roads and infrastructure already exist.

Population growth associated with the Project as well as the cumulative projects would not exceed the projected population growth in the 2016-2040 RTP/SCS. Only one new booster pump for the water system and replacement of 980 feet of water pipeline would be needed to support the Project and projected new development in other adjacent areas. The City would have an adequate water supply, and capacity to provide wastewater service and solid waste disposal. Therefore, no substantial, detrimental, cumulative growth-inducing effect is expected.

22.3 SIGNIFICANT UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires that an EIR discuss "significant environmental effects which cannot be avoided if the proposed project is implemented." No impacts have been identified in the EIR as significant and unavoidable for any of the following four reasons: (1) no potentially feasible mitigation has been identified; (2) potential mitigation has been identified but may be found by the Lead Agency to be infeasible; (3) with implementation of feasible mitigation, the impact still would not, or might not, be reduced to a less than significant level; or (4) implementation of the mitigation measure would require approval of another jurisdictional agency, whose approval will be pursued by the Lead Agency but cannot be guaranteed as of the publication of this EIR.

With implementation of mitigation measures, the Project would have no significant and unavoidable impacts.

22.4 IRREVERSIBLE ENVIRONMENTAL CHANGES

CEQA Guidelines Section 15126.2(c) requires that the EIR discuss "significant irreversible environmental changes which would be caused by the proposed project should it be implemented." Since the City of Monrovia is already mostly developed and the Project would not significantly change the circulation pattern or make other major changes to backbone infrastructure facilities, there would not be any irreversible physical changes caused by the GPA, ZCA, or Alexan Foothills Specific Plan.

Implementation of the GPA, ZCA, or Alexan Foothills Specific Plan would result in an irreversible commitment of energy resources, primarily in the form of fossil fuels, including fuel oil, natural gas, and gasoline or diesel fuel for construction equipment and vehicles, as well as the use of these same resources during long-term operation of individual projects facilitated by the GPA, ZCA, or Alexan Foothills Specific Plan. However, because new development would be required by law to comply with the California Building Code and the City's energy conservation goals and policies, implementation of the Project would not be expected to use energy in a wasteful, inefficient, or unnecessary manner.

The consumption or destruction of other non-renewable or slowly renewable resources would also result during construction, occupancy, and use under the Project. These resources would

include, but would not be limited to, lumber, concrete, sand, gravel, asphalt, masonry, metals, and water. Implementation of the Project would also irreversibly use water and solid waste landfill resources. However, development under the GPA, ZCA, or Alexan Foothills Specific Plan would not involve a large commitment of those resources relative to supply, nor would it consume any of those resources wastefully, inefficiently, or unnecessarily, especially considering ongoing City conservation and recycling programs.

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
AQMP	Air Quality Management Plan
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Response, Compensation and Liability Act
EIR	Environmental Impact Report
GPA	General Plan Amendment
LST	Localized Significance Threshold
MTCO2e	metric tons of carbon dioxide equivalents
RTP/SCS	Regional Transportation Plan/Sustainable Communities Strategy
SCAQMD	South Coast Air Quality Management District
ZCA	Zoning Code Amendment

References Cited

South Coast Air Quality Management District (SCAQMD)
2017b Final 2016 Air Quality Management Plan. March 2017.

Southern California Association of Governments (SCAG)
2016 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). Los Angeles, CA.

23. EIR PREPARERS

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APPENDIX A
NOTICE OF PREPARATION (NOP)

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NOTICE OF PREPARATION

DATE:	October 17, 2018
TO:	Responsible Agencies, Trustee Agencies, and Other Interested Parties
LEAD AGENCY:	City of Monrovia Contact: Sheri Bermejo, Planning Division Manager Community Development Department 415 South Ivy Avenue Monrovia, CA 91016
SUBJECT:	Notice of Preparation[1] of a Draft Environmental Impact Report for the Alexan Specific Plan and a General Plan/Zoning Code Amendment

The City of Monrovia (City) will be the Lead Agency and will prepare a Draft Environmental Impact Report (DEIR) for the proposed Alexan Specific Plan ("Specific Plan") and a General Plan and Zoning Code Amendment ("GP/ZCA") as described in the attached materials. We are interested in your agency's views as to the appropriate scope and content of the DEIR's environmental information pertaining to your agency's statutory responsibilities related to the environmental review. When submitting a response, please include the name of a contact person for your agency. For interested individuals, we would like to be informed of environmental topics of interest to you regarding the project.

The City has determined an EIR is required for the proposed Specific Plan and the GP/ZCA, as such and as permitted by CEQA Guidelines Section 15060(d) (Preliminary Review), the City will not prepare an Initial Study for the project.

The proposed project, its location, and its potential environmental effects are described below. The City welcomes public input during the Notice of Preparation (NOP) review period. Due to the time limits mandated by the CEQA Guidelines, your response must be sent ***not later than 30 days after your receipt of this notice***. If no response or request for additional time is received by the end of the review period, the City may presume that you have no response.

Reference: Title 14, California Code of Regulations, California Environmental Quality Act (CEQA) Guidelines, Sections 15082(a), 15103, and 15375

Please send your comments to:

Sheri Bermejo, Planning Division Manager
City of Monrovia
Community Development Department
415 South Ivy Avenue, Monrovia CA 91016
sbermejo@ci.monrovia.ca.us

To allow for mailing, receipt, and 30-day review of this NOP, the comment period closes on **November 17, 2018**.

No scoping meeting is planned. Please contact the City directly for consultation.

Sheri Bermejo
Planning Division Manager
(626) 932-5539
sbermejo@ci.monrovia.ca.us

Date

Project Title: **Alexan Specific Plan and General Plan/Zoning Code Amendment**

Project Applicant: **City of Monrovia**

Project Location:

The City of Monrovia (City) is in the San Gabriel Valley region of Los Angeles County. The proposed Specific Plan and GP/ZCA together comprise one city block and approximately 9.6 acres. The block is by bounded by West Evergreen Avenue to the north, South Magnolia Avenue to the east, South Mayflower Avenue to the west, and the MERTO Gold Line light rail to the south (Figure 1, *Project Location*). The current land uses within the project site include a mix of light industrial, warehouse/storage, office, single family residential, private surface parking, and two cellular towers. As illustrated on *Figure 2 (Specific Plan and General Plan/Zoning Code Amendment Map)*, the entire block will be subject to the proposed GP/ZCA, while only a portion of this City block (6.77 acres) will be subject to the Alexan Specific Plan and associated project-level entitlements.

Project Description:

ALEXAN SPECIFIC PLAN

Trammel Crow Residential proposes to implement the Alexan Specific Plan. The Specific Plan area, 6.77 acres in size, is located at 1625 South Magnolia Avenue, Monrovia, California. The Specific Plan would include a 436-unit, five-story apartment complex and an eight-level (seven stories) above ground, 797 stalls (1.8 stalls/residential units) parking structure. As illustrated on *Figure 3 (Alexan Specific Plan Site Plan)*, the apartment complex would include two pools and several tenant amenity courtyards. Magnolia Avenue provides the principle access to the apartment complex, while Evergreen Avenue provides secondary access. The Magnolia Avenue street frontage proposes a two-story lobby, fitness room, and four live-work units, all with apartments above. Three outdoor/rooftop amenity decks are planned on top of the apartment complex's fourth level; two rooftop decks face the San Gabriel Mountains to the north and the other faces west. Other tenant amenities include a pet spa, bike kitchen (i.e., bicycle repair shop), tenant lounge, centralized mail/package delivery room, and a golf simulation room. The two existing cell towers will either be maintained in place at the northwest corner of the Specific Plan site or moved to another location in the Specific Plan area.

The EIR will include an analysis of the Alexan Specific Plan at a "project" level whereas the proposed GP/ZCA will be reviewed at a "programmatic" level.

ALEXAN SPECIFIC PLAN REQUIRED APPROVALS

Implementation of the Alexan Specific Plan will require the following discretionary approvals by the City of Monrovia:

- Certification of the Final Environmental Impact Report;
- Adoption of a Mitigation Monitoring and Reporting Program;
- Approval of a General Plan Amendment from Manufacturing to a Planned Development Area and Zoning Code Amendment to re-zone the area from Manufacturing to Planned Development (PD) and the Alexan Specific Plan;
- Adoption of the Alexan Specific Plan;
- Approval of relocating cellular towers (as necessary);
- Approval of a Conditional Use Permit (CUP) for the proposed development; and
- Approval of a Vesting Parcel Map for the community apartment complex.

GENERAL PLAN/ZONING CODE AMENDMENT

Those parcels within the GP/ZCA area but outside the Alexan Specific Plan area will have a General Plan amendment to Planned Development Area and a zone change to a Planned Development (PD) area to include high density residential development. While these parcels will receive a new General Plan designation and zone, the existing uses and structures (described above), will be allowed to remain as legal nonconforming uses pursuant to Chapter 17.48 of the Monrovia Municipal Code. Although a specific development plan is not being proposed nor considered at this time for those portions of the project site outside the Specific Plan boundary, the re-designation of the GP/ZCA parcels could eventually result in 82 dwelling units (based on the 54 units/acre permitted land use density within the overall 9.6- acre area). As a result, this new designation will allow 28 units per acre (based on 82 units/2.83 acres) for the project site outside the Specific Plan boundary.

The EIR will analyze the GP/ZCA project component at a "program" level only because no development is currently proposed outside the Specific Plan boundary at this time.

GENERAL PLAN/ZONING CODE AMENDMENT REQUIRED APPROVALS

The General Plan/Zoning Code Amendment required approvals include:

- Certification of the Final Environmental Impact Report;
- Adoption of a Mitigation Monitoring and Reporting Program; and
- Approval of the City's General Plan Amendment (from Manufacturing to Planned Development) and Zoning Code Amendment to Planned Development (PD).

EIR Scope:

The City of Monrovia has determined that the proposed Alexan Specific Plan and the General Plan/Zoning Code Amendment will require preparation of an Environmental Impact Report (EIR) pursuant to the California Environmental Quality Act (CEQA) statute and guidelines. The Alexan Specific Plan will undergo a "project" level analysis, while the General Plan/Zoning Code Amendment component will be evaluated at a "program" level.

The following environmental topics and their associated impact thresholds will be evaluated in the EIR

Aesthetics: The EIR will describe the aesthetic and urban design implications of the proposed General Plan/Zoning Code Amendment and Specific Plan, including its visual relationships to the surrounding vicinity and the potential impacts of development (the proposed array of building masses, heights, view corridors etc.) on important surrounding vantage points.

Air Quality: The EIR will describe the potential short- and long-term impacts of development under the General Plan/Zoning Code Amendment and Specific Plan on local and regional air quality based on methodologies defined by the South Coast Air Quality Management District (SCAQMD). Due to the proximity to Interstate-210, a Health Risk Assessment (HRA) will be prepared in accordance with City of Monrovia policy.

Biological Resources: The EIR will evaluate potential impacts on biological resources resulting from implementation of the project. Mitigation measures will be defined as necessary to avoid or reduce the potential impacts.

Cultural and Historic Resources and Tribal Cultural Resources: The EIR will describe any potential impacts and mitigation needs associated with historic structures, archaeological resources, Tribal Cultural Resources, and paleontological resources.

Geology and Soils: The EIR will describe the potential geotechnical implications of implementation of the project.

Greenhouse Gas Emissions and Global Climate Change: The EIR will describe the potential impacts on local greenhouse gas emissions and global climate change, following the latest approach and methodologies recommended by State and regional agencies.

Hazards and Hazardous Materials: The EIR will describe the potential for hazardous material use or hazardous waste investigation and cleanup activities anticipated in the project area and will describe any associated potential impacts and mitigation needs. Potential hazards and hazardous material impacts during construction of the project and mitigation needs will also be described.

Hydrology and Water Quality: The EIR will evaluate potential impacts on hydrology and water quality resulting from implementation of the project, including possible effects related to drainage and flooding.

Land Use and Planning: The EIR will describe the potential effects of implementation of the project on existing and planned land uses in the vicinity, including the relationship to other adopted regional and local plans.

Noise: The EIR will describe potential construction and long-term operation noise (traffic, mechanical systems etc.) impacts and related mitigation needs. Noise impacts associated with placement of new residences adjacent to the METRO's Gold Line light rail will be evaluated as well.

Population and Housing: The EIR will describe the anticipated effects of development of the project on existing and projected population and housing characteristics. This information will be used to forecast public service and utility needs in the project area.

Public Services: The EIR will describe potential impacts on public services (police and fire protection parks and recreation, and schools) and any mitigation needs.

Transportation and Circulation: The EIR will describe the transportation and circulation implications of proposed buildout of the project, including its incremental contribution to daily and peak hour traffic on local and regional roadways. The evaluation will include roadway system impacts, transit implications, and effects on pedestrian and bicycle circulation. Proposed components to improve multimodal travel will also be described and evaluated.

Utilities and Service Systems: The EIR will describe potential impacts on local utility and service systems, including water supply, wastewater treatment, and solid waste disposal.

Agriculture, Forestry, and Minerals: The EIR will explain why these CEQA-defined environmental topics will not be adversely affected by implementation of the project.

The EIR will address the short- and long-term effects of the proposed project on the environment. Mitigation measures will be proposed for impacts that are determined to be significant, and a mitigation monitoring program will be developed as required by Section 15150 of the CEQA Guidelines. Finally, Pursuant to CEQA Guidelines Section 15126.6, the EIR will identify and compare a reasonable range of alternatives to the Project.

FIGURE 1: PROJECT LOCATION MAP



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FIGURE 2: SPECIFIC PLAN AND GENERAL PLAN/ZONING CODE AMENDMENT MAP

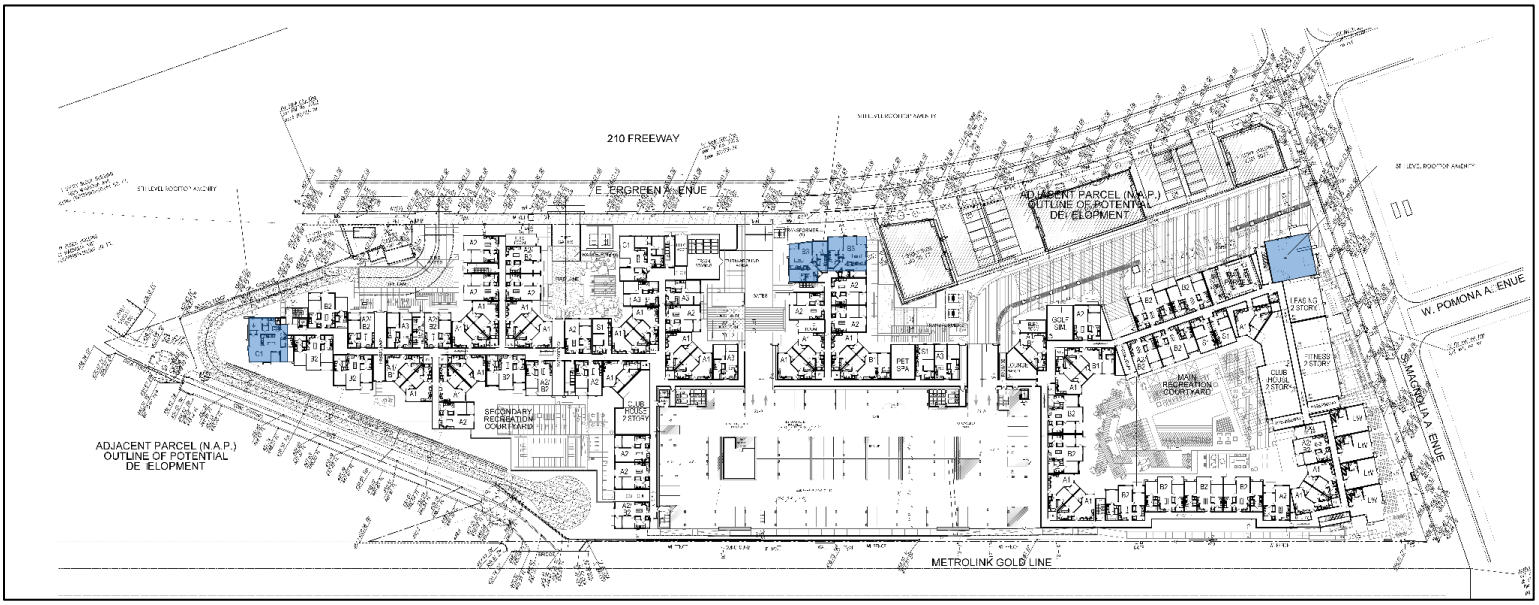


Legend:
Yellow screened parcels comprise the Alexan Specific Plan area.
All other parcels between West Evergreen Avenue, South Magnolia Avenue, South Mayflower Avenue and the METRO Gold Line (outlined in blue without the yellow shading) comprise the General Plan/Zoning Code Amendment area.

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FIGURE 3: ALEXAN SPECIFIC PLAN SITE PLAN

Source: Architects Orange, dated October 5, 2018



APPENDIX B
NOP DISTRIBUTION LIST AND SCOPING COMMENTS

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NOP DISTRIBUTION LIST

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AGENCY DISTRIBUTION LIST
Notice of Preparation

Project Title: Alexan Specific Plan and General Plan and Zoning Code Amendment

Location: 1607, 1625, and 1631 South Magnolia Avenue (APN: 8507-006-035, 8507-006-041, and 8507-006-042); 1541 South Dale Drive (APN: 8507-006-044); and 340, 410, and 418 West Evergreen Avenue (APN: 8507-006-016, 8507-006-043, 8507-006-022, and 8507-006-024).

Notices Mailed Date: October 22, 2018

Comments Due Date: November 26, 2018

MAILED	AGENCY	DATE RECEIVED/ COMMENTS
□	State Clearinghouse – MIG, May 9, 2018 State Clearinghouse P.O. Box 3044 Sacramento, CA 95812-3044 Fish and Wildlife CPUC Caltrans Ca Regional Water Quality Control Board	
□	Athens Services Salt Lake 15045 Salt Lake Avenue City of Industry, CA 91746 Attn: Mary McKenrick	
□	County of Los Angeles Flood Control Land Development Division 900 South Fremont Avenue Alhambra, CA 91803 Attn: Juan Sarda, P.E.	
□	Monrovia School District 325 East Huntington Drive Monrovia, CA 91016 Attn: Dr. Katherine Thorossian	
□	Southern California Edison Planning Department 1440 South California Avenue Monrovia, CA 91016 Attn: Eddie Lopez	
□	City of Duarte	

Attn: Planning Department
1600 Huntington Drive
Duarte, CA 91010

□ City of Irwindale
Attn: Planning Department
5050 North Irwindale Avenue
Irwindale, CA 91706

□ City of Arcadia
Attn: Planning Department
240 W. Huntington Drive
Arcadia, CA 91007

□ County of Los Angeles – Planning Division

□ County of Los Angeles Sanitation District
1955 Workman Mill Road
PO BOX 4998
Whittier, CA 90607-4998
Attn: James Stahl

□ Metropolitan Transportation Authority (MTA)
CEQA Review
Mail Stop 99-23-2
One Gateway Plaza
Los Angeles, CA 90012-2952
Attn: Bill Lundgren
Regional Planning Program Manager

□ Southern California Air Quality
Management District (AQMD)
Planning/Environmental Review
21865 Copley Drive
PO Box 4939
Diamond Bar, CA 91765-0939

□ Andrew Salas, Chairman
Gabrieleno Band of Mission Indians - Kizh Nation
PO Box 393
Covina, CA 91723

SCOPING COMMENTS

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

SENT VIA USPS AND E-MAIL: November 8, 2018
sbermejo@ci.monrovia.ca.us
Attn: Sheri Bermejo, Planning Division Manager
City of Monrovia
Community Development Department
415 South Ivy Avenue
Monrovia, CA 91016

Notice of Preparation of a Draft Environmental Impact Report for the proposed Alexan Specific Plan and General Plan/Zoning Code Amendment project

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

Air Quality Analysis

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

SCAQMD has also developed both regional and localized significance thresholds. SCAQMD staff requests that the Lead Agency quantify criteria pollutant emissions and compare the results to

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

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

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

Mobile Source Health Risk Assessment

Notwithstanding the court rulings, SCAQMD staff recognizes that the Lead Agencies that approve CEQA documents retain the authority to include any additional information they deem relevant to assessing and mitigating the environmental impacts of a project. Because of SCAQMD staff's concern about the potential public health impacts of siting sensitive populations within close proximity of, SCAQMD staff recommends that, prior to approving the project, Lead Agencies consider the impacts of air pollutants on people who will live in a new project and provide mitigation where necessary.

When specific development is reasonably foreseeable as result of the goals, policies, and guidelines in the proposed project, the Lead Agency should identify any potential adverse health risk impacts using its best efforts to find out and a good-faith effort at full disclosure in the CEQA document. Based on a review of aerial photographs and information in the NOP, SCAQMD staff found that the proposed project will be located in close proximity to the 210 freeway. Because of the close proximity to the existing freeway, residents at the proposed project[2] would be exposed to diesel particulate matter (DPM), which is a toxic air contaminant and a carcinogen. Diesel particulate matter emitted from diesel powered engines (such as trucks) has been classified by the state as a toxic air contaminant and a carcinogen.

Since future residences of the proposed project would be exposed to toxic emissions from the nearby sources of air pollution (e.g., diesel fueled highway vehicles), SCAQMD staff recommends that the Lead

[2] According to the Project Description in the Notice of Preparation, the proposed project would include new construction of up to approximately 436 new housing units.

Agency conduct a health risk assessment (HRA)[3] to disclose the potential health risks to the residents from the vehicle emissions coming from vehicles operating on the 210 Freeway in the Draft EIR[4].

Guidance Regarding Residences Sited Near a High-Volume Freeway or Other Sources of Air Pollution

SCAQMD staff recognizes that there are many factors Lead Agencies must consider when making local planning and land use decisions. To facilitate stronger collaboration between Lead Agencies and SCAQMD to reduce community exposure to source-specific and cumulative air pollution impacts, SCAQMD adopted the Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning in 2005. This Guidance Document provides suggested policies that local governments can use in their General Plans or through local planning to prevent or reduce potential air pollution impacts and protect public health. SCAQMD staff recommends that the Lead Agency review this Guidance Document as a tool when making local planning and land use decisions. This Guidance Document is available on SCAQMD's website at: http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf. Additional guidance on siting incompatible land uses (such as placing homes near freeways or other polluting sources) can be found in the California Air Resources Board's (CARB) *Air Quality and Land Use Handbook: A Community Health Perspective*, which can be found at: http://www.arb.ca.gov/ch/handbook.pdf. Guidance[5] on strategies to reduce air pollution exposure near high-volume roadways can be found at: https://www.arb.ca.gov/ch/rd_technical_advisory_final.PDF.

Mitigation Measures

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

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

[3] "Health Risk Assessment Guidance for Analyzing Cancer Risk from Mobile Source Diesel Idling Emissions for CEQA Air Quality Analysis," accessed at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/mobile-source-toxics-analysis.

[4] SCAQMD has developed the CEQA significance threshold of 10 in one million for cancer risk. When SCAQMD acts as the Lead Agency, SCAQMD staff conducts a HRA, compares the maximum cancer risk to the threshold of 10 in one million to determine the level of significance for health risk impacts, and identifies mitigation measures if the risk is found to be significant.

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

Many strategies are available to reduce exposure, including, but are not limited to, building filtration systems, sounds walls, vegetation barriers, etc. Because of the potential adverse health risks involved with siting housing near a freeway, it is essential that any proposed strategy must be carefully evaluated before implementation. In the event that enhanced filtration units on housing residents are proposed, the Lead Agency should consider the limitations of the enhanced filtration. For example, in a study that SCAQMD conducted to investigate filters[6], a cost burden is expected to be within the range of $120 to $240 per year to replace each filter. In addition, because the filters would not have any effectiveness unless the HVAC system is running, there may be increased energy costs to the resident. It is typically assumed that the filters operate 100 percent of the time while residents are indoors, and it does not account for the times when the residents have their windows or doors open or are in common space areas of the project. Moreover, these filters have no ability to filter out any toxic gases from vehicle exhaust. The presumed effectiveness and feasibility of any filtration units should therefore be evaluated in more detail prior to assuming that they will sufficiently alleviate near roadway exposures to DPM emissions and before they are relied upon by Lead Agency as mitigation measures to support a less than significant cancer risk finding (CEQA Guidelines Section 15091(a)(1)).

Alternatives

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

Permits

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

Data Sources

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

SCAQMD staff is available to work with the Lead Agency to ensure that project air quality impacts are accurately evaluated and any significant impacts are mitigated where feasible. If you have any questions regarding this letter, please contact Alina Mullins, Assistant Air Quality Specialist, at amullins@aqmd.gov or (909) 396-2402.

Sincerely,

Daniel Garcia

Daniel Garcia
Program Supervisor
Planning, Rule Development & Area Source

[6] This study evaluated filters rated MERV 13+ while the proposed mitigation calls for less effective MERV 12 or better filters. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/aqmdpilotstudyfinalreport.pdf. Also see also 2012 Peer Review Journal article by SCAQMD: http://d7.iqair.com/sites/default/files/pdf/Polidori-et-al-2012.pdf.

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Control Number

STATE OF CALIFORNIA Edmund G. Brown Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
Phone (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov
Twitter: @CA_NAHC

November 6, 2018

Sheri Bermejo
City of Monrovia
415 S. Ivy Avenue
Monrovia, CA 91016

RE: SCH# 2018101058 Alexan Specific Plan and General Plan/Zoning Code Amendment, Los Angeles County

Dear Ms. Bermejo:

The Native American Heritage Commission (NAHC) has received the Notice of Preparation (NOP), Draft Environmental Impact Report (DEIR) or Early Consultation for the project referenced above. The California Environmental Quality Act (CEQA) (Pub. Resources Code §21000 et seq.), specifically Public Resources Code §21084.1, states that a project that may cause a substantial adverse change in the significance of a historical resource, is a project that may have a significant effect on the environment. (Pub. Resources Code § 21084.1; Cal. Code Regs., tit.14, §15064.5 (b) (CEQA Guidelines §15064.5 (b)). If there is substantial evidence, in light of the whole record before a lead agency, that a project may have a significant effect on the environment, an Environmental Impact Report (EIR) shall be prepared. (Pub. Resources Code §21080 (d); Cal. Code Regs., tit. 14, § 5064 subd.(a)(1) (CEQA Guidelines §15064 (a)(1)). In order to determine whether a project will cause a substantial adverse change in the significance of a historical resource, a lead agency will need to determine whether there are historical resources within the area of potential effect (APE).

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

The NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of your proposed project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources. Below is a brief summary of portions of AB 52 and SB 18 as well as the NAHC's recommendations for conducting cultural resources assessments.

Consult your legal counsel about compliance with AB 52 and SB 18 as well as compliance with any other applicable laws.

AB 52

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

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

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

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

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

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

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

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

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

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

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

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

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

SB 18

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

Some of SB 18's provisions include:

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

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

NAHC Recommendations for Cultural Resources Assessments

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

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

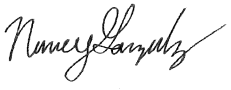
2. If an archaeological inventory survey is required, the final stage is the preparation of a professional report detailing the findings and recommendations of the records search and field survey.
    a. The final report containing site forms, site significance, and mitigation measures should be submitted immediately to the planning department. All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum and not be made available for public disclosure.
    b. The final written report should be submitted within 3 months after work has been completed to the appropriate regional CHRIS center.

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

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

If you have any questions or need additional information, please contact me at my email address: Katy.Sanchez@nahc.ca.gov.

Sincerely,



for

Katy Sanchez
Associate Enviromental Planner

cc: State Clearinghouse

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 S. MAIN STREET, MS 16
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November 26, 2018

Ms. Sheri Bermejo
Community Development Department
City of Monrovia
415 South Ivy Avenue
Monrovia, CA 91016

RE: Alexan Specific Plan & General Plan/Zoning Code Amendment
Vic. LA-210/ PM R33.921
SCH # 2018101058
GTS # LA-2018-02038AL-NOP

Dear Ms. Bermejo:

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above referenced project. The Specific Plan would include a 436-unit, five-story apartment complex and eight-level above the ground, 707 stalls parking structure.

The mission of Caltrans is to provide a safe, sustainable, integrated and efficient transportation system to enhance California's economy and livability. Senate Bill 743 (2013) mandated that CEQA review of transportation impacts of proposed development be modified by using Vehicle Miles Traveled (VMT) as the primary metric in identifying transportation impacts for all future development projects. You may reference to The Governor's Office of Planning and Research (OPR) for more information.

http://opr.ca.gov/ceqa/updates/guidelines/

Caltrans is aware of challenges that the region faces in identifying viable solutions to alleviating congestion on State and Local facilities. With limited room to expand vehicular capacity, this development should incorporate multi-modal and complete streets transportation elements that will actively promote alternatives to car use and better manage existing parking assets. Prioritizing and allocating space to efficient modes of travel such as bicycling and public transit can allow streets to transport more people in a fixed amount of right-of-way.

Caltrans supports the implementation of complete streets and pedestrian safety measures such as road diets and other traffic calming measures. Please note the Federal Highway Administration

(FHWA) recognizes the road diet treatment as a proven safety countermeasure, and the cost of a road diet can be significantly reduced if implemented in tandem with routine street resurfacing.

We encourage the Lead Agency to integrate transportation and land use in a way that reduces Vehicle Miles Traveled (VMT) and Greenhouse Gas (GHG) emissions by facilitating the provision of more proximate goods and services to shorten trip lengths, and achieve a high level of non-motorized travel and transit use. We also encourage the Lead Agency to evaluate the potential of Transportation Demand Management (TDM) strategies and Intelligent Transportation System (ITS) applications in order to better manage the transportation network, as well as transit service and bicycle or pedestrian connectivity improvements.

The Department also seeks to provide equitable mobility options for people who are economically, socially, or physically disadvantaged. Therefore, we ask the Lead Agency to evaluate the project site for access problem, VMT and service needs that may need to be addressed.

Due to this project's proximity to I-210, please provide trip generation, trip distribution, and trip assignment estimates to the State facilities for this project with regards to the local and regional road system. To ensure that queue formation does not create traffic conflicts, project-generated trips should be added to the existing and future scenario traffic volumes for the EB I-210 on/off-ramps from/to Myrtle Ave./W Evergreen Ave. and WB I-210 on/off ramps from Myrtle Ave./ E Central Ave. To avoid traffic conflicts such as inadequate weaving distances, queue spilling back onto the freeway, and uneven lane utilization, please analyze the adequacy of the operations of freeway segments in the vicinity of the project.

Analysis should include existing traffic, traffic generated by the project assigning to the State facilities, cumulative traffic generated from all specific planning developments in the area, and traffic growth other than from the project and developments.

A discussion of mitigation measures appropriate to alleviate anticipated traffic impacts. Any mitigation involving transit or Transportation Demand Management (TDM) is encouraged and should be justified to reduce VMT and greenhouse gas emissions. Such measures are critical to facilitating efficient site access.

For additional TDM options, please refer to the Federal Highway Administration's *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (Chapter 8). The reference is available online at:

http://www.ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf.

In the absence of an adopted precise plan, the Lead Agency should identify project-generated travel demand and estimate the costs of transit and active transportation improvements necessitated by the proposed project; viable funding sources such as development and/or transportation impact fees should also be identified. We encourage a sufficient allocation of fair

share contributions toward multimodal and regional transit improvements to fully mitigate cumulative impacts to regional transportation. We also strongly support measures to increase sustainable modes shares, thereby reducing VMT. The Lead Agency should also consider fair share fees for shuttles that use the public curb space.

If you have any questions, please feel free to contact Mr. Alan Lin the project coordinator at (213) 897-8391 and refer to GTS # LA-2018-0238-AL-NOP.

Sincerely,

MIYA EDMONSON
IGR/CEQA Branch Chief

cc: Scott Morgan, State Clearinghouse

SCAG
INNOVATING FOR A BETTER TOMORROW

SOUTHERN CALIFORNIA
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February 12, 2019

Ms. Sheri Bermejo, Planning Division Manager
City of Monrovia, Community Development Department
415 South Ivy Avenue
Monrovia, California 91016
Phone: (626) 932-5539
E-mail: sbermejo@ci.monrovia.ca.us

RE: SCAG Comments on the Notice of Preparation of a Draft Environmental Impact Report for the Alexan Specific Plan [SCAG NO. IGR9820]

Dear Ms. Bermejo,

Thank you for submitting the Notice of Preparation of a Draft Environmental Impact Report for the Alexan Specific Plan ("proposed project") to the Southern California Association of Governments (SCAG) for review and comment. SCAG is the authorized regional agency for Inter-Governmental Review (IGR) of programs proposed for Federal financial assistance and direct Federal development activities, pursuant to Presidential Executive Order 12372. Additionally, SCAG reviews the Environmental Impact Reports of projects of regional significance for consistency with regional plans pursuant to the California Environmental Quality Act (CEQA) and CEQA Guidelines.

SCAG is also the designated Regional Transportation Planning Agency under state law, and is responsible for preparation of the Regional Transportation Plan (RTP) including the Sustainable Communities Strategy (SCS) pursuant to Senate Bill (SB) 375. As the clearinghouse for regionally significant projects per Executive Order 12372, SCAG reviews the consistency of local plans, projects, and programs with regional plans.[1] SCAG's feedback is intended to assist local jurisdictions and project proponents to implement projects that have the potential to contribute to attainment of Regional Transportation Plan/Sustainable Community Strategies (RTP/SCS) goals and align with RTP/SCS policies.

SCAG staff has reviewed the Notice of Preparation of a Draft Environmental Impact Report for the Alexan Specific Plan in Los Angeles County. The proposed project includes development of a 436-unit, 5-story apartment complex with a parking structure containing 797 parking spaces on a 6.77 acre site.

When available, please send environmental documentation to *SCAG's Los Angeles office in Los Angeles (900 Wilshire Boulevard, Ste. 1700, Los Angeles, California 90017) or by email to au@scag.ca.gov* providing, at a minimum, the full public comment period for review.

If you have any questions regarding the attached comments, please contact the Inter-Governmental Review (IGR) Program, attn.: Anita Au, Associate Regional Planner, at (213) 236-1874 or au@scag.ca.gov. Thank you.

Sincerely,

Ping Chang
Manager, Compliance and Performance Monitoring

[1] Lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the 2016 RTP/SCS for the purpose of determining consistency for CEQA. Any "consistency" finding by SCAG pursuant to the IGR process should not be construed as a determination of consistency with the 2016 RTP/SCS for CEQA.

COMMENTS ON THE NOTICE OF PREPARATION OF A DRAFT ENVIRONMENTAL IMPACT REPORT FOR THE ALEXAN SPECIFIC PLAN [SCAG NO. IGR9820]

CONSISTENCY WITH RTP/SCS

SCAG reviews environmental documents for regionally significant projects for their consistency with the adopted RTP/SCS. For the purpose of determining consistency with CEQA, lead agencies such as local jurisdictions have the sole discretion in determining a local project's consistency with the RTP/SCS.

2016 RTP/SCS GOALS

The SCAG Regional Council adopted the 2016 RTP/SCS in April 2016. The 2016 RTP/SCS seeks to improve mobility, promote sustainability, facilitate economic development and preserve the quality of life for the residents in the region. The long-range visioning plan balances future mobility and housing needs with goals for the environment, the regional economy, social equity and environmental justice, and public health (see http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx). The goals included in the 2016 RTP/SCS may be pertinent to the proposed project. These goals are meant to provide guidance for considering the proposed project within the context of regional goals and policies. Among the relevant goals of the 2016 RTP/SCS are the following:

SCAG 2016 RTP/SCS GOALS	
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*
RTP/SCS G3:	*Ensure travel safety and reliability for all people and goods in the region*
RTP/SCS G4:	*Preserve and ensure a sustainable regional transportation system*
RTP/SCS G5:	*Maximize the productivity of our transportation system*
RTP/SCS G6:	*Protect the environment and health for our residents by improving air quality and encouraging active transportation (e.g., bicycling and walking)*
RTP/SCS G7:	*Actively encourage and create incentives for energy efficiency, where possible*
RTP/SCS G8:	*Encourage land use and growth patterns that facilitate transit and active transportation*
RTP/SCS G9:	*Maximize the security of the regional transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies**
	**SCAG does not yet have an agreed-upon security performance measure.*

For ease of review, we encourage the use of a side-by-side comparison of SCAG goals with discussions of the consistency, non-consistency or non-applicability of the goals and supportive analysis in a table format. Suggested format is as follows:

SCAG 2016 RTP/SCS GOALS		
	Goal	Analysis
RTP/SCS G1:	*Align the plan investments and policies with improving regional economic development and competitiveness*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
RTP/SCS G2:	*Maximize mobility and accessibility for all people and goods in the region*	*Consistent: Statement as to why;* *Not-Consistent: Statement as to why;* *Or* *Not Applicable: Statement as to why;* *DEIR page number reference*
etc.		etc.

2016 RTP/SCS STRATEGIES

To achieve the goals of the 2016 RTP/SCS, a wide range of land use and transportation strategies are included in the 2016 RTP/SCS. Technical appendances of the 2016 RTP/SCS provide additional supporting information in detail. To view the 2016 RTP/SCS, please visit: http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx. The 2016 RTP/SCS builds upon the progress from the 2012 RTP/SCS and continues to focus on integrated, coordinated, and balanced planning for land use and transportation that the SCAG region strives toward a more sustainable region, while the region meets and exceeds in meeting all of applicable statutory requirements pertinent to the 2016 RTP/SCS. These strategies within the regional context are provided as guidance for lead agencies such as local jurisdictions when the proposed project is under consideration.

DEMOGRAPHICS AND GROWTH FORECASTS

Local input plays an important role in developing a reasonable growth forecast for the 2016 RTP/SCS. SCAG used a bottom-up local review and input process and engaged local jurisdictions in establishing the base geographic and socioeconomic projections including population, household and employment. At the time of this letter, the most recently adopted SCAG jurisdictional-level growth forecasts that were developed in accordance with the bottom-up local review and input process consist of the 2020, 2035, and 2040 population, households and employment forecasts. To view them, please visit http://www.scag.ca.gov/Documents/2016GrowthForecastByJurisdiction.pdf. The growth forecasts for the region and applicable jurisdictions are below.

	Adopted SCAG Region Wide Forecasts			Adopted City of Monrovia Forecasts		
	Year 2020	Year 2035	Year 2040	Year 2020	Year 2035	Year 2040
Population	19,663,000	22,091,000	22,138,800	37,500	39,300	40,300
Households	6,458,000	7,325,000	7,412,300	14,200	14,900	15,300
Employment	8,414,000	9,441,000	9,871,500	21,500	22,600	23,300

MITIGATION MEASURES

SCAG staff recommends that you review the Final Program Environmental Impact Report (Final PEIR) for the 2016 RTP/SCS for guidance, as appropriate. SCAG's Regional Council certified the Final PEIR and adopted the associated Findings of Fact and a Statement of Overriding Considerations (FOF/SOC) and Mitigation Monitoring and Reporting Program (MMRP) on April 7, 2016 (please see: http://scagrtpscs.net/Pages/FINAL2016PEIR.aspx). The Final PEIR includes a list of project-level performance standards-based mitigation measures that may be considered for adoption and implementation by lead, responsible, or trustee agencies in the region, as applicable and feasible. Project-level mitigation measures are within responsibility, authority, and/or jurisdiction of project-implementing agency or other public agency serving as lead agency under CEQA in subsequent project- and site- specific design, CEQA review, and decision-making processes, to meet the performance standards for each of the CEQA resource categories.

WATER RECLAMATION
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Telephone: (562) 699-7411, FAX: (562) 699-5422
www.lacsd.org

GRACE ROBINSON HYDE
Chief Engineer and General Manager

April 24, 2019

Ref. DOC 5049844

Mr. Steve Sizemore
Planning Division Manager
Department of Community Development
City of Monrovia
415 South Ivy Avenue
Monrovia, CA 91016

Dear Mr. Sizemore:

Comment Letter for Tentative Parcel Map No. 82326

The Sanitation Districts of Los Angeles County (Districts) received the letter and plans for the subject project forwarded by your office on April 18, 2019. The proposed project is located within the jurisdictional boundaries of District No. 15. We offer the following comments regarding sewerage service:

1. The wastewater flow originating from the proposed project will discharge to a local sewer line, which is not maintained by the Districts, for conveyance to the Districts' Monrovia Outfall Trunk Sewer, located in Peck Road at Duarte Road. The Districts' 24-inch diameter trunk sewer has a capacity of 6.1 million gallons per day (mgd) and conveyed a peak flow of 3.3 mgd when last measured in 2013.

2. The wastewater generated by the proposed project will be treated at the San Jose Creek Water Reclamation Plant (WRP) located adjacent to the City of Industry, which has a capacity of 100 mgd and currently processes an average flow of 58.5 mgd. All biosolids and wastewater flows that exceed the capacity of the San Jose Creek WRP are diverted to and treated at the Joint Water Pollution Control Plant in the City of Carson.

3. The expected increase in average wastewater flow from the project, described in the plan as a 436-unit residential apartments, is 61,117 gallons per day, after all structures on the project site are demolished. For a copy of the Districts' average wastewater generation factors, go to www.lacsd.org, Wastewater & Sewer Systems, click on Will Serve Program, and click on the Table 1, Loadings for Each Class of Land Use link.

4. The Districts are empowered by the California Health and Safety Code to charge a fee for the privilege of connecting (directly or indirectly) to the Districts' Sewerage System for increasing the strength or quantity of wastewater discharged from connected facilities. This connection fee is a capital facilities fee that is imposed in an amount sufficient to construct an incremental expansion of the Sewerage System to accommodate the proposed project. Payment of a connection fee will be required before this project is permitted to discharge to the Districts'

Sewerage System. For more information and a copy of the Connection Fee Information Sheet, go to www.lacsd.org, Wastewater & Sewer Systems, and click on Connection Fee, Service Charge and More. In determining the impact to the Sewerage System and applicable connection fees, the Districts will determine the user category (e.g. Condominium, Single Family home, etc.) that best represents the actual or anticipated use of the parcel(s) or facilities on the parcel(s) in the development. For more specific information regarding the connection fee application procedure and fees, the developer should contact the Districts' Wastewater Fee Public Counter at (562) 908-4288, extension 2727.

5. In order for the Districts to conform to the requirements of the Federal Clean Air Act (CAA), the capacities of the Districts' wastewater treatment facilities are based on the regional growth forecast adopted by the Southern California Association of Governments (SCAG). Specific policies included in the development of the SCAG regional growth forecast are incorporated into clean air plans, which are prepared by the South Coast and Antelope Valley Air Quality Management Districts in order to improve air quality in the South Coast and Mojave Desert Air Basins as mandated by the CCA. All expansions of Districts' facilities must be sized and service phased in a manner that will be consistent with the SCAG regional growth forecast for the counties of Los Angeles, Orange, San Bernardino, Riverside, Ventura, and Imperial. The available capacity of the Districts' treatment facilities will, therefore, be limited to levels associated with the approved growth identified by SCAG. As such, this letter does not constitute a guarantee of wastewater service, but is to advise the developer that the Districts intend to provide this service up to the levels that are legally permitted and to inform the developer of the currently existing capacity and any proposed expansion of the Districts' facilities.

If you have any questions, please contact the undersigned at (562) 908-4288, extension 2717.

Very truly yours,

Adriana Raza
Customer Service Specialist
Facilities Planning Department

AR:dc

cc: A. Schmidt
A. Howard

DOC 5050793.D15

wittwer / parkin

November 26, 2018

Sheri Bermejo, Planning Division Manager
City of Monrovia
Community Development Department
415 South Ivy Avenue
Monrovia, CA 91016
sbermejo@ci.monrovia.ca.us

Re: Alexan Specific Plan Notice of Preparation

Dear Ms. Bermejo:

This law firm represents the Southwest Regional Council of Carpenters (Southwest Carpenters) and submits this letter on the above-referenced project on its behalf.

Southwest Carpenters represents 50,000 union carpenters in six states, including in Southern California, and has a strong interest in reducing the environmental impacts of development projects, such as the Alexan Specific Plan (Project). On October 22, 2018, the City of Monrovia (City) issued a Notice of Preparation, indicating its intent to prepare a Draft Environmental Impact Report (DEIR) for the Project.

The Project would include construction of 436-unit, five-story apartment complex, a 7-story-tall parking garage containing 797 parking stalls, and several amenities, including pools, courtyards, a pet spa, golf simulation room, and a tenant lounge. The Project would also require the relocation of two cellular towers. Project approvals include the following:

- General Plan Amendment from Manufacturing to a Planned Development Area;
- Zoning Code Amendment to re-zone the area from Manufacturing to Planned Development and the Alexan Specific Plan;
- Adoption of the Alexan Specific Plan;
- Cellular tower relocation;
- Conditional Use Permit; and
- Vesting Parcel Map

Southwest Carpenters presents its initial scoping comments for the Project, below. Details regarding the Project are currently sparse, including baseline environmental conditions,

environmental impacts, and proposed mitigation. Southwest Carpenters look forward to reviewing the DEIR when it is made available to the public.

Project Description

The City states the Project includes approval of relocating cellular towers "as necessary." In the DEIR, please definitively state whether relocation of the cellular towers will be necessary. If the City determines relocation is necessary, please evaluate this relocation, and any of its related environmental impacts, as part of the Project. It is important for the City to accurately describe this aspect of the Project because the City must evaluate a reasonable range of *feasible* alternatives. If the City only evaluates alternatives (including the Proposed Project) that assume the movement of these cell towers and it is later discovered relocation is infeasible, its EIR may fail as an informational document.

The City Must Disclose Impacts from all Reasonably Foreseeable Development Caused by the Project

CEQA requires the City to evaluate all reasonably foreseeable impacts that "are later in time or farther removed in distance." (14 Cal. Code Regs. § 15358(a)(2).) In its Notice of Preparation, the City states that the Proposed General Plan Amendment and Zone Change will apply not only to the proposed 436-unit apartment complex within the Alexan Specific Plan, but also to lands outside of this Specific Plan that are currently designated for manufacturing and industrial use. The City states the EIR will act as a "project-level" EIR for the proposed apartment complex and associated uses, whereas the EIR would act as a "program-level" EIR for these other lands.

The City should proceed with environmental review assuming "full build-out" of the Project, by evaluating impacts assuming the Project will result in the creation of all additional residential units and densities that will be permitted by the Project. If the City intends to tier any future projects off the EIR, it must fully evaluate and mitigate environmental impacts related to development of this land at this stage, or else explicitly condition any future development on future project-level environmental review in an EIR. (14 Cal. Code Regs. § 15168.)

The City Should Consider Energy Conservation and Growth Inducing Impacts in its DEIR

Southwest Carpenters agrees with the City that the Project has the potential to significantly affect most environmental factors. However, the City does not state it intends to consider evaluate and mitigate inefficient and unnecessary consumption of energy, as required by CEQA. (14 Cal. Code Regs. § 15126.4(a)(1).)

Furthermore, it is unclear from the Notice of Preparation whether the Project will consider growth-inducing impacts. The City must evaluate "growth-inducing effects and other effects related to induced changes in the pattern of land use, population density, or growth rate, and related effects on air and water and other natural systems, including ecosystems." (14 Cal. Code Regs. § 15358(a)(2).)

Please consider the above environmental review categories in the DEIR.

The City Must Adequately Consider Greenhouse Gas and Air Quality Impacts

A project of this scope has the potential to create thousands of additional daily vehicle trips, which the City must analyze and disclose. As the Gold Line is nearby, the City should evaluate actual rates of ridership from nearby residential uses to gain and disclose a realistic perspective of potential Project-related ridership.

CEQA requires the City to consider the direct, indirect, and cumulative impacts of the Project. (14 Cal. Code Regs. § 15064.) The Project, which includes the construction of nearly 500 dwelling units, is expected to generate large volumes of emissions from vehicle trips, as well as high energy demand. The City must consider whether these impacts are cumulatively considerable, especially considering the nonattainment status of multiple criteria pollutants within the Southern California Air Basin.

In addition, the City should provide a thorough discussion of Project-related greenhouse gas impacts. The City must ensure its environmental analysis complies with the Supreme Court decision in *Center for Biological Diversity v. Department of Fish and Wildlife* (2015) 62 Cal.4th 204.) In particular, the City should disclose whether it has adopted any quantitative greenhouse gas thresholds or a Climate Action Plan, and it should evaluate whether the Project surpasses any of these thresholds.

Finally, while the City suggests it will frame this discussion in terms of "Global Climate Change," the City is required to evaluate greenhouse gas impacts at the Project-level.

The City Must Adequately Consider Impacts Arising from Hazards and Hazardous Materials

CEQA requires the City to consider the significant environmental effects the Project may cause by bringing development and people into a hazardous area. (14 Cal. Code Regs. § 15126.2(a); *California Building Industry Assn. v. Bay Area Air Quality Management Dist.* (2015)

62 Cal.4th 369.) The Project site and surrounding area is currently used for industrial and manufacturing purposes, and some portions of the Project site may continue to be used for manufacturing or industrial purposes for some time after Specific Plan area is built and occupied. The City should consider any impacts that arise by the potential of the project to attract people and housing into an area that that may expose these future residents to hazards and hazardous materials. Further, the City should consult relevant databases, such as the U.S. Environmental Protection Agency's Envirofacts database, to determine whether the Project site, or any nearby properties, have a record of hazardous material contamination. The City must disclose the results of these database searches in its EIR. Finally, notwithstanding the results of the City's review of state and federal databases, the City should conduct on-site testing to evaluate first-hand whether the Project site contains any toxic contaminants. The City should provide adequate mitigation to either avoid or reduce these impacts.

Conclusion

Southwest Carpenters thanks the City for providing an opportunity to comment on the Notice of Preparation. Pursuant to Section 21092.2 of the Public Resources Code and Section 65092 of the Government Code, Southwest Carpenters requests notification of all CEQA actions and notices of any public hearings concerning this Project, including any action taken pursuant to California Planning and Zoning Law. In addition, pursuant to Public Resources Code section 21167(f), please provide a copy of each Notice of Determination issued by the City in connection with this Project and please add Southwest Carpenters to the list of interested parties in connection with this Project and direct all notices to my attention. Please send all notices by email or, if email is unavailable, by U.S. Mail to the following two addressees:

Nicholas Whipps
Ashley McCarroll
Wittwer Parkin LLP
147 S. River St., Ste. 221
Santa Cruz, CA 95060
nwhipps@wittwerparkin.com
amccarroll@wittwerparkin.com

Very truly yours,
WITTWER PARKIN LLP

Nicholas Whipps

APPENDIX C
AIR QUALITY IMPACT
ANALYSIS REPORT

PLANNED DEVELOPMENT GENERAL PLAN AMENDMENT, ZONING CODE AMENDMENT & Alexan Foothills Specific Plan

Air Quality and Greenhouse Gas Analysis

March 2019

Prepared for:

Trammell Crow Residential
5790 Fleet Street, Suite 140
Carlsbad, California 92008

Prepared by:

MIG
537 South Raymond Avenue
Pasadena, California 91105

This document is formatted for double-sided printing to conserve natural resources.

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List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
AADT	Annual average daily trips
AB	Assembly Bill
ADT	Average daily trips
AERMAP	terrain preprocessor for AERMOD
AERMET	AERMOD Meteorological Preprocessor
AERMOD	Atmospheric Dispersion Modeling System
AQ	air quality
AQMP	Air Quality Management Plan
BAAQMD	Bay Area Air Quality Management District
BACT	Best Available Control Technology
CA	California
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CO	carbon monoxide
CPF	cancer potency factor
CRP	Coating Restriction Plan
DPM	diesel particulate matter
ED	exposure duration
EF	exposure frequency
EIR	Environmental Impact Report
EMFAC	Emission Factors Model
FAH	Fraction of Time at Home
GHG	greenhouse gas

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
GP/ZCA	General Plan/Zoning Code Amendment
GVWR	gross vehicle weight rating
H_2S	hydrogen sulfide
HAP	Hazardous Air Pollutants
HARP	Hot Spots Analysis and Reporting Program
HESIS	Hazard Evaluation System and Information Service
HHDT	heavy-heavy duty trucks
HI	Hazard Index
HRA	Health Risk Assessment
HVAC	Heating, ventilation, and air conditioning
I	Interstate
IARC	International Agency for Research on Cancer
kg	kilogram
LDA	passenger cars
LDT1	light-duty trucks, weight class 0 - 3,750 pounds
LDT2	light-duty trucks, weight class 3,751-5,750 pounds
LHDT1	light-heavy-duty trucks, weight class 8,501-10,000 pounds
LHDT2	light-heavy-duty trucks, weight class 10,001-14,000 pounds
LOS	Level of Service
LST	Localized Significance Threshold
m^3	cubic meter
MATES	Multiple Air Toxics Exposure Study
MDV	medium-duty truck
MEIR	Maximally Exposed Individual Resident
MERV	Minimum Efficiency Rating Value
mg	milligram
MH	motor home

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
MHDT	medium-heavy duty diesel truck
mph	miles per hour
MPO	METROpolitan Planning Organization
NAAQS	National Ambient Air Quality Standards
NO	nitrogen oxide
NO_2	nitrogen dioxide
NO_x	oxides of nitrogen
NTP	U.S. National Toxicology Program
O_3	ozone
OBUS	motor coach bus
OEHHA	Office of Environmental Health Hazard Assessment
PM	particulate matter
PMI	Point of Maximum Impact
ppb	parts per billion
ppm	parts per million
$PM_{2.5}$	fine particulate matter
PM_{10}	coarse particulate matter
PMI	point of maximum impact
RAST	Risk Assessment Stand Alone Tool
REL	Reference Exposure Level
ROG	reactive organic gases
ROW	right-of-way
RTP	Regional Transportation Plan
SB	Senate Bill
SBUS	school bus
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
SCS	Sustainable Communities Strategy
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_4^{2-}	sulfates
SO_x	oxides of sulfur
SRA	Source Receptor Area
TAC	Toxic Air Contaminants
TIA	Traffic Impact Analysis
UBUS	urban bus
U.S.	United States
U.S. EPA	United States Environmental Protection Agency
UTM	Universal Transverse Mercator
v.	versus
VMT	Vehicle Miles Traveled
VOC	volatile organic compounds
µg	micrograms

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1 INTRODUCTION

The City of Monrovia (City) is the Lead Agency pursuant to the California Environmental Quality Act (CEQA) and has prepared this Draft Environmental Impact Report (DEIR) for a proposed 9.63-acre Planned Development General Plan Amendment (GPA) and Planned Development Zoning Code Amendment (ZCA), as well as a proposed 6.77-acre Alexan Foothills Specific Plan (Specific Plan) within a portion of the area proposed for the GPA and ZCA. This Environmental Impact Report (EIR) includes a program-level review of the proposed GPA and ZCA and a project-level analysis of the Alexan Foothills Specific Plan.

The current land uses within the proposed Project site include a mix of light industrial, warehouse/storage, office, single family residential, private surface parking, and two cellular towers. Project development would generate emissions of air quality and GHG pollutants that could affect air quality and/or contribute to global climate change. MIG, Inc. (MIG) has prepared this Air Quality and Greenhouse Gas Impact Analysis Report (Report) at the request of Trammell Crow Residential. This Report evaluates the potential construction- and operational-related air quality and GHG impacts of the proposed Project using specific information provided by Trammel Crow Residential. Where necessary, MIG has supplemented available information with standardized sources of information, such as model assumptions pertaining to construction equipment activity levels. In general, this Report evaluates the potential "worst-case" conditions associated with the proposed Project's construction and operational emissions levels to ensure a conservative (i.e., likely to overestimate) assessment of potential air quality and GHG impacts is presented.

This Report is intended for use by the Lead Agency to assess the potential air quality and GHG impacts of the proposed Project in compliance with the California Environmental Quality Act (CEQA; PRC §21000 et seq.) and the State CEQA Guidelines (14 CCR §15000 et seq.), particularly in respect to the air quality and GHG issues identified in Appendix G of the State CEQA Guidelines. This report does not make determinations of significance pursuant to CEQA because such determinations are solely the purview of the Lead Agency.

1.1 REPORT ORGANIZATION

This Report is organized as follows:

- **Chapter 1, Introduction,** explains the contents of this Report and its intended use.
- **Chapter 2, Air Quality Setting and Regulatory Framework,** provides pertinent background information on the air quality, describes the existing air quality setting of the proposed Project, and provides information on the federal, state, and local regulations that govern the proposed Project's air quality setting and potential air quality impacts.
- **Chapter 3, GHG Setting and Regulatory Framework,** provides pertinent background information on GHG and climate change, describes the existing GHG setting of the proposed Project, and provides information on the federal, state, and local regulations that govern the proposed Project's GHG setting and potential GHG impacts.
- **Chapter 4, Proposed Project Description**, provides an overview of the construction and operational activities associated with the proposed Project.

- **Chapter 5, Air Quality Impact Assessment,** identifies the potential construction and operational air quality impacts of the proposed Project and evaluates these effects in accordance with Appendix G of the State CEQA Guidelines.
- **Chapter 6, GHG Impact Assessment,** identifies the potential construction and operational GHG impacts of the proposed Project and evaluates these effects in accordance with Appendix G of the State CEQA Guidelines.
- **Chapter 7, Report Preparers and References,** list the individuals involved, and the references used, in the preparation of this Report.

2 AIR QUALITY SETTING AND REGULATORY FRAMEWORK

This chapter provides information on the environmental and regulatory air quality setting of the proposed Project. Information on existing air quality conditions, federal and state ambient air quality standards, and pollutants of concern was obtained from the U.S. Environmental Protection Agency (U.S. EPA), CARB, and SCAQMD.

2.1 ENVIRONMENTAL SETTING

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality.

South Coast Air Basin

The U.S. EPA and CARB are the Federal and State agencies charged with maintaining air quality in the nation and State, respectively. The U.S. EPA delegates much of its authority over air quality to CARB. CARB has geographically divided the State into 15 air basins for the purposes of managing air quality on a regional basis. An air basin is a CARB-designated management unit with similar meteorological and geographic conditions.

The City of Monrovia is located in the South Coast Air Basin (Basin), which includes Orange County and the non-desert portions of Los Angeles, San Bernardino, and Riverside counties. The Basin encompasses approximately 6,745 square miles of coastal plains, and is bounded by the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east.

Air quality in the Basin is managed by the SCAQMD. The SCAQMD is responsible for bringing air quality emissions within the Basin into conformity with Federal and State air quality standards by reducing existing emission levels and ensuring that future emission levels meet applicable air quality standards. SCAQMD works with Federal, State, and local agencies to reduce pollutant emissions through adoption and implementation of rules and regulations (see Section 2.3).

Basin Climate and Meteorology

The climate of the Los Angeles region is classified as Mediterranean, but weather conditions within the Basin are dependent on local topography and proximity to the Pacific Ocean. The climate is dominated by the Pacific high-pressure system that results in generally mild, dry summers and mild, wet winters. This temperate climate is occasionally interrupted by extremely hot temperatures during the summer, Santa Ana winds during the fall, and storms from the Pacific Northwest during the winter. In addition to the Basin's topography and geographic location, El Niño and La Niña patterns also have large effects on weather and rainfall received between November and March.

The Pacific high-pressure system drives the prevailing winds in the Basin. The winds tend to blow onshore in the daytime and offshore at night. In the summer, an inversion layer is created over the coastal areas and increases ozone levels. A temperature inversion is created when a layer of cool air is overlain by a layer of warmer air; this can occur over coastal areas when cool, dense air that originates over the ocean is blown onto land and flows underneath the warmer, drier air that is present over land. In the winter, areas throughout the Basin often experience a shallow inversion layer that prevents the dispersion of surface level air pollutants, resulting in higher concentrations of criteria air pollutants such as carbon monoxide

(CO) and oxides of nitrogen (NOX) (see below for a description of regulated air pollutants such as "criteria air pollutants").

In the fall months, the Basin is often impacted by Santa Ana winds. These winds are the result of a high-pressure system over the Nevada-Utah region that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean. These winds are powerful and incessant. A strong Santa Ana wind can easily exacerbate fire conditions, resulting in worsening air quality throughout the Basin, as smoke and ash are pushed into the region.

An El Niño is a warming of the surface waters of the eastern Pacific Ocean. It is a climate pattern that occurs across the tropical Pacific Ocean that is usually associated with drastic weather occurrences, including enhanced rainfall in Southern California. La Niña is a term for cooler than normal sea surface temperatures across the Eastern Pacific Ocean. The Los Angeles region receives less than normal rainfall during La Niña years.

Located in the foothills of the San Gabriel Mountains in the eastern part of the San Gabriel Valley and Los Angeles County, the City of Monrovia consists of approximately 13.7 square miles. It is situated adjacent to the cities of Arcadia, North El Monte, Irwindale, and Duarte. The region experiences a Mediterranean climate characterized by hot dry summers, and cool, mild winters, with precipitation occurring in the winter months. The area is within the Climatic Transition Zone from the moister coastal region to the more arid inland regions of southern California.

Regulated Air Pollutants

The U.S. EPA has established National Ambient Air Quality Standards (NAAQS) for six common air pollutants: ozone (O3), particulate matter (PM), which consists of "inhalable coarse" PM (particles with an aerodynamic diameter between 2.5 and 10 microns in diameter, or PM10) and "fine" PM (particles with an aerodynamic diameter smaller than 2.5 microns, or PM2.5), carbon monoxide (CO), nitrogen dioxide (NO2), sulfur dioxide (SO2), and lead. The U.S. EPA refers to these six common pollutants as "criteria" pollutants because the agency regulates these pollutants on the basis of human health-based and/or environmentally-based criteria because they are known to cause adverse human health effects and/or adverse effects on the environment (U.S. EPA 2019a, b). CARB has also established California Ambient Air Quality Standards (CAAQS) for the six common air pollutants regulated by the Federal Clean Air Act (the CAAQS are more stringent than the NAAQS) plus the following additional air pollutants: hydrogen sulfide (H2S), sulfates (SOX), vinyl chloride, and visibility reducing particles due to their known adverse effects on human health or the environment (CARB 2019b).

A description of the criteria pollutants associated with the Project and surrounding vicinity is provided below. Air pollutants not commonly associated with the existing or proposed sources in the vicinity of the Project, such as hydrogen sulfide, lead, and visibility-reducing particles, are not described below.

- **Ground-level Ozone**, or smog, is not emitted directly into the atmosphere. It is created from chemical reactions between NO_X and volatile organic compounds (VOCs), also called Reactive Organic Gases (ROGs), in the presence of sunlight (U.S. EPA 2017c). Thus, ozone formation is typically highest on hot sunny days in urban areas with NO_X and ROG pollution. Ozone irritates the nose, throat, and air pathways and can cause or aggravate shortness of breath, coughing, asthma attacks, and lung diseases such as emphysema and bronchitis (U.S. EPA 2019c).
    - **ROGs** is a CARB term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate,

and includes several low-reactive organic compounds which have been exempted by the U.S. EPA VOC definition (CARB 2004).

- **VOCs** is a U.S. EPA term defined as any compound of carbon, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate, which participates in atmospheric photochemical reactions. reactions. The term exempts organic compounds of carbon which have been determined to have negligible photochemical reactivity such as methane, ethane, and methylene chloride (CARB 2004).

- **Particulate Matter**, also known as particle pollution, is a mixture of extremely small solid and liquid particles made up of a variety of components such as organic chemicals, metals, and soil and dust particles (U.S. EPA 2016a).
  - **PM_{10}**, also known as inhalable coarse, respirable, or suspended PM_{10}, consists of particles less than or equal to 10 micrometers in diameter (approximately 1/7th the thickness of a human hair). These particles can be inhaled deep into the lungs and possibly enter the blood stream, causing health effects that include, but are not limited to, increased respiratory symptoms (e.g., irritation, coughing), decreased lung capacity, aggravated asthma, irregular heartbeats, heart attacks, and premature death in people with heart or lung disease (U.S. EPA 2016a).
  - **$PM_{2.5}$**, also known as fine PM, consists of particles less than or equal to 2.5 micrometers in diameter (approximately 1/30th the thickness of a human hair). These particles pose an increased risk because they can penetrate the deepest parts of the lung, leading to and exacerbating heart and lung health effects (U.S. EPA 2016a).
- **Carbon Monoxide (CO)** is an odorless, colorless gas that is formed by the incomplete combustion of fuels. At high concentrations, CO reduces the oxygen-carrying capacity of the blood and can aggravate cardiovascular disease and cause headaches, dizziness, unconsciousness, and even death (U.S. EPA 2016b).
- **Nitrogen Dioxide (NO_2)** is a by-product of combustion. NO_2 is not directly emitted but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to ozone formation. NO_2 also contributes to the formation of particulate matter. NO_2 can cause breathing difficulties at high concentrations (U.S. EPA 2016c).
- **Sulfur Dioxide (SO_2)** is one of a group of highly reactive gases known as SO_X. Fossil fuel combustion in power plants and industrial facilities are the largest emitters of SO_2. Short-term effects of SO2 exposure can include adverse respiratory effects such as asthma symptoms. SO2 and other SOX can react to form PM (U.S. EPA 2016d).
- **Sulfates (SO_4^{2-})** are the fully oxidized ionic form of sulfur. SO42- are primarily produced from fuel combustion. Sulfur compounds in the fuel are oxidized to SO2 during the combustion process and subsequently converted to sulfate compounds in the atmosphere. Sulfate exposure can increase risks of respiratory disease (CARB 2009).

Common criteria air pollutants, such as ozone precursors, SO2, and particulate matter, are emitted by a large number of sources and have effects on a regional basis (i.e., throughout the Basin). Other pollutants, such as hazardous air pollutants (HAPs) or toxic air contaminants (TACs) (described in more detail below), and fugitive dust, are generally not as prevalent and/or emitted by fewer and more specific sources. As such, these pollutants have much greater effects on local air quality conditions and local receptors.

Ambient Air Quality Standards and Basin Attainment Status

In general, the NAAQS and CAAQS define "clean" air, and are established at levels designed to protect the health of the most sensitive groups in our communities by defining the maximum amount of a pollutant (averaged over a specified period of time) that can be present in outdoor air without any harmful effects on people or the environment (U.S. EPA 2019d, CARB 2019b). Air pollutant levels are typically described in terms of concentration, which refers to the amount of pollutant material per volumetric unit of air. Concentrations are typically measured in parts per million (ppm) or micrograms per cubic meter (µg/m3).

The U.S. EPA, CARB, and regional air agencies assess the air quality of an area by measuring and monitoring the amount of pollutants in the ambient air and comparing pollutant levels against NAAQS and CAAQS. Based on these comparisons, regions are classified into one of the following categories:

- **Attainment.** A region is "in attainment" if monitoring shows ambient concentrations of a specific pollutant are less than or equal to NAAQS or CAAQS. In addition, an area that has been re-designated from nonattainment to attainment is classified as a "maintenance area" for 10 years to ensure that the air quality improvements are sustained.
- **Nonattainment.** If the NAAQS or CAAQS are exceeded for a pollutant, the region is designated as nonattainment for that pollutant. It is important to note that some NAAQS and CAAQS require multiple exceedances of the standard in order for a region to be classified as nonattainment. Federal and state laws require nonattainment areas to develop strategies, plans, and control measures to reduce pollutant concentrations to levels that meet, or attain, standards.
- **Unclassified.** An area is unclassified if the ambient air monitoring data are incomplete and do not support a designation of attainment or nonattainment.

Table 2-1 lists the NAAQS and CAAQS and summarizes the Basin's attainment status.

Table 2-1 Ambient Air Quality Standards and Basin Attainment Status

Pollutant	Averaging Time[B]	California Standards[A]		National Standards[A]	
		Standard[C]	Attainment Status[D]	Standard[C]	Attainment Status[D]
Ozone	1-Hour (1979)	--	--	240 µg/m^3	Nonattainment
	1-Hour (Current)	180 µg/m^3	Nonattainment	--	--
	8-Hour (1997)	--	--	160 µg/m^3	Nonattainment
	8-Hour (2008)	--	--	147 µg/m^3	Nonattainment
	8-Hour (Current)	137 µg/m^3	Nonattainment	137 µg/m^3	Pending
PM_{10}	24-Hour	50 µg/m^3	Nonattainment	150 µg/m^3	Attainment
	Annual Average	20 µg/m^3	Nonattainment	--	--
$PM_{2.5}$	24-Hour	--	--	35 µg/m^3	Nonattainment
	Annual Average (1997)	--	--	15 µg/m^3	Nonattainment
	Annual Average (Current)	12 µg/m^3	Nonattainment	12 µg/m^3	Nonattainment

Pollutant	Averaging Time[B]	California Standards[A]		National Standards[A]	
		Standard[C]	Attainment Status[D]	Standard[C]	Attainment Status[D]
Carbon Monoxide	1-Hour	23,000 µg/m^3	Attainment	40,000 µg/m^3	Attainment
	8-Hour	10,000 µg/m^3	Attainment	10,000 µg/m^3	Attainment
Nitrogen Dioxide	1-Hour	339 µg/m^3	Attainment	188 µg/m^3	Unclassifiable/ Attainment
	Annual Average	57 µg/m^3	Attainment	100 µg/m^3	Attainment
Sulfur Dioxide	1-Hour	655 µg/m^3	Attainment	196 µg/m^3	Attainment
	24-Hour	105 µg/m^3	Attainment	367 µg/m^3	Unclassifiable/ Attainment
	Annual Average	--	--	79 µg/m^3	Unclassifiable/ Attainment
Lead	3-Months Rolling	--	--	0.15 µg/m^3	Nonattainment (Partial)
Hydrogen Sulfide	1-Hour	42 µg/m^3	Attainment	--	
Sulfates	24-Hour	25 µg/m^3	Attainment	--	
Vinyl Chloride	24-Hour	26 µg/m^3	Attainment	--	

Source: CARB 2016, SCAQMD 2016a, modified by MIG.

Notes:

(A) This table summarizes the CAAQS and NAAQS and the Basin's attainments status (as of February 2019). This table does not prevent comprehensive information regarding the CAAQS and NAAQS. Each CAAQS and NAAQS has its own averaging time, standard unit of measurement, measurement method, and statistical test for determining if a specific standard has been exceeded. Standards are not presented for visibility reducing particles, which are not concentration-based. The Basin is unclassified for visibility reducing particles.

(B) Ambient air standards have changed over time. This table presents information on the standards previously used by the U.S. EPA for which the Basin does not meet attainment.

(C) All standards are shown in terms of micrograms per cubic meter (µg/m^3) rounded to the nearest whole number for comparison purposes (with the exception of lead, which has a standard less than 1 µg/m^3). The actual CAAQS and NAAQS standards specify specific units for each pollutant measurement.

(D) A= Attainment, N= Nonattainment, U=Unclassifiable.

Hazardous Air Pollutants/Toxic Air Contaminants

In addition to criteria air pollutants, the U.S. EPA and CARB have classified certain pollutants as Hazardous Air Pollutants (HAPs) (by U.S. EPA) or Toxic Air Contaminants (TACs) (by CARB), respectively. These pollutants can cause severe health effects at very low concentrations (non-cancer effects), and many are suspected or confirmed carcinogens (i.e., can cause cancer) (U.S. EPA 2019a, CARB 2019c). People exposed to HAPs/TACs at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects (U.S. EPA 2019a, CARB 2019c). These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory and other health problems (U.S. EPA 2019a, CARB 2019c).

The U.S. EPA has identified 187 HAPs, including such substances as benzene and formaldehyde; CARB also considers particulate emissions from diesel-fueled engines and other substances to be TACs. Since CARB's list of TACs references and includes U.S. EPA's list of HAPs, this EIR uses the term TAC when referring to HAPs and TACs. A description of the TACs associated with the Project and surrounding vicinity is provided below.

- **Gasoline-Powered Mobile Sources.** According to the SCAQMD's *Multiple Air Toxics Exposure Study in the South Coast Air Basin* (SCAQMD 2015a), or MATES IV, gasoline-powered vehicles emit TACs, such as benzene, which can have adverse health risks. Gasoline-powered sources emit TACs in much smaller amounts than diesel-powered vehicles. The MATES IV study identifies that diesel emissions account for between 68% to 80% of the total air toxics and cancer risk in the Basin.
- **Diesel Particulate Matter (DPM).** Diesel engines emit both gaseous and solid material; the solid material is known as DPM. Almost all DPM is less than 1 µm in diameter, and thus is a subset of $PM_{2.5}$. DPM is typically composed of carbon particles and numerous organic compounds. Diesel exhaust also contains gaseous pollutants, including VOCs and NO_x. The primary sources of diesel emissions are ships, trains, trucks, rail yards and heavily traveled roadways. These sources are often located near highly populated areas, resulting in greater DPM related health consequences in urban areas. The majority of DPM is small enough to be inhaled into the lungs and what particles are not exhaled can be deposited on the lung surface and in the deepest regions of the lungs where the lung is most susceptible to injury. In 1998, CARB identified DPM as a toxic air contaminant based on evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM also contributes to the same non-cancer health effects as $PM_{2.5}$ exposure (CARB 2016c).
- **PM from Wheel-Rail Interaction.** PM may also be generated from friction between rail and locomotive wheels (wheel-rail interaction). This abrasion process can suspend metals such as iron, chromium, manganese, and copper in the form of PM (PCJPB 2015); however, the potential for PM to be generated is dependent on the weight of the train and the conditions of the wheels and track on which the train rides. The Metro Gold Line is commuter rail that consists of an Electric Multiple Unit locomotive system that is lighter than traditional diesel locomotive commuter and freight trains, and in new condition. Thus, while the Metro Gold Line may generate PM from wheel-rail interaction, this contribution is anticipated be minimal (i.e., would not have an appreciable effect on mass emission or health risk estimates) and this issue is not discussed further in this Report.

Common criteria air pollutants, such as ozone precursors, SO_2, and PM, are emitted by a large number of sources and have effects on a regional basis (i.e., throughout the Basin); other pollutants, such as HAPs, TACs, and fugitive dust, are generally not as prevalent and/or emitted by fewer and more specific sources. As such, these pollutants have much greater effects on local air quality conditions and local receptors.

2.1.1 Local Air Quality Conditions

The SCAQMD monitors air quality within the Basin. Existing levels of ambient air quality and historical trends within the Project area are best documented by measurements taken by the SCAQMD. The station closest to Monrovia is identified as the East San Gabriel Valley 1 Station (Station #060) by SCAQMD (CARB refers to this station as Azusa). The station is located less than four miles to the east of

Monrovia's boundary and monitors CO, O_3, NO_2, PM10 and PM2.5. This monitoring station represents the best approximation of the air quality conditions within the City.

Table 2-2 summarizes the published monitoring data from East San Gabriel Valley 1 monitoring station from 2014 to 2016, the three most recent years for which verified, published data is available from the SCAQMD (2017 data was not yet available as of the time of writing of this EIR). Table 7-2 shows that air quality standards at this location have been exceeded for $PM_{2.5}$, PM_{10}, and O_3. This is consistent with the entire Basin's classification as non-attainment for $PM_{2.5}$, PM_{10}, and O_3. As shown in Table 7-2:

- The maximum 1-hour and 8-hour CO concentration generally decreased from 2014 to 2016. There were no days in which CO standards were exceeded during this time period.
- The maximum 1-hour NO_2 concentration generally increased from 2014 to 2016, while the average annual NO_2 concentration generally decreased. There were no days in which NO_2 standards were exceeded during this time period.
- The maximum 1-hour and 8-hour O_3 concentration, as well as the number of days exceeding O_3 standards, generally increased from 2014 to 2016.
- The maximum 24-hour and average annual PM_{10} concentration fluctuated during the 2014 to 2016 period but there were no days/years in which the Federal PM_{10} standards were exceeded. The State PM_{10} annual standard was exceeded in 2014, 2015, and 2016; however, the annual average PM_{10} concentration and the number of days exceeding the state 24-hour standard generally decreased over this time period.
- The maximum 24-hour and average annual $PM_{2.5}$ concentration fluctuated during the 2014 to 2016 period but there were no years in which the Federal or State $PM_{2.5}$ annual average standards were exceeded. The Federal 24-hour $PM_{2.5}$ was exceeded once in 2015.

Table 2-2 Local Air Quality Conditions (2014 – 2016)

Pollutant	Ambient Air Standard	Year[(A)]		
		2014	2015	2016
Ozone (O_3)				
Maximum 1-hour Concentration (ppm)		0.123	0.122	0.146
Maximum 8-hr Concentration (ppm)		0.092	0.096	0.106
Number of Days Exceeding State 1-hr Standard	>180 µg/m3	11	21	30
Number of Days Exceeding State 8-hr Standard	>137 µg/m3	20	28	40
Days Exceeding Federal 1-hr Standard	>0.124 ppm	0	0	4
Days Exceeding Federal 8-hr Standard	>0.070 ppm	11	27	39
Carbon Monoxide (CO)				
Maximum 1-hr Concentration (ppm)		2	2.1	1.3
Maximum 8-hr Concentration (ppm)		1.9	1.3	1.2
Days Exceeding State 1-hr Standard	>23,000 µg/m^3	--	--	--
Days Exceeding Federal/State 8-hr Standard	>10,000 µg/m^3	--	--	--
Days Exceeding Federal 1-hr Standard	>40,000 µg/m^3	--	--	--

Table 2-2 Local Air Quality Conditions (2014 – 2016)

Pollutant	Ambient Air Standard	Year(A)		
		2014	2015	2016
Nitrogen Dioxide (NO_2)				
Maximum 1-hr Concentration (ppb)		70.2	71.0	74.2
Annual Arithmetic Mean Concentration (ppb)		17.8	15.4	16.6
Days Exceeding State 1-hr Standard	>180 µg/m^3	--	--	--
Coarse Particulate Matter (PM_{10})				
Maximum 24-hr Concentration (µg/m^3)		96	101	74
Annual Arithmetic Mean (µg/m^3)		44.1	37.1	33.7
Samples Exceeding State 24-hr Standard	>50 µg/m^3	22	12	12
Samples Exceeding Federal 24-hr Standard	>150 µg/m^3	0	0	0
Fine Particulate Matter ($PM_{2.5}$)				
Maximum 24-hr Concentration (µg/m^3)		32.4	44.3	32.17
Annual Arithmetic Mean (µg/m^3)		11.63	9.4	10.15
Samples Exceeding Federal 24-hr Standard	>35 µg/m^3	0	1	0

Source: SCAQMD 2018a, 2018b, 2018c.

Notes:

(A) "--" indicates data are not available.

2.1.2 Emissions Sources from Existing Land Uses

The approximately 9.63-acre Project area consists of the approximately 6.77-acre Alexan Foothills Specific Plan and the 2.77-acre ZCA Areas A and C. As described in Chapter 3.0, Project Description, the existing land uses in the Project area consist of a mix of single-family residential (5 total dwelling units), institutional place of worship (approximately 6,630 square feet), and light industrial (approximately 70,750 square feet), one office building, and a warehouse (approximately 10,120 square feet). These existing land uses generate emissions from the following sources:

- **Small "area" sources.** Existing land uses in the Project area generate emissions from small area sources including landscaping equipment and the use of consumer products such as paints, cleaners, and fertilizers that result in the evaporation of chemicals into the atmosphere during product use.
- **Energy use and consumption**. Existing land uses in the Project area generate emissions from the combustion of natural gas in water and space heating equipment, as well as industrial processes.
- **Mobile sources.** Existing land uses in the Project area generate emissions from vehicles travelling to and from the Project.

Emissions from existing land uses in the Project area were estimated using the California Emissions Estimator Model, or CalEEMod, Version 2016.3.2 using default data assumptions provided by CalEEMod, with the following project-specific modifications:

- The default acreage and square footage for each of the Project area's land use types were adjusted to reflect the actual Project area as currently developed.
- The default trip generation rates for the existing land use types were replaced with trip generation rates contained in the Traffic Impact Analysis (TIA) prepared for the proposed Alexan Foothills Specific Plan and the maximum potential development scenario under ZCA Areas A and C (see Chapter 19.0, Transportation and Circulation, and the TIA in Appendix J). The Project TIA provided trip generation rates for peak weekday activities. Accordingly, the average daily traffic rate contained in the TIA was adjusted by a factor of 0.96 to be consistent with State emission inventory methods and to account for reduced weekend trip rates (this provides a more accurate estimate of total annual emissions).
- The default electrical and natural gas energy efficiency intensity values for residential and non-residential land uses were adjusted upwards to reflect the older nature of the existing buildings and structures in the area.
- The default outdoor water use for non-residential land uses was set to zero to reflect the paved nature of the Project area.

Emissions of criteria air pollutants for existing land uses in the Project area are summarized in Table 2-3 below.

As shown in Table 2-3, the existing land uses in the Alexan Foothills Specific Plan area account for between 59% and 76% of the total ROG, NO_x, CO, SO_2, PM_{10} dust and $PM_{2.5}$ dust generated in the Project area, whereas they only account for approximately 32% and 33% of combined existing PM_{10} and $PM_{2.5}$ emissions, respectively.

Table 2-3 Existing Emissions in the Project Area

Emissions Source	Maximum Daily Pollutant Emissions (Pounds Per Day) (A)							
	ROG	NO_x	CO	SO_2	PM_{10}		$PM_{2.5}$	
					Dust	Exhaust	Dust	Exhaust
Alexan Foothills Specific Plan Area								
Area	1.82	0.02	0.62	0.00	--	0.08	--	0.08
Energy	0.05	0.41	0.34	0.00	--	0.03	--	0.03
Mobile	1.06	4.92	15.78	0.05	3.36	0.05	0.90	0.95
Subtotal(B)	**2.92**	**5.35**	**16.74**	**0.05**	**3.36**	**0.16**	**0.90**	**0.16**
ZCA Areas A and C								
Area	1.71	0.09	2.37	0.01	--	0.31	--	0.31
Energy	0.02	0.14	0.10	0.00	--	0.01	--	0.01
Mobile	0.34	1.59	5.13	0.01	1.10	0.02	0.29	0.02
Subtotal(B)	**2.07**	**1.82**	**7.61**	**0.02**	**1.10**	**0.34**	**0.29**	**0.33**
Total Project Area								
Area	3.53	0.11	2.99	0.01	--	0.39	--	0.39
Energy	0.07	0.55	0.44	<0.00(C)	--	0.04	--	0.04

Mobile	1.40	6.51	20.91	0.06	4.46	0.07	1.19	0.97
Combined Total(B)	**4.99**	**7.17**	**24.35**	**0.07**	**4.46**	**0.50**	**1.19**	**0.49**

Source: MIG 2019, see Appendix C.

Notes:

(A) Emissions estimated using CalEEMod, V 2016.3.2. Estimates are based on default model assumptions unless otherwise noted. Maximum daily ROG, CO, and SO_2 emissions occur during the summer. Maximum daily NO_X, PM_{10}, and $PM_{2.5}$ emissions occur during the winter.

(B) Totals may not equal due to rounding.

(C) "<0.00" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01 but larger than 0.000.

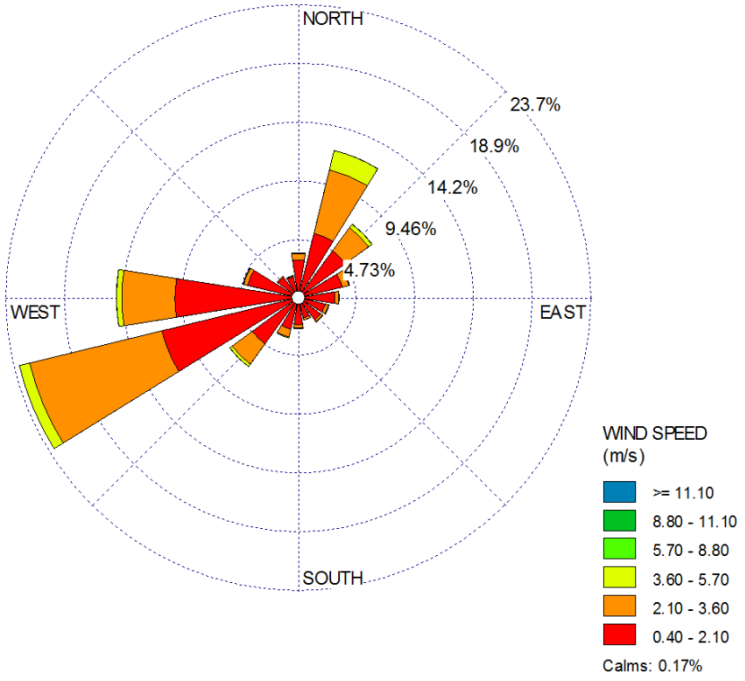
2.1.3 Sensitive Air Quality Receptors

The SCAQMD identifies sensitive receptors as populations more susceptible to the effects of air pollution than the general population. Some people are more affected by air pollution than others. Sensitive air quality receptors include specific subsets of the general population that are susceptible to poor air quality and the potential adverse health effects associated with poor air quality. Both CARB and the SCAQMD consider residences, schools, parks and playgrounds, childcare centers, athletic facilities, long-term health care facilities, rehabilitation centers, convalescent centers, and retirement homes to be sensitive air quality land uses and receptors (SCAQMD 2017a; CARB 2005). The potential sensitive air quality receptors adjacent or in close proximity to the perimeter of the Project area (i.e., within 1,000 feet) include:

- Single- and multi-family residential units to the east of the Project area, along South Magnolia Avenue, West Evergreen Avenue, and Pomona Avenue;
- Multi-family residential units to the south of the Project area, across the METRO Gold Line right-of-way (ROW) (accessed via Mayflower Avenue and Genoa Street);
- Single-family residential units to the west of the Project area, along Diamond Street and Mayflower Avenue;
- Single- and multi-family residential units to the north of the Project area, across the I-210, off West Central Avenue and other nearby roads;
- The First Lutheran School, located at 1227 South Magnolia Avenue, approximately 890 feet north of the Project area, across the I-210; and
- Calvary Chapel Monrovia, located at 1401 Highland Ave., approximately 970 feet east of the Project area.

One single-family residence occurs within the Alexan Foothills Specific Plan area that would be demolished. Four single-family residences also occur in the Project area, outside of the Alexan Foothills Specific Plan area, in the portion of the Project area not currently proposed for development. These residences were also considered potential sensitive receptors in this analysis in the event that they are not redeveloped

Figure 2-1 Wind Rose for Azusa Meteorological Station (Blowing From)



Source: SCAQMD 2018e

Table 2-5 Existing Emissions in the Project Area

Emissions Source	Maximum Daily Pollutant Emissions (Pounds Per Day) [A]							
	ROG	NO_x	CO	SO_2	PM_{10}		$PM_{2.5}$	
					Dust	Exhaust	Dust	Exhaust
Alexan Foothills Specific Plan Area								
Area	1.82	0.02	0.62	0.00	--	0.08	--	0.08
Energy	0.05	0.41	0.34	0.00	--	0.03	--	0.03
Mobile	1.06	4.92	15.78	0.05	3.36	0.05	0.90	0.95
Subtotal[B]	***2.92***	***5.35***	***16.74***	***0.05***	***3.36***	***0.16***	***0.90***	***0.16***
Remaining GP/ZCA Area								
Area	1.71	0.09	2.37	0.01	--	0.31	--	0.31
Energy	0.02	0.14	0.10	0.00	--	0.01	--	0.01
Mobile	0.34	1.59	5.13	0.01	1.10	0.02	0.29	0.02
Subtotal[B]	***2.07***	***1.82***	***7.61***	***0.02***	***1.10***	***0.34***	***0.29***	***0.33***
Total Project Area								
Area	3.53	0.11	2.99	0.01	--	0.39	--	0.39
Energy	0.07	0.55	0.44	<0.00[C]	--	0.04	--	0.04
Mobile	1.40	6.51	20.91	0.06	4.46	0.07	1.19	0.97
Combined Total[B]	***4.99***	***7.17***	***24.35***	***0.07***	***4.46***	***0.50***	***1.19***	***0.49***

Source: MIG 2019, see Appendix A.

Table 2-5 Existing Emissions in the Project Area

(D) Emissions estimated using CalEEMod, V 2016.3.2. Estimates are based on default model assumptions unless otherwise noted. Maximum daily ROG, CO, and SO_2 emissions occur during the summer. Maximum daily NO_X, PM_{10}, and $PM_{2.5}$ emissions occur during the winter.
(E) Totals may not equal due to rounding.
(F) "<0.00" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01 but larger than 0.000.

2.2 FEDERAL, STATE, AND LOCAL AIR QUALITY REGULATIONS

2.2.1 Federal Air Quality Regulations

Federal Clean Air Act

The Federal Clean Air Act (CAA), as amended, provides the overarching basis for both Federal and State air pollution prevention, control, and regulation. The Act establishes the U.S. EPA's responsibilities for protecting and improving the nation's air quality. The U.S. EPA oversees Federal programs for setting air quality standards and designating attainment status, permitting new and modified stationary sources of pollutants, controlling emissions of hazardous air pollutants, and reducing emissions from motor vehicles and other mobile sources. In 1971, to achieve the purposes of Section 109 of the CAA, the U.S. EPA developed primary and secondary NAAQS. Primary standards are designed to protect human health with an adequate margin of safety. Secondary standards are designed to protect property and public welfare from air pollutants in the atmosphere.

The U.S. EPA requires each State prepare and submit a State Implementation Plan (SIP) that consists of background information, rules, technical documentation, and agreements that an individual State will use to attain compliance with the NAAQS within federally-imposed deadlines. State and local agencies implement the plans and rules associated with the SIP, but the rules are also federally enforceable.

2.2.2 State Air Quality Regulations

California Clean Air Act

In addition to being subject to Federal requirements, air quality in the State is also governed by more stringent regulations under the California Clean Air Act, which was enacted in 1988 to develop plans and strategies for attaining the CAAQS. As discussed above, in California, both the Federal and State Clean Air acts are administered by CARB. CARB oversees the functions of local air pollution control districts and air quality management districts, which in turn administer air quality activities at the regional level.

On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

CARB's On-Road Heavy-Duty Diesel Vehicles (In-Use) regulation (also known as the Truck and Bus Regulation) is intended to reduce emission of NO_X, PM, and other criteria pollutants generated from existing on-road diesel vehicles operating in California. The regulation applies to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds that are privately or federally owned, and for privately and publicly owned school buses. Heavier trucks and buses with a GVWR greater than 26,000 pounds must comply with a schedule by engine model year or owners can report to show compliance with more flexible options. Fleets complying with the heavier trucks and buses schedule must install the best available PM filter on 1996 model year and newer engines and replace the vehicle 8 years later. Trucks with 1995 model year and older engines had to be replaced starting in 2015.

Replacements with a 2010 model year or newer engine must meet the final requirements, but owners can also replace the equipment with used trucks that have a future compliance date (as specified in regulation). By 2023, all trucks and buses must have at least 2010 model year engines with few exceptions.

On-Road Heavy-Duty Diesel Vehicles (In-Use) Regulation

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CARB Stationary Diesel Engines – Emission Regulations

In 1998, CARB identified DPM as a TAC. To reduce public exposure to DPM, in 2000, the Board approved the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles (Risk Reduction Plan) (CARB 2000). Integral to this plan is the implementation of control measures to reduce DPM such as the control measures for stationary diesel-fueled engines. As such, diesel generators must comply with regulations under CARB's amendments to Airborne Toxic Control Measure for Stationary Compression Ignition Engines and they must be permitted by SCAQMD.

CARB Air Quality and Land Use Handbook

In 1998, CARB identified particulate matter from diesel-fueled engines as a TAC. CARB's Air Quality and Land Use Handbook is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process (CARB 2005). The CARB Handbook recommends that planning agencies consider proximity to air pollution sources when considering new locations for "sensitive" land uses, such as residences, medical facilities, daycare centers, schools, and playgrounds. Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners, and large gasoline service stations. Key recommendations in the Handbook relative to the Project include taking steps to consider or avoid siting new, sensitive land uses:

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day;
- Within 300 feet of gasoline fueling stations; or
- Within 300 feet of dry cleaning operations (dry cleaning with TACs is being phased out and will be prohibited in 2023). The SCAQMD (Regulation 14, Rule 21) has established emission controls for the use of perchloroethylene, the most common dry-cleaning solvent.

CARB prepared a technical supplement to the Handbook, a *Technical Advisory on Strategies to Reduce Air Pollution Exposure Near High Volume Roadways* (CARB 2017), that provides

recommendations for strategies to minimize exposure of the public to air pollutants due to proximity to high volume roadways, such as reducing traffic emissions and removing pollution from the air.

Air Toxics "Hot Spots" Program

"Air toxics" are a special class of air pollutants especially harmful to human health, and they include carbon monoxide (CO) and TACs. State requirements specifically address emissions of air toxics through Assembly Bill (AB) 1807 (known as the Tanner Bill) that established the State Air Toxics "Hot Spots" Program and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588) (California Health and Safety Code Section 44300 et seq.). Under the Air Toxics Hot Spots Information and Assessment Act of 1987 (or Air Toxics "Hot Spots" Act) and Air Toxics Hot Spots Program, the State (CARB) must collect data on toxic emissions from stationary sources (facilities) throughout the State and ascertain potential health risks that these emissions pose to members of community for developing cancer or for resulting in non-cancer health effects. California's Children's Environmental Health Protection Act of 1999 (California Health and Safety Code Section 39606), also requires explicit consideration of infants and children in assessing risks from air toxics.

Substances regulated under California's Air Toxics Hot Spots Program are defined in statute and include a list of substances developed by the following sources:

- International Agency for Research on Cancer (IARC);
- U.S. Environmental Protection Agency (U.S. EPA);
- U.S. National Toxicology Program (NTP);
- CARB Toxic Air Contaminant Identification Program List;
- Hazard Evaluation System and Information Service (HESIS) (State of California);
- Proposition 65 (Safe Drinking Water and Toxic Enforcement Act of 1986) list of carcinogens and reproductive toxicants (State of California); and
- Any additional substance recognized by the State Board as presenting a chronic or acute threat to public health when present in the ambient air.

On May 6, 2005, the SCAQMD adopted a *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* containing numerous recommendations focused on land use planning, such as locating sensitive receptors away from substantial sources of TACs and CO hot spots (e.g., high-traffic freeways and roads, distribution centers, refineries, etc.). When locating receptors near large generators of TAC emissions, the SCAQMD recommends conducting CO hot spot analyses and analyzing health risk for these new developments.

California's Office of Environmental Health Hazard Assessment (OEHHA) has developed procedures for performing "Health Risk Assessments" to evaluate the "likelihood" of emissions of TACs to cause cancer or non-cancer effects (OEHHA 2015). A Health Risk Assessment (or HRA) can also be used to evaluate the impacts of TAC emissions of individual projects on the public, including the likelihood to cause cancer or non-cancer effects. Often these risks are evaluated for sensitive receptors (i.e., residents, including children), as these are the members of the public most sensitive to exposure to TACs.

2.2.3 Regional Air Quality Regulations

Southern California Association of Governments

The Southern California Association of Governments (SCAG) is a Joint Powers Authority under California State Law, established as an association of Local Governments and agencies that voluntarily convene as a forum to address regional issues. SCAG encompasses the counties of Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial.

SCAG is designated as a Metropolitan Planning Organization (MPO) and as a Regional Transportation Planning Agency. Under SB 375, SCAG, as a designated MPO, is required to prepare a Sustainable Communities Strategy (SCS) as an integral part of its Regional Transportation Plan (RTP). On April 7, 2016, SCAG's Regional Council adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS) (SCAG 2016). The 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. Information contained in Chapter 5: The Road to Greater Mobility and Sustainable Growth of the 2016 RTP/SCS forms the basis for the land use and transportation components of the Air Quality Management Plan (AQMP), and are utilized in the preparation of air quality forecasts and consistency analysis included in the AQMP.

SCAQMD Air Quality Management Plan

The purpose of an AQMP is to bring an air basin into compliance with federal and state air quality standards and is a multi-tiered document that builds on previously adopted AQMPs. The 2016 AQMP for the Basin, which updated the 2012 AQMP, was approved by the SCAQMD Board of Directors on March 3, 2017. The 2016 AQMP provides new and revised demonstration's for how the SCAQMD, in coordination with Federal, State, Regional and Local Governments will bring the Basin back into attainment for the following NAAQS: 2008 8-hour Ozone; 2012 Annual PM2.5; 2006 24-hour PM2.5[1]; 1997 8-hour Ozone; and 1997 1-hour Ozone.

To achieve the reductions necessary to bring ambient air quality back into attainment the SCAQMD has identified seven primary objectives for the AQMP, which include:

1. Eliminating reliance on unknown future technology measures to demonstrate future attainment of air quality standards;
2. Calculating and accounting for co-benefits associated with measures identified in other, approved planning efforts (e.g., SCAG's RTP/SCS);
3. Developing a strategy with fair-share emission reductions at the Federal, State, and local levels;

[1] Although the 2006 24-hour $PM_{2.5}$ standard was focused on in the 2012 AQMP, it has since been determined, primarily due to unexpected drought conditions, that it is impractical to meet the standard by the original attainment year. Since adoption of the 2012 AQMP, the US EPA approved a re-classification to "serious" non-attainment for the standard, which requires a new attainment demonstration and deadline.

4. Investing in strategies and technologies that meet multiple objectives regarding air quality, climate change, air toxic exposure, energy, and transportation – especially in disadvantaged communities;
5. Seeking, identifying, and securing significant sources of funding for incentives to implement early deployment and commercialization of zero and near-zero technologies, particularly in the mobile source sector;
6. Enhancing the socioeconomic analysis and selecting the most efficient and cost-effective path to achieve multi-pollutant and deadline targets; and
7. Prioritize non-regulatory, innovative approaches that can contribute to the economic vitality of the regional while maximizing emission reductions.

The emission forecasts and demonstrations presented in the 2016 AMQP rely heavily on information contained in other planning and strategy documents. For example, the 2016 AQMP's long-term emissions inventory is based on the growth and land use(s) projections contained in the SCAG's 2016 RTP/SCS. Additionally, the conclusions relating to ozone compliance are based on implementation of measures presented in CARB's Mobile Source Strategy and SIP strategy. The Mobile Source Strategy outlines a suite of measures targeted at on-road light- and heavy-duty vehicles, off-road equipment, and Federal and international sources. A subset of the Statewide strategy is a mobile source strategy for the South Coast SIP. Because the SCAQMD has limited authority in regulating mobile source emissions, coordination and cooperation between SCAQMD, CARB, and the U.S. EPA is imperative to meeting the NOx reductions required to meet ozone standards. Although not incorporated specifically from another planning document strategy, the 2016 AQMP also provides numerous control measures for stationary sources.

SCAQMD Rules and Regulations

The SCAQMD adopts rules that establish permissible air pollutant emissions and governs a variety of business, processes, operations, and products to implement the AQMP and the various Federal and State air quality requirements. In general, rules that are anticipated to be applicable during buildout of the Project include:

Rule 401 (Visible Emissions) prohibits discharge into the atmosphere from any single source of emission for any contaminant for a period or periods aggregating more than three minutes in any one hour that is as dark or darker in shade than that designated as No. 1 on the Ringelmann Chart, as published by the U.S. Bureau of Mines.

Rule 402 (Nuisance) prohibits discharges of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

Rule 403 (Fugitive Dust) prohibits emissions of fugitive dust from any grading activity, storage pile, or other disturbed surface area if it crosses the project property line or if emissions caused by vehicle movement cause substantial impairment of visibility (defined as exceeding 20 percent capacity in the air). Rule 403 requires the implementation of Best Available Control Measures and includes additional provisions for projects disturbing more than five acres and those disturbing more than fifty acres.

- **Rule 445 (Wood Burning Devices)** prohibits installation of woodburning devices such as fireplaces and wood-burning stoves in new development unless the development is located at

an elevation above 3,000 feet or if existing infrastructure for natural gas service is not available within 150-feet of the development.

Rule 481 (Spray Coating Operations) imposes equipment and operational restrictions during construction for all spray painting and spray coating operations.

Rule 1108 (Cutback Asphalt) prohibits the sale or use of any cutback asphalt containing more than 0.5 percent by volume organic compounds which evaporate at **260°C (500°F) or lower**.

Rule 1113 (Architectural Coatings) establishes maximum concentrations of VOCs in paints and other applications and establishes the thresholds for low-VOC coatings.

Rule 1143 (Consumer Paint Thinners and Multi-Purpose Solvents) prohibits the supply, sale, manufacture, blend, package or repackage of any consumer paint thinner or multi-purpose solvent for use in the SCAQMD unless consumer paint thinners or other multi-purpose solvents comply with applicable VOC content limits.

Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities) specifies work practice requirements to limit asbestos emissions from building demolitions and renovation activities, including the removal and associated disturbance of asbestos containing materials. The requirements for demolition and renovation activities include asbestos surveying, notification, asbestos containing materials removal procedures and time schedules, asbestos containing materials handling and clean-up procedures, and storage, disposal, and land filling requirements for asbestos containing waste materials.

2.2.4 City of Monrovia General Plan

The City of Monrovia's existing General Plan does not establish specific goals, policies, or standards related to air quality; however, the City's Monrovia General Plan Proposed Land Use and Circulation Elements EIR (City of Monrovia 2008) included the following mitigation measures related to air quality:

- **AIR-A:** The City shall require applicants to analyze the air quality impacts of construction for each project.
- **AIR-B:** If project-level analysis demonstrates that NOx emissions would be significant, the project shall provide a plan, for approval by the City, demonstrating that the heavy-duty (> 50 horsepower) off-road vehicles to be used in the construction project, including owned, leased and subcontractor vehicles, shall utilize all feasible measures to reduce the emissions to a less than significant level. Acceptable options for reducing emissions may include use of late model low-emission diesel engines, alternative fuels, engine retrofit technology, and/or other options as they become available. The SCAQMD web site provides specific information on mitigation options for off-road and on-road construction equipment.
- **AIR-C:** The following measure shall be incorporated into all project specifications to reduce diesel engine emissions of O_3 precursors including ROG and NO_X, PM_{10}, $PM_{2.5}$, and diesel PM:

  Idling Restrictions. Idling of diesel-powered vehicles and equipment shall not be permitted during periods of non-active vehicle use. Diesel-powered engines shall not be allowed to idle for more than 5 consecutive minutes in a 60-minute period when the equipment is not in use, occupied by an operator, or otherwise in motion, except as follows:

  - When equipment is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control;
  - When it is necessary to operate auxiliary systems installed on the equipment, only when such system operation is necessary to accomplish the intended use of the equipment;
  - To bring the equipment to the manufacturer's recommended operating temperature;
  - When the ambient temperature is below 40 degrees F or above 85 degrees F; or
  - When equipment is being repaired.
- **AIR–D:** The City shall require that all new residential fireplaces to be fueled by natural gas. Wood stoves and wood burning fireplaces shall be prohibited.
- **AIR-E:** The City shall require applicants to analyze the potential for creating a local CO hotspot due to traffic congestion that could result from implementation of projects anticipated in the proposed General Plan amendments to the Land Use and Circulation Element.
- **AIR-F:** The City shall require applicants to complete a Health Risk Assessment (HRA) to determine the cancer risk to sensitive receptors for all residential projects located within 500 feet of Interstate 210 (I-210).
- **AIR-G:** The City shall require applicants to assess the potential impacts to children's respiratory health for all residential projects located within 500 feet of I-210.

3 GREENHOUSE GAS SETTING AND REGULATORY FRAMEWORK

This chapter provides information on the environmental and regulatory GHG setting of the proposed Project. Information on existing GHG conditions, relevant standards, and issues of concern was obtained from the U.S. EPA, CARB, and SCAQMD.

3.1 DEFINING CLIMATE CHANGE

Climate change is the distinct change in measures of climate for a long period of time. Climate change can result from natural processes and from human activities. Natural changes in the climate can be caused by indirect processes such as changes in the Earth's orbit around the Sun or direct changes within the climate system itself (i.e. changes in ocean circulation). Human activities can affect the atmosphere through emissions of gases and changes to the planet's surface. Emissions affect the atmosphere directly by changing its chemical composition, while changes to the land surface indirectly affects the atmosphere by changing the way the Earth absorbs gases from the atmosphere. The term "climate change" is preferred over the term "global warming" because "climate change" conveys the fact that other changes can occur beyond just average increase in temperatures near the Earth's surface.

Elements that indicate that climate change is occurring on Earth include, but are not limited to:

Rising of global surface temperatures by 1.3°F over the last 100 years;

Changes in precipitation patterns;

Melting ice in the Arctic;

Melting glaciers throughout the world;

Rising ocean temperatures;

Acidification of oceans; and

Range shifts in plant and animal species

Climate change is intimately tied to the Earth's greenhouse effect. The greenhouse effect is a natural occurrence that helps regulate the temperature of the planet. The majority of radiation from the Sun hits the Earth's surface and warms it. The Earth's surface in turn radiates heat back towards the atmosphere, known as infrared radiation. Gases and clouds in the atmosphere trap and prevent some of this heat from escaping back into space and re-radiate it in all directions. This process is essential to supporting life on Earth because it keeps the planet warmer during the nights than without it. Emissions from human activities since the beginning of the industrial revolution (approximately 150 years ago) are adding to the natural greenhouse effect by increasing the gases in the atmosphere that trap heat, thereby contributing to an average increase in the Earth's temperature. Human activities that enhance the greenhouse effect are detailed below.

3.1.1 Greenhouse Gases

Gases that "trap" heat in the atmosphere and affect regulation of the earth's temperature are known as "greenhouse gases." (GHGs). GHGs that contribute to climate regulation are a different type of pollutant than criteria or hazardous air pollutants (discussed in Chapter 7) because climate regulation is global in scale (both in terms of causes and effects.

Some GHGs are emitted to the atmosphere naturally by biological and geological processes, such as evaporation (water vapor), aerobic respiration (carbon dioxide, or CO_2), and off-gassing from low oxygen

environments, such as swamps or exposed permafrost (methane or CH_4). However, GHG emissions from human activities, such as fuel combustion (e.g., CO_2) and refrigerant use (e.g., hydrofluorocarbons or HFCs), significantly contribute to overall GHG concentrations in the atmosphere, climate regulation, and global climate change. Human production of GHG has increased steadily since pre-industrial times (approximately pre-1880), and atmospheric CO_2 concentrations have increased from a pre-industrial value of 280 parts per million (ppm) in the early 1800s to 409 ppm in April 2018 (NOAA 2018). The effects of increased GHG concentrations in the atmosphere include increasing shifts in temperature and precipitation patterns and amounts, reduced ice and snow cover, sea level rise, and acidification of oceans. These effects in turn will impact food and water supplies, infrastructure, ecosystems, and overall public health and welfare.

The 1997 United Nations' Kyoto Protocol international treaty set targets for reductions in emissions of four specific greenhouse gases – CO_2, CH_4, nitrous oxide (N_2O), and sulfur hexafluoride (SF_6) and two groups of gases – HFCs and perfluorocarbons (PFCs). These GHGs are the primary GHGs emitted into the atmosphere by human activities. Water vapor is also a common GHG that regulates the earth's temperature; however, the amount of water vapor in the atmosphere can change substantially from day to day, whereas other GHG emissions remain in the atmosphere for longer periods of time. Descriptions of the most common GHGs are described below.

- **Carbon Dioxide (CO_2)**. is emitted and removed from the atmosphere naturally. Animal and plant respiration involve the release of CO_2 from animals and its absorption by plants in a continuous cycle. The ocean-atmosphere exchange results in the absorption and release of CO_2 at the sea surface. CO_2 is also released from plants during wildfires. Volcanic eruptions release a small amount of CO_2 from the Earth's crust.

  Human activities that affect CO_2 in the atmosphere include burning of fossil fuels, industrial processes, and product uses. Combustion of fossil fuels used for electricity generation and transportation are the largest source of CO_2 emissions in the United States. When fossil fuels are burned, the carbon stored in them is released into the atmosphere entirely as CO_2. Emissions from industrial activities also emit CO_2, such as cement, metal, chemical production, and use of petroleum produced in plastics, solvents, and lubricants.

  Methane (CH_4) is emitted from human activities and natural sources. Natural sources of CH_4 include wetlands, gas hydrates, permafrost, termites, oceans, freshwater bodies, soils, and wildfires. Human activities that cause CH_4 releases include fossil fuel production, animal digestive processes from farms, manure management, and waste management. CH_4 is produced from landfills as solid waste decomposes. CH_4 is a primary component of natural gas and is emitted during its production, processing, storage, transmission, distribution, and use.

  Nitrous Oxide (N_2O) is emitted from human sources such as agricultural soil management, animal manure management, sewage treatment, combustion of fossil fuels, and production of certain acids. N_2O is produced naturally in soil and water, especially in wet, tropical forests. The primary human-related source of N_2O is agricultural soil management due to use of synthetic nitrogen fertilizers and other techniques to boost nitrogen in soils. Combustion of fossil fuels (mobile and stationary) is the second leading source of N_2O.

  Hydrofluorocarbons (HFCs) and Perfluorocarbons (PFCs) are entirely manmade and are mainly generated through various industrial processes. These types of gases are used in aluminum production, semiconductor manufacturing, and magnesium production and processing.

Sulfur Hexafluoride (SF_6) is commonly used as an electrical insulator in high voltage electrical transmission and distribution equipment such as circuit breakers, substations, and transmission switchgear. Releases of SF_6 occur during maintenance and servicing as well as from leaks of electrical equipment.

GHGs can remain in the atmosphere long after they are emitted. The potential for a particular greenhouse gas to absorb and trap heat in the atmosphere is considered its Global Warming Potential (GWP). The reference gas for measuring GWP is CO_2, which has a GWP of one. By comparison, CH_4 has a GWP of 25, which means that one molecule of CH_4 has 25 times the effect on global warming as one molecule of CO_2. Multiplying the estimated emissions for non-CO_2 GHG by their GWP determines their CO_2 equivalent (CO_2e), which enables a project's combined global warming potential to be expressed in terms of mass CO_2 emissions. The GWPs and estimated atmospheric lifetimes of the common GHG are shown in Table 3-1.

Table 3-1: Global Warming Potential (GWP) of Common Greenhouse Gases (GHG)

GHG	GWP	GHG	GWP
Carbon Dioxide (CO_2)	1	Perfluorocarbons (PFCs)	
Methane (CH_4)	25	CF_4	6,500
Nitrous Oxide (N_2O)	298	C_2F_6	9,200
Hydrofluorocarbons (HFCs)		C_4F_{10}	7,000
HFC-23	14,800	C_6F_{14}	7,400
HFC-134a	1,430	Sulfur Hexafluoride (SF_6)	22,800
HFC-152a	140		
HCFC-22	1,700		
Sulfur Hexafluoride (SF_6)	3,200	22,800	

Source: CARB, 2014.
GWPs are based on the United Nations Intergovernmental Panel on Climate Change (IPCC) 4th Assessment Report.

3.1.2 Climate Change and California

The 2009 California Climate Adaptation Strategy prepared by the California Natural Resources Agency (CNRA) identified anticipated impacts to California due to climate change through extensive modeling efforts. General climate changes in California indicate that:

- California is likely to get hotter and drier as climate change occurs with a reduction in winter snow, particularly in the Sierra Nevada Mountain Range.
- Some reduction in precipitation is likely by the middle of the century.
- Sea levels will rise up to an estimated 55 inches.
- Extreme events such as heat waves, wildfires, droughts, and floods will increase.
- Ecological shifts of habitat and animals are already occurring and will continue to occur (CNRA 2009).

In July 2012, the CNRA and Emergency management Agency published an update, titled Emergency Management Agency published California Adaptation Planning Guide, which walks local

decision-makers through the steps to create climate vulnerability assessments and adaptation strategies. This guide presents the basis for climate change adaptation planning and introduces a step-by-step process for local and regional climate vulnerability assessment and adaptation strategy development. The guide outlines nine steps in adaptation planning development, the first five steps are a vulnerability assessment which covers: 1) exposure, 2) sensitivity, 3) potential impacts, 4) adaptive capacity, and 5) risk and onset. The last four steps are guiding principles for adaptation strategy development, which are: 6) prioritize adaptive needs, 7) identify strategies, 8) evaluate and prioritize, and 9) phase and implement.

The potential impacts of global climate change in California are detailed below.

Public Health and Welfare

Concerns related to public health and climate change includes higher rates of mortality and morbidity, change in prevalence and spread of disease vectors, decreases in food quality and security, reduced water availability, and increased exposure to pesticides. These concerns are all generally related to increase in ambient outdoor air temperature, particularly in summer.

Higher rates of mortality and morbidity could arise from more frequent heat waves at greater intensities. Health impacts associated with extreme heat events include heat stroke, heat exhaustion, and exacerbation of medical conditions such as cardiovascular and respiratory diseases, diabetes, nervous system disorders, emphysema, and epilepsy. Climate change would result in degradation of air quality promoting the formation of ground-level pollutants, particularly ozone. Degradation of air quality would increase the severity of health impacts from criteria and other air pollutants discussed in Section 2.1.1 (Regulated Air Pollutants). Temperature increases and increases in carbon dioxide are also expected to increase plant production of pollens, spores, and fungus. Pollens and spores could induce or aggravate allergic rhinitis, asthma, and obstructive pulmonary diseases.

Precipitation projections suggest that California will become drier over the next century due to reduced precipitation and increased evaporation from higher temperatures. These conditions could result in increased occurrences of drought. Surface water reductions will increase the need to pump groundwater, reducing supplies and increasing the potential for land subsidence.

Precipitation changes are also suspected to impact the Sierra snowpack (see “Water Management” herein). Earlier snowmelts could coincide with the rainy season and could result in failure of the flood control devices in that region. Flooding can cause property damage and loss of life for those affected. Increased wildfires are also of concern as the State “dries” over time. Wildfires can also cause property damage, loss of life, and injuries to citizens and emergency response services.

Sea-level rises would also threaten human health and welfare. Flood risks will be increased in coastal areas due to strengthened storm surges and greater tidal damage that could result in injury and loss of property and life. Gradual rising of the sea will permanently inundate many coastal areas in the state.

Other concerns related to public health are changes in the range, incidence, and spread of infectious, water-borne, and food-borne diseases. Changes in humidity levels, distribution of surface water, and precipitation changes are all likely to shift or increase the preferred range of disease vectors (i.e. mosquitoes). This could expose more people and animals to potential for vector-borne disease.

Biodiversity and Habitat

Changes in temperature will change the livable ranges of plants and animals throughout the state and cause considerable stress on these species. Species will shift their range if appropriate habitat is

available and accessible if they cannot adapt to their new climate. If they do not adapt or shift, they face local extirpation or extinction. As the climate changes, community compositions and interactions will be interrupted and changed. These have substantial implications on the ecosystems in the state. Extreme events will lead to tremendous stress and displacement on affected species. This could make it easier for invasive species to enter new areas, due to their ability to more easily adapt. Precipitation changes would alter stream flow patterns and affect fish populations during their life cycle. Sea level rises could impact fragile wetland and other coastal habitat.

Water Management

Although disagreement among scientists on long-term precipitation patterns in the State has occurred, it is generally accepted by scientists that rising temperatures will impact California's water supply due to changes in the Sierra Nevada snowpack. Currently, the State's water infrastructure is designed to both gather and convey water from melting snow and to serve as a flood control device. Snowpack melts gradually through spring warming into early summer, releasing an average of approximately 15 million acre-feet of water. The State's concern related to climate change is that due to rising temperatures, snowpack melt will begin earlier in the spring and will coincide with the rainy season. The combination of precipitation and snowmelt would overwhelm the current system, requiring tradeoffs between water storage and flood protection to be made. Reduction in reserves from the Sierra Nevada snowpack is troublesome for California and particularly for Southern California. Approximately 75-percent of California's available water supply originates in the northern third of the state while 80 percent of demand occurs in the southern two-thirds. There is also concern is that rising temperatures will result in decreasing volumes from the Colorado River basin. Colorado River water is important to Southern California because it supplies water directly to Metropolitan Water District of Southern California. Water from the Colorado River is also used to recharge groundwater basins in the Coachella Valley.

Agriculture

California is the most agriculturally productive state in the US resulting in more than 37 billion dollars in revenue in 2008. California is the nation's leading producer of nearly 80 crops and livestock commodities, supplying more than half of the nation's fruit and vegetables and over 90 percent of the nation's production of almonds, apricots, raisin grapes, olives, pistachios, and walnuts. Production of crops is not limited to the Central Valley but also occurs in Southern California. Strawberries and grapes are grown in San Bernardino and Riverside Counties. Orange County and San Diego County also contribute to strawberry production. Cherries are also grown in Los Angeles and Riverside County. Anticipated impacts to agricultural resources are mixed when compared to the potentially increased temperatures, reduced chill hours, and changes in precipitation associated with climate change. For example, wheat, cotton, maize, sunflower, and rice are anticipated to show declining yields as temperatures rise. Conversely, grapes and almonds would benefit from warming temperatures. Anticipated increases in the number and severity in heat waves would have a negative impact on livestock where heat stress would make livestock more vulnerable to disease, infection and mortality. The projected drying trend and changes in precipitation are a threat to agricultural production in California. Reduced water reliability and changes in weather patterns would impact irrigated farmlands and reduce food security. Furthermore, a drying trend would increase wildfire risk. Overall, agriculture in California is anticipated to suffer due to climate change impacts.

Forestry

Increases in wildfires will substantially impact California's forest resources that are prime targets for wildfires. This can increase public safety risks, property damage, emergency response costs, watershed quality, and habitat fragmentation. Climate change is also predicted to affect the behavior or plant species

including seed production, seedling establishment, growth, and vigor due to rising temperatures. Precipitation changes will affect forests due to longer dry periods and moisture deficits and drought conditions that limit seedling and sapling growth. Prolonged drought also weakens trees, making them more susceptible to disease and pest invasion. Furthermore, as trees die due to disease and pest invasion (e.g., the Bark Beetle invasion of the San Bernardino Forest), wildfires can spread more rapidly.

Transportation and Energy Infrastructure

Higher temperatures will require increased cooling, raising energy production demand. Higher temperatures also decrease the efficiency of distributing electricity and could lead to more power outages during peak demand. Climate changes would impact the effectiveness of California's transportation infrastructure as extreme weather events damage, destroy, and impair roadways and railways throughout the state causing governmental costs to increase as well as impacts to human life as accidents increase. Other infrastructure costs and potential impacts to life would increase due to the need to upgrade levees and other flood control devices throughout the state. Infrastructure improvement costs related to climate change adaptation are estimated in the tens of billions of dollars.

3.1.3 Carbon Sequestration

Carbon sequestration is the process by which plants absorb CO_2 from the atmosphere and store it in biomass like leaves and grasses. Agricultural lands, forests, and grasslands can all sequester carbon dioxide, or emit it. The key is to determine if the land use is emitting carbon dioxide faster than it is absorbing it. Young, fast-growing trees are particularly good at absorbing more than they release and are known as a sink. Agricultural resources often end up being sources of carbon release because of soil management practices. Deforestation contributes to carbon dioxide emissions by removing trees, or carbon sinks, that would otherwise absorb CO_2. Forests are a crucial part of sequestration in some parts of the world, but not much in the United States. Another form of sequestration is geologic sequestration. This is a manmade process that results in the collection and transport of CO_2 from industrial emitters (i.e. power plants) and injecting it into underground reservoirs.

3.2 EXISTING GHG EMISSIONS LEVELS

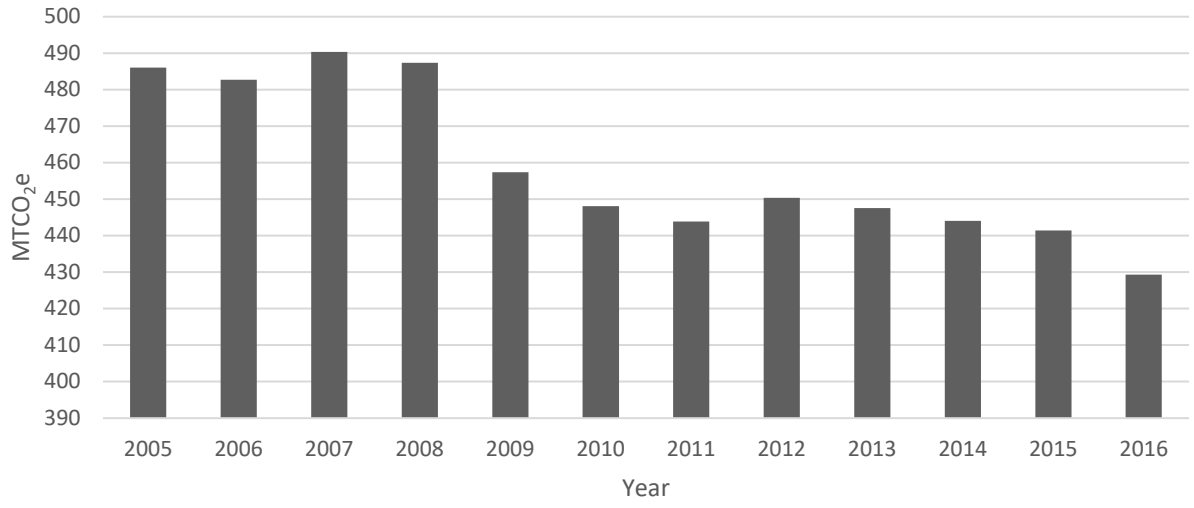
3.2.1 State GHG Emissions Levels

CARB prepares an annual Statewide GHG emissions inventory using Regional, State, and Federal data sources, including facility-specific emissions reports prepared pursuant to the State's Mandatory GHG Reporting Program. The Statewide GHG emissions inventory helps CARB track progress towards meeting the State's Assembly Bill (AB) 32 GHG emissions target of 431 million metric tons of CO_2 equivalents ($MTCO_2e$), as well as to establish and understand trends in GHG emissions[2]. Statewide GHG emissions for the 2005 to 2015 time period are shown Table 3-2.

[2] CARB approved use of 431 MMCO2e as the state's 2020 GHG emission target in May 2014. Previously, the target had been set at 427 MMCO2e.

Table 3-2: 2005 – 2016 Statewide GHG Emissions (Million $MTCO_2e$)

Scoping Plan Sector	Year											
	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14	'15	'16
Agriculture	34	35	36	36	33	34	35	36	35	36	34	34
Commercial/Residential	42	43	43	44	44	45	46	43	44	37	38	39
Electric Power	108	105	114	120	101	90	88	95	90	88	84	69
High GWP	9	10	11	12	12	14	15	16	17	18	19	20
Industrial	96	93	90	91	88	91	91	91	94	94	92	90
Recycling and Waste	8	8	8	8	8	8	8	8	9	9	9	9
Transportation	189	189	189	178	170	165	162	161	161	162	166	169
Total Million $MTCO_2e$(A)	***486***	***483***	***490***	***487***	***457***	***448***	***444***	***450***	***448***	***444***	***441***	***429***



Source: CARB, 2018

(A) Totals may not equal due to rounding. CARB inventory uses GWPs based on the United Nations' ICC's 4th Assessment Report.

As shown in Table 11-2, Statewide GHG emissions have generally decreased over the last decade, with 2015 levels (440 million $MTCO_2e$) approximately 10 percent less than 2004 levels (488 million $MTCO_2e$). The transportation sector (165 million $MTCO_2e$) accounted for more than one-third (approximately 37.5%) of the State's total GHG emissions inventory (440 million $MTCO_2e$) in 2015.

3.2.2 Climate Change and California

The 2009 California Climate Adaptation Strategy prepared by the California Natural Resources Agency (CNRA) identified anticipated impacts to California due to climate change through extensive modeling efforts. General climate changes in California indicate that:

- California is likely to get hotter and drier as climate change occurs with a reduction in winter snow, particularly in the Sierra Nevada Mountain Range.
- Some reduction in precipitation is likely by the middle of the century.
- Sea levels will rise up to an estimated 55 inches.
- Extreme events such as heat waves, wildfires, droughts, and floods will increase.
- Ecological shifts of habitat and animals are already occurring and will continue to occur (CNRA 2009).

It should be noted that changes are based on the results of several models prepared under different climatic scenarios; therefore, discrepancies occur between the projections and the interpretation.

3.2.3 Existing Planning Area GHG Emissions

The existing land uses within the Project area contribute to existing City, Regional, and Statewide GHG emissions. The Project area's existing GHG emissions, presented below in Table 11-3, were estimated using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2. GHG emissions generated within the Project area primarily come from the area, energy, and mobile sources described in Section 2.2.1, , Air Quality, as well as the following additional sources specific to GHG emissions:

- **Energy use and consumption:** Emissions generated from purchased electricity and natural gas. CalEEMod estimates motorized vehicle usage associated with the existing land uses within the Project area result in approximately 2,097,010 total vehicle miles traveled (VMT) for the year 2017.
- **Solid waste disposal:** Emissions generated from the transport and disposal of waste generated by land uses. CalEEMod estimates approximately 140.8 tons of solid waste are generated per year by the people working and living within the Project area.
- **Water/wastewater:** Emissions from electricity used to supply water to land uses, and treat the resulting wastewater generated. As estimated in CalEEMod, existing land uses within the Project area use approximately 19.4 million gallons of water per year.

The Project area's existing GHG emissions are summarized in Table 3-3 below.

Table 3-3 Existing GHG Emissions in the Project Area

Source	GHG Emissions (Metric Tons / Year)			
	CO_2	CH_4	N_2O	Total $MTCO_2e$
Alexan Foothills Specific Plan Area				
Area	0.33	<0.00[A]	<0.00[A]	0.35
Energy[B]	236.17	0.17	0.59	416.38
Mobile[C]	696.7	0.04	0.00	697.7
Waste	22.07	1.30	0.00	54.67
Water	42.18	0.47	0.15	100.13
Subtotal[D]	997.45	1.77	0.75	1,269.2
Remaining GP/ZCA Area				
Area	1.31	<0.00[A]	<0.00[A]	1.35
Energy[A]	108.91	0.09	0.31	202.16
Mobile[B]	227.335	0.013775	0.00	227.7
Waste	6.51	0.38	0.00	16.13

Water	19.33	0.21	0.07	45.81
Subtotal(D)	375.36	0.070	0.38	493.2
Combined Total				1,762.4

Source: MIG 2019 (see Appendix A)

Notes:

(A) "<0.0" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01, but larger than 0.000.

(B) The emissions estimated in CalEEMod account for the carbon intensity metrics provided in Southern California Edison's 2016 Corporate Responsibility and Sustainability Report (SCE 2016) and U.S. Environmental Protection Agency's eGrid2014v2 emission rates (USEPA 2017).

(C) CalEEMod 2016.3.2 does not incorporate GHG emissions reductions resulting from the State's Low Carbon Fuel Standards (LCFS). Although LCFS largely reduces GHG from upstream fuel processing (and not individual tailpipe) the aggregate effect on transportation fuels is a reduction in GHG emissions throughout the state from lower fuel carbon content. Accordingly, this Report's analysis reduces transportation combustion emissions pursuant to LCFS requirements. Based on the latest estimate available from CARB, the LCFS regulation resulted in a 2.5% reduction in average carbon intensity content in 2016 and should result in a 5% reduction in average carbon intensity in 2018. Thus, CalEEMod transportation emissions were adjusted by multiplying by a factor of .95 to account for the LCFS regulation (CARB 2018a, 2018b).

(D) Totals may not equal due to rounding.

3.3 STATE AND REGIONAL ENERGY SETTING

According to the California Energy Commission's (CEC) *2015 Integrated Energy Policy Report*, Californians consumed about 280,500 gigawatt hours (GWh) of electricity in 2014 and 13,240 million BTU of natural gas in 2013. The CEC estimates that by 2025, California's electricity consumption will reach between 297,618 GWh and 322,266 GWh, an annual average growth rate of 0.54 to 1.27 percent (CEC 2015a), and natural gas consumption is expected to reach between 12,673 million and 13,731 million BTU by 2024, an average annual growth rate of -0.4 to 0.33 percent (CEC 2015a).

Approximately 70 percent of California's electricity is generated from power plants located within the State and from plants in other states but owned by California utilities. About 10 percent is imported from the Pacific Northwest and 20 percent from the American Southwest (CEC 2011). In-state power is attained from 61.1 percent natural gas, 17.1 renewable energy, and 11.7 percent large hydropower.

Due in part to the State's emphasis on renewable energy, California is second in leading the nation when it comes to net electricity generation from renewable resources. A top producer of electricity from conventional hydroelectric power, California is also a leader in net electricity generation from several other renewable energy sources. In 2016, California generated approximately 73,900 GWh of renewable electricity, accounting for 28.9 percent of the State's overall electricity sales (CEC 2017a).

In 2016, total electricity use in Los Angeles County was 69,614 million kilowatt hours (kWh), including 48,759 million kWh of consumption for non-residential land uses (CEC 2017b). Natural gas consumption was 286.9 million BTU in 2016, including 175.8 million therms from non-residential uses (CEC 2017c).

3.4 FEDERAL, STATE, AND LOCAL CLIMATE CHANGE REGULATIONS

3.4.1 International and Federal GHG Regulations

International Regulation and the Kyoto Protocol

In 1988, the United Nations established the Intergovernmental Panel on Climate Change to evaluate the impacts of global warming and to develop strategies that nations could implement to curtail global climate change. In 1992, the United States joined other countries around the world in signing the "United Nations' Framework Convention on Climate Change" agreement with the goal of controlling

greenhouse gas emissions. As a result, the Climate Change Action Plan was developed to address the reduction of GHGs in the United States. The plan currently consists of more than 50 voluntary programs for member nations to adopt.

Federal Regulation and the Clean Air Act

On December 7, 2009, the U.S. EPA issued an endangerment finding that current and projected concentrations of the six Kyoto GHGs in the atmosphere (CO_2, CH_4, N_2O, SF_6, HFCs, and PFCs) threaten the public health and welfare of current and future generations. This finding came in response to the Supreme Court ruling in *Massachusetts v. EPA*, which found that GHGs are pollutants under the Federal Clean Air Act. As a result, the U.S. EPA issued its GHG Tailoring Rule in 2010, which applies to facilities that have the potential to emit more than 100,000 $MTCO_2e$. In 2014, the U.S. Supreme Court issued its decision in *Utility Air Regulatory Group v. EPA* (No. 12-1146), finding that the U.S. EPA may not treat GHGs as an air pollutant for purposes of determining whether a source is a major source required to obtain a permit pursuant to the "Clean Air Act's Prevention of Significant Deterioration" or "Title V" operating permit programs. The U.S. EPA's Greenhouse Gas Reporting Program requires facilities that emit 25,000 $MTCO_2e$ or more of GHG to report their GHG emissions to the U.S. EPA to inform future policy decisionmakers.

Current Administration

President Trump and the U.S. EPA have stated their intent to halt various federal regulatory activities to reduce GHG emission. California and other states have stated their intent to challenge federal actions that would delay or eliminate GHG reduction measures and have committed to cooperating with other countries to implement global climate change initiatives. The timing and consequences of these types of federal decisions and potential responses from California and other states are speculative at this time.

3.4.2 State Climate Change Regulations

Executive Order S-3-05

Executive Order S-3-05 was issued by California Governor Arnold Schwarzenegger and established targets for the reduction of greenhouse gas emission at the milestone years of 2010, 2020, and 2050. Statewide GHG emissions must be reduced to 1990 levels by year 2020 and by 80 percent beyond that by year 2050. The Order requires the Secretary of the Cal-EPA to coordinate with other State departments to identify strategies and reduction programs to meet the identified targets. A Climate Action Team (CAT) was created and is headed by the Secretary of Cal-EPA who reports on the progress of the reduction strategies. The latest CAT Biennial Report to the Governor and Legislature was completed in April 2016.

Assembly Bill 32 – California Global Warming Solutions Act and Related GHG Reduction Goals

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Climate Solutions Act of 2006. AB 32 establishes the caps on Statewide greenhouse gas emissions proclaimed in Executive Order S-3-05 and established the timeline for meeting State GHG reduction targets. The deadline for meeting the 2020 reduction target is December 31, 2020.

As part of AB 32, CARB determines 1990 GHG emissions levels and projected a "business-as-usual" (BAU)[3] estimate for 2020, to determine the amount of GHG emission reductions that would need to be achieved. In 2007, CARB approved a Statewide 1990 emissions level and corresponding 2020 GHG emissions limit of 427 million $MTCO_2e$ (CARB 2007). In 2008, CARB adopted its Climate Change Scoping Plan, which projects 2020 Statewide GHG emissions levels of 596 million $MTCO_2e$ and identifies numerous measures (i.e., mandatory rules and regulations and voluntary measures) that will achieve at least 174 million $MTCO_2e$ of GHG reductions and bring Statewide GHG emissions to 1990 levels by 2020 (CARB 2009).

Executive Order B-30-15, 2030 Carbon Target and Adaptation, issued by Governor Brown in April 2015, set a target of reducing GHG emissions by 40 percent below 1990 levels in 2030. To achieve this ambitious target, Governor Brown identified five key goals for reducing GHG emissions in California through 2030:

- Increase renewable electricity to 50 percent.
- Double energy efficiency savings achieved in existing buildings and make heating fuels cleaner.
- Reduce petroleum use in cars and trucks by up to 50 percent.
- Reduce emissions of short-lived climate pollutants.
- Manage farms, rangelands, forests and wetlands to increasingly store carbon.

By directing State agencies to take measures consistent with their existing authority to reduce GHG emissions, Executive Order B-30-15 establishes coherence between the 2020 and 2050 GHG reduction goals set by AB 32 and seeks to align California with the scientifically established GHG emissions levels needed to limit global warming below two degrees Celsius.

To reinforce the goals established through Executive Order B-30-15, Governor Brown went on to sign Senate Bill (SB) 32 and AB 197 on September 8, 2016. SB 32 made the GHG reduction target (to reduce GHG emissions by 40 percent below 1990 levels by 2030) a requirement, as opposed to a goal. AB 197 gives the Legislature additional authority over CARB to ensure the most successful strategies for lowering emissions are implemented, and requires CARB to, "protect the State's most impacted and disadvantaged communities …[and] consider the social costs of the emissions of greenhouse gases."

Scoping Plan

The CARB Scoping Plan is the comprehensive plan primarily directed at identifying the measures necessary to reach the GHG reduction targets stipulated in AB 32. The key elements of the 2008 Plan were to expand and strengthen energy efficiency programs, achieve a Statewide renewable energy mix of 33 percent, develop a cap-and-trade program with other partners (including seven States in the United States and four territories in Canada) in the Western Climate Initiative, establish transportation-related targets, and establish fees (CARB 2009). CARB estimated that implementation of these measures will achieve at least 174 million $MTCO_2e$ of reductions and reduce Statewide GHG emissions to 1990 levels by 2020 (CARB 2009).

[3] BAU is a term used to define emissions levels without considering reductions from future or existing programs or technologies.

On February 10, 2014, CARB released the public draft of the "First Update to the Scoping Plan." "The First Update" built upon the 2008 Scoping Plan with new strategies and recommendations, and identified opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. "The First Update" defined CARB's climate change priorities over the next five years, and set the groundwork to reach post-2020 goals set forth in Executive Orders S-3-05 and B-16-12. It also highlighted California's progress toward meeting the 2020 GHG emission reduction goals defined in the 2008 Scoping Plan. "The First Update" evaluated how to align the State's long-term GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use. "The First Update" to the Scoping Plan was approved by the Board on May 22, 2014.

The second update to the scoping plan, the 2017 Climate Change Scoping Plan update (CARB 2017c), was adopted by CARB in December 2017. The primary objective for the 2017 Climate Change Scoping Plan is to identify the measures required to achieve the mid-term GHG reduction target for 2030 (i.e., reduce emissions by 40 percent below 1990 levels by 2030) established under Executive Order B-30-15 and SB 32. The *2017* Climate Change Scoping Plan identifies an increased need for coordination among State, Regional, and local governments to realize the potential for GHG emissions reductions that can be gained from local land use decisions. It notes that emissions reductions targets set by more than one hundred local jurisdictions in the State could result in emissions reductions of up to 45 million $MTCO_2e$ and 83 million $MTCO_2e$ by 2020 and 2050, respectively. To achieve these goals, the 2017 Scoping Plan Update includes a recommended plan-level efficiency threshold of six metric tons or less per capita by 2030 and no more than two metric tons by 2050. The major elements of the *2017* Climate Change Scoping Plan framework include:

- Implementing and/or increasing the standards of the Mobile Source Strategy, which include increasing zero emission vehicle (ZEV) buses and trucks.
- Low Carbon Fuel Standard (LCFS), with an increased stringency (18 percent by 2030).
- Implementation of SB 350, which expands the Renewable Portfolio Standard (RPS) to 50 percent and doubles energy efficiency savings by 2030.
- California Sustainable Freight Action Plan, which improves freight system efficiency, utilizes near-zero emissions technology, and deployment of ZEV trucks.
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing CH4 and hydrocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by year 2030.
- Continued implementation of SB 375.
- Post-2020 Cap-and-Trade Program that includes declining caps.
- 20 percent reduction in GHG emissions from refineries by 2030.
- Development of a Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Senate Bill 375 – Sustainable Communities and Climate Protection Act

In January 2009, California SB 375 went into effect known as the Sustainable Communities and Climate Protection Act. The objective of SB 375 is to better integrate regional planning of transportation, land use, and housing to reduce sprawl and ultimately reduce greenhouse gas emissions and other air pollutants. SB 375 tasks CARB to set GHG reduction targets for each of California's 18 regional Metropolitan Planning Organizations (MPOs). Each MPO is required to prepare a Sustainable Communities Strategy (SCS) as part of their Regional Transportation Plan (RTP). The SCS is a growth strategy in

combination with transportation policies that will show how the MPO will meet its GHG reduction target. If the SCS cannot meet the reduction goal, an Alternative Planning Strategy may be adopted that meets the goal through alternative development, infrastructure, and transportation measures or policies.

In August 2010, CARB released the proposed GHG reduction targets for the MPOs to be adopted in September 2010. The proposed reduction targets for the SCAG region were eight percent by year 2020 and 13 percent by year 2035. In September 2010 and February 2011, the eight percent and the 13 percent targets were adopted, respectively.

On April 4, 2012, SCAG's Regional Council adopted the *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy: Towards a Sustainable Future.* The 2012 RTP/SCS included a strong commitment to reduce emissions from transportation sources to comply with SB 375. The document contained a host of improvements to the region's multimodal transportation system. These improvements included closures of critical gaps in the network that hinder access to certain parts of the region, as well as the strategic expansion of the transportation system where there is room to grow in order to provide the region with greater mobility. The RTP/SCS demonstrated the region's ability to attain and exceed the GHG emission-reduction targets set forth by the CARB and outlined a plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands.

SCAG's Regional Council adopted an update to the 2012 RTP/SCS on April 7, 2016, the *2016-2040 Regional Transportation Plan/Sustainable Communities Strategy* (2016 RTP/SCS). The 2016 RTP/SCS expands upon the 2012 RTP/SCS's goal of balancing future mobility and housing needs with economic, environmental, and public health goals. Included in the 2016 RTP/SCS are 13 major initiatives primarily focused around preserving and maintaining the existing transportation system, expanding and improving mass transit (with a specific emphasis on passenger rail), decreasing reliance on vehicular modes of transportation through the expansion of pedestrian and bicycle infrastructure, and focusing new growth around transit. Through proactive land use planning and improvements to the transportation network, implementation of the 2016 RTP/SCS will result in an eight percent reduction in greenhouse gas emissions per capita by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2040 when compared with 2005 levels. These reductions meet or exceed the State's mandate, which require an eight percent reduction by 2020 and 13 percent by 2035.

Executive Order B-30-15 / Senate Bill 32 and Assembly Bill 197

Assembly Bill 1493

With the passage of AB 1493 (Pavley I) in 2002, California launched an innovative and pro-active approach for dealing with GHG emissions and climate change at the State level. AB 1493 requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards apply to automobiles and light trucks from 2009 through 2016. Although litigation was filed challenging these regulations and the U.S. EPA initially denied California's related request for a waiver, a waiver has since been granted (CARB 2017b). In 2012, the EPA issued a Final Rulemaking that sets even more stringent fuel economy and GHG emissions standards for model years 2017 through 2025 among light-duty vehicles. In January 2012, CARB approved the Advanced Clean Cars (ACC) program (formerly known as Pavley II) for model years 2017 through 2025. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations and the Zero-Emission Vehicle (ZEV) regulation. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single package of standards.

Renewables Portfolio Standard (RPS) Program

In 2002, California established its RPS Program, with the goal of increasing the percentage of renewable energy in the State's electricity mix to 20 percent of retail sales by 2017. The 2003 Integrated Energy Policy Report recommended accelerating that goal to 20 percent by 2010, and the 2004 Energy Report Update further recommended increasing the target to 33 percent by 2020. The State's Energy Action Plan also supported this goal. In 2006 under SB 107, California's 20 percent by 2010 RPS goal was codified. The legislation required retail sellers of electricity to increase renewable energy purchases by at least one percent each year with a target of 20 percent renewables by 2010. Publicly owned utilities set their own RPS goals, recognizing the intent of the legislature to attain the 20 percent by 2010 target.

On November 17, 2008, Governor Schwarzenegger signed Executive Order S-14-08 requiring "[a]ll retail sellers of electricity shall serve 33 percent of their load with renewable energy by 2020." The following year, Executive Order S-21-09 directed the California Air Resources Board, under its AB 32 authority, to enact regulations to achieve the goal of 33 percent renewables by 2020. In October 2015, Governor Brown signed SB 350 to codify the ambitious climate and clean energy goals of Executive Order S-14-08. One key provision of SB 350 is for retail sellers and publicly owned utilities to procure "half of the State's electricity from renewable sources by 2030."

Most recently, on September 10, 2018, Governor Brown signed SB 100 and issued Executive Order B-55-18. SB 100 revised the above-described legislation to mandate a 50 percent renewable energy mix by December 31, 2026, achieve a 60 percent renewable energy target by December 31, 2030, as well as call for 100 percent carbon-free electricity by 2045. Executive Order B-55-18 further strengthens California's commitment to clean energy by calling for statewide carbon-neutrality by 2045.

Water Conservation in Landscaping Act

Section 65591 of the Government Code requires all local jurisdictions to adopt a water efficient landscape ordinance. The ordinance is to address water conservation through appropriate use and grouping of plants based on environmental conditions, water budgeting to maximize irrigation efficiency, storm water retention, and automatic irrigation systems. Failure to adopt a water efficiency ordinance requires a local jurisdiction to enforce the provisions of the State's model water efficiency ordinance. In 2009, the Department of Water Resources updated the Model Water Efficient Landscape Ordinance pursuant to amendments to the 1991 Act. These amendments and the new model ordinance went into effect on January 1, 2010. The amended Act is applicable to any new commercial, multi-family, industrial or tract home project containing 2,500 square feet (SF) or more of landscaping. Individual landscape projects of 5,000 SF or more on single-family properties will also be subject to the Act. All landscape plans are required to include calculations verifying conformance with the maximum applied water allowance and must be prepared and stamped by a licensed landscape architect.

Title 24 Energy Standards

The California Energy Commission (CEC) first adopted Energy Efficiency Standards for Residential and Nonresidential Buildings in 1978 in response to a legislative mandate to reduce energy consumption in the State. Although not originally intended to reduce GHG emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer GHG emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Standards Code is referred to as the California Green Building Standards Code (CALGreen Code). The purpose of the CALGreen Code is to "improve public health,

safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) planning and design; (2) energy efficiency; (3) water efficiency and conservation; (4) material conservation and resource efficiency; and (5) environmental air quality." The CALGreen Code is not intended to substitute or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission (CBSC).

CALGreen contains both mandatory and voluntary measures. For non-residential land uses there are 39 mandatory measures including, but not limited to exterior light pollution reduction, wastewater reduction by 20 percent, and commissioning of projects over 10,000 square feet. Two tiers of voluntary measures apply to non-residential land uses, for a total of 36 additional elective measures.

California's Building Energy Efficiency Standards are updated on an approximately three-year cycle. The 2019 standards, adopted May 9, 2018, will go into effect on January 1, 2020 and improve upon existing standards, focusing on three key areas: proposing new requirements for installation of solar photovoltaics for newly constructed low-rise residential buildings; updating current ventilation and Indoor Air Quality (IAQ) requirements, and extending Title 24 Part 6 to apply to healthcare facilities. The 2019 standards also propose several smaller improvements in energy efficiency.

Biological Diversity v. California Department of Fish and Wildlife

In its decision in *Center for Biological Diversity v. California Dep't of Fish and Wildlife* (*Newhall*) 62 Cal.4th 204 (2015), the California Supreme Court set forth several options that lead agencies may consider for evaluating the cumulative significance of a proposed project's GHG emissions:

1. A calculation of emissions reductions compared to a "business as usual" (BAU) scenario based upon the emissions reductions in CARB's Scoping Plan, including examination of the data to determine what level of reduction from BAU a new land use development at the proposed location must contribute in order to comply with statewide goals.
2. A lead agency might assess consistency with AB 32's goals by looking to compliance with regulatory programs designed to reduce GHG emissions from particular activities.
3. Use of geographically specific GHG emission reduction plans to provide a basis for tiering and streamlining of project-level CEQA analysis.
4. A lead agency may rely on existing numerical thresholds of significance for GHG emissions, though use of such thresholds is not required.

There is no applicable existing numerical threshold of significance for GHG emissions and the *Newhall* decision specifically found that use of a numerical threshold is not required.

3.4.3 City of Monrovia Climate Change Regulations

The City does not have an adopted Climate Action Plan. The City of Monrovia, along with Southern California Edison and Intergy Corporation, prepared an Energy Action Plan that contains goals and specific actions to ensure that sufficient, dependable, and reasonably-priced electrical power and energy supplies are achieved and provided through policies, strategies, and actions that are cost-effective and environmentally sound for the City's consumers and taxpayers. Appendix A to the Energy Action Plan includes the City's environmental accords or actions; however, none of these actions are directly applicable to individual development projects. The Energy Action Plan has not been adopted by the City Council.

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4 PROPOSED PROJECT DESCRIPTION

The Zoning Code Amendment will establish a Planned Development Area (PD-27: Station Square West [PD-27]) for the entire 9.63-acre Project area in order to be consistent with the General Plan Amendment. A zone change for 2.86 acres is proposed from Manufacturing to a Planned Development Area to include high density residential development as well as other uses identified in PD-27 for Areas A and C (ZCA Areas A and C). For ZCA Area B, refer to Alexan Foothills Specific Plan below.

While a new zoning designation is proposed for ZCA Areas A and C, the existing uses and structures, would be allowed to remain as legal conforming uses. Although a specific development plan is neither being proposed nor considered at this time for these two areas, the redesignation of PD-27 ZCA Areas A and C could eventually result in development of an additional 82 dwelling units in Area A (based on the 54 dwelling units/acre permitted land use density within the overall 9.63-acre GPA area).

Trammell Crow Residential proposes to implement the Alexan Foothills Specific Plan (ZCA Area B). The Specific Plan area, 6.77 acres in size, is located at 1625 Magnolia Avenue, Monrovia, California (see Figure 4-1 and Figure 4-2). The Specific Plan would allow a 436-unit, five-story apartment complex and an eight-level (seven stories) parking structure, containing 798 stalls.

4.1.1 Project Construction

Construction activities, duration, and typical equipment usage was generated using CalEEMod, V. 2016.3.2, and are shown in detail in Section 5.3.1.

Alexan Foothills Specific Plan

Approximately 65,190 square feet (sf) of existing structures would be demolished and construction of the proposed Project would involve 7,200 cubic yards (cy) of cut, 10,400 cy of fill, with a net import of 3,200 cy[4]. Construction of the proposed Project is planned to begin in 2020 and expected to take 30 months to complete, with a target construction completion date in 2022.

Remaining General Plan/Zoning Code Amendment Area

For the purposes of evaluating air quality and traffic impacts associated with buildout of ZCA Areas A and C, it was assumed that buildout would start in 2021, last approximately 12 months, and involve the demolition of approximately 28,400 square feet of existing building space and associated debris hauling activities.

4.1.2 Project Operation

Once constructed, the Project would generate emissions of regulated air pollutants and GHG from area, energy, mobile, off-road, solid waste, and water /wastewater sources. These sources are described in detail in Sections 5.3.2 and 6.2. The proposed Project also includes small stationary sources of emissions such as a back-up generator and a fire pump. The Project is anticipated to be fully operational in early 2022.

[4] Under a worst-case scenario; grading volumes may be reduced after final design.

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Legend:

Yellow screened parcels comprise the Alexan Foothills Specific Plan area.
All other parcels between West Evergreen Avenue, South Magnolia Avenue, South Mayflower Avenue and the METRO Gold Line (outlined in blue without the yellow shading) comprise the GP/ZCA area.

Figure 4-1 Proposed Project Aerial



Project Area

Source: ©2019 Google

Figure 4-2 Project Area Map

5 AIR QUALITY IMPACT ANALYSIS

This chapter evaluates the direct and indirect air quality impacts that could result from implementation of the GPA, ZCA, and Alexan Foothills Specific Plan.

5.1 SIGNIFICANCE CRITERIA

In accordance with Appendix G of the State CEQA Guidelines, the proposed Project could result in potentially significant impacts related to air quality if it would:

(a) Conflict with or obstruct implementation of applicable air quality plan;

(b) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard;

(c) Expose sensitive receptors to substantial pollutant concentrations (i.e., carbon monoxide hot spots or TACs); or

(d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

5.1.1 Regional Significance Thresholds

Consistent with the guidance contained in Appendix G of the State CEQA Guidelines, this Report relies upon SCAQMD-recommended methods and pollutant thresholds to evaluate whether the proposed Project's emissions would violate any air quality standard, contribute substantially to an existing or projected air quality violation, or result in a cumulatively considerable net increase in nonattainment criteria air pollutants. The SCAQMD's recommended thresholds of significance for criteria pollutants are shown in Table 5-1.

Table 5-1: SCAQMD-Recommended Regional Pollutant Thresholds

Pollutant	Maximum Daily Emissions (lbs/day)	
	Construction	Operation
NO_X	100	55
VOC/ROG	75	55
PM_{10}	150	150
$PM_{2.5}$	55	55
SO_X	150	150
CO	550	550
Lead	3	3

Source: SCAQMD, 2015b

5.1.2 Localized Significance Thresholds

In addition to establishing thresholds of significance for emissions of criteria air pollutants on a regional level, the SCAQMD has also developed Localized Significance Thresholds (LSTs) that represent

the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standards, which would result in significant adverse localized air quality effects. The LST methodology takes into account a number of factors, including (1) existing ambient air quality in each Source Receptor Area (SRA); (2) how many acres the project would disturb in a day; and (3) how far project construction and operational activities would take place from the nearest sensitive receptor. Unlike the regional emission significance thresholds, LSTs have only been developed for NO_X, CO, PM_{10} and $PM_{2.5}$. This Report evaluates the proposed Project's potential to expose sensitive receptors to substantial pollutant concentrations pursuant to the SCAQMD Final Localized Significance Thresholds Methodology. This methodology provides screening tables for one through five-acre project scenarios, depending on the amount of site disturbance during a day, using the SCAQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds (SCAQMD, 2016c). The construction and operational LSTs for one-acre, two-acre, and five-acre sites in SRA 9 (East San Gabriel Valley), the SRA in which the City of Monrovia is located, are shown in Table 5-2.

Table 5-2: SCAQMD Localized Significance Thresholds for Source Receptor Area 9

Pollutant Monitored	Maximum Allowable Emissions (Pounds per Day) as a Function of Receptor Distance (in Feet) from Site Boundary				
	82 Feet	164 Feet	328 Feet	656 Feet	1,640 Feet
ONE-ACRE SITE					
Construction Thresholds					
Nitrogen Oxides (NO_x)	89	112	159	251	489
Carbon Monoxide (CO)	623	945	1,914	4,803	20,721
Particulate Matter (PM_{10})	5	14	34	75	199
Particulate Matter ($PM_{2.5}$)	3	5	9	22	94
Pollutant Monitored	**Maximum Allowable Emissions (Pounds per Day) as a Function of Receptor Distance (in Feet) from Site Boundary**				
	82 Feet	**164 Feet**	**328 Feet**	**656 Feet**	**1,640 Feet**
ONE-ACRE SITE					
Operational Thresholds					
Nitrogen Oxides (NO_x)	89	112	159	251	489
Carbon Monoxide (CO)	623	945	1,914	4,803	20,721
Particulate Matter (PM_{10})	2	4	9	19	48
Particulate Matter ($PM_{2.5}$)	1	2	3	6	23
TWO-ACRE SITE					
Construction Thresholds					
Nitrogen Oxides (NO_x)	128	151	200	284	513
Carbon Monoxide (CO)	953	1,344	2,445	5,658	22,093
Particulate Matter (PM_{10})	7	22	42	84	207
Particulate Matter ($PM_{2.5}$)	5	7	12	26	100
Operational Thresholds					
Nitrogen Oxides (NO_x)	128	151	200	284	513
Carbon Monoxide (CO)	953	1,344	2,445	5,658	22,093
Particulate Matter (PM_{10})	2	6	11	20	50
Particulate Matter ($PM_{2.5}$)	2	2	3	7	25

Table 5-2: SCAQMD Localized Significance Thresholds for Source Receptor Area 9					
Pollutant Monitored	**Maximum Allowable Emissions (Pounds per Day) as a Function of Receptor Distance (in Feet) from Site Boundary**				
	82 Feet	**164 Feet**	**328 Feet**	**656 Feet**	**1,640 Feet**
FIVE-ACRE SITE					
Construction Thresholds					
Nitrogen Oxides (NO_x)	203	227	286	368	584
Carbon Monoxide (CO)	1,733	2,299	3,680	7,600	25,558
Particulate Matter (PM_{10})	14	43	63	105	229
Particulate Matter ($PM_{2.5}$)	8	11	17	35	116
Operational Thresholds					
Nitrogen Oxides (NO_x)	203	227	286	368	584
Carbon Monoxide (CO)	1,733	2,299	3,680	7,600	25,558
Particulate Matter (PM_{10})	4	11	16	26	55
Particulate Matter ($PM_{2.5}$)	2	3	5	9	28

Source: SCAQMD 2008, modified by MIG 2019

Note: The localized thresholds for NOx in this table account for the conversion of NO to NO_2. The emission thresholds are based on NO_2 levels, as this is the compound associated with adverse health effects.

5.1.3 Carbon Monoxide "Hot Spot Thresholds"

Historically, to determine whether a project poses the potential for a CO hotspot, the quantitative CO screening procedures provided in the *Transportation Project-Level Carbon Monoxide Protocol* (the Protocol) were used (UCD ITS 1997). The Protocol determines whether a project may worsen air quality by increasing the percentage of vehicles in cold start modes by two percent or more; significantly increasing traffic volumes by five percent or more; or worsening traffic flow at signalized intersections (by increasing average delay at intersections operating at level of service (LOS) E or F or causing an intersection that would operate at LOS D or better without the project, to operate at LOS E or F). With new vehicles and improvements in fuels resulting in fewer emissions, the retirement of older polluting vehicles, and new controls and programs, CO concentrations have declined dramatically in California. As a result of emissions controls on new vehicles, the number of vehicles that can idle, and the length of time that vehicles can idle before emissions would trigger a CO impact, has increased. Therefore, the use of LOS as an indicator is no longer applicable for determining CO impacts.

The Bay Area Air Quality Management District (BAAQMD) developed a screening-level analysis for CO hotspots in 2010 which finds that projects that are consistent with the applicable congestion management program, and that do not cause traffic volumes at affected intersections to increase to more than 44,000 vehicles per hour, would not result in a CO hotspot that could exceed State or Federal air quality standards (BAAQMD 2017 pg. 3-4). CO modeling was conducted for the SCAQMD's 2003 AQMP at four busy intersections during morning and evening peak hour periods as well. The busiest intersection studied in this analysis, Wilshire Boulevard and Veteran Avenue, had 8,062 vehicles per hour during morning peak hours, 7,719 vehicles per hour during evening peak hours, and approximately 100,000 vehicles per day. The 2003 AQMP estimated that the 1-hour CO concentration for this intersection was 4.6 ppm, which is less than a fourth of the 1-hour CAAQS CO standard (20 ppm) (SCAQMD 2003a). The BAAQMD screening threshold is generally consistent with the results of the CO modeling conducted for the SCAQMD's 2003 AQMP.

Therefore, for purposes of this Report, the Project would pose the potential for a CO hotspot if it would exceed the BAAQMD's screening traffic level for peak hour intersection traffic volumes (44,000 vehicles per hour) (thereby having the potential to result in CO concentrations that exceed 1-hour State [20 ppm], 1-hour Federal [35 ppm], and/or State and Federal 8-hour [9 ppm] ambient air quality standards for CO).

5.1.4 Toxic Air Contaminant Thresholds

The SCAQMD recommends preparation of a Health Risk Assessment (HRA) for large commercial or industrial projects to determine the specific health risks posed by long-term emissions of TACs from a project. Following OEHHA and SCAQMD guidance, health risks from TAC emissions are estimated based on "Individual Cancer Risk," which is the likelihood that a person exposed to TACs over 70-year lifetime will get cancer or suffer some other "non-cancer" effect (measured by what is called as a "hazard index"). Numerous weighting factors (e.g., age sensitivity factors, breathing rates, etc.) are applied during health risk calculations to account for those members of the public who may be more sensitive to pollution than others (e.g., sensitive receptors). A project is considered to have a significant effect if it results in any of the following:

- A maximum incremental cancer risk greater than or equal to 10 in one million;
- A population-wide cancer burden greater than 0.5 (in areas where cancer risk is greater than or equal to 1 in one million); or
- A chronic or acute hazard index greater than or equal to 1.0.

The California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District*, 62 Cal.4th 369 (2015) ruled CEQA review is focused on a project's impact on the environment "and not the environment's impact on the project." The opinion also holds that when a project has "potentially significant exacerbating effects on existing environmental hazards" those impacts are properly within the scope of CEQA because they can be viewed as impacts of the project on "existing conditions" rather than impacts of the environment on the project. The Supreme Court provided the example of a project that threatens to disperse existing buried environmental contaminants that would otherwise remain undisturbed. The Court concluded that it is proper under CEQA to undertake an analysis of the dispersal of existing contaminants because such an analysis would be focused on how the project "would worsen existing conditions." The court also found that the limited number of express CEQA provisions that require analysis of the impacts of the existing environment on a project – such as impacts associated with school siting and airports – should be viewed as specific statutory exceptions to the general rule that such impacts are not properly within CEQA's scope.

Consistent with this court ruling, the impact discussion presented below focuses on the proposed Project's effect on air quality and existing health risks, rather than the effect of existing air quality and its potential risks on the proposed Project's residents. The analysis evaluates whether the proposed Project would create or exacerbate adverse public health risk conditions at sensitive receptor locations, as identified in the SCAQMD's CEQA significance criteria.

5.2 ANALYSIS METHODOLOGY

Construction and operational emissions associated with buildout of the Project were calculated and evaluated against regional and localized significance thresholds to determine potential impacts on air quality standards, as well as to evaluate potential impacts associated with DPM emissions on sensitive receptors. In addition, a discussion is provided below on the potential for the Project to generate CO

hotspots or objectionable odors. An evaluation of whether the Project is consistent with existing plans and policies protecting air quality is also included below.

For potential environmental impacts, mitigation measures were designed to avoid or reduce each effect to a less than significant level, where possible.

5.3 ENVIRONMENTAL IMPACTS

5.3.1 Consistency with the SCAQMD AQMP

As described in Section 2.1.3, the proposed Project is within the South Coast Air Basin, which is under the jurisdiction of the SCAQMD. Pursuant to the methodology provided in Chapter 12 of the SCAQMD *CEQA Air Quality Handbook*, consistency with the AQMP is affirmed if the Project:

1) Is consistent with the growth assumptions in the AQMP; and
2) Does not increase the frequency or severity of an air quality standards violation, or cause a new one.

Consistency Criterion 1 refers to the growth forecasts and associated assumptions included in the 2016 AQMP. The 2016 AQMP was designed to achieve attainment for all criteria air pollutants within the Basin while still accommodating growth in the region. Projects that are consistent with the AQMP growth assumptions would not interfere with attainment of air quality standards, because this growth is included in the projections used to formulate the AQMP. Therefore, if the growth under the Alexan Foothills Specific Plan and GP/ZCA would be consistent with the regional population, housing, and employment forecasts identified by SCAG in the RTP/SCS, plan implementation would be consistent with the AQMP, even if emissions could potentially exceed the SCAQMD's recommended daily emissions thresholds.

The parcels within the GP/ZCA area but outside the Alexan Foothills Specific Plan area would have a General Plan amendment from a Manufacturing land use designation to a Planned Development area designation and a corresponding zoning change to a Planned Development area that would permit high density residential development. Although a specific project is not proposed for the GP/ZCA, these proposed land use changes could support a total population of 227 residents. The Alexan Foothills Specific Plan would result in 436 residential units for a total population of 942 residents (see Chapter 17, Population and Housing). The 2016 RTP/SCS population and employment projections for the City of Monrovia, as well as the increase in population and employment that would occur with the implementation of the GP/ZCA including the Alexan Foothills Specific Plan, and other City projects that are currently under review, are shown in Table 5-3.

Table 5-3: RTP/SCS and Specific Plan Growth Assumptions for Air Quality Impact Analysis		
Proposed Project	**Population**	**Employment**
Alexan Foothills Specific Plan	942	0
GP/ZCA	227	0
Subtotal[1]	1,169	0
Other City Projects		
Other Past, Present, and Future Projects	2,238(A)	565(B)
Total Growth	**3,407**	**564**
RTC/SCS Growth 2012 - 2040	**3,500**	**3,600**
Within Growth Assumptions?	**Yes**	**Yes**

Source: SCAG 2016; MIG 2018

Notes:

(A) According to the City's cumulative project list, approved, under-construction, or reasonably foreseeable residential projects (or portions of mixed-use projects). Assuming 20% of these are 2-bedroom units and based on the U.S. Census Bureau estimate of 1.56 people per bedroom (Linscott, Law, and Greenspan 2018).

(B) According to the City's cumulative project list approved, under-construction, or reasonably foreseeable non-residential projects (or portions of mixed-use projects) and based upon the U.S. Green Building Council's (2008) average SF/employee: General Office is 250 SF/employee, Hotel is 1,500 SF/employee, and General Retail (100,000 SF or less) is 550 SF/employee (Linscott, Law, and Greenspan 2018) .

As shown in Table 5-3, implementation of the proposed Project, along with other City projects currently under review, would not exceed the growth assumptions contained in the AQMP. Further, implementation of the Alexan Foothills Specific Plan and GP/ZCA would encourage transit-oriented development and support the use of mass transit. Thus, the Project would support AQMP objectives to reduce trips and would aid in the implementation of the AQMP.

Consistency Criterion 2 refers to the CAAQS. SCAQMD has identified CO as the best indicator pollutant for determining whether air quality violations would occur since it is most directly related to automobile traffic, the emissions of which have been modeled by the SCAQMD to determine future air quality conditions. The CO hotspot analysis described in Section 0 below indicates that the proposed Project would not result in a localized CO hotspot and, therefore, would not cause or contribute to an existing or projected air quality violation. In addition, as described in Section 5.3 and Section 5.5.1 below, the construction and operation of the proposed Project would not exceed SCAQMD regional or localize significance thresholds.

For the reasons described above, the proposed Alexan Foothills Specific Plan and GP/ZCA would not conflict with the SCAQMD 2016 AQMP.

5.3.2 Result in Cumulatively Considerable Increase in Criteria Air Pollutants

The proposed Project would generate both short-term construction emissions and long-term operational emissions. The Project's potential emissions were estimated using CalEEMod, V. 2016.3.2. As described in more detail below, with standard conditions and mitigation measures incorporated, the proposed Project would not generate short-term or long-term emissions that exceed SCAQMD-recommended pollutant thresholds.

Regional Construction Emissions

As described in Section 4.1.1, the proposed Project involves the GPA, ZCA, and Alexan Foothills Specific Plan. The Specific Plan area, 6.77 acres in size, involves the construction of a 436-unit, five-story

apartment complex and an eight-level (seven stories) parking structure, containing 798 stalls. Construction activities would include demolition, site preparation, grading, construction, paving, and architectural coating work. Although a specific development plan is neither being proposed nor considered at this time for those portions of the Project site outside the Specific Plan boundary, the redesignation of the parcels under the GPA and ZCA could eventually result in development of an additional 82 dwelling units in the area outside of the Specific Plan boundary (based on the 54 units/acre permitted land use density within the overall 9.6-acre area).

Alexan Foothills Specific Plan Analysis

The proposed Alexan Foothills Specific Plan's potential construction emissions were modeled using CalEEMod, Version 2016.3.2 (see Appendix A). Construction phase and duration information was provided by the Project Applicant; the type and amount of equipment used during construction was generated using CalEEMod default assumptions and modified as necessary to reflect additional-Project-specific construction activities, including:

- Demolition of approximately 65,190 square feet of existing building space and associated debris hauling activities; and
- Import of 3,200 cubic yards of soil during the Project's grading phase.

The unmitigated maximum daily construction emissions generated by the proposed Alexan Foothills Specific Plan are shown in Table 5-4.

Table 5-4: Unmitigated Regional Construction Emissions Estimates for the Alexan Foothills Specific Plan

Season	Total Unmitigated Maximum Daily Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer 2020	4.90	53.16	41.35	0.11	21.29	12.34
Summer 2021	4.34	29.94	39.08	0.11	7.20	2.62
Summer 2022	86.30	27.44	37.20	0.11	7.04	2.47
Winter 2020	5.03	53.17	39.88	0.11	21.29	12.34
Winter 2021	4.59	30.07	37.71	0.11	7.20	2.62
Winter 2022	86.35	27.55	35.91	0.11	7.05	2.47
SCAQMD CEQA Threshold	75	100	550	150	150	55
Threshold Exceeded?	**Yes**	No	No	No	No	No

Source: MIG 2019 (see Appendix A).

As shown in Table 5-4, the maximum daily construction emissions generated by the Alexan Foothills Specific Plan would be below applicable SCAQMD thresholds for all pollutants except ROG in 2022, when peak architectural coating application activities would occur.

To reduce potential ROG emissions generated during coating application activities to levels below SCAQMD thresholds, the City would require the applicant to implement standard condition SC AIR-1, which requires the use of SCAQMD Rule 1113 "super compliant" coatings with a lower VOC content than the CalEEMod default assumption, as well as the application of coatings with efficient spray equipment. The

City would also require the Applicant to implement mitigation measure MM AIR-1, which imposes idling restrictions consistent with General Plan EIR Mitigation Measure AIR-C.

The standard VOC content assumption for residential and non-residential coatings is 50 and 100 grams per liter, respectively. Thus, the use of coatings with a VOC content of less than 10 grams per liter of coating would substantially reduce ROG emissions during coating application activities, as shown in Table 5-5.

Table 5-5: Mitigated Regional Construction Emissions Estimates for the Alexan Foothills Specific Plan

Season	Total Mitigated Maximum Daily Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer 2020	4.90	53.16	41.35	0.11	21.29	12.34
Summer 2021	4.34	29.94	39.08	0.11	7.20	2.62
Summer 2022	17.46	27.44	37.20	0.11	7.04	2.47
Winter 2020	5.03	53.17	39.88	0.11	21.29	12.34
Winter 2021	4.59	30.07	37.71	0.11	7.20	2.62
Winter 2022	17.50	27.55	35.91	0.11	7.05	2.47
SCAQMD CEQA Threshold	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source: MIG 2019 (see Appendix A)

As shown in Table 5-5, the maximum daily construction emissions generated by the Alexan Foothills Specific Plan would be below the SCAQMD's regional construction emission thresholds with the inclusion of standard conditions and mitigation measure AIR-1. Thus, the standard conditions and mitigation measure ensure that the Alexan Foothills Specific Plan's regional construction emissions would have a less than significant effect.

Standard Conditions

SC AIR-1: Comply with South Coast Air Quality Rule 1113 to reduce VOC emissions from architectural coating applications. Prior to the issuance of a building permit for the Project, the Applicant shall submit, to the satisfaction of the Planning Division, a Coating Restriction Plan (CRP), consistent with South Coast Air Quality Management District (SCAQMD) guidelines. The Applicant shall include in any construction contracts and/or subcontracts a requirement that Project contractors adhere to the requirements of the CRP. The CRP shall include a requirement that all interior and exterior residential and non-residential architectural coatings used in Project construction meet the SCAQMD "super compliant" coating VOC content standard of less than 10 grams of VOC per liter of coating. The CRP shall also specify the use of high-volume, low pressure spray guns during coating applications to reduce coating waste.

Requirements and Timing: Applicant shall receive Planning Division approval of a Coating Restriction Plan (CRP) prior to receipt of building permits.

Monitoring: City Planning staff shall conduct site inspections to ensure that the CRP is followed during construction.

Mitigation Measures

MM AIR-1: Idling Restrictions: Idling of diesel-powered vehicles and equipment shall not be permitted during periods of non-active vehicle use. Diesel-powered engines shall not be allowed to idle for more than 5 consecutive minutes in a 60-minute period when the equipment is not in use, occupied by an operator, or otherwise in motion, except as follows:

- When equipment is forced to remain motionless because of traffic conditions or mechanical difficulties over which the operator has no control;
- When it is necessary to operate auxiliary systems installed on the equipment, only when such system operation is necessary to accomplish the intended use of the equipment;
- To bring the equipment to the manufacturer's recommended operating temperature;
- When the ambient temperature is below 40 degrees F or above 85 degrees F; or
- When equipment is being repaired.

Requirements and Timing: Mitigation measure shall be printed on construction drawings and included as a requirement in the construction contract.

Monitoring: City Planning staff shall conduct site inspections during construction to ensure that the mitigation measure is adhered to.

ZCA Areas A and C

Construction activities associated with development of ZCA Areas A and C would be similar to that of the Alexan Foothills Specific Plan and include demolition, site preparation, grading, utility trenching, foundation construction, vertical building development, and architectural coating. Construction activities for ZCA Areas A and C are anticipated to be less intense given the lower maximum development potential of ZCA Areas A and C. The combustion of fuel in on- and off-site equipment would generate emissions of ROG, NOx, CO and PM. Ground-disturbing activities, such as site preparation, grading, utility trenching, and foundation construction, as well as onsite and offsite travel would generate dust and PM emissions. Architectural coating activities would result in the off-gassing of ROG from paints, coatings, etc. Construction is anticipated to occur over an approximate 12-month period, with initial construction activities assumed to begin in 2021.

The potential construction emissions were modeled using CalEEMod, Version 2016.3.2 (see Appendix A). Construction phase and duration information, as well as the type and amount of equipment used during construction was generated using CalEEMod default assumptions and modified as necessary to reflect additional Project-specific construction activities, including the demolition of approximately 28,400 square feet of existing building space and associated debris hauling activities. The unmitigated maximum daily construction emissions generated by the potential redevelopment of ZCA Areas A and C are shown in Table 5-6.

Table 5-6: Regional Construction Emissions Estimates for ZCA Areas A and C

Season	Maximum Daily Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer 2021	2.36	20.77	17.53	0.04	3.98	2.39
Summer 2022	52.0	15.89	17.09	0.04	1.52	0.90
Winter 2021	2.40	20.78	17.33	0.04	3.98	2.39
Winter 2022	52.0	15.90	16.91	0.03	1.52	0.90
SCAQMD CEQA Threshold	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No
Source: MIG 2019, See Appendix A.						

As shown in Table 5-6, the maximum daily construction emissions associated with buildout of ZCA Areas A and C would be below the SCAQMD's recommended regional pollutant thresholds for all pollutants. It is noted that future redevelopment of ZCA Areas A and C would be subject to standard condition SC AIR-1 and the General Plan EIR idling restriction requirements as outlined in mitigation measure MM AIR-1 above.

Standard Conditions

Refer to SC AIR-1.

Mitigation Measures

Refer to mitigation measure MM AIR-1.

Combined Emissions from Alexan Foothills Specific Plan and ZCA Areas A and C

This report assumes that construction and operation of the Alexan Foothills Specific Plan and remaining GP/ZCA area would occur simultaneously, meaning that construction and operational emissions for both development projects would overlap and be emitted at the same time. The potential for combined emissions to result in a significant air quality effect on air quality is evaluated below.

The potential combined construction emissions resulting from the concurrent development of the Alexan Foothills Specific Plan and remaining GP/ZCA area are presented in Table 5-7. As shown in Table 5-7, the total emissions associated with simultaneous implementation of the Alexan Foothills Specific Plan and remaining GP/ZCA area would be below the SCAQMD's regional pollutant thresholds for all pollutants with the implementation of standard condition SC AIR-1 and mitigation measure MM AIR-1. Thus, standard condition SC AIR-1 and mitigation measure MM AIR-1 are required for both the Alexan Foothills Specific Plan and the remaining GP/ZCA development and this effect would be less than significant with mitigation.

Table 5-7: Total Combined Regional Construction Emissions for the Alexan Foothills Specific Plan and ZCA Areas A and C						
Season	**Maximum Daily Emissions (Pounds Per Day)**					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Alexan Foothills Specific Plan Emissions(A)						
Summer 2021	4.34	29.94	39.08	0.11	7.20	2.62
Summer 2022	17.46	27.44	37.20	0.11	7.04	2.47
Winter 2021	4.59	30.07	37.71	0.11	7.20	2.62
Winter 2022	17.50	27.55	35.91	0.11	7.05	2.47
Remaining GP/ZCA Area Emissions(B)						
Summer 2021	2.36	20.77	17.53	0.04	3.98	2.39
Summer 2022	52.0	15.89	17.09	0.04	1.52	0.90
Winter 2021	2.40	20.78	17.33	0.04	3.98	2.39
Winter 2022	52.0	15.90	16.91	0.03	1.52	0.90
Total Combined Emissions						
Summer 2021	6.70	50.71	56.61	0.15	11.18	5.01
Summer 2022	69.46	43.33	54.29	0.15	8.56	3.37
Winter 2021	6.99	50.85	55.04	0.15	11.18	5.01
Winter 2022	69.50	43.45	52.82	0.14	8.57	3.37
SCAQMD CEQA Threshold	75	100	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source: MIG 2019 (See Appendix A)
(A) Alexan Foothills Specific Plan emissions represent mitigated emissions values as shown in Table 5-5.
(B) GP/ZCA emissions from Table 5-6.

Standard Conditions

Refer to SC AIR-1.

Mitigation Measures

Refer to mitigation measure MM AIR-1.

Regional Operational Emissions

Alexan Foothills Specific Plan Analysis

Once operational, the Alexan Foothills Specific Plan would result in long-term emissions from area, energy, and mobile sources. The net change in emissions of regulated air pollutants that would occur with implementation of the Alexan Foothills Specific Plan was modeled using CalEEMod, Version 2016.3.2. The operation emissions for the Alexan Foothills Specific Plan were modeled based on the Project's first full year of operation (2023), using default data assumptions provided by CalEEMod, with the following Project-specific modifications:

- The default trip generation rates for the existing land use types were replaced with trip generation rates contained in the Traffic Impact Analysis (TIA) prepared for the Project (LSA 2018). The

Project TIA provided trip generation rates for peak weekday activities. Accordingly, the average daily traffic rate contained in the TIA was adjusted by a factor of 0.96 to be consistent with State emission inventory methods and to account for reduced weekend trip rates (this provides a more accurate estimate of total annual emissions).

- The default electrical and natural gas energy efficiency intensity values for residential and non-residential land uses were adjusted downwards to reflect the recent adoption of the 2019 energy efficiency standards.
- Woodstoves and hearths were excluded pursuant to City General Plan requirements and SCAQMD Rule 445 (see standard condition SC AIR-2).
- One 50-horsepower diesel-fueled back-up generator and one 50-horsepower, diesel-fueled fire pump were presumed to be present on-site and operate a total of 18 hours per year.

The net change in long-term operational emissions that would be generated by buildout of the proposed Alexan Foothills Specific Plan is shown in Table 5-8 below.

Table 5-8: Operational Emissions Estimates for the Alexan Foothills Specific Plan

Emission Scenario	Maximum Daily Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Alexan Foothills Specific Plan Buildout Emissions(A)						
Area Sources	12.20	0.43	36.31	0.00	0.20	0.20
Energy Sources	0.17	1.48	0.63	0.01	0.12	0.12
Mobile Sources	2.88	4.86	40.78	0.14	13.58	3.68
Total Buildout Emissions(B)	15.25	6.78	77.73	0.15	13.90	4.01
Existing Alexan Foothills Specific Plan Area Emissions						
Total Existing Emissions(C)	2.92	5.35	16.74	0.05	3.52	1.06
Net Change in Emissions Levels						
Total Net Change	+12.33	+1.43	+60.99	+0.10	+10.38	+2.95
SCAQMD CEQA Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source: MIG 2019 (see Appendix A)

(A) Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. Maximum daily ROG, CO, SOX emissions occur during the summer. Maximum daily NOX emissions occur during the winter. In general, due to rounding, there is no difference between summer and winter PM10 and PM2.5 emissions levels for the purposes of this table.

(B) Totals may not equal due to rounding. Stationary sources would add less than 0.000 pounds per day of emissions to the project's area, energy, and mobile source total. Buildout emissions are based upon construction of 439 units assumed in the TIA, versus the proposed 436 units. Therefore, emissions are overestimates.

(C) See Table 3-2.

As shown in Table 5-8, the maximum daily operational emissions associated with the proposed Alexan Foothills Specific Plan would not exceed the SCAQMD's recommended regional pollutant thresholds for all pollutants.

Standard Conditions

SC AIR-2: Natural Gas Fireplaces. All residential fireplaces installed shall be fueled by natural gas. Wood stoves and wood burning fireplaces shall be prohibited. (Consistent with General Plan EIR Mitigation Measure AIR-D).

Requirements and Timing: Standard condition shall be printed on construction drawings.

Monitoring: City Planning staff shall conduct site inspections during construction to confirm condition is adhered to.

ZCA Areas A and C

The potential redevelopment of ZCA Areas A and C would result in long-term emissions from area, energy, and mobile sources. The net change in emissions of regulated air pollutants that would occur with implementation of potential redevelopment of ZCA Areas A and C was modeled using CalEEMod, Version 2016.3.2. The operational emissions for ZCA Areas A and C were modeled based on a project's anticipated earliest first full year of operation (2023), using default data assumptions provided by CalEEMod, with the following Project-specific modifications:

- The default electrical and natural gas energy efficiency intensity values for residential and non-residential land uses were adjusted downwards to reflect the recent adoption of the 2019 energy efficiency standards.
- Woodstoves and hearths were excluded pursuant to City General Plan requirements and SCAQMD Rule 445 (see standard condition SC AIR-2).
- One 50-horsepower diesel-fueled back-up generator and one 50-horsepower, diesel-fueled fire pump were presumed to be present onsite and operate a total of 18 hours per year.

The potential net change in long-term operational emissions that would be generated by buildout of ZCA Areas A and C is shown in Table 5-9 below.

Table 5-9: Operational Emissions Estimates for ZCA Areas A and C

Emission Scenario	Maximum Daily Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
GP/ZCA Buildout Emissions Levels(A)						
Area Sources	2.01	1.30	7.29	0.01	0.14	0.14
Energy Sources	0.02	0.20	0.09	0.00	0.02	0.02
Mobile Sources	0.84	1.41	11.86	0.04	3.95	1.07
Total Buildout Emissions(B)	2.87	2.92	19.24	0.05	4.10	1.22
Existing GP/ZCA Area Emissions Levels						
Total Existing Emissions(C)	2.07	1.82	7.61	0.02	1.44	0.62
Net Change in Emissions Levels						
Total Net Change	+0.80	+1.10	+11.63	+0.03	+2.66	+0.60
SCAQMD CEQA Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source: MIG 2019 (see Appendix A).

(A) Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. Maximum daily ROG, CO, SO_X, emissions occur during the summer. Maximum daily NO_X, PM_{10} and $PM_{2.5}$ emissions occur during the winter.

(B) Totals may not equal due to rounding.

(C) See Table 3-2.

As shown in Table 5-9, the maximum daily operational emissions associated with implementation of new development within ZCA Areas A and C would not exceed SCAQMD's regional pollutant thresholds. This effect would be less than significant.

Standard Conditions

Refer to standard condition SC AIR-2 above.

Combined Alexan Foothills Specific Plan and ZCA Areas A and C Emissions

The net change in long-term operational emissions that would be generated by the concurrent buildout of the Alexan Foothills Specific Plan and the remaining GP/ZCA area in the earliest full year of operation for both projects (2023) is shown in Table 5-10.

Table 5-10: Long-Term Operational Emissions of Combined Buildout of Alexan Foothills Specific Plan & ZCA Areas A and C

Emission Scenario	Maximum Daily Emissions (Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Total Emissions from Combined Buildout of Alexan Foothills Specific Plan and ZCA Areas A and C (A)						
Area Sources	14.21	1.73	43.6	0.01	0.34	0.34
Energy Sources	0.19	1.68	0.72	0.01	0.14	0.14
Mobile Sources	3.72	6.27	52.64	0.18	17.53	4.75
Total Buildout Emissions(B)	18.12	9.70	96.97	0.20	18.00	5.23
Total Existing Project Area (Alexan Foothills Specific Plan and ZCA Areas A and C) Emissions(C)						
Total Existing Emissions	*4.99*	*7.17*	*24.35*	*0.07*	*4.96*	*1.68*
Total Net Change in Emissions						
Total Net Change	+13.13	+2.53	+72.62	+0.13	+13.04	+3.55
SCAQMD CEQA Threshold	55	55	550	150	150	55
Threshold Exceeded?	No	No	No	No	No	No

Source: MIG 2019 (see Appendix A).
(A) Buildout emissions are from Table 5-8 and Table 5-9.
(B) Totals may not equal due to rounding.
(C) Existing emissions are from Table 3-2.

As shown in Table 5-10, the maximum daily emissions from the concurrent operation of the Alexan Foothills Specific Plan and ZCA Areas A and C would not exceed the SCAQMD's recommended regional pollutant thresholds. Therefore, implementation of the proposed Project would not generate operations-related emissions that exceed SCAQMD CEQA thresholds.

Standard Conditions

Refer to standard condition SC AIR-2 above.

5.3.3 Sensitive Receptors and Substantial Pollutant Concentrations

The proposed Project would generate both short-term construction emissions and long-term operational emissions that could impact sensitive residential receptors located near the Project; however, as described in more detail below, the proposed Project would not generate short-term or long-term

emissions that exceed SCAQMD-recommended localized significance thresholds or result in other substantial pollutant concentrations.

Localized Significance Thresholds Analysis

Construction Emissions

Alexan Foothills Specific Plan Analysis

The Alexan Foothills Specific Plan's maximum daily construction emissions are compared against the SCAQMD's-recommended LSTs in Table 5-2. Consistent with the SCAQMD's LST methodology, the emissions included in the construction LST analysis are onsite emissions only, and the LST thresholds against which these onsite emissions are compared are based on the Project size, in acres, as determined using the specific equipment list generated by the CalEEMod project file and the SCAQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds (SCAQMD 2016c)[5]. The LST thresholds are for SRA 9 (East San Gabriel Valley), the SRA in which the proposed Alexan Foothills Specific Plan is located, and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

The emissions presented in Table 5-11 incorporate certain best available control measures the Project would be subject to pursuant to SCAQMD Rule 403, Fugitive Dust. Specifically, the CalEEMod project file applies a 60% to 67% total reduction in PM10 and PM2.5 fugitive dust emissions through site watering (three times daily) and replacement of ground cover. These estimated reductions are consistent with the reductions realized by implementation of the numerous best available control measures contained in SCAQMD Rule 403 (also shown as standard condition SC AIR-3).

As shown in Table 5-11, the maximum daily onsite emissions generated during demolition, site preparation, and grading activities associated with the Alexan Foothills Specific Plan would not exceed the SCAQMD's recommended LST thresholds. The onsite emissions levels during all other construction phases (building construction, paving, architectural coating) would be less than the values presented in Table 5-11, and below the SCAQMD's LST thresholds for a one-acre site (a conservative comparison since the Project area is larger than one acre in size).

[5] According to the SCAQMD's *Fact Sheet for Applying CalEEMod to Localized Significance Thresholds*, the maximum number of acres disturbed on the peak day of use per crawler tractor, grader, and rubber tired dozer is 0.5 acres per 8 hour day, while the maximum number of acres disturbed on the peak day of use per scraper is 1 acre per 8 hour day.

Table 5-11: LST Construction Analysis for the Alexan Foothills Specific Plan				
Construction Phase	Maximum Daily Emissions (Pounds per Day)(A)			
	NO_X	CO	PM_{10}(E)	$PM_{2.5}$(E)
Demolition				
Maximum Daily Onsite Emissions	33.2	21.8	3.2	1.8
SCAQMD LST Threshold (1.5-Acre)(B)	108.5	784.0	6.0	3.9
LST Threshold Exceeded?	No	No	No	No
Site Preparation				
Maximum Daily Emissions	53.1	22.0	7.4	4.9
SCAQMD LST Threshold (2.5-acre)(C)	147.5	1,057.4	8.3	5.1
LST Threshold Exceeded?	No	No	No	No
Grading				
Maximum Daily Emissions	26.4	16.1	3.0	2.1
SCAQMD LST Threshold (1.0-Acre)(D)	89	623	5	3
Threshold Exceeded?	No	No	No	No

Source: MIG 2019 (see Appendix A)

(A) Emissions presented are worst-case total emissions and may reflect summer or winter emissions levels.

(B) Demolition would involve the use of three rubber-tired dozers, which equals a 1.5-acre project site for LST purposes (3*0.5=1.5). Accordingly, a 1.5-acre LST threshold was developed using linear regression.

(C) Site Preparation would involve the use of two crawler-tractors and three rubber-tired dozers, which equals a 2.5-acre project site for LST purposes (5*0.5=2.5). Accordingly, a 2.5-acre LST threshold was developed using linear regression.

(D) Grading would involve the use of one grader and one rubber-tired dozer, which equals a 1.0-acre project site for LST purposes (1*0.5)+(1*0.5)=1. Accordingly, a 1 -acre LST threshold was used in this evaluation.

(E) PM emissions assume compliance with SCAQMD Rule 403 best available control measures for site watering and replacing ground cover.

Standard Conditions

SC AIR-3: Comply with South Coast Air Quality Management District Rule 403, Fugitive Dust, by incorporating best available control measures during construction.

Requirements and Timing: Standard condition shall be printed on construction drawings and included as a requirement in the construction contract.

Monitoring: City Planning staff shall conduct site inspections during construction to ensure that the standard condition is adhered to.

ZCA Areas A and C

The potential maximum daily construction emissions for ZCA Areas A and C are compared against the SCAQMD's-recommended LSTs in Table 5-12. Consistent with the SCAQMD's LST methodology, the emissions included in the construction LST analysis are onsite emissions only, and the LST thresholds against which these onsite emissions are compared are based on the Project size, in acres, as determined using the specific equipment list generated by the CalEEMod project file and the SCAQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds. The LST thresholds are for SRA 9 (East San

Gabriel Valley), the SRA in which the GP/ZCA is located, and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

The emissions presented in Table 5-12 incorporate certain best available control measures the Project would be subject to pursuant to SCAQMD Rule 403, Fugitive Dust. Specifically, the CalEEMod project file applies an approximate 55% total reduction in PM10 and PM2.5 fugitive dust emissions through site watering (once daily). These estimated reductions are consistent with the reductions that would result from the implementation of the best available control measures required by SCAQMD Rule 403 (see standard condition SC AIR-3).

Table 5-12: LST Construction Analysis for ZCA Areas A and C

Construction Phase	Maximum Daily Emissions (Pounds Per Day)(A)			
	NO_X	CO	PM_{10}(E)	$PM_{2.5}$(E)
Demolition				
Maximum Daily Emissions	19.7	14.5	1.4	1.0
SCAQMD LST Threshold (1.0-Acre)(B)	89	623	5	3
Threshold Exceeded?	No	No	No	No
Site Preparation				
Maximum Daily Emissions	18.29	10.75	1.42	0.72
SCAQMD LST Threshold (1.5-Acre)(C)	108.5	784.0	6.0	3.9
Threshold Exceeded?	No	No	No	No
Grading				
Maximum Daily Emissions	20.21	9.76	3.86	2.36
SCAQMD LST Threshold (1.0-Acre)(D)	89	623	5	3
Threshold Exceeded?	No	No	No	No

Source: MIG 2019 (see Appendix A).

(A) Emissions presented are worst-case total emissions and may reflect summer or winter emissions levels.

(B) Demolition would involve the use of one rubber-tired dozer, which equals a 1.0-acre project site for LST purposes (the minimum size recommended by the SCAQMD).

(C) Site Preparation would involve the use of one scraper and one grader, which equals a 1.5-acre project site for LST purposes (1*1)+(1*0.5)=1.5. Accordingly, a 1.5-acre LST threshold was developed using linear regression.

(D) Grading would involve the use of one grader and one rubber-tired dozer, which equals a 1.0-acre project site for LST purposes (1*0.5)+(1*0.5)=1.0. Accordingly, a 1.0-acre LST threshold was used in the grading LST analysis.

(E) PM emissions assume compliance with SCAQMD Rule 403 best available control measures for site watering and replacing ground cover.

As shown in Table 5-12, the maximum daily onsite emissions generated during demolition, site preparation, and grading activities associated with ZCA Areas A and C would not exceed the SCAQMD's recommended LST thresholds. The onsite emissions levels during all other construction phases (building construction, paving, architectural coating) would be less than the values presented in Table 5-13, and below the SCAQMD's LST thresholds for a one-acre site (a conservative comparison since the Project area would be larger than one acre in size).

Standard Conditions

Refer to SC AIR-3.

Combined Alexan Foothills Specific Plan and ZCA Areas A and C Emissions

The Alexan Foothills Specific Plan would be constructed over a 30-month period beginning in 2020. The Specific Plan's building construction phase in 2021 and 2022 could overlap with the potential demolition, site preparation, and grading phases associated with potential redevelopment within the GP/ZCA. It is not anticipated that overlapping construction would occur prior to 2021 because there is no current specific project proposed for ZCA Areas A and C. The Specific Plan's building construction phase would add 0.8 pounds per day of total PM10 and PM2.5 to the onsite emission estimates presented in Table 5-13 for ZCA Areas A and C. The combined emissions from buildout of the Alexan Foothills Specific Plan and ZCA Areas A and C would not exceed the 1.5-acre LST threshold listed in Table 5-12 (a conservative comparison since actual construction activities would be spread out over the approximately 9.63-acre Project area during this combined construction activity period). Therefore, combined construction emissions during the Alexan Foothills Specific Plan building construction and ZCA Areas A and C grading phases are considered less than significant. The combined emissions during all other potential combined construction phase in 2021 and 2022 would not exceed an applicable LST threshold.

Operational Emissions

Alexan Foothills Specific Plan Analysis

The Alexan Foothills Specific Plan's maximum daily operational emissions are compared against the SCAQMD's-recommended LSTs in Table 5-13. Consistent with the SCAQMD's LST methodology, the emissions included in the operational LST analysis are onsite emissions only, and the LST thresholds against which these onsite emissions are compared are based on the Project size, in acres. The LST thresholds are for SRA 9 (East San Gabriel Valley), the SRA in which the Alexan Foothills Specific Plan is located and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

Table 5-13: LST Operational Analysis for the Alexan Foothills Specific Plan

Emissions	Maximum Onsite Pollutant Emissions (Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Area Sources	0.43	36.31	0.20	0.20
Energy Sources	1.48	0.63	0.12	0.12
Mobile Sources(A)	0.10	0.82	0.27	0.07
Stationary Sources	<0.00(B)	<0.00(B)	<0.00(B)	<0.00(B)
Subtotal Emissions(C)	2.01	37.76	0.59	0.39
SCAQMD LST Threshold(D)	203	1,733	4	2
Threshold Exceeded?	No	No	No	No

Source: MIG 2019 (see Appendix A).

(A) Mobile source emissions estimates reflect potential onsite vehicle emissions only and were derived by assuming 2% of operational mobile source emissions in Table 5-8 will occur onsite.

(B) "<0.00" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01 but larger than 0.000.

(C) Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. In general, due to rounding, there is no difference between summer and winter emissions levels for the purposes of this table. Buildout emissions are based upon construction of 439 units assumed in the TIA, versus the proposed 436 units. Therefore, emissions are overestimates.

(D) LST threshold is conservatively based on a 5.0-acre project size and 25-meter (82-foot) receptor distance.

As shown in Table 5-13, the maximum daily onsite emissions generated during operation of the proposed Alexan Foothills Specific Plan would not exceed the SCAQMD's recommended LST thresholds.

Standard Conditions

Refer to standard condition SC AIR-2 above.

ZCA Areas A and C

The maximum daily operational emissions for ZCA Areas A and C are compared against the SCAQMD's-recommended LSTs in Table 5-14. Consistent with the SCAQMD's LST methodology, the emissions included in the operational LST analysis are onsite emissions only, and the LST thresholds against which these onsite emissions are compared are based on the Project size, in acres. The LST thresholds are for SRA 9 (East San Gabriel Valley), the SRA in which ZCA Areas A and C are located, and are based on a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

Table 5-14: LST Operational Analysis for ZCA Areas A and C

Emissions	Maximum Onsite Pollutant Emissions (Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Area Sources	1.30	7.29	0.14	0.14
Energy Sources	0.20	0.09	0.02	0.02
Mobile Sources(A)	0.03	0.24	0.08	0.02
Stationary Sources	<0.00(B)	<0.00(B)	<0.00(B)	<0.00(B)
Subtotal Emissions(C)	1.53	7.62	0.24	0.18
SCAQMD LST Threshold(D)	203	1,733	4	2
Threshold Exceeded?	No	No	No	No

Source: MIG 2019 (see Appendix A).

(A) Mobile source emissions estimates reflect potential onsite vehicle emissions only; and were derived by assuming 2% of operational mobile source emissions in Table 5-9 will occur onsite.

(B) "<0.00" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01 but larger than 0.000.

(C) Emissions presented are worst-case emissions and may reflect summer or winter emissions levels. In general, due to rounding, there is no difference between summer and winter emissions levels for the purposes of this table.

(D) LST threshold is conservatively based on a 2.0-acre project size and 25-meter (82-foot) receptor distance.

Combined Alexan Foothills Specific Plan and ZCA Areas A and C Emissions

The total combined maximum daily onsite operational emissions resulting from concurrent operation of the Alexan Foothills Specific Plan and ZCA Areas A and C are compared against the SCAQMD's-recommended LSTs in Table 5-15. The LST thresholds are for a five-acre project site (a conservative assumption since the Project area is greater than five acres in size), SRA 9 (East San Gabriel Valley, the SRA in which the Project area is located), and a receptor distance of 25 meters (82 feet), the closest LST receptor distance threshold recommended for use by the SCAQMD.

Table 5-15: Combined LST Operational Analysis for the Alexan Foothills Specific Plan and ZCA Areas A and C

Total Combined Emissions[A]	Maximum Pollutant Emissions (Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Area Sources	1.73	43.6	0.34	0.34
Energy Sources	1.68	0.72	0.14	0.14
Mobile Sources	0.13	1.05	0.35	0.10
Stationary Sources	<0.00[B]	<0.00[B]	<0.00[B]	<0.00[B]
Subtotal Emissions[C]	3.54	45.37	0.83	0.58
SCAQMD LST Threshold (5.0-Acre)[D]	203	1,733	4	2
Threshold Exceeded?	No	No	No	No

Source: MIG 2019 (see Appendix A).

(A) Onsite emissions are from Table 5-13 and 5-14 (GP/ZCA).

(B) "<0.00" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01 but larger than 0.000.

(C) Totals may not equal due to rounding.

(D) LST threshold is conservatively based on a 5.0-acre project size and 25-meter (82-foot) receptor distance.

As shown in Table 5-15, the total combined emissions from onsite operational activities associated with the Alexan Foothills Specific Plan and ZCA Areas A and C would not exceed the SCAQMD's recommended LST thresholds for a five-acre project.

Carbon Monoxide Hot Spots

A CO hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near high volume intersections. Several screening procedures have been developed by air districts throughout the state to assess whether a project may result in a CO impact. For example, the Bay Area Air Quality Management District (BAAQMD) developed a screening threshold in 2010 which states that any project involving an intersection experiencing 44,000 vehicles per hour would require detailed analysis (BAAQMD, 2017 pg. 3-4). Additionally, the SCAQMD's 2003 AQMP and *1992 Federal Attainment Plan for Carbon Monoxide* demonstrated that CO levels were below the CAAQS at an intersection with a daily traffic volume of up to approximately 100,000 vehicles per day. According to the City's General Plan Circulation and Noise Elements, there are no roadways in the City that experience hourly volumes close to 44,000 vehicles or more or daily volumes of 100,000 vehicles or more. Based on the TIA prepared for the Project (LSA 2018), the maximum number of vehicles moving through any study intersection would be substantially below the screening threshold of 44,000 vehicles per hour for a CO hotspot analysis, and would not cause intersection volumes to exceed any the daily threshold (100,000 vehicles). Therefore, the Project would not cause or significantly contribute to CO concentrations that exceed State or Federal ambient air quality standards for CO.

Fugitive Dust and DPM Emissions

The proposed Project would have the potential to expose existing sensitive receptors present within and near the Project area to fugitive dust and DPM during construction and operation. Construction activities associated with the Project would have the potential to generate fugitive dust and emissions of DPM, a TAC, which could impact sensitive air quality receptors. Operation of the project would generate vehicle DPM emissions in the area, also having the potential to impact sensitive receptors.

In addition, portions of the Project area range from 80 feet to 600 feet south of the I-210, an existing local source of DPM emissions[6]. Buildout of the Alexan Foothills Specific Plan would result in the placement of new sensitive residential receptors within 500 feet of the I-210, and future buildout of the remaining GP/ZCA area would have the potential to place new sensitive residential receptors within 500 feet of the I-210 as well. Pursuant to the California Supreme Court's decision in *CBIA v. BAAQMD* (see Section 2.3.2), the following analysis evaluates whether the Proposed Project would exacerbate the existing health risks associated with I-210 vehicle emissions.

According to the SCAQMD's MATES IV Carcinogenic Risk Map, the existing cancer risk on either side of the I-210 in the vicinity of the Project (south and north of I-210) is 1,456 and 1,142, respectively (i.e., there is a probability of 1,456 and 1,142 cases of cancer out of a population of one million) (SCAQMD 2018d). These cancer risks are orders of magnitude higher than the SCAQMD's significance threshold of 10 cases in one million for cancer risk. These estimates, however, are based upon regional modeling efforts that largely do not account for site specific emission rates and dispersion characteristics that typically result in refined and substantially lower health risk estimates. Therefore, potential health risks associated with vehicle emissions along the I-210 in the Project vicinity were calculated (see below).

CalEnviroScreen is another mapping tool that helps identify California communities that are most affected by many sources of pollution, and where people are often especially vulnerable to pollution's effects. The tool uses environmental, health, and socioeconomic information to produce scores for every census tract in the state. The scores are then mapped so that different communities can be compared. An area with a high score is one that experiences a much higher pollution burden than areas with low scores. According to the OEHHA CalEnviroScreen 3.0 Map, the Project area is in census tract 6037430902 and has an average pollution indicator percentile of 60% to 65% based on the CalEnviroScreen indicators (e.g., exposure, environmental effects, population characteristics, socioeconomic factors) (OEHHA 2018). These numbers also indicate relatively high health risks in the Project area, likely attributable to the proximity to the I-210.

Consistent with the City's 2008 Monrovia General Plan Proposed Land Use and Circulation Elements Update EIR and to determine if the Project would exacerbate health risks associated with DPM emissions in the area, a Health Risk Assessment (HRA) was conducted to evaluate the potential health hazards to new residential receptors in the Project area from the I-210, as well as to children. Emission factor calculations, dispersion model inputs, outputs, and HRA calculations are all contained in the report in Appendix B and Appendix C.

Construction Fugitive Dust and DPM Emissions

Construction activities associated with the proposed Project would result in demolition, site preparation, grading, and other activities that would generate fugitive dust; however, as shown under above, the total PM10 and PM2.5 emissions generated during construction of the Project would be below

[6] Gasoline and diesel-fueled vehicles travelling on the I-210 would emit other TACs besides DPM; however, these other TACs would be emitted in much lower quantities than DPM. In addition, the SCAQMD's MATES IV study continues to identify DPM as the primary contributor to mobile source risks estimates. Accordingly, this Report focuses on the risk from DPM emitted by vehicles travelling on the I-210 as an overall indicator of potential adverse health risks from mobile sources operating near the site.

SCAQMD LST thresholds. The SCAQMD's LST thresholds represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State AAQS. Thus, since Project construction emissions would not exceed applicable LST thresholds, the proposed Project would not expose sensitive receptors to substantial fugitive dust concentrations.

A portion of the PM_{10} and $PM_{2.5}$ emissions generated during construction of the Alexan Foothills Specific Plan (Table 5-11) and ZCA Areas A and C (Table 5-12) would be DPM. DPM is a TAC that can potentially cause substantial adverse health risks at concentrations lower than the ambient air quality standards for PM_{10} and $PM_{2.5}$ set by the Federal and State CAA. Equipment with diesel engines would be used during all phases of development of the proposed Alexan Foothills Specific Plan and ZCA Areas A and C, and some construction activities would occur as close as approximately 60 feet away from sensitive receptor locations (e.g., receptors across Mayflower Avenue, S. Magnolia Avenue, and the Metro Gold Line ROW), although most construction activities on the interior of the Alexan Foothills Specific Plan and ZCA Areas A and C would occur several hundred feet or more from sensitive receptor locations.

Furthermore, implementation of idling restrictions under mitigation measure MM AIR-1 would minimize DPM emissions from construction equipment. Second, as shown in Figure 2-1, the prevailing daytime wind direction is from the west/southwest at the nearest meteorological station maintained by the SCAQMD in Azusa (less than five miles east of the Project area). Wind conditions at this location are considered representative of wind conditions in the Project area, meaning that DPM emissions generated by construction equipment would generally be pushed to the east/northeast, away from the closest sensitive residential receptors, and pollutants would quickly disperse over distance. Finally, potential long-term adverse health risks from DPM are evaluated assuming a constant exposure to emissions over a 70-year lifetime, 24 hours a day, seven days a week, with increased risks generally associated with increased proximity to emissions sources. Since construction activities would only generate DPM emissions on an interim, short-term basis, DPM emissions from construction activities would be unlikely to result in adverse health effects to existing sensitive receptors that exceed the SCAQMD's significance criteria[7]. Therefore, construction activities associated with buildout of the Project would not expose nearby sensitive receptors to substantial levels of DPM that would pose a significant adverse health risk.

Operational – Health Risks Related to Exposure from I-210 Emissions

Once operational, the proposed Project would result in the placement of new sensitive residential receptors within 500 feet of the I-210, a local source of DPM emissions[8]. An HRA was performed to determine the health risk associated with operation of the Project consistent with the guidance and

[7] The SCAQMD has established the following thresholds of significance for TAC emissions: Maximum Incremental Cancer Risk ≥ 10 in 1 million; Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million); Chronic & Acute Hazard Index ≥ 1.0 (project increment).

[8] Gasoline and diesel-fueled vehicles travelling on the I-210 would emit other TACs besides DPM; however, these other TACs would be emitted in much lower quantities than DPM. In addition, the SCAQMD's Mates IV study continues to identify DPM as the primary contributor to mobile source risks estimates (see Section 2.1.8, "Sensitive Air Quality Receptors and Existing Regional Health Risks"). Accordingly, this anlaysis focuses on the risk from DPM emitted by vehicles travelling on the I-210 as an overall indicator of potential adverse health risks from mobile sources operating near the site.

recommendations contained in the SCAQMD's CEQA *Air Quality Handbook*, as amended and supplemented (SCAQMD 2017a), SCAQMD's *Health Risk Assessment Guidance for Analyzing Cancer Risks from Mobile Source Diesel Emissions* (SCAQMD 2003b), and OEHHA's *Air Toxics Hot Spots Program Guidance Manual* (OEHHA 2015).

The U.S. EPA's AERMOD dispersion model was used to predict pollutant concentrations from the I-210 at the proposed Project boundary along West Evergreen Avenue. The AERMOD dispersion model is a U.S. EPA-approved and SCAQMD-recommended model for simulating the dispersion of pollutant emissions and estimating ground level concentrations of pollutants at specified receptor locations. AERMOD requires the user to input information on the source(s) of pollutants being modeled, the receptors where pollutant concentrations are modeled, and the meteorology, terrain, and other factors that affect the potential dispersion of pollutants. These variables are described below.

Modeled I-210 Sources/Emission Rates. Emissions from the I-210 were modeled as a polygon-area source as shown in Table 5-16. The area source representing the freeway was extended 1,000 feet to the northwest and east of the Project area boundary to capture emissions emanating from the I-210 both adjacent and in close proximity to the Project area. The total length of the I-210 modeled was approximately 3,350 feet, or 0.63 miles, as shown in Table 5-16.

Table 5-16: AERMOD Source Parameters

ID	Description	UTM Coordinates(A)		Size (m^2)
		X	Y	
PAREA1	I-210 (Eastbound and Westbound)	406639.35	3777858.98	51185.1

Source: MIG 2019

(A) UTM coordinates represent the northwest corner of the source.

Consistent with SCAQMD recommendations, PM_{10} exhaust from diesel vehicles travelling along I-210 was evaluated in the HRA. The emission rate for the segment of I-210 modeled in the operational HRA was derived from diesel vehicle emission factors and vehicle population data contained in CARB's EMFAC model and annual average daily traffic volume data available from Caltrans. Using EMFAC data (for the Los Angeles South Coast Sub-Area), an average diesel emission factor, in terms of grams per mile, was developed for each vehicle class, based on a speed of 65 miles per hour. Then the population percentage for each vehicle class was multiplied by the annual average daily trips (AADT) for the segment of I-210 adjacent to the Project area, between Huntington Drive and South Myrtle Avenue (252,000 vehicles), to determine the total amount of diesel vehicles traveling adjacent to the Project area. This diesel vehicle estimate was then multiplied by the total segment length (0.63 miles) to determine the total miles travelled by each vehicle class. The total miles travelled were then multiplied by the average emission factor to determine total diesel vehicle emissions emitted from the modeled portion of I-210. Table 5-17 summarizes the average emission factors, vehicle class population percentage, vehicle miles traveled, and total diesel emissions occurring within the modeled source.

Table 5-17: AERMOD Source Emissions Rate Information

Vehicle Class	Emission Factor at 65 MPH (grams per mile)(A)	Vehicle Population(B)	Vehicle Miles Traveled(C)	Total Daily PM_{10} Emissions (Grams)(D)	Total Daily PM_{10} (Grams Per Second)(E)
LDA	0.001611306	0.49%	776	1.2509421	1.44785E-05
LDT1	0.028116599	0.00%	5	0.1499634	1.73569E-06
LDT2	0.003345548	0.13%	206	0.6903391	7.99004E-06
LHDT1	0.006014986	0.91%	1,453	8.7415092	0.000101175

Table 5-17: AERMOD Source Emissions Rate Information

Vehicle Class	Emission Factor at 65 MPH (grams per mile)(A)	Vehicle Population(B)	Vehicle Miles Traveled(C)	Total Daily PM_{10} Emissions (Grams)(D)	Total Daily PM_{10} (Grams Per Second)(E)
LHDT2	0.010734683	0.37%	589	6.3226286	7.31786E-05
HHDT	0.033787693	0.76%	1,217	41.133135	0.000476078
MDV	0.001345391	0.28%	450	0.6054664	7.00771E-06
MH	0.038410995	0.08%	130	5.0052745	5.79314E-05
MHDT	0.015244088	0.85%	1,363	20.783071	0.000240545
OBUS	0.023503175	0.04%	65	1.5253977	1.76551E-05
SBUS	0.018215134	0.05%	74	1.3460165	1.55789E-05
UBUS	0.003787529	0.00%	0	0.0008114	9.39173E-09
Total	--	3.96%	6,330	65.888827	7.62602E-04

Source: EMFAC2017 and Caltrans 2016

(A) Emission factors represent the average emission factor for the vehicle class over the 2023 to 2050 time period. Emission factors are reported for a speed of 65 miles per hour.

(B) Population percentage reflects the proportion of each vehicle class out of the total amount of vehicles in the Los Angeles (South Coast) sub-area.

(C) Vehicle miles travelled is estimated by multiplying the vehicle population percentage times 252,000 (the ADT on I-210), times the modeled segment length (0.63 miles).

(D) Total Daily emissions is estimated by multiplying the vehicle miles travelled by the average emission factor.

(E) Grams per second is derived based on 86,400 seconds per day.

The release height for the modeled source was set to 3.28 meters to approximate an average of height of all vehicle exhaust sources.

Meteorological Data Inputs. AERMOD requires meteorological data as an input into the model. The meteorological data is processed using AERMET, a pre-processor to AERMOD. AERMET requires surface meteorological data, upper air meteorological data, and surface parameter data such as albedo (reflectivity) and surface roughness. For the proposed Project, pre-processed surface data from the SCAQMD was obtained for the Azusa meteorological station. The wind rose for the Azusa meteorological station data is shown above in Figure 2-1.

Terrain Inputs. Terrain was incorporated by using AERMAP (an AERMOD pre-processer) to import the elevation of the Project site using data from the National Elevation Dataset with a resolution of 1/3 arcsecond.

Modeled Receptors. Emissions were modeled in a single-tier fenceline grid. The single tier consisted of 5-meter spacing from the fenceline for a distance of 25 meters. Primary and intermediate (spaced every 5 meters) were also modeled. The receptor grids were then converted to discrete Cartesian receptors (1,529 in total). Receptors were modeled at heights of 0.0 and 10 meters and (33 feet) above the ground.

Cancer Risk. Cancer risk is the calculated, pollutant-specific estimated probability of developing cancer based upon the dose and exposure to the TAC. Cancer risk is determined by calculating the combinatory effects of a cancer potency factor (CPF) when inhaling the toxic, the daily inhalation dose, the age group the receptor is cohort to, the duration of exposure over a lifetime (70 years), and other factors such as age sensitivity and the amount of time spent at the location of exposure.

For the proposed Project, risks were assessed for the inhalation pathway (i.e., breathing) for both residential and worker receptors. Additionally, residential receptors were assessed under a 70-year exposure duration to further detail potential risk to those under lifetime exposure. Cancer risk equations for residential receptors is summarized in Table 5-18 and Table 5-19.

Table 5-18: Cancer Risk Equations

Equation 1 - Residential Risk: $$RISK_{INH.RES} = DOSE_{AIR.RES} \times CPF \times ASF \times \frac{ED}{AT} \times FAH$$

Where:

$DOSE_{AIR}$ =	Daily Inhalation Dose (mg/kg-day). See Table 5-19
CPF =	Cancer Potency Factor for Inhalants (mg/kg-day). CPF is expressed as the 95th percent upper confidence limit of the slope of the dose response curve under continuous lifetime exposure conditions. The CPF for diesel exhaust is 1.1 mg/kg-day.
ASF =	Age Sensitivity Factor. ASF is a protective coefficient intended to take into account increased susceptibility to long-term health effects from early-life exposure to TACs. The recommended ASFs are 10 for the third-trimester to birth and two-year age bins, three for the two-year to nine-year and 16-year age bins, and one for receptors over 16 years of age.
ED =	Exposure Duration (years). Exposure duration characterizes the length of residency (30 Years) of the receptor.
AT =	Averaging Time (years). A 70-year (lifetime) averaging time is used to characterize to total risk as a factor of average risk over a typical lifespan.
FAH =	Fraction at Home. FAH is the percentage of time the receptor is physically at the receptor location. The recommended percentages are 85 percent for the third-trimester to birth and two-year age bins, 72 percent for the two-year to nine-year and 16-year age bins, and 73 for receptors over 16 years of age.

Table 5-19: Inhalation Dose Equations

Residential Dose $$DOSE_{AIR.RES} = C_{AIr} \times \frac{BR}{BW} \times A \times EF \times 10^{-6}$$

Where:

C_{AIR} =	Concentration of TAC in air (µg/m^3). Concentration of toxic in micrograms per one cubic meter of air. The AERMOD program is used in the study to determine concentrations of diesel particulate matter at surrounding discrete and grid receptor points.
BR/BW =	Breathing Rate ÷ Body Weight (L/kg/day). Daily breathing rate normalized to body weight. The 95th percentile breathing rate to body weight ratios are used in this study with a recommended 361 L/kg/day for the third-trimester to birth age bin, 1,090 L/kg/day for the birth to two-years age bin, 861 L/kg/day for the two-years to nine-years age bin, 745 for the two-years to 16-years age bin, 335 L/kg/day for the 16-years to 30-years age bin, and 290 L/kg/day for the 16-years to 70-years age bin.
A =	Inhalation Absorption Factor. Is a coefficient that reflects the fraction of chemical absorbed in studies used in the development of CPF and Reference Exposure Levels (RELs). An absorption factor of one is recommended for all chemicals.
EF =	Exposure Frequency. EF is the ratio of days in a year that a receptor is receiving the dose. The recommended EF is 0.96 characterizing an assumed 350 days a year that a residential receptor is home for some portion of the day.

Maximally Exposed Individual Resident. Cancer risk was assessed for the maximally exposed individual resident (MEIR) in the Project area over a 30-year exposure duration (which characterizes the maximum residency tendency in California). The Point of Maximum Impact (PMI) was also determined. The MEIR is the location of the resident expected to have the highest exposure to TACs. The PMI corresponds to the location where the highest concentration of TACs is expected. Residential risk calculations account for presumed sensitivity to carcinogens and differences in intake rates for the third-trimester to birth, birth to two-years, two-years to nine-years, two-years to 16-years, 16-years to 30-years, and 16-years to 70 years age bins. Concentrations were modeled using AERMOD and then input into CARB's Hot Spots Analysis

and Reporting Program (HARP) Health Risk Assessment Standalone Tool (RAST) to calculate cancer risk based on the methods and recommendations found in the OEHHA HRA Guidelines. The RAST intake rate percentile was set to the 95th percentile and the fraction of time at home factor was applied to age bins less than 16 years. The resulting annual average DPM concentration and corresponding excess cancer risk at the MEIR are summarized in Table 5-19. For this analysis, two MEIRs were identified: the MEIR in the Alexan Foothills Specific Plan area only and the MEIR in ZCA Areas A and C. The PMI is located off-site, adjacent to West Evergreen Avenue in an area that would not be occupied by residential receptors; cancer risks at this location, therefore, were not estimated.

Modeling Results. The results of the modeling indicate that, in general, DPM concentrations are higher on the northern and western side of the Project area. This is due to the proximity of the northern Project boundary to the I-210. In general, the estimated cancer risks along the northern Project area boundary range from 21.1 to 25.7, while risks along the southern Project area boundary range from 7.5 to 10.2 (see Appendix C for more details). The MEIR for the Alexan Foothills Specific Plan area is located near the center of the Project area, while the MEIR for ZCA Areas A and C is located near the corner of West Evergreen Avenue and Mayflower Avenue. Table 5-20 summarizes the location, annual average concentration, and calculated excess cancer risk at the modeled MEIR locations.

Table 5-20: Estimated Cancer Risk at PMI, MEIR, and MEIR (Uncontrolled I-210 DPM Emissions)

Receptor	UTM Location		Annual Average DPM Concentration ($\mu g/m^3$)	Excess Cancer Risk (per million population)	Threshold Exceeded?
	Easting	Northing			
PMI(A)	406946.81	3777692.37	0.07087	--	--
MEIR (in Alexan Foothills Specific Plan area)	407063.01	3777615.42	0.03481	23.7	Yes
MEIR (in ZCA Areas A and C)	406932.28	3777671.45	0.03768	25.7	Yes

Source: MIG 2019

The PMI is located in a public roadway and is not an occupied nor a potential receptor location. Therefore, cancer risk was not calculated

As shown in Table 5-20, site-specific cancer risks are much lower than CARB's MATES IV results, but uncontrolled DPM emissions would generate cancer risks in the Project area that are above the SCAQMD recommended cancer risk thresholds (10 cases of cancer per a population of one million) by a factor of approximately 2.5 as a worst case. This would occur along the northern portion of the Project area. Potential risks in the southern portion of the Project area, however, would be much lower (by approximately one-half or more) and either below or only slightly above the thresholds (10.2 cases in one million). Parts of the Alexan Foothills Specific Plan in the southeast corner of the Project area would also be exposed to risks that are below the SCAQMD cancer risk threshold. Without control of DPM emissions, therefore, vehicle emissions from the I-210 have an adverse impact on sensitive receptors in the Project area, and the addition of DPM emissions to the area from project vehicle trips could exacerbate this condition. It is important to note, however, that the above estimates are conservative and are likely to overestimate potential risks for the following reasons:

1. The lifetime exposure for a sensitive receptor was assumed to begin in the 3rd trimester (i.e., in the womb) in the Project area and it was assumed that sensitive receptors would then continue to be exposed through the infant stage and into early childhood. Risks to adult receptors (receptors older than 16 at the time of initial exposure) would be much lower (approximately 80% lower and less than the SCAQMD carcinogenic risk threshold).
2. The HRA estimates are based on near continuous exterior exposure at property line locations. Concentrations within the interior of the property where receptors would actually be located would be lower.
3. Because the project is an infill, transit-oriented development, it would result in an overall reduction of vehicle miles traveled by residents and workers in the City of Monrovia, thereby reducing overall traffic in the City and along the I-210. This is one of CARB's strategies for reducing air pollution exposure near high-volume roadways (CARB 2017).
4. The HRA does not take into account any reductions in PM that would be achieved by mechanically supplied air systems. Specifically, the 2019 amendments made to the California Building Standards Code, set to go into effect on January 1, 2020, would require high-rise[9] multifamily dwellings within 500 feet of busy roadways (more than 100,000 ADT) to use HVAC systems and filters with a Minimum Efficiency Rating Value (MERV) of 13. MERV-13 filters can remove up to 90% of particles less than 10 microns in size, which would result in a corresponding reduction in exposure to PM_{10} and associated adverse health risks by 90%. While the California Building Standards code would require these HVAC systems to be appropriately designed and sized for individual dwelling units, the long-term air quality benefit and risk reduction realized by these enhanced filtration systems would be dependent in part, on individual owners and occupants of each dwelling unit (due to system maintenance and filter replacement requirements). Nonetheless, less efficient filters, such as a MERV-8, can remove up to 70% of particles less than 10 microns in size, which would result in a corresponding reduction in exposure to PM10 and associated adverse health risks by 70%. A 70% reduction in modeled PM concentrations (i.e., indoor air quality levels) would reduce risks to levels below the SCAQMD threshold.

For the reasons outlined above, it is reasonable to assume that installation of HVAC systems with MERV-8 or MERV-13 filters in the Project area would reduce cancer risk to below SCAQMD significance thresholds. For full effectiveness, the HVAC system must be in operation at all times while residents are inside their unit and must be properly maintained. In addition, HVAC systems may not be a California Building Code requirement for all new structures in the Project area. Therefore, effects would be significant without additional mitigation. Therefore, to ensure indoor air quality concentrations remain at or are lower than the estimates presented in Table 5-20 for all residents in the Project area, mitigation measure MM AIR-2 requires installation of HVAC systems in all new residential buildings with a MERV of 13 and would ensure that all HVAC systems are maintained on a regular basis and that filters are replaced as required to

[9] A high-rise building is defined by the California Building Code as any building used for human occupancy greater than 55 feet above the lowest level of Fire Department vehicle access. For the purposes of compliance with prescriptive indoor air quality requirements, the building energy efficiency standards consider a high rise residential building to be any building with four or more habitable stories.

ensure their effectiveness. With implementation of this mitigation measure, buildout under the Project would not exacerbate cancer risk associated with DPM emissions, including from the I-210.

Mitigation Measures

MM AIR-2: For all new residential units in the Project area, the developer shall install, and owner maintain, HVAC systems with air filters meeting or exceeding the most current California Building Standards Code requirement for an ASHRAE Standard 52.2 Minimum Efficiency Rating Value (MERV) of 13 (a Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size). Air filters shall be replaced at a minimum of two times per year, or more, as needed, by the owner.

Requirements and Timing: This measure shall be printed on construction drawings and included as a requirement of the construction contract for new residential buildings. This measure shall also be recorded in a Notice to Property Owner for the Alexan Specific Plan units and for each new residential property within the Project area.

Monitoring: City Planning staff shall confirm that HVAC units and MERV-13 filters (or better) are installed in accordance with this measure prior to final sign off on construction for all new residential units. City Planning staff shall also review and approve of the Notice to Property Owner language and ensure recordation prior to final sign-off on construction of new residential units in the Project area.

Population-Wide Cancer Burden. Cancer burden is the product of public cancer risk and the population exposed to the carcinogen. The population of the Alexan Foothills Specific Plan and the remaining GP/ZCA area is conservatively estimated to be 1,169 people (see Table 5-3). Using the higher of the two MEIRs identified in Table 5-20, the average cancer risk based on the lifetime exposure scenario (70 years) is 3.02E-05 (approximately 30 cases per million people). The product of cancer risk and the estimated population is 0.036 and is below the SCAQMD threshold of 0.5 excess cancer cases in the Project population.

Non-Cancer Risks. The chronic non-cancer hazard quotient is the calculated pollutant-specific indicator for risk of developing an adverse health effect on specific organ system(s) targeted by the identified TAC, in this case, DPM. The potential for exposure to result in chronic non-cancer effects is evaluated by comparing the estimated annual average air concentration to the chemical-specific, non-cancer chronic reference exposure levels (RELs). The REL is a concentration below which there is assumed to be no observable adverse health impact to a target organ system. When calculated for a single chemical, the comparison yields a ratio termed a hazard quotient. The annual average air concentration is divided by the REL to calculate a hazard quotient. To evaluate the potential for adverse chronic non-cancer health effects from simultaneous exposure to multiple chemicals, the hazard quotients for all chemicals are summed, yielding a hazard index. The chronic REL for DPM was established by OEHHA as 5 µg/m^3. There is no acute REL for DPM. Chronic non-cancer risks are considered significant if a project's TAC emissions result in a hazard index greater than or equal to one. Non-cancer risk equations are summarized in Table 5-21.

Table 5-21: Non-Cancer Risk Equation	
Chronic Hazard Quotient:	$HI_{DPM} = \frac{C_{DPM}}{REL_{AAC}}$
Where:	
HI_{DPM} =	Hazard Index; an expression of the potential for non-cancer health effects.
C_{DPM} =	Annual average DPM concentration (µg/m^3).
REL_{DPM} =	Reference exposure level (REL) for DPM; the DPM concentration at which no adverse health effects are anticipated.

Existing sensitive receptors are exposed to air pollution associated with motor vehicles travelling on the I-210, located adjacent to the Project area. As shown in Table 5-20, the annual average DPM concentration associated with vehicle emissions along the I-210 at the PMI is 0.07087, which yields a chronic hazard quotient of 0.014, which is less than the SCAQMD threshold of 1.0. As indicated above, the PMI is not an occupied receptor location; thus, the calculated hazard quotient at all other receptor locations would be less than 0.001 and less than the SCAQMD threshold of 1.0.

Operational - Exacerbation of Existing I-210 Emissions and Risks

In addition, as shown in Table 5-8 through Table 5-15, operation of the Project would not exceed any regional or local significance thresholds recommended for use by the SCAQMD. All emissions of PM, including DPM, would be substantially below LST thresholds. In addition, any emissions would be dispersed along multiple vehicle travel routes, reducing the potential for the Project to exacerbate pollutant concentrations in any one area. Therefore, the proposed Project would not have a considerable contribution to DPM emissions in the area and would not significantly exacerbate I-210 vehicle emissions or the potential adverse health risks associated with these emissions.

In addition, as discussed above, the proposed Project would not exceed SCAQMD-recommended thresholds for regional pollutants with the incorporation of standard conditions and Mitigation Measure AIR-1, nor would it exceed SCAQMD-recommended thresholds for localized pollutants. As explained in Section 5.1.2, the SCAQMD's LST thresholds represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standards. In developing the CAAQS and NAAQS, the U.S. EPA and CARB considered scientific evidence linking exposure to air pollutants to health risks. Although each individual's health characteristics, environment, and pre-disposition to adverse respiratory health effects is different, compliance with the CAAQS and NAAQS is intended to protect the most sensitive individuals.

Children's Respiratory Health

The presence of pollutants in ambient and indoor air, as well as other factors such as humidity level, can affect respiratory health by making it harder to breath, damaging tissue, and/or modifying symptoms of pre-existing conditions. Most pollutants can affect respiratory health (see Section 2.1.1). PM can pass through the throat and lungs and if small enough even enter the bloodstream. CO can reduce oxygen delivery to the body's organs. NO_X can inflame the respiratory tract. In particular, air pollutants, can trigger asthmatic responses, especially in children.

According to the OEHHA CalEnviroScreen 3.0 report (2017a), asthma is a disease that affects the lungs and makes it hard to breathe. Symptoms include breathlessness, wheezing, coughing, and chest tightness. While the causes of asthma are poorly understood, it is well established that exposure to traffic and outdoor air pollutants, including PM, O_3, and DPM can trigger asthma attacks. Nearly three million

Californians currently have asthma and about five million have had it at some point in their lives. Children, the elderly and low-income Californians suffer disproportionately from asthma. Asthma increases an individual's sensitivity to pollutants. Children living near major roadways and traffic corridors in California have been shown to suffer disproportionate rates of asthma, and DPM has been implicated as a potential cause of new-onset asthma (CARB 2017).

As described above, CalEnviroScreen data indicate that the Project area's census tract is in the 20th percentile for asthma, meaning that the asthma rate in this census tract is higher than 20% of the census tracts in the State (OEHHA 2018). This factor indicates that adverse respiratory health is not prevalent in the census tract in which the proposed Project area is located, and that the existing conditions in the census tract are such that sensitive receptors, including children, are in an area of lower risk for adverse respiratory health effects.

In addition, with implementation of standard conditions and mitigation measures MM AIR-1 and MM AIR-2, the proposed Project's air emissions would remain below SCAQMD health risk thresholds as well as SCAQMD-recommended LST thresholds that represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable Federal or State ambient air quality standards. In developing the CAAQS and NAAQS, the U.S. EPA and CARB considered scientific evidence linking exposure to air pollutants to health risks, including the potential to exacerbate asthma symptoms. Although each individual's health characteristics, environment, and pre-disposition to adverse respiratory health effects is different, compliance with the CAAQS and NAAQS, as well as health risk thresholds, is intended to protect the most sensitive individuals, including and especially, children.

Therefore, the proposed Project would not place sensitive receptors, including children, in conditions that are associated with or have a high existing rate of adverse respiratory health effects, and Project emissions would be below the levels that have been studied and developed by the U.S. EPA, CARB, and the SCAQMD to be protective of children's respiratory health.

5.3.4 Odors

According to the SCAQMD CEQA Air Quality Handbook, land uses associated with odor complaints include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations (such as manufacturing uses that produce chemicals, paper, etc.). The proposed Project does not include such sources but would result in the construction of a new apartment complex and parking garage that could generate odors related to vehicle parking and refuse collection (e.g. oils, lubricants, fuel vapors, short-term waste odors). These activities would not generate sustained odors that would affect substantial numbers of people. In addition, although industrial land uses are present east of the Project area, these sources are unlikely to generate objectionable odors in the Project area given the typical meteorological patterns present (see Figure 2-1).

6 GREENHOUSE GAS IMPACT ANALYSIS

This chapter evaluates the GHG impacts that could result from implementation of the proposed Alexan Foothills Specific Plan and ZCA Areas A and C. Unlike air quality, which is influenced by local and regional factors and is therefore considered on the local or regional scale, the effects of global climate change are the result of GHG emissions worldwide; individual projects do not generate enough GHG emissions to influence global climate change. Thus, the analysis of GHG emissions is by nature a cumulative analysis focused on whether an individual project's contribution to global climate change is cumulatively considerable.

6.1 SIGNIFICANCE CRITERIA

In accordance with Appendix G of the State CEQA Guidelines, the proposed Project could result in potentially significant GHG impacts if it would:

(a) Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment; or

(b) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHG; or

To date, the SCAQMD has not adopted a numerical threshold for determining the significance of GHG emissions in the Basin; however, to provide guidance to local lead agencies on determining the significance of GHG emissions in their CEQA documents, the SCAQMD convened a GHG Significance Threshold Working Group (Working Group) meeting on April 30, 2008. In December, 2008, the SCAQMD Governing Board adopted a GHG significance threshold of 10,000 MTCO2e for industrial projects where the SCAQMD is lead agency; however, the City would be the lead agency for the proposed Project. The SCAQMD has not formally adopted GHG thresholds for local lead agency consideration; however, to date, the Working Group has convened a total of 15 times, with the last meeting taking place on September 28, 2010. At this last meeting, SCAQMD presented their proposed GHG thresholds for use by local lead agencies. The proposed thresholds are tiered as follows:

- Tier 1 consists of evaluating whether or not the project qualifies for applicable CEQA exemptions.
- Tier 2 consists of determining whether or not a project is consistent with a greenhouse gas reduction plan. If a project is consistent with a greenhouse gas reduction plan, it would not have a significant impact.
- Tier 3 consists of using screening values at the discretion of the Lead Agency; however, the Lead Agency should be consistent for all projects within its jurisdiction. The following thresholds were proposed for consideration:
  - 3,000 MTCO2e/year for all land use types; or
  - 3,500 MTCO2e/year for residential; 1,400 MTCO2e/year for commercial; 3,000 MTCO2e/year for mixed-use projects.
- Tier 4 has three options for projects that exceed the screening values identified in Tier 3:
  - Option 1: Reduce emissions from business as usual by a certain percentage (currently undefined)
  - Option 2: Early implementation of applicable AB 32 Scoping Measures
  - Option 3: For plan-level analyses, analyze a project's emissions against an efficiency value of 6.6 MTCO2e/year/SP in 2020 and 4.1 MTCO2e/year/SP by 2035. For project-level

analyses, analyze a project's emissions against an efficiency value of 4.8 and 3.0 MTCO2e/year/SP for the 2020 and 2035 calendar years, respectively.

6.2 ANALYSIS METHODOLOGY

Tier 3 and Tier 4 thresholds were used as significance criteria in this analysis to determine if GHG emissions under the proposed Project would have a significant effect on the environment. A project level analysis was applied to the Alexan Foothills Specific Plan since it involves a specific development project pursuant to City regulations; however, a program level analysis was applied to the remainder of the GP/ZCA area because a specific development plan is not currently proposed nor considered at this time.

For potential environmental impacts, mitigation measures were designed to avoid or reduce each effect to a less than significant level, where possible.

6.3 ENVIRONMENTAL IMPACTS

6.3.1 Generation of Greenhouse Gas Emissions

This report quantifies and evaluates the potential GHG emissions resulting from by the Alexan Foothills Specific Plan and the remainder of the GP/ZCA area. Each individual Project component's GHG emissions are presented and discussed below, and the resulting combined emissions that would occur from both project components are presented and nor considered at this time

The proposed Project would generate GHG emissions from both short-term construction and long-term operational activities. As described in more detail below, the proposed Project would not generate short-term or long-term emissions that exceed SCAQMD-recommended pollutant thresholds.

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Construction Emissions. Construction activities would generate GHG emissions primarily from equipment fuel combustion as well as worker, vendor, and haul trips to and from the Project site during demolition, site preparation, grading, building construction, paving, and architectural coating activities. Construction activities would cease to emit GHG upon completion, unlike operational emissions that would be continuous year after year until the Project is decommissioned. Accordingly, the SCAQMD recommends amortizing construction GHG emissions over a 30-year period. This normalizes construction emissions so that they can be grouped with operational emissions and compared to appropriate thresholds, plans, etc. GHG emissions from construction of the proposed Alexan Foothills Specific Plan were estimated using CalEEMod, Version 2016.3.2, based on the anticipated construction schedule and construction activities described earlier in this report. The estimated construction GHG emissions resulting from the Alexan Foothills Specific Plan are presented below in Table 6-1.

Table 6-1: Estimated Construction GHG Emissions for the Alexan Foothills Specific Plan				
Construction Year	**GHG Emissions (Metric Tons / Year)**			
	CO_2	**CH_4**	**N_2O**	**Total $MTCO_2e$**
2020	1,061.7	0.13	0.00	1,064.9
2021	1,297.5	0.11	0.00	1,300.3
2022	292.4	0.03	0.00	293.3
Total	2,651.60	0.27	0.00	2,658.50
Total Amortized Emissions(A)	88.4	<0.00(B)	<0.00(B)	88.5

Source: MIG 2019 (see Appendix A).

(A) Emissions amortized over 30 year-period for inclusion in total GHG emissions.

(B) "<0.0" does not indicate the emissions are less than or equal to 0; rather, it indicates the emission is smaller than 0.01, but larger than 0.000.

Operational Emissions. Once operational, the Alexan Foothills Specific Plan would result in continuous GHG emissions from mobile, energy, and area sources. Mobile sources would result primarily in emissions of CO_2, with emissions of CH_4 and NO_2 also occurring in minor amounts. In addition to mobile sources, GHG emissions would also be generated from natural gas usage, electricity use, water conveyance and use, wastewater treatment, and solid waste disposal. Natural gas use would result in the emission of two GHGs: CH_4 (the major component of natural gas) and CO_2 (from the combustion of natural gas). Electricity use associated with both the physical usage of the development, as well as the energy needed to transport water/wastewater, would result in the production of GHGs if the electricity is generated through non-renewable sources (i.e., combustion of fossil fuels). Solid waste generated by the proposed Project, would contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy when transporting and managing the waste. In addition, landfilling, the most common waste management practice, results in the release of CH_4 from the decomposition of organic materials.

Potential operational GHG emissions resulting from the Alexan Foothills Specific Plan were modeled using CalEEMod, Version 2016.3.2. The total GHG emissions associated with the Alexan Foothills Specific Plan are presented below in Table 6-2, based on an operational year of 2023. To account for all potential GHG emissions generated through construction and operational activities, the amortized construction emissions calculated in Table 6-1 have been added to Alexan Foothills Specific Plan operational GHG emissions estimate.

As shown in Table 6-2, construction and operation of the Alexan Foothills Specific Plan would result in a net increase in GHG emissions equal to 2,438.3 $MTCO_2e$ per year. This net emissions increase is below the SCAQMD Tier 3 "bright-line" threshold of 3,000 $MTCO_2e$.

In addition, as shown in Table 6-2, the Alexan Foothills Specific Plan would result in a GHG efficiency of 3.8 $MTCO_2e$/yr/service population. This value is below the SCAQMD's 2020 project-level efficiency target of 4.8 $MTCO_2e$/yr/service population; however, the Alexan Foothills Specific Plan would be operational after 2020, in Year 2023. Therefore, it is not necessarily appropriate to compare the 2023 Alexan Foothills Specific Plan GHG efficiency to the SCAQMD 2020 efficiency threshold. Conversely, it is not appropriate to directly compare the 2023 Alexan Foothills Specific Plan GHG efficiency to a 2035 efficiency target since the current modeling does not account for any energy or mobile source improvements embedded in a future efficiency target. Therefore, to compare the Alexan Foothills Specific Plan to the SCAQMD 2035 efficiency target of 3.0 $MTCO_2e$/yr/service population, operational emissions

were modeled using CalEEMod Version 2016.3.2 with the operational year set to 2035, to reflect the expected reduction in energy and mobile source emissions that will occur with implementation of the State RPS and advances in vehicle emission and other standards adopted by the State (see Section 3.4). The 2035 modeling only accounted for changes to energy and mobile source emissions as a result of increased renewable energy generation under the RPS standard and fleet turnover and improved vehicle emission standards associated with a 2035 operational year. The 2035 amortized construction and operational emissions for the Alexan Foothills Specific Plan, as estimated using CalEEMod (see Appendix A), are estimated to be 2,961.4 $MTCO_2e$/yr. Dividing through by the service population for the Alexan Foothills Specific Plan (980 residents), the result Year 2035 GHG efficiency is 3.0 $MTCO_2e$/yr/service population, which does not exceed the SCAQMD 2035 efficiency target of 3.0. Thus, the proposed Alexan Foothills Specific Plan would result in less than significant levels of GHG emissions and not impede progress towards the State's GHG reduction goals.

Table 6-2: Estimated Operational GHG Emissions for the Alexan Foothills Specific Plan

Emission Source	GHG Emissions ($MTCO_2e$ / Year)		
	Existing[A]	Proposed	Net Change
Area	0.4	7.8	+7.5
Energy	416.4	1,298.2	+881.8
Mobile[B]	697.7	2,002.4	+1,304.7
Waste	54.7	25.4	-29.3
Water	100.1	285.12	+185.0
Amortized Construction	–	88.5	+88.3
Total[C]	1,269.2	3,707.5	+2,438.3
SCAQMD Tier 3 Screening Threshold	–	–	3,000
SCAQMD Tier 3 Threshold Exceeded?	–	–	No
Estimated Service Population[D]	133 [E]	980[F]	+847
Estimated GHG Efficiency ($MTCO_2e$/yr/service population)	9.5	3.8	-5.7
SCAQMD Tier 4 Project-Level Efficiency Threshold	–	4.8	–
SCAQMD Tier 4 Threshold Exceeded?	–	No	–

Source: MIG 2019 (see Appendix A).

Notes:

(A) See Table 3-3 for existing GHG emissions in Alexan Foothills Specific Plan area.

(B) CalEEMod 2016.3.2 does not incorporate GHG emissions reductions resulting from the State's LCFS. Although LCFS largely reduces GHG from upstream fuel processing (and not individual tailpipe) the aggregate effect on transportation fuels is a reduction in GHG emissions throughout the state from lower fuel carbon content. Accordingly, this Report's analysis reduces transportation combustion emissions pursuant to LCFS requirements. Based on the latest estimate available from CARB, the LCFS regulation resulted in a 2.5% reduction in average carbon intensity content in 2016 and should result in a 5% reduction in average carbon intensity in 2018. The current LCFS regulation also requires a 10% reduction in average carbon intensity by 2020. Thus, CalEEMod transportation emissions were adjusted by multiplying by a factor of .95 (existing conditions) and 0.90 (proposed Project) to account for the LCFS regulation (CARB 2018a, 2018b).

(C) Totals may not equal due to rounding.

(D) Service population is defined as the number of employees and residents living and working within the Project area. The existing land uses include a mix of employees and residents; however, the Alexan Foothills Specific Plan service population is based on residents only.

(E) Based upon the U.S. Green Building Council's (2008) average SF/employee: Place of Worship is 6,630 square feet (SF)/1,250 SF/employee = 5.3 employees, for General Light Industrial is 56,190 SF/463 SF/employee = 121.4 employees, and Office Building (100,000 SF or less) is 706 SF/221 SF/employee = 3.19 employees. According to the U.S. Census Bureau the average household size in Monrovia is 2.77 persons (1 unit X 2.77 persons/unit =2.77 persons). This yields a total service population of 133.

(F) According to the U.S. Census Bureau, the average persons per bedroom in Monrovia is 1.536. Given this, under the scenario of 439 units, the Alexan Foothills Specific Plan would accommodate 980 residents (Studio: 24 x 1 x 1.536 = 37; 1 Bedroom: 232 x 1 x 1.536 = 356; 2 Bedrooms: 167 x 2 x 1.536 = 513; and 3 Bedroom: 16 X 3 X 1.536 = 74). A total of 436 units is proposed under the Alexan Foothills Specific Plan, however, 439 units were analyzed.

ZCA Areas A and C

The short-term construction and long-term operational emissions associated with ZCA Areas A and C were estimated using the same methodology (CalEEMod) as described above for the Alexan Foothills Specific Plan. As was done for the Alexan Foothills Specific Plan modeling, default energy assumptions were reduced to account for the recent adoption of the 2019 energy efficiency code, and solid waste was assumed to be diverted at a rate of 75% pursuant to AB 341. Although traffic was calculated in the TIA for the Project (LSA 2018), default trip generation rates were used for emissions calculations. The use of default trip generation rates is likely to overestimate mobile source emissions since the Project's proximity to the Monrovia Metro Station is likely to reduce vehicle trips compared to default values. The construction and operational emissions associated with the ZCA Areas A and C are summarized in Tables 6-3 and 6-4 below.

Table 6-3: Estimated Construction GHG Emissions for Buildout of ZCA Areas A and C

Source	GHG Emissions (Metric Tons / Year)			
	CO_2	CH_4	N_2O	Total $MTCO_2e$
Annual Average Construction GHG Emissions				
2021	209.82	0.03	0.00	210.67
2022	166.35	0.03	0.00	166.98
Total	376.2	0.06	0.00	377.65
Total Amortized Emissions(A)	12.54	0.002	0	12.59

Source: MIG 2019 (see Appendix A).
(A) Emissions amortized over 30 year-period for inclusion in total GHG emissions.

Table 6-4: Total GHG Emissions for Buildout of ZCA Areas A and C

Source	GHG Emissions ($MTCO_2e$ / Year)		
	Existing(A)	Buildout	Net Change
Area	1.4	1.4	+0.06
Energy	202.2	193.34	-8.8
Mobile(B)	227.7	569.3	+341.6
Waste	16.1	4.7	-11.4
Water	45.8	53.23	+7.5
Amortized Construction	–	12.6	+12.6
Total(C)	493.2	834.7	+341.5
SCAQMD Tier 3 Screening Threshold	–	–	3,000
SCAQMD Tier 3 Threshold Exceeded?	–	–	No
Estimated Service Population(D)	55(E)	227(F)	+172
Estimated GHG Efficiency ($MTCO_2e$/yr/service population	9.6	3.7	-5.9
SCAQMD Tier 4 Plan-Level Efficiency Threshold	–	6.6	–
SCAQMD Tier 4 Threshold Exceeded?	–	No	–

Source: MIG 2019 (see Appendix A).
Notes:
(A) See Table 3-3 for existing GHG emissions in Alexan Foothills Specific Plan area.
(B) CalEEMod 2016.3.2 does not incorporate GHG emissions reductions resulting from the State's LCFS. Although LCFS largely reduces GHG from upstream fuel processing (and not individual tailpipe) the aggregate effect on transportation fuels is a reduction in GHG emissions throughout the state from lower fuel carbon content. Accordingly, this Report's analysis reduces transportation combustion emissions pursuant to LCFS requirements. Based on the latest estimate available from CARB, the LCFS regulation resulted in a 2.5% reduction in average carbon intensity content in 2016 and should result in a 5% reduction in average carbon intensity in 2018. The

current LCFS regulation also requires a 10% reduction in average carbon intensity by 2020. Thus, CalEEMod transportation emissions were adjusted by multiplying by a factor of .95 (existing conditions) and 0.90 (proposed project) to account for the LCFS regulation (CARB 2018a, 2018b).

(C) Totals may not equal due to rounding.

(D) Service population is defined as the number of employees and residents living and working within the Project area. The existing land uses include a mix of employees and residents; however, the Alexan Foothills Specific Plan service population is based on residents only.

(E) Based upon the U.S. Green Building Council's (2008) average SF/employee for: General Light Industrial is 14,560 SF/463 SF/employee = 31.4 employees, and for Warehouse is 10,120 SF/781 SF/employee = 13 employees. According to the U.S. Census Bureau the average household size in Monrovia is 2.77 persons (4 units x 2.77 persons/unit =11.08). This yields a total service population of 55.

(F) According to the U.S. Census Bureau, the average household size in Monrovia is 2.77 persons (2.77 persons/unit X 82 units = 227.1) = 227 residents at full buildout.

As shown in Table 6-4, construction and operation of ZCA Areas A and C would result in a net increase in GHG emissions equal to 341.5 $MTCO_2e$ per year. This net emissions increase is below the SCAQMD Tier 3 threshold of 3,000 $MTCO_2e$ and would thus represent a less than significant effect; however, it would be inappropriate to use this threshold since ZCA Areas A and C are being analyzed at a programmatic level. Instead, the total GHG emissions within ZCA Areas A and C are evaluated on a per capita basis to determine if GHG emissions in these areas would be consistent with the SCAQMD's Tier 4 analysis. As shown in Table 6-5, the proposed buildout of ZCA Areas A and C in Year 2023 falls below the SCAQMD's 2020 GHG efficiency target of 6.6 $MTCO_2e$/yr/service population, as well as the SCAQMD's 2035 GHG efficiency target of 4.8 $MTCO_2e$/yr/service population.

Combined Alexan Foothills Specific Plan and ZCA Areas A and C Impact Analysis

As described above, this report assumes that construction and operation of the Alexan Foothills Specific Plan and ZCA Areas A and C would occur simultaneously, meaning that both construction and operational emissions for both Project components would overlap and be emitted at the same time. The combined net GHG emissions associated with buildout of the Alexan Foothills Specific Plan ZCA Areas A and C in Year 2023 are presented below in Table 6-5.

Table 6-5: Total Combined GHG Emissions for the Alexan Foothills Specific Plan and ZCA Areas A and C (Year 2023)

Source	GHG Emissions ($MTCO_2e$ / Year)		
	Existing(A)	Project Buildout(B)	Net Change
Area	1.7	9.3	+7.6
Energy	618.5	1,491.6	+873.1
Mobile	925.4	2,571.7	+1,664.3
Waste	70.8	30.1	-40.7
Water	145.9	338.5	+192.5
Amortized Construction	–	101.1	+101.1
Total(C)	1,762.4	4,542.2	+2,779.8
SCAQMD Tier 3 Screening Threshold	–	–	3,000
SCAQMD Tier 3 Threshold Exceeded?	–55	–	No
Estimated Service Population	184	1,207	+1,096
Estimated GHG Efficiency ($MTCO_2e$/yr/service population)	9.6	3.8	-
SCAQMD Tier 4 Project-Level Efficiency Threshold	–	4.8	–
SCAQMD Tier 4 Threshold Exceeded?	–	No	–

Source: MIG 2019 (see Appendix A)
Notes:
(A) See Table 3-3 for the existing emissions within the Project area.
(B) See Tables 6-2 and 6-4 for buildout emissions for the Alexan Foothills Specific Plan and remaining GP/ZCA area, respectively.
(C) Totals may not equal due to rounding.

As shown in Table 6-5, buildout of the full Project would result in a 2,779.8 $MTCO_2e$ increase in GHG emissions from existing conditions. This is below the SCAQMD Tier 3 threshold of 3,000 $MTCO_2e$.

As stated previously, the Alexan Foothills Specific Plan is being analyzed at a project level, while ZCA Areas A and C are being evaluated at a programmatic level. As a conservative (i.e., worst-case) evaluation of potential GHG emission impacts, the combined GHG efficiency of both the Alexan Foothills Specific Plan and ZCA Areas A and C was determined and compared to the SCAQMD's project level Tier 4 efficiency threshold. As shown in Table 6-5, the combined efficiency threshold for the Alexan Foothills Specific Plan and ZCA Areas A and C (3.7 $MTCO_2e$/yr/service population) in Year 2023 would not exceed the SCAQMD 2020 plan GHG efficiency target of 4.8 $MTCO_2e$/yr/service population but would be above the SCAQMD's 2035 project efficiency threshold of 3.0 $MTCO_2e$/yr/service population. As explained above, the operational emissions for the Alexan Foothills Specific Plan as well as ZCA Areas A and C were modeled under year 2035 conditions to account for changes to energy and mobile source emissions as a result continued implementation of the RPS, fleet turnover, and improved vehicle emissions standards; all other inputs were held to 2023 values (e.g., energy efficiency, carbon intensity of SCE electricity, LCFS reductions, solid waste diversion rates, etc.). The 2035 operational emissions (including amortized construction emissions), as estimated using CalEEMod (see Appendix A), are estimated to be 3,630 $MTCO_2e$ per year. Dividing through by the combined service population (1,207) results in a combined efficiency 3.0 $MTCO_2e$/yr/service population, which does not exceed the SCAQMD 2035 project-level target of 3.0 $MTCO_2e$/yr/service population.

6.3.2 Consistency With GHG Reduction Plans

The proposed Project would not conflict with CARB's Scoping Plan, the regional SCS, the City's General Plan, or the City's Energy Plan. The Project's consistency with these plans is described in more detail below.

CARB Scoping Plan

As discussed under Section 3.4.2, the 2017 Climate Change Scoping Plan is CARB's primary document used to ensure State GHG reduction goals are met. The *2017 Climate Change Scoping Plan's* primary objective is to identify the measures needed to achieve the 2030 reduction target established under Executive Order B-30-15 and SB 32. The major elements of the plan are generally geared toward actions either CARB or other state entities will pursue, such as, but not limited to:

- Implementing the LCFS, with an increased stringency (18 percent by 2030);
- Implementation of SB 350, which expands the RPS to 50 percent and doubles energy efficiency savings; and
- Implementing the proposed Short-Lived Climate Pollutant Strategy, which focuses on reducing CH_4 and hydrocarbon emissions by 40 percent and anthropogenic black carbon emissions by 50 percent by the year 2030.

Although most of these measures would be implemented at the State level, the GHG reductions achieved by these state measures would be realized at the local level. For example, regardless of actions

taken by the City, emissions generated through gasoline combustion in motor vehicles within Monrovia would produce less GHG in 2030 than they do now. As shown in Table 6-5, the proposed Alexan Foothills Specific Plan and ZCA Areas A and C would meet the recommended plan-level efficiency threshold of 6 $MTCO_2e$ per capita per year by 2030 and would therefore contribute to the substantial progress necessary to achieve the *2017 Climate Change Scoping Plan* target of a 2 $MTCO_2e$ per capita per year threshold in Year 2050. The proposed Project, therefore, would not conflict with the goals of the *2017 Climate Change Scoping Plan.*

In addition to State measures, Appendix B to CARB's *2017 Climate Change Scoping Plan* identifies potential actions that could be undertaken at a local level to support the State's climate goals. This appendix is organized into two categories. Category A applies to code and broad planning documents and is not applicable to a Specific Plan. Category B includes measures that could be considered for individual projects. The Alexan Foothills Specific Plan and ZCA Areas A and C is consistent with many of the suggested measures in Appendix B through required compliance with SCAQMD rules and the California Green Building Standards Code. The proposed Project, therefore, would not conflict with the goals of the *2017 Climate Change Scoping Plan.*

Southern California Association of Governments RTP/SCS

As described in Section 3.4.2, the 2016 RTP/SCS is a growth strategy and transportation plan whose primary intent is to demonstrate how the SCAG region will meet its GHG reduction target through the year 2040. Many of the measures included in the RTP/SCS are focused on: the expansion of, and access to, mass transit (e.g., light rail, commuter rail, bus rapid transit, etc.); planning growth around livable corridors; and locating new housing and job growth in high quality transit areas. Approval of the proposed Project would support these goals, because it (1) results in and encourages infill development and/or involves the revitalization of already developed areas, (2) has existing, supporting transit infrastructure and enhances the use of this infrastructure (the METRO Station is a 0.2-mile walk from to the east of the Project boundary), and (3) encourages the use of non-vehicular modes of transportation.

Under California law, SCAG is required to implement strategies that reduce per capita GHG emissions in the region by eight percent by 2020—compared with 2005 levels—and by 13 percent by 2035 (SCAG 2016). Although the existing emissions in the Project area have not been estimated for Year 2005, it is very likely that 2005 GHG emissions levels (and efficiency metrics) would be higher than the Year 2018 existing conditions presented in Table 3-3. As shown in Table 6-5, the Project is anticipated to reduce per capita GHG emissions by approximately 64 percent from existing conditions, which exceeds the progress needed to achieve the mandated reduction in GHG emissions of 13 percent by 2035. One of the reasons the Project results in such low GHG emissions is the Project area's proximity to the Monrovia METRO Station. The proximity of this transit station to the Project is estimated to reduce Project-related trips by 20%.

Since the implementation of the proposed Project would result in transit-oriented development, support the use of mass transit, and result in vehicle trips that are approximately 20% lower than standard values due to the proximity of the Monrovia METRO station, the proposed Project would be consistent with the SCAG 2016 RTP/SCS.

City of Monrovia Energy Action Plan

The City of Monrovia has an *Energy Action Plan* that seeks to decrease energy use and dependence. The plan suggests the need for citizen involvement and focuses heavily on actionable items related to managing City facilities and vehicles. Additionally, the City requires consistency with energy

saving strategies (such as Title 24 which requires energy efficient practices). The Project is consistent with Title 24 building codes, and therefore is consistent with the goals of the Energy Action Plan.

6.3.3 Energy Consumption

Short-term energy demand would result from construction activities occurring as a result of buildout of the Project. Short-term demand would include energy needed to power worker and vendor vehicle trips as well as construction equipment. Long-term energy demand would result from operation of businesses and land uses within the Project area, which would include activities such as lighting, heating and cooling of structures, etc. Operational energy demands would typically result from vehicle trips, electricity and natural gas usage, and water and wastewater conveyance.

As estimated by the TIA prepared for the Project and the emissions modeling conducted using CalEEMod defaults, buildout of the proposed Project is anticipated to result in an increase in vehicle miles traveled (VMT) by approximately 19,813 VMT daily, natural gas consumption by 209,426.2 kBTU annually, and electricity consumption by 626 kWh annually. Although VMT and energy consumption increases, consumption rates per capita would decrease. Buildout of the Project would result in a VMT decrease from 26.2 VMT/service population/day to 20.4 VMT/service population/day. Natural gas consumption would also reduce from 3,175.6 kBTU/service population/year to 657.6 kBTU/service population/year, and annual electricity consumption would decrease from 4,984.6 kWh/service population/year to 760.4 kWh/service population/year.

Although implementation of the Project may increase VMT and energy and natural gas usage compared to current conditions, increased density would provide for more efficient use of resources within the City, thus ensuring that the proposed Project would not result in the wasteful or inefficient use of energy resources. This would be a less than significant effect.

In addition, as discussed above, the Project would be consistent with CARB's Scoping Plan and SCAG's RTP/SCS which also incorporate goals for use of renewable energy and efficient energy use as well as for reducing GHG emissions. Therefore, the Project would be consistent with applicable State and local plans for promoting use of renewable energy and energy efficiency.

7 REPORT PREPARERS AND REFERENCES

This report was prepared by MIG under contract to Trammell Crow Residential. This report reflects the independent, objective, professional opinion of MIG.

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APPENDIX A: CalEEMod Output Files

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Alexan Specific Plan (Existing Emissions)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	6.63	1000sqft	0.15	6,630.00	0
General Light Industry	56.19	1000sqft	1.29	56,190.00	0
Other Asphalt Surfaces	221.19	1000sqft	5.08	221,189.00	0
Single Family Housing	1.00	Dwelling Unit	0.27	2,368.00	3

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	483.37	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Alexan Specific Plan (Existing Emissions) - Los Angeles-South Coast County, Summer

Project Characteristics - RCM Modeling

Land Use - square footage per land use provided by project engeneeirs

Construction Phase - Not modeling construction emissions

Off-road Equipment - Not modeling construction emissions

Trips and VMT - Not modeling construction emissions

Grading - Not modeling construction emissions

Architectural Coating - Not modeling construction emissions

Vehicle Trips - ADT from TIA

Energy Use - LU Code Yr pre-2008 energy use factors

Water And Wastewater - non residential land use - zero out

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	31,410.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	94,230.00	0.00
tblArchitecturalCoating	ConstArea_Parking	13,271.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	1,598.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	4,795.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00

Alexan Specific Plan (Existing Emissions) - Los Angeles-South Coast County, Summer

tblConstructionPhase	NumDays	20.00	0.00
tblEnergyUse	T24E	443.48	820.44
tblEnergyUse	T24NG	13.65	19.11
tblEnergyUse	T24NG	13.65	19.11
tblEnergyUse	T24NG	21,090.59	39,017.59
tblLandUse	LandUseSquareFeet	221,190.00	221,189.00
tblLandUse	LandUseSquareFeet	1,800.00	2,368.00
tblLandUse	LotAcreage	0.32	0.27
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	483.37
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblTripsAndVMT	VendorTripNumber	47.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	120.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	24.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00

tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	0.00
tblVehicleTrips	HW_TTP	40.20	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	0.00
tblVehicleTrips	ST_TR	1.32	6.01
tblVehicleTrips	ST_TR	10.37	6.01
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	0.68	6.01
tblVehicleTrips	SU_TR	36.63	6.01
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	6.97	6.01
tblVehicleTrips	WD_TR	9.11	6.01
tblVehicleTrips	WD_TR	9.52	0.00
tblWater	OutdoorWaterUseRate	324,465.98	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	6.4439	0.0000	0.0000	5.9626	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	1.1067	0.0000	0.0000	1.0302	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.4439**	**0.0000**	**0.0000**	**5.9626**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	6.4439	0.0000	0.0000	5.9626	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	1.1067	0.0000	0.0000	1.0302	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.4439**	**0.0000**	**0.0000**	**5.9626**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.8169	0.0220	0.6210	1.3000e-003		0.0770	0.0770		0.0770	0.0770	9.3669	18.2107	27.5776	0.0283	6.4000e-004	28.4734
Energy	0.0451	0.4090	0.3388	2.4600e-003		0.0311	0.0311		0.0311	0.0311		491.6812	491.6812	9.4200e-003	9.0100e-003	494.6030
Mobile	1.0583	4.9212	15.7812	0.0454	3.3612	0.0533	3.4145	0.8998	0.0501	0.9499		4,605.9884	4,605.9884	0.2729		4,612.8107
Total	**2.9203**	**5.3521**	**16.7410**	**0.0492**	**3.3612**	**0.1613**	**3.5226**	**0.8998**	**0.1582**	**1.0580**	**9.3669**	**5,115.8803**	**5,125.2472**	**0.3106**	**9.6500e-003**	**5,135.8870**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.8169	0.0220	0.6210	1.3000e-003		0.0770	0.0770		0.0770	0.0770	9.3669	18.2107	27.5776	0.0283	6.4000e-004	28.4734
Energy	0.0451	0.4090	0.3388	2.4600e-003		0.0311	0.0311		0.0311	0.0311		491.6812	491.6812	9.4200e-003	9.0100e-003	494.6030
Mobile	1.0583	4.9212	15.7812	0.0454	3.3612	0.0533	3.4145	0.8998	0.0501	0.9499		4,605.9884	4,605.9884	0.2729		4,612.8107
Total	**2.9203**	**5.3521**	**16.7410**	**0.0492**	**3.3612**	**0.1613**	**3.5226**	**0.8998**	**0.1582**	**1.0580**	**9.3669**	**5,115.8803**	**5,125.2472**	**0.3106**	**9.6500e-003**	**5,135.8870**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2017	5/31/2017	5	0	
2	Site Preparation	Site Preparation	6/29/2017	6/28/2017	5	0	
3	Grading	Grading	7/13/2017	7/12/2017	5	0	
4	Building Construction	Building Construction	8/10/2017	8/9/2017	5	0	
5	Paving	Paving	6/28/2018	6/27/2018	5	0	
6	Architectural Coating	Architectural Coating	7/26/2018	7/25/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 5.08

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Alexan Specific Plan (Existing Emissions) - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	0	0.00	158	0.38
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0583	4.9212	15.7812	0.0454	3.3612	0.0533	3.4145	0.8998	0.0501	0.9499		4,605.9884	4,605.9884	0.2729		4,612.8107
Unmitigated	1.0583	4.9212	15.7812	0.0454	3.3612	0.0533	3.4145	0.8998	0.0501	0.9499		4,605.9884	4,605.9884	0.2729		4,612.8107

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	337.70	337.70	337.70	1,495,438	1,495,438
Other Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	39.85	39.85	39.85	84,984	84,984
Single Family Housing	0.00	0.00	0.00		
Total	377.55	377.55	377.55	1,580,422	1,580,422

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Other Asphalt Surfaces	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Place of Worship	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Single Family Housing	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0451	0.4090	0.3388	2.4600e-003		0.0311	0.0311		0.0311	0.0311		491.6812	491.6812	9.4200e-003	9.0100e-003	494.6030
NaturalGas Unmitigated	0.0451	0.4090	0.3388	2.4600e-003		0.0311	0.0311		0.0311	0.0311		491.6812	491.6812	9.4200e-003	9.0100e-003	494.6030

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	3626.95	0.0391	0.3556	0.2987	2.1300e-003		0.0270	0.0270		0.0270	0.0270		426.6999	426.6999	8.1800e-003	7.8200e-003	429.2356
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	427.953	4.6200e-003	0.0420	0.0352	2.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003		50.3474	50.3474	9.6000e-004	9.2000e-004	50.6466
Single Family Housing	124.388	1.3400e-003	0.0115	4.8800e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004		14.6339	14.6339	2.8000e-004	2.7000e-004	14.7208
Total		**0.0451**	**0.4090**	**0.3388**	**2.4500e-003**		**0.0311**	**0.0311**		**0.0311**	**0.0311**		**491.6812**	**491.6812**	**9.4200e-003**	**9.0100e-003**	**494.6030**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	3.62695	0.0391	0.3556	0.2987	2.1300e-003		0.0270	0.0270		0.0270	0.0270		426.6999	426.6999	8.1800e-003	7.8200e-003	429.2356
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.427953	4.6200e-003	0.0420	0.0352	2.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003		50.3474	50.3474	9.6000e-004	9.2000e-004	50.6466
Single Family Housing	0.124388	1.3400e-003	0.0115	4.8800e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004		14.6339	14.6339	2.8000e-004	2.7000e-004	14.7208
Total		**0.0451**	**0.4090**	**0.3388**	**2.4500e-003**		**0.0311**	**0.0311**		**0.0311**	**0.0311**		**491.6812**	**491.6812**	**9.4200e-003**	**9.0100e-003**	**494.6030**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.8169	0.0220	0.6210	1.3000e-003		0.0770	0.0770		0.0770	0.0770	9.3669	18.2107	27.5776	0.0283	6.4000e-004	28.4734
Unmitigated	1.8169	0.0220	0.6210	1.3000e-003		0.0770	0.0770		0.0770	0.0770	9.3669	18.2107	27.5776	0.0283	6.4000e-004	28.4734

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1805					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.3691					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2620	0.0208	0.5086	1.3000e-003		0.0764	0.0764		0.0764	0.0764	9.3669	18.0000	27.3669	0.0279	6.4000e-004	28.2547
Landscaping	5.3700e-003	1.2400e-003	0.1125	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.2107	0.2107	3.2000e-004		0.2187
Total	**1.8169**	**0.0220**	**0.6210**	**1.3100e-003**		**0.0770**	**0.0770**		**0.0770**	**0.0770**	**9.3669**	**18.2107**	**27.5776**	**0.0283**	**6.4000e-004**	**28.4734**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1805					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.3691					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2620	0.0208	0.5086	1.3000e-003		0.0764	0.0764		0.0764	0.0764	9.3669	18.0000	27.3669	0.0279	6.4000e-004	28.2547
Landscaping	5.3700e-003	1.2400e-003	0.1125	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.2107	0.2107	3.2000e-004		0.2187
Total	**1.8169**	**0.0220**	**0.6210**	**1.3100e-003**		**0.0770**	**0.0770**		**0.0770**	**0.0770**	**9.3669**	**18.2107**	**27.5776**	**0.0283**	**6.4000e-004**	**28.4734**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Alexan Specific Plan (Existing Emissions)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	6.63	1000sqft	0.15	6,630.00	0
General Light Industry	56.19	1000sqft	1.29	56,190.00	0
Other Asphalt Surfaces	221.19	1000sqft	5.08	221,189.00	0
Single Family Housing	1.00	Dwelling Unit	0.27	2,368.00	3

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	483.37	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Alexan Specific Plan (Existing Emissions) - Los Angeles-South Coast County, Winter

Project Characteristics - RCM Modeling

Land Use - square footage per land use provided by project engeneeirs

Construction Phase - Not modeling construction emissions

Off-road Equipment - Not modeling construction emissions

Trips and VMT - Not modeling construction emissions

Grading - Not modeling construction emissions

Architectural Coating - Not modeling construction emissions

Vehicle Trips - ADT from TIA

Energy Use - LU Code Yr pre-2008 energy use factors

Water And Wastewater - non residential land use - zero out

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	31,410.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	94,230.00	0.00
tblArchitecturalCoating	ConstArea_Parking	13,271.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	1,598.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	4,795.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00

Alexan Specific Plan (Existing Emissions) - Los Angeles-South Coast County, Winter

tblConstructionPhase	NumDays	20.00	0.00
tblEnergyUse	T24E	443.48	820.44
tblEnergyUse	T24NG	13.65	19.11
tblEnergyUse	T24NG	13.65	19.11
tblEnergyUse	T24NG	21,090.59	39,017.59
tblLandUse	LandUseSquareFeet	221,190.00	221,189.00
tblLandUse	LandUseSquareFeet	1,800.00	2,368.00
tblLandUse	LotAcreage	0.32	0.27
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	483.37
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblTripsAndVMT	VendorTripNumber	47.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	120.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	24.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00

tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	0.00
tblVehicleTrips	HW_TTP	40.20	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	0.00
tblVehicleTrips	ST_TR	1.32	6.01
tblVehicleTrips	ST_TR	10.37	6.01
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	0.68	6.01
tblVehicleTrips	SU_TR	36.63	6.01
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	6.97	6.01
tblVehicleTrips	WD_TR	9.11	6.01
tblVehicleTrips	WD_TR	9.52	0.00
tblWater	OutdoorWaterUseRate	324,465.98	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	6.4439	0.0000	0.0000	5.9626	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	1.1067	0.0000	0.0000	1.0302	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.4439**	**0.0000**	**0.0000**	**5.9626**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	6.4439	0.0000	0.0000	5.9626	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	1.1067	0.0000	0.0000	1.0302	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**6.4439**	**0.0000**	**0.0000**	**5.9626**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.8169	0.0220	0.6210	1.3000e-003		0.0770	0.0770		0.0770	0.0770	9.3669	18.2107	27.5776	0.0283	6.4000e-004	28.4734
Energy	0.0451	0.4090	0.3388	2.4600e-003		0.0311	0.0311		0.0311	0.0311		491.6812	491.6812	9.4200e-003	9.0100e-003	494.6030
Mobile	1.0347	5.0978	14.9200	0.0432	3.3612	0.0535	3.4147	0.8998	0.0504	0.9502		4,381.6980	4,381.6980	0.2699		4,388.4447
Total	**2.8967**	**5.5288**	**15.8799**	**0.0470**	**3.3612**	**0.1616**	**3.5228**	**0.8998**	**0.1585**	**1.0582**	**9.3669**	**4,891.5899**	**4,900.9568**	**0.3075**	**9.6500e-003**	**4,911.5210**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.8169	0.0220	0.6210	1.3000e-003		0.0770	0.0770		0.0770	0.0770	9.3669	18.2107	27.5776	0.0283	6.4000e-004	28.4734
Energy	0.0451	0.4090	0.3388	2.4600e-003		0.0311	0.0311		0.0311	0.0311		491.6812	491.6812	9.4200e-003	9.0100e-003	494.6030
Mobile	1.0347	5.0978	14.9200	0.0432	3.3612	0.0535	3.4147	0.8998	0.0504	0.9502		4,381.6980	4,381.6980	0.2699		4,388.4447
Total	**2.8967**	**5.5288**	**15.8799**	**0.0470**	**3.3612**	**0.1616**	**3.5228**	**0.8998**	**0.1585**	**1.0582**	**9.3669**	**4,891.5899**	**4,900.9568**	**0.3075**	**9.6500e-003**	**4,911.5210**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2017	5/31/2017	5	0	
2	Site Preparation	Site Preparation	6/29/2017	6/28/2017	5	0	
3	Grading	Grading	7/13/2017	7/12/2017	5	0	
4	Building Construction	Building Construction	8/10/2017	8/9/2017	5	0	
5	Paving	Paving	6/28/2018	6/27/2018	5	0	
6	Architectural Coating	Architectural Coating	7/26/2018	7/25/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 5.08

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Alexan Specific Plan (Existing Emissions) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	0	0.00	158	0.38
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.0347	5.0978	14.9200	0.0432	3.3612	0.0535	3.4147	0.8998	0.0504	0.9502		4,381.6980	4,381.6980	0.2699		4,388.4447
Unmitigated	1.0347	5.0978	14.9200	0.0432	3.3612	0.0535	3.4147	0.8998	0.0504	0.9502		4,381.6980	4,381.6980	0.2699		4,388.4447

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	337.70	337.70	337.70	1,495,438	1,495,438
Other Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	39.85	39.85	39.85	84,984	84,984
Single Family Housing	0.00	0.00	0.00		
Total	377.55	377.55	377.55	1,580,422	1,580,422

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Other Asphalt Surfaces	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Place of Worship	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Single Family Housing	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0451	0.4090	0.3388	2.4600e-003		0.0311	0.0311		0.0311	0.0311		491.6812	491.6812	9.4200e-003	9.0100e-003	494.6030
NaturalGas Unmitigated	0.0451	0.4090	0.3388	2.4600e-003		0.0311	0.0311		0.0311	0.0311		491.6812	491.6812	9.4200e-003	9.0100e-003	494.6030

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	3626.95	0.0391	0.3556	0.2987	2.1300e-003		0.0270	0.0270		0.0270	0.0270		426.6999	426.6999	8.1800e-003	7.8200e-003	429.2356
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	427.953	4.6200e-003	0.0420	0.0352	2.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003		50.3474	50.3474	9.6000e-004	9.2000e-004	50.6466
Single Family Housing	124.388	1.3400e-003	0.0115	4.8800e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004		14.6339	14.6339	2.8000e-004	2.7000e-004	14.7208
Total		**0.0451**	**0.4090**	**0.3388**	**2.4500e-003**		**0.0311**	**0.0311**		**0.0311**	**0.0311**		**491.6812**	**491.6812**	**9.4200e-003**	**9.0100e-003**	**494.6030**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	3.62695	0.0391	0.3556	0.2987	2.1300e-003		0.0270	0.0270		0.0270	0.0270		426.6999	426.6999	8.1800e-003	7.8200e-003	429.2356
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.427953	4.6200e-003	0.0420	0.0352	2.5000e-004		3.1900e-003	3.1900e-003		3.1900e-003	3.1900e-003		50.3474	50.3474	9.6000e-004	9.2000e-004	50.6466
Single Family Housing	0.124388	1.3400e-003	0.0115	4.8800e-003	7.0000e-005		9.3000e-004	9.3000e-004		9.3000e-004	9.3000e-004		14.6339	14.6339	2.8000e-004	2.7000e-004	14.7208
Total		**0.0451**	**0.4090**	**0.3388**	**2.4500e-003**		**0.0311**	**0.0311**		**0.0311**	**0.0311**		**491.6812**	**491.6812**	**9.4200e-003**	**9.0100e-003**	**494.6030**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.8169	0.0220	0.6210	1.3000e-003		0.0770	0.0770		0.0770	0.0770	9.3669	18.2107	27.5776	0.0283	6.4000e-004	28.4734
Unmitigated	1.8169	0.0220	0.6210	1.3000e-003		0.0770	0.0770		0.0770	0.0770	9.3669	18.2107	27.5776	0.0283	6.4000e-004	28.4734

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1805					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.3691					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2620	0.0208	0.5086	1.3000e-003		0.0764	0.0764		0.0764	0.0764	9.3669	18.0000	27.3669	0.0279	6.4000e-004	28.2547
Landscaping	5.3700e-003	1.2400e-003	0.1125	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.2107	0.2107	3.2000e-004		0.2187
Total	**1.8169**	**0.0220**	**0.6210**	**1.3100e-003**		**0.0770**	**0.0770**		**0.0770**	**0.0770**	**9.3669**	**18.2107**	**27.5776**	**0.0283**	**6.4000e-004**	**28.4734**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1805					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.3691					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.2620	0.0208	0.5086	1.3000e-003		0.0764	0.0764		0.0764	0.0764	9.3669	18.0000	27.3669	0.0279	6.4000e-004	28.2547
Landscaping	5.3700e-003	1.2400e-003	0.1125	1.0000e-005		5.6000e-004	5.6000e-004		5.6000e-004	5.6000e-004		0.2107	0.2107	3.2000e-004		0.2187
Total	**1.8169**	**0.0220**	**0.6210**	**1.3100e-003**		**0.0770**	**0.0770**		**0.0770**	**0.0770**	**9.3669**	**18.2107**	**27.5776**	**0.0283**	**6.4000e-004**	**28.4734**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Alexan Specific Plan (Existing Emissions)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Place of Worship	6.63	1000sqft	0.15	6,630.00	0
General Light Industry	56.19	1000sqft	1.29	56,190.00	0
Other Asphalt Surfaces	221.19	1000sqft	5.08	221,189.00	0
Single Family Housing	1.00	Dwelling Unit	0.27	2,368.00	3

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	483.37	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Alexan Specific Plan (Existing Emissions) - Los Angeles-South Coast County, Annual

Project Characteristics - RCM Modeling

Land Use - square footage per land use provided by project engeneeirs

Construction Phase - Not modeling construction emissions

Off-road Equipment - Not modeling construction emissions

Trips and VMT - Not modeling construction emissions

Grading - Not modeling construction emissions

Architectural Coating - Not modeling construction emissions

Vehicle Trips - ADT from TIA

Energy Use - LU Code Yr pre-2008 energy use factors

Water And Wastewater - non residential land use - zero out

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	31,410.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	94,230.00	0.00
tblArchitecturalCoating	ConstArea_Parking	13,271.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	1,598.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	4,795.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	230.00	0.00
tblConstructionPhase	NumDays	20.00	0.00

Alexan Specific Plan (Existing Emissions) - Los Angeles-South Coast County, Annual

tblConstructionPhase	NumDays	20.00	0.00
tblEnergyUse	T24E	443.48	820.44
tblEnergyUse	T24NG	13.65	19.11
tblEnergyUse	T24NG	13.65	19.11
tblEnergyUse	T24NG	21,090.59	39,017.59
tblLandUse	LandUseSquareFeet	221,190.00	221,189.00
tblLandUse	LandUseSquareFeet	1,800.00	2,368.00
tblLandUse	LotAcreage	0.32	0.27
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	483.37
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblTripsAndVMT	VendorTripNumber	47.00	0.00
tblTripsAndVMT	WorkerTripNumber	18.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	120.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00
tblTripsAndVMT	WorkerTripNumber	24.00	0.00
tblVehicleTrips	DV_TP	11.00	0.00
tblVehicleTrips	HO_TL	8.70	0.00
tblVehicleTrips	HO_TTP	40.60	0.00
tblVehicleTrips	HS_TL	5.90	0.00

tblVehicleTrips	HS_TTP	19.20	0.00
tblVehicleTrips	HW_TL	14.70	0.00
tblVehicleTrips	HW_TTP	40.20	0.00
tblVehicleTrips	PB_TP	3.00	0.00
tblVehicleTrips	PR_TP	86.00	0.00
tblVehicleTrips	ST_TR	1.32	6.01
tblVehicleTrips	ST_TR	10.37	6.01
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	0.68	6.01
tblVehicleTrips	SU_TR	36.63	6.01
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	6.97	6.01
tblVehicleTrips	WD_TR	9.11	6.01
tblVehicleTrips	WD_TR	9.52	0.00
tblWater	OutdoorWaterUseRate	324,465.98	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2867	4.1000e-004	0.0204	2.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.1062	0.2280	0.3342	3.5000e-004	1.0000e-005	0.3452
Energy	8.2300e-003	0.0746	0.0618	4.5000e-004		5.6800e-003	5.6800e-003		5.6800e-003	5.6800e-003	0.0000	236.1712	236.1712	0.1681	0.5906	416.3812
Mobile	0.1844	0.9459	2.7589	7.9700e-003	0.5999	9.7000e-003	0.6096	0.1609	9.1300e-003	0.1700	0.0000	733.3170	733.3170	0.0445	0.0000	734.4304
Waste						0.0000	0.0000		0.0000	0.0000	22.0651	0.0000	22.0651	1.3040	0.0000	54.6654
Water						0.0000	0.0000		0.0000	0.0000	4.2089	37.9746	42.1835	0.4731	0.1548	100.1310
Total	**0.4793**	**1.0209**	**2.8412**	**8.4400e-003**	**0.5999**	**0.0164**	**0.6163**	**0.1609**	**0.0158**	**0.1767**	**26.3802**	**1,007.6908**	**1,034.0710**	**1.9901**	**0.7454**	**1,305.9532**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.2867	4.1000e-004	0.0204	2.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.1062	0.2280	0.3342	3.5000e-004	1.0000e-005	0.3452
Energy	8.2300e-003	0.0746	0.0618	4.5000e-004		5.6800e-003	5.6800e-003		5.6800e-003	5.6800e-003	0.0000	236.1712	236.1712	0.1681	0.5906	416.3812
Mobile	0.1844	0.9459	2.7589	7.9700e-003	0.5999	9.7000e-003	0.6096	0.1609	9.1300e-003	0.1700	0.0000	733.3170	733.3170	0.0445	0.0000	734.4304
Waste						0.0000	0.0000		0.0000	0.0000	22.0651	0.0000	22.0651	1.3040	0.0000	54.6654
Water						0.0000	0.0000		0.0000	0.0000	4.2089	37.9746	42.1835	0.4731	0.1548	100.1310
Total	**0.4793**	**1.0209**	**2.8412**	**8.4400e-003**	**0.5999**	**0.0164**	**0.6163**	**0.1609**	**0.0158**	**0.1767**	**26.3802**	**1,007.6908**	**1,034.0710**	**1.9901**	**0.7454**	**1,305.9532**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Alexan Specific Plan (Existing Emissions) - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2017	5/31/2017	5	0	
2	Site Preparation	Site Preparation	6/29/2017	6/28/2017	5	0	
3	Grading	Grading	7/13/2017	7/12/2017	5	0	
4	Building Construction	Building Construction	8/10/2017	8/9/2017	5	0	
5	Paving	Paving	6/28/2018	6/27/2018	5	0	
6	Architectural Coating	Architectural Coating	7/26/2018	7/25/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 5.08

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Alexan Specific Plan (Existing Emissions) - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Demolition	Excavators	0	0.00	158	0.38
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1844	0.9459	2.7589	7.9700e-003	0.5999	9.7000e-003	0.6096	0.1609	9.1300e-003	0.1700	0.0000	733.3170	733.3170	0.0445	0.0000	734.4304
Unmitigated	0.1844	0.9459	2.7589	7.9700e-003	0.5999	9.7000e-003	0.6096	0.1609	9.1300e-003	0.1700	0.0000	733.3170	733.3170	0.0445	0.0000	734.4304

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	337.70	337.70	337.70	1,495,438	1,495,438
Other Asphalt Surfaces	0.00	0.00	0.00		
Place of Worship	39.85	39.85	39.85	84,984	84,984
Single Family Housing	0.00	0.00	0.00		
Total	377.55	377.55	377.55	1,580,422	1,580,422

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Place of Worship	16.60	8.40	6.90	0.00	95.00	5.00	64	25	11
Single Family Housing	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Other Asphalt Surfaces	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Place of Worship	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Single Family Housing	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	154.7679	154.7679	0.1665	0.5891	334.4941
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	154.7679	154.7679	0.1665	0.5891	334.4941
NaturalGas Mitigated	8.2300e-003	0.0746	0.0618	4.5000e-004		5.6800e-003	5.6800e-003		5.6800e-003	5.6800e-003	0.0000	81.4033	81.4033	1.5600e-003	1.4900e-003	81.8871
NaturalGas Unmitigated	8.2300e-003	0.0746	0.0618	4.5000e-004		5.6800e-003	5.6800e-003		5.6800e-003	5.6800e-003	0.0000	81.4033	81.4033	1.5600e-003	1.4900e-003	81.8871

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.32384e+006	7.1400e-003	0.0649	0.0545	3.9000e-004		4.9300e-003	4.9300e-003		4.9300e-003	4.9300e-003	0.0000	70.6450	70.6450	1.3500e-003	1.3000e-003	71.0648
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	156203	8.4000e-004	7.6600e-003	6.4300e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	8.3356	8.3356	1.6000e-004	1.5000e-004	8.3851
Single Family Housing	45401.6	2.4000e-004	2.0900e-003	8.9000e-004	1.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.4228	2.4228	5.0000e-005	4.0000e-005	2.4372
Total		**8.2200e-003**	**0.0746**	**0.0618**	**4.5000e-004**		**5.6800e-003**	**5.6800e-003**		**5.6800e-003**	**5.6800e-003**	**0.0000**	**81.4033**	**81.4033**	**1.5600e-003**	**1.4900e-003**	**81.8871**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	1.32384e+006	7.1400e-003	0.0649	0.0545	3.9000e-004		4.9300e-003	4.9300e-003		4.9300e-003	4.9300e-003	0.0000	70.6450	70.6450	1.3500e-003	1.3000e-003	71.0648
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Place of Worship	156203	8.4000e-004	7.6600e-003	6.4300e-003	5.0000e-005		5.8000e-004	5.8000e-004		5.8000e-004	5.8000e-004	0.0000	8.3356	8.3356	1.6000e-004	1.5000e-004	8.3851
Single Family Housing	45401.6	2.4000e-004	2.0900e-003	8.9000e-004	1.0000e-005		1.7000e-004	1.7000e-004		1.7000e-004	1.7000e-004	0.0000	2.4228	2.4228	5.0000e-005	4.0000e-005	2.4372
Total		**8.2200e-003**	**0.0746**	**0.0618**	**4.5000e-004**		**5.6800e-003**	**5.6800e-003**		**5.6800e-003**	**5.6800e-003**	**0.0000**	**81.4033**	**81.4033**	**1.5600e-003**	**1.4900e-003**	**81.8871**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	623709	136.7500	0.1471	0.5206	295.5529
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	73593	16.1355	0.0174	0.0614	34.8730
Single Family Housing	8585.25	1.8823	2.0200e-003	7.1700e-003	4.0682
Total		**154.7679**	**0.1665**	**0.5891**	**334.4942**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	623709	136.7500	0.1471	0.5206	295.5529
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	73593	16.1355	0.0174	0.0614	34.8730
Single Family Housing	8585.25	1.8823	2.0200e-003	7.1700e-003	4.0682
Total		**154.7679**	**0.1665**	**0.5891**	**334.4942**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.2867	4.1000e-004	0.0204	2.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.1062	0.2280	0.3342	3.5000e-004	1.0000e-005	0.3452
Unmitigated	0.2867	4.1000e-004	0.0204	2.0000e-005		1.0200e-003	1.0200e-003		1.0200e-003	1.0200e-003	0.1062	0.2280	0.3342	3.5000e-004	1.0000e-005	0.3452

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0329					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2499					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2800e-003	2.6000e-004	6.3600e-003	2.0000e-005		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.1062	0.2041	0.3103	3.2000e-004	1.0000e-005	0.3204
Landscaping	6.7000e-004	1.5000e-004	0.0141	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0239	0.0239	4.0000e-005	0.0000	0.0248
Total	**0.2867**	**4.1000e-004**	**0.0204**	**2.0000e-005**		**1.0200e-003**	**1.0200e-003**		**1.0200e-003**	**1.0200e-003**	**0.1062**	**0.2280**	**0.3342**	**3.6000e-004**	**1.0000e-005**	**0.3452**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0329					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2499					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	3.2800e-003	2.6000e-004	6.3600e-003	2.0000e-005		9.5000e-004	9.5000e-004		9.5000e-004	9.5000e-004	0.1062	0.2041	0.3103	3.2000e-004	1.0000e-005	0.3204
Landscaping	6.7000e-004	1.5000e-004	0.0141	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.0239	0.0239	4.0000e-005	0.0000	0.0248
Total	**0.2867**	**4.1000e-004**	**0.0204**	**2.0000e-005**		**1.0200e-003**	**1.0200e-003**		**1.0200e-003**	**1.0200e-003**	**0.1062**	**0.2280**	**0.3342**	**3.6000e-004**	**1.0000e-005**	**0.3452**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	42.1835	0.4731	0.1548	100.1310
Unmitigated	42.1835	0.4731	0.1548	100.1310

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	12.9939 / 0	41.2187	0.4633	0.1512	97.8617
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.207445 / 0	0.6581	7.4000e-003	2.4100e-003	1.5623
Single Family Housing	0.065154 / 0.0410754	0.3067	2.4300e-003	1.1400e-003	0.7069
Total		**42.1835**	**0.4732**	**0.1548**	**100.1310**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	12.9939 / 0	41.2187	0.4633	0.1512	97.8617
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Place of Worship	0.207445 / 0	0.6581	7.4000e-003	2.4100e-003	1.5623
Single Family Housing	0.065154 / 0.0410754	0.3067	2.4300e-003	1.1400e-003	0.7069
Total		**42.1835**	**0.4732**	**0.1548**	**100.1310**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	22.0651	1.3040	0.0000	54.6654
Unmitigated	22.0651	1.3040	0.0000	54.6654

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	69.68	14.1444	0.8359	0.0000	35.0422
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	37.79	7.6710	0.4533	0.0000	19.0047
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Total		**22.0651**	**1.3040**	**0.0000**	**54.6654**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	69.68	14.1444	0.8359	0.0000	35.0422
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Place of Worship	37.79	7.6710	0.4533	0.0000	19.0047
Single Family Housing	1.23	0.2497	0.0148	0.0000	0.6186
Total		**22.0651**	**1.3040**	**0.0000**	**54.6654**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Appendix A1

CalEEMod Existing Emissions Estimates: GP/CZA Area

Summer, Winter, and Annual Output Files

Monrovia General Plan/Zoning Amendment (Existing Emissions)

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	4.00	Dwelling Unit	1.20	3,719.00	11
General Light Industry	14.56	1000sqft	0.33	14,560.00	0
Refrigerated Warehouse-No Rail	10.12	1000sqft	0.23	10,120.00	0
Other Asphalt Surfaces	46.33	1000sqft	1.06	46,325.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	483.37	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Monrovia General Plan/Zoning Amendment (Existing Emissions) - Los Angeles-South Coast County, Summer

Project Characteristics - RCM Modeling

Land Use - Land use square footage provided by project engineers

Construction Phase - Not modeling construction emissions

Off-road Equipment - Not modeling construction emissions

Grading - Not modeling construction emissions

Trips and VMT - Not modeling construction emissions

Architectural Coating - Not modeling construction emissions

Vehicle Trips - Estimated ADT from TIA

Energy Use - LU Code Yr pre-2008 for energy use

Water And Wastewater -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,340.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	37,020.00	0.00
tblArchitecturalCoating	ConstArea_Parking	2,780.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	2,510.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	7,531.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	6.00	0.00
tblConstructionPhase	NumDays	10.00	0.00

Monrovia General Plan/Zoning Amendment (Existing Emissions) - Los Angeles-South Coast County, Summer

tblConstructionPhase	NumDays	3.00	0.00
tblConstructionPhase	PhaseEndDate	6/12/2018	5/29/2018
tblConstructionPhase	PhaseEndDate	5/15/2018	7/11/2017
tblConstructionPhase	PhaseEndDate	6/28/2017	5/31/2017
tblConstructionPhase	PhaseEndDate	7/11/2017	7/3/2017
tblConstructionPhase	PhaseEndDate	5/29/2018	5/15/2018
tblConstructionPhase	PhaseEndDate	7/3/2017	6/28/2017
tblEnergyUse	T24E	443.48	820.44
tblEnergyUse	T24NG	13.65	19.11
tblEnergyUse	T24NG	0.94	1.32
tblEnergyUse	T24NG	21,090.59	39,017.59
tblLandUse	LandUseSquareFeet	7,200.00	3,719.00
tblLandUse	LotAcreage	1.30	1.20
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	483.37
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblTripsAndVMT	VendorTripNumber	12.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	31.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00

tblTripsAndVMT	WorkerTripNumber	6.00	0.00
tblVehicleTrips	ST_TR	1.32	4.79
tblVehicleTrips	ST_TR	1.68	4.79
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	0.68	4.79
tblVehicleTrips	SU_TR	1.68	4.79
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	6.97	4.79
tblVehicleTrips	WD_TR	1.68	4.79
tblVehicleTrips	WD_TR	9.52	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	3.8779	0.0000	0.0000	3.6223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	1.0010	0.0000	0.0000	0.9341	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.8779**	**0.0000**	**0.0000**	**3.6223**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	3.8779	0.0000	0.0000	3.6223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	1.0010	0.0000	0.0000	0.9341	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.8779**	**0.0000**	**0.0000**	**3.6223**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.7104	0.0869	2.3739	5.2100e-003		0.3074	0.3074		0.3074	0.3074	37.4677	72.6098	110.0774	0.1124	2.5400e-003	113.6444
Energy	0.0159	0.1418	0.1001	8.7000e-004		0.0110	0.0110		0.0110	0.0110		173.7016	173.7016	3.3300e-003	3.1800e-003	174.7338
Mobile	0.3389	1.5889	5.1320	0.0148	1.0987	0.0174	1.1160	0.2941	0.0164	0.3105		1,503.0565	1,503.0565	0.0888		1,505.2758
Total	**2.0652**	**1.8176**	**7.6060**	**0.0209**	**1.0987**	**0.3358**	**1.4344**	**0.2941**	**0.3347**	**0.6288**	**37.4677**	**1,749.3678**	**1,786.8355**	**0.2045**	**5.7200e-003**	**1,793.6541**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.7104	0.0869	2.3739	5.2100e-003		0.3074	0.3074		0.3074	0.3074	37.4677	72.6098	110.0774	0.1124	2.5400e-003	113.6444
Energy	0.0159	0.1418	0.1001	8.7000e-004		0.0110	0.0110		0.0110	0.0110		173.7016	173.7016	3.3300e-003	3.1800e-003	174.7338
Mobile	0.3389	1.5889	5.1320	0.0148	1.0987	0.0174	1.1160	0.2941	0.0164	0.3105		1,503.0565	1,503.0565	0.0888		1,505.2758
Total	**2.0652**	**1.8176**	**7.6060**	**0.0209**	**1.0987**	**0.3358**	**1.4344**	**0.2941**	**0.3347**	**0.6288**	**37.4677**	**1,749.3678**	**1,786.8355**	**0.2045**	**5.7200e-003**	**1,793.6541**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2017	5/31/2017	5	0	
2	Site Preparation	Site Preparation	6/29/2017	6/28/2017	5	0	
3	Grading	Grading	7/4/2017	7/3/2017	5	0	
4	Building Construction	Building Construction	7/12/2017	7/11/2017	5	0	
5	Paving	Paving	5/16/2018	5/15/2018	5	0	
6	Architectural Coating	Architectural Coating	5/30/2018	5/29/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.06

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Monrovia General Plan/Zoning Amendment (Existing Emissions) - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3389	1.5889	5.1320	0.0148	1.0987	0.0174	1.1160	0.2941	0.0164	0.3105		1,503.0565	1,503.0565	0.0888		1,505.2758
Unmitigated	0.3389	1.5889	5.1320	0.0148	1.0987	0.0174	1.1160	0.2941	0.0164	0.3105		1,503.0565	1,503.0565	0.0888		1,505.2758

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	69.74	69.74	69.74	308,839	308,839
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	48.47	48.47	48.47	207,749	207,749
Single Family Housing	0.00	0.00	0.00		
Total	118.22	118.22	118.22	516,588	516,588

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Other Asphalt Surfaces	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Refrigerated Warehouse-No Rail	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Single Family Housing	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0159	0.1418	0.1001	8.7000e-004		0.0110	0.0110		0.0110	0.0110		173.7016	173.7016	3.3300e-003	3.1800e-003	174.7338
NaturalGas Unmitigated	0.0159	0.1418	0.1001	8.7000e-004		0.0110	0.0110		0.0110	0.0110		173.7016	173.7016	3.3300e-003	3.1800e-003	174.7338

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	939.818	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5668	110.5668	2.1200e-003	2.0300e-003	111.2239
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	39.0937	4.2000e-004	3.8300e-003	3.2200e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5993	4.5993	9.0000e-005	8.0000e-005	4.6266
Single Family Housing	497.552	5.3700e-003	0.0459	0.0195	2.9000e-004		3.7100e-003	3.7100e-003		3.7100e-003	3.7100e-003		58.5355	58.5355	1.1200e-003	1.0700e-003	58.8833
Total		**0.0159**	**0.1418**	**0.1001**	**8.6000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**		**173.7016**	**173.7016**	**3.3300e-003**	**3.1800e-003**	**174.7338**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.939818	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5668	110.5668	2.1200e-003	2.0300e-003	111.2239
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0.0390937	4.2000e-004	3.8300e-003	3.2200e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5993	4.5993	9.0000e-005	8.0000e-005	4.6266
Single Family Housing	0.497552	5.3700e-003	0.0459	0.0195	2.9000e-004		3.7100e-003	3.7100e-003		3.7100e-003	3.7100e-003		58.5355	58.5355	1.1200e-003	1.0700e-003	58.8833
Total		**0.0159**	**0.1418**	**0.1001**	**8.6000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**		**173.7016**	**173.7016**	**3.3300e-003**	**3.1800e-003**	**174.7338**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.7104	0.0869	2.3739	5.2100e-003		0.3074	0.3074		0.3074	0.3074	37.4677	72.6098	110.0774	0.1124	2.5400e-003	113.6444
Unmitigated	1.7104	0.0869	2.3739	5.2100e-003		0.3074	0.3074		0.3074	0.3074	37.4677	72.6098	110.0774	0.1124	2.5400e-003	113.6444

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0726					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5787					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.0481	0.0830	2.0342	5.1900e-003		0.3056	0.3056		0.3056	0.3056	37.4677	72.0000	109.4677	0.1117	2.5400e-003	113.0189
Landscaping	0.0110	3.9300e-003	0.3397	2.0000e-005		1.8400e-003	1.8400e-003		1.8400e-003	1.8400e-003		0.6098	0.6098	6.3000e-004		0.6255
Total	**1.7104**	**0.0869**	**2.3739**	**5.2100e-003**		**0.3074**	**0.3074**		**0.3074**	**0.3074**	**37.4677**	**72.6098**	**110.0774**	**0.1124**	**2.5400e-003**	**113.6444**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0726					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5787					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.0481	0.0830	2.0342	5.1900e-003		0.3056	0.3056		0.3056	0.3056	37.4677	72.0000	109.4677	0.1117	2.5400e-003	113.0189
Landscaping	0.0110	3.9300e-003	0.3397	2.0000e-005		1.8400e-003	1.8400e-003		1.8400e-003	1.8400e-003		0.6098	0.6098	6.3000e-004		0.6255
Total	**1.7104**	**0.0869**	**2.3739**	**5.2100e-003**		**0.3074**	**0.3074**		**0.3074**	**0.3074**	**37.4677**	**72.6098**	**110.0774**	**0.1124**	**2.5400e-003**	**113.6444**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Monrovia General Plan/Zoning Amendment (Existing Emissions)

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	4.00	Dwelling Unit	1.20	3,719.00	11
General Light Industry	14.56	1000sqft	0.33	14,560.00	0
Refrigerated Warehouse-No Rail	10.12	1000sqft	0.23	10,120.00	0
Other Asphalt Surfaces	46.33	1000sqft	1.06	46,325.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	483.37	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Monrovia General Plan/Zoning Amendment (Existing Emissions) - Los Angeles-South Coast County, Winter

Project Characteristics - RCM Modeling

Land Use - Land use square footage provided by project engineers

Construction Phase - Not modeling construction emissions

Off-road Equipment - Not modeling construction emissions

Grading - Not modeling construction emissions

Trips and VMT - Not modeling construction emissions

Architectural Coating - Not modeling construction emissions

Vehicle Trips - Estimated ADT from TIA

Energy Use - LU Code Yr pre-2008 for energy use

Water And Wastewater -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,340.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	37,020.00	0.00
tblArchitecturalCoating	ConstArea_Parking	2,780.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	2,510.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	7,531.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	6.00	0.00
tblConstructionPhase	NumDays	10.00	0.00

tblConstructionPhase	NumDays	3.00	0.00
tblConstructionPhase	PhaseEndDate	6/12/2018	5/29/2018
tblConstructionPhase	PhaseEndDate	5/15/2018	7/11/2017
tblConstructionPhase	PhaseEndDate	6/28/2017	5/31/2017
tblConstructionPhase	PhaseEndDate	7/11/2017	7/3/2017
tblConstructionPhase	PhaseEndDate	5/29/2018	5/15/2018
tblConstructionPhase	PhaseEndDate	7/3/2017	6/28/2017
tblEnergyUse	T24E	443.48	820.44
tblEnergyUse	T24NG	13.65	19.11
tblEnergyUse	T24NG	0.94	1.32
tblEnergyUse	T24NG	21,090.59	39,017.59
tblLandUse	LandUseSquareFeet	7,200.00	3,719.00
tblLandUse	LotAcreage	1.30	1.20
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	483.37
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblTripsAndVMT	VendorTripNumber	12.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	31.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00

tblTripsAndVMT	WorkerTripNumber	6.00	0.00
tblVehicleTrips	ST_TR	1.32	4.79
tblVehicleTrips	ST_TR	1.68	4.79
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	0.68	4.79
tblVehicleTrips	SU_TR	1.68	4.79
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	6.97	4.79
tblVehicleTrips	WD_TR	1.68	4.79
tblVehicleTrips	WD_TR	9.52	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	3.8779	0.0000	0.0000	3.6223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	1.0010	0.0000	0.0000	0.9341	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.8779**	**0.0000**	**0.0000**	**3.6223**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	3.8779	0.0000	0.0000	3.6223	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	1.0010	0.0000	0.0000	0.9341	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**3.8779**	**0.0000**	**0.0000**	**3.6223**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.7104	0.0869	2.3739	5.2100e-003		0.3074	0.3074		0.3074	0.3074	37.4677	72.6098	110.0774	0.1124	2.5400e-003	113.6444
Energy	0.0159	0.1418	0.1001	8.7000e-004		0.0110	0.0110		0.0110	0.0110		173.7016	173.7016	3.3300e-003	3.1800e-003	174.7338
Mobile	0.3313	1.6471	4.8452	0.0141	1.0987	0.0175	1.1161	0.2941	0.0164	0.3105		1,429.9586	1,429.9586	0.0877		1,432.1519
Total	**2.0576**	**1.8758**	**7.3192**	**0.0202**	**1.0987**	**0.3358**	**1.4345**	**0.2941**	**0.3348**	**0.6289**	**37.4677**	**1,676.2699**	**1,713.7376**	**0.2034**	**5.7200e-003**	**1,720.5301**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	1.7104	0.0869	2.3739	5.2100e-003		0.3074	0.3074		0.3074	0.3074	37.4677	72.6098	110.0774	0.1124	2.5400e-003	113.6444
Energy	0.0159	0.1418	0.1001	8.7000e-004		0.0110	0.0110		0.0110	0.0110		173.7016	173.7016	3.3300e-003	3.1800e-003	174.7338
Mobile	0.3313	1.6471	4.8452	0.0141	1.0987	0.0175	1.1161	0.2941	0.0164	0.3105		1,429.9586	1,429.9586	0.0877		1,432.1519
Total	**2.0576**	**1.8758**	**7.3192**	**0.0202**	**1.0987**	**0.3358**	**1.4345**	**0.2941**	**0.3348**	**0.6289**	**37.4677**	**1,676.2699**	**1,713.7376**	**0.2034**	**5.7200e-003**	**1,720.5301**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2017	5/31/2017	5	0	
2	Site Preparation	Site Preparation	6/29/2017	6/28/2017	5	0	
3	Grading	Grading	7/4/2017	7/3/2017	5	0	
4	Building Construction	Building Construction	7/12/2017	7/11/2017	5	0	
5	Paving	Paving	5/16/2018	5/15/2018	5	0	
6	Architectural Coating	Architectural Coating	5/30/2018	5/29/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.06

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Monrovia General Plan/Zoning Amendment (Existing Emissions) - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.3313	1.6471	4.8452	0.0141	1.0987	0.0175	1.1161	0.2941	0.0164	0.3105		1,429.9586	1,429.9586	0.0877		1,432.1519
Unmitigated	0.3313	1.6471	4.8452	0.0141	1.0987	0.0175	1.1161	0.2941	0.0164	0.3105		1,429.9586	1,429.9586	0.0877		1,432.1519

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	69.74	69.74	69.74	308,839	308,839
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	48.47	48.47	48.47	207,749	207,749
Single Family Housing	0.00	0.00	0.00		
Total	118.22	118.22	118.22	516,588	516,588

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Other Asphalt Surfaces	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Refrigerated Warehouse-No Rail	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Single Family Housing	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0159	0.1418	0.1001	8.7000e-004		0.0110	0.0110		0.0110	0.0110		173.7016	173.7016	3.3300e-003	3.1800e-003	174.7338
NaturalGas Unmitigated	0.0159	0.1418	0.1001	8.7000e-004		0.0110	0.0110		0.0110	0.0110		173.7016	173.7016	3.3300e-003	3.1800e-003	174.7338

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	939.818	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5668	110.5668	2.1200e-003	2.0300e-003	111.2239
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	39.0937	4.2000e-004	3.8300e-003	3.2200e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5993	4.5993	9.0000e-005	8.0000e-005	4.6266
Single Family Housing	497.552	5.3700e-003	0.0459	0.0195	2.9000e-004		3.7100e-003	3.7100e-003		3.7100e-003	3.7100e-003		58.5355	58.5355	1.1200e-003	1.0700e-003	58.8833
Total		**0.0159**	**0.1418**	**0.1001**	**8.6000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**		**173.7016**	**173.7016**	**3.3300e-003**	**3.1800e-003**	**174.7338**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
General Light Industry	0.939818	0.0101	0.0921	0.0774	5.5000e-004		7.0000e-003	7.0000e-003		7.0000e-003	7.0000e-003		110.5668	110.5668	2.1200e-003	2.0300e-003	111.2239
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	0.0390937	4.2000e-004	3.8300e-003	3.2200e-003	2.0000e-005		2.9000e-004	2.9000e-004		2.9000e-004	2.9000e-004		4.5993	4.5993	9.0000e-005	8.0000e-005	4.6266
Single Family Housing	0.497552	5.3700e-003	0.0459	0.0195	2.9000e-004		3.7100e-003	3.7100e-003		3.7100e-003	3.7100e-003		58.5355	58.5355	1.1200e-003	1.0700e-003	58.8833
Total		**0.0159**	**0.1418**	**0.1001**	**8.6000e-004**		**0.0110**	**0.0110**		**0.0110**	**0.0110**		**173.7016**	**173.7016**	**3.3300e-003**	**3.1800e-003**	**174.7338**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	1.7104	0.0869	2.3739	5.2100e-003		0.3074	0.3074		0.3074	0.3074	37.4677	72.6098	110.0774	0.1124	2.5400e-003	113.6444
Unmitigated	1.7104	0.0869	2.3739	5.2100e-003		0.3074	0.3074		0.3074	0.3074	37.4677	72.6098	110.0774	0.1124	2.5400e-003	113.6444

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0726					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5787					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.0481	0.0830	2.0342	5.1900e-003		0.3056	0.3056		0.3056	0.3056	37.4677	72.0000	109.4677	0.1117	2.5400e-003	113.0189
Landscaping	0.0110	3.9300e-003	0.3397	2.0000e-005		1.8400e-003	1.8400e-003		1.8400e-003	1.8400e-003		0.6098	0.6098	6.3000e-004		0.6255
Total	**1.7104**	**0.0869**	**2.3739**	**5.2100e-003**		**0.3074**	**0.3074**		**0.3074**	**0.3074**	**37.4677**	**72.6098**	**110.0774**	**0.1124**	**2.5400e-003**	**113.6444**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0726					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	0.5787					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.0481	0.0830	2.0342	5.1900e-003		0.3056	0.3056		0.3056	0.3056	37.4677	72.0000	109.4677	0.1117	2.5400e-003	113.0189
Landscaping	0.0110	3.9300e-003	0.3397	2.0000e-005		1.8400e-003	1.8400e-003		1.8400e-003	1.8400e-003		0.6098	0.6098	6.3000e-004		0.6255
Total	**1.7104**	**0.0869**	**2.3739**	**5.2100e-003**		**0.3074**	**0.3074**		**0.3074**	**0.3074**	**37.4677**	**72.6098**	**110.0774**	**0.1124**	**2.5400e-003**	**113.6444**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Monrovia General Plan/Zoning Amendment (Existing Emissions)

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Single Family Housing	4.00	Dwelling Unit	1.20	3,719.00	11
General Light Industry	14.56	1000sqft	0.33	14,560.00	0
Refrigerated Warehouse-No Rail	10.12	1000sqft	0.23	10,120.00	0
Other Asphalt Surfaces	46.33	1000sqft	1.06	46,325.00	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2018
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	483.37	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Monrovia General Plan/Zoning Amendment (Existing Emissions) - Los Angeles-South Coast County, Annual

Project Characteristics - RCM Modeling

Land Use - Land use square footage provided by project engineers

Construction Phase - Not modeling construction emissions

Off-road Equipment - Not modeling construction emissions

Grading - Not modeling construction emissions

Trips and VMT - Not modeling construction emissions

Architectural Coating - Not modeling construction emissions

Vehicle Trips - Estimated ADT from TIA

Energy Use - LU Code Yr pre-2008 for energy use

Water And Wastewater -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Nonresidential_Exterior	12,340.00	0.00
tblArchitecturalCoating	ConstArea_Nonresidential_Interior	37,020.00	0.00
tblArchitecturalCoating	ConstArea_Parking	2,780.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Exterior	2,510.00	0.00
tblArchitecturalCoating	ConstArea_Residential_Interior	7,531.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	0.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	0.00
tblArchitecturalCoating	EF_Parking	100.00	0.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	0.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	0.00
tblConstructionPhase	NumDays	10.00	0.00
tblConstructionPhase	NumDays	220.00	0.00
tblConstructionPhase	NumDays	20.00	0.00
tblConstructionPhase	NumDays	6.00	0.00
tblConstructionPhase	NumDays	10.00	0.00

Monrovia General Plan/Zoning Amendment (Existing Emissions) - Los Angeles-South Coast County, Annual

tblConstructionPhase	NumDays	3.00	0.00
tblConstructionPhase	PhaseEndDate	6/12/2018	5/29/2018
tblConstructionPhase	PhaseEndDate	5/15/2018	7/11/2017
tblConstructionPhase	PhaseEndDate	6/28/2017	5/31/2017
tblConstructionPhase	PhaseEndDate	7/11/2017	7/3/2017
tblConstructionPhase	PhaseEndDate	5/29/2018	5/15/2018
tblConstructionPhase	PhaseEndDate	7/3/2017	6/28/2017
tblEnergyUse	T24E	443.48	820.44
tblEnergyUse	T24NG	13.65	19.11
tblEnergyUse	T24NG	0.94	1.32
tblEnergyUse	T24NG	21,090.59	39,017.59
tblLandUse	LandUseSquareFeet	7,200.00	3,719.00
tblLandUse	LotAcreage	1.30	1.20
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	1.00	0.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	3.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblOffRoadEquipment	UsageHours	8.00	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	483.37
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblTripsAndVMT	VendorTripNumber	12.00	0.00
tblTripsAndVMT	WorkerTripNumber	8.00	0.00
tblTripsAndVMT	WorkerTripNumber	10.00	0.00
tblTripsAndVMT	WorkerTripNumber	31.00	0.00
tblTripsAndVMT	WorkerTripNumber	15.00	0.00

tblTripsAndVMT	WorkerTripNumber	6.00	0.00
tblVehicleTrips	ST_TR	1.32	4.79
tblVehicleTrips	ST_TR	1.68	4.79
tblVehicleTrips	ST_TR	9.91	0.00
tblVehicleTrips	SU_TR	0.68	4.79
tblVehicleTrips	SU_TR	1.68	4.79
tblVehicleTrips	SU_TR	8.62	0.00
tblVehicleTrips	WD_TR	6.97	4.79
tblVehicleTrips	WD_TR	1.68	4.79
tblVehicleTrips	WD_TR	9.52	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
2018	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Maximum	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1333	1.5300e-003	0.0679	7.0000e-005		4.0500e-003	4.0500e-003		4.0500e-003	4.0500e-003	0.4249	0.8856	1.3105	1.3400e-003	3.0000e-005	1.3526
Energy	2.9100e-003	0.0259	0.0183	1.6000e-004		2.0100e-003	2.0100e-003		2.0100e-003	2.0100e-003	0.0000	108.9102	108.9102	0.0868	0.3056	202.1585
Mobile	0.0591	0.3056	0.8963	2.6000e-003	0.1961	3.1600e-003	0.1993	0.0526	2.9800e-003	0.0556	0.0000	239.3016	239.3016	0.0145	0.0000	239.6636
Waste						0.0000	0.0000		0.0000	0.0000	6.5099	0.0000	6.5099	0.3847	0.0000	16.1281
Water						0.0000	0.0000		0.0000	0.0000	1.8933	17.4378	19.3312	0.2132	0.0710	45.8110
Total	**0.1953**	**0.3330**	**0.9824**	**2.8300e-003**	**0.1961**	**9.2200e-003**	**0.2053**	**0.0526**	**9.0400e-003**	**0.0616**	**8.8281**	**366.5352**	**375.3633**	**0.7006**	**0.3766**	**505.1137**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.1333	1.5300e-003	0.0679	7.0000e-005		4.0500e-003	4.0500e-003		4.0500e-003	4.0500e-003	0.4249	0.8856	1.3105	1.3400e-003	3.0000e-005	1.3526
Energy	2.9100e-003	0.0259	0.0183	1.6000e-004		2.0100e-003	2.0100e-003		2.0100e-003	2.0100e-003	0.0000	108.9102	108.9102	0.0868	0.3056	202.1585
Mobile	0.0591	0.3056	0.8963	2.6000e-003	0.1961	3.1600e-003	0.1993	0.0526	2.9800e-003	0.0556	0.0000	239.3016	239.3016	0.0145	0.0000	239.6636
Waste						0.0000	0.0000		0.0000	0.0000	6.5099	0.0000	6.5099	0.3847	0.0000	16.1281
Water						0.0000	0.0000		0.0000	0.0000	1.8933	17.4378	19.3312	0.2132	0.0710	45.8110
Total	**0.1953**	**0.3330**	**0.9824**	**2.8300e-003**	**0.1961**	**9.2200e-003**	**0.2053**	**0.0526**	**9.0400e-003**	**0.0616**	**8.8281**	**366.5352**	**375.3633**	**0.7006**	**0.3766**	**505.1137**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Monrovia General Plan/Zoning Amendment (Existing Emissions) - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/1/2017	5/31/2017	5	0	
2	Site Preparation	Site Preparation	6/29/2017	6/28/2017	5	0	
3	Grading	Grading	7/4/2017	7/3/2017	5	0	
4	Building Construction	Building Construction	7/12/2017	7/11/2017	5	0	
5	Paving	Paving	5/16/2018	5/15/2018	5	0	
6	Architectural Coating	Architectural Coating	5/30/2018	5/29/2018	5	0	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 0

Acres of Paving: 1.06

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	0	0.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	0	0.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	0	0.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	0	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	0.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.2 Demolition - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.3 Site Preparation - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.4 Grading - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.5 Building Construction - 2017

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Paving	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.6 Paving - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

3.7 Architectural Coating - 2018

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0591	0.3056	0.8963	2.6000e-003	0.1961	3.1600e-003	0.1993	0.0526	2.9800e-003	0.0556	0.0000	239.3016	239.3016	0.0145	0.0000	239.6636
Unmitigated	0.0591	0.3056	0.8963	2.6000e-003	0.1961	3.1600e-003	0.1993	0.0526	2.9800e-003	0.0556	0.0000	239.3016	239.3016	0.0145	0.0000	239.6636

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
General Light Industry	69.74	69.74	69.74	308,839	308,839
Other Asphalt Surfaces	0.00	0.00	0.00		
Refrigerated Warehouse-No Rail	48.47	48.47	48.47	207,749	207,749
Single Family Housing	0.00	0.00	0.00		
Total	118.22	118.22	118.22	516,588	516,588

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
General Light Industry	16.60	8.40	6.90	59.00	28.00	13.00	92	5	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Refrigerated Warehouse-No	16.60	8.40	6.90	59.00	0.00	41.00	92	5	3
Single Family Housing	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
General Light Industry	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Other Asphalt Surfaces	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Refrigerated Warehouse-No Rail	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944
Single Family Housing	0.547972	0.046127	0.199330	0.125604	0.017697	0.005953	0.018360	0.027618	0.002341	0.002583	0.004804	0.000667	0.000944

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	80.1519	80.1519	0.0862	0.3051	173.2294
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	80.1519	80.1519	0.0862	0.3051	173.2294
NaturalGas Mitigated	2.9100e-003	0.0259	0.0183	1.6000e-004		2.0100e-003	2.0100e-003		2.0100e-003	2.0100e-003	0.0000	28.7583	28.7583	5.5000e-004	5.3000e-004	28.9291
NaturalGas Unmitigated	2.9100e-003	0.0259	0.0183	1.6000e-004		2.0100e-003	2.0100e-003		2.0100e-003	2.0100e-003	0.0000	28.7583	28.7583	5.5000e-004	5.3000e-004	28.9291

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	343034	1.8500e-003	0.0168	0.0141	1.0000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	18.3056	18.3056	3.5000e-004	3.4000e-004	18.4144
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	14269.2	8.0000e-005	7.0000e-004	5.9000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7615	0.7615	1.0000e-005	1.0000e-005	0.7660
Single Family Housing	181606	9.8000e-004	8.3700e-003	3.5600e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	9.6912	9.6912	1.9000e-004	1.8000e-004	9.7488
Total		**2.9100e-003**	**0.0259**	**0.0183**	**1.5000e-004**		**2.0100e-003**	**2.0100e-003**		**2.0100e-003**	**2.0100e-003**	**0.0000**	**28.7583**	**28.7583**	**5.5000e-004**	**5.3000e-004**	**28.9291**

5.2 Energy by Land Use - NaturalGas

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
General Light Industry	343034	1.8500e-003	0.0168	0.0141	1.0000e-004		1.2800e-003	1.2800e-003		1.2800e-003	1.2800e-003	0.0000	18.3056	18.3056	3.5000e-004	3.4000e-004	18.4144
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	14269.2	8.0000e-005	7.0000e-004	5.9000e-004	0.0000		5.0000e-005	5.0000e-005		5.0000e-005	5.0000e-005	0.0000	0.7615	0.7615	1.0000e-005	1.0000e-005	0.7660
Single Family Housing	181606	9.8000e-004	8.3700e-003	3.5600e-003	5.0000e-005		6.8000e-004	6.8000e-004		6.8000e-004	6.8000e-004	0.0000	9.6912	9.6912	1.9000e-004	1.8000e-004	9.7488
Total		**2.9100e-003**	**0.0259**	**0.0183**	**1.5000e-004**		**2.0100e-003**	**2.0100e-003**		**2.0100e-003**	**2.0100e-003**	**0.0000**	**28.7583**	**28.7583**	**5.5000e-004**	**5.3000e-004**	**28.9291**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	161616	35.4348	0.0381	0.1349	76.5839
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	169611	37.1878	0.0400	0.1416	80.3725
Single Family Housing	34341	7.5294	8.1000e-003	0.0287	16.2729
Total		**80.1519**	**0.0862**	**0.3051**	**173.2294**

5.3 Energy by Land Use - Electricity

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
General Light Industry	161616	35.4348	0.0381	0.1349	76.5839
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	169611	37.1878	0.0400	0.1416	80.3725
Single Family Housing	34341	7.5294	8.1000e-003	0.0287	16.2729
Total		**80.1519**	**0.0862**	**0.3051**	**173.2294**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1333	1.5300e-003	0.0679	7.0000e-005		4.0500e-003	4.0500e-003		4.0500e-003	4.0500e-003	0.4249	0.8856	1.3105	1.3400e-003	3.0000e-005	1.3526
Unmitigated	0.1333	1.5300e-003	0.0679	7.0000e-005		4.0500e-003	4.0500e-003		4.0500e-003	4.0500e-003	0.4249	0.8856	1.3105	1.3400e-003	3.0000e-005	1.3526

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0133					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1056					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0131	1.0400e-003	0.0254	6.0000e-005		3.8200e-003	3.8200e-003		3.8200e-003	3.8200e-003	0.4249	0.8165	1.2413	1.2700e-003	3.0000e-005	1.2816
Landscaping	1.3700e-003	4.9000e-004	0.0425	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	0.0691	0.0691	7.0000e-005	0.0000	0.0709
Total	**0.1333**	**1.5300e-003**	**0.0679**	**6.0000e-005**		**4.0500e-003**	**4.0500e-003**		**4.0500e-003**	**4.0500e-003**	**0.4249**	**0.8856**	**1.3105**	**1.3400e-003**	**3.0000e-005**	**1.3525**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0133					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.1056					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0131	1.0400e-003	0.0254	6.0000e-005		3.8200e-003	3.8200e-003		3.8200e-003	3.8200e-003	0.4249	0.8165	1.2413	1.2700e-003	3.0000e-005	1.2816
Landscaping	1.3700e-003	4.9000e-004	0.0425	0.0000		2.3000e-004	2.3000e-004		2.3000e-004	2.3000e-004	0.0000	0.0691	0.0691	7.0000e-005	0.0000	0.0709
Total	**0.1333**	**1.5300e-003**	**0.0679**	**6.0000e-005**		**4.0500e-003**	**4.0500e-003**		**4.0500e-003**	**4.0500e-003**	**0.4249**	**0.8856**	**1.3105**	**1.3400e-003**	**3.0000e-005**	**1.3525**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	19.3312	0.2132	0.0710	45.8110
Unmitigated	19.3312	0.2132	0.0710	45.8110

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	3.367 / 0	10.6806	0.1201	0.0392	25.3580
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	2.34025 / 0	7.4236	0.0834	0.0272	17.6252
Single Family Housing	0.260616 / 0.164301	1.2269	9.7200e-003	4.5600e-003	2.8278
Total		**19.3312**	**0.2132**	**0.0710**	**45.8110**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
General Light Industry	3.367 / 0	10.6806	0.1201	0.0392	25.3580
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	2.34025 / 0	7.4236	0.0834	0.0272	17.6252
Single Family Housing	0.260616 / 0.164301	1.2269	9.7200e-003	4.5600e-003	2.8278
Total		**19.3312**	**0.2132**	**0.0710**	**45.8110**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	6.5099	0.3847	0.0000	16.1281
Unmitigated	6.5099	0.3847	0.0000	16.1281

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	18.05	3.6640	0.2165	0.0000	9.0774
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	9.51	1.9304	0.1141	0.0000	4.7826
Single Family Housing	4.51	0.9155	0.0541	0.0000	2.2681
Total		**6.5099**	**0.3847**	**0.0000**	**16.1281**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
General Light Industry	18.05	3.6640	0.2165	0.0000	9.0774
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Refrigerated Warehouse-No Rail	9.51	1.9304	0.1141	0.0000	4.7826
Single Family Housing	4.51	0.9155	0.0541	0.0000	2.2681
Total		**6.5099**	**0.3847**	**0.0000**	**16.1281**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

APPENDIX B: AERMOD Output Files

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Alexan Specific Plan (Project Emissions) CH

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.64	Acre	2.64	114,880.00	0
Unenclosed Parking with Elevator	786.00	Space	1.04	292,312.00	0
Apartments Mid Rise	439.00	Dwelling Unit	2.44	543,496.00	1256

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	386.48	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Summer

Project Characteristics - Adjusted Intensities

Land Use - Per Site Plan

Construction Phase - Per Construction Schedule

Off-road Equipment - Per Grading Plan

Demolition -

Grading - Per Grading Plan

Architectural Coating - SCAQMD Rule 1113

Vehicle Trips - Per TIA

Woodstoves - Per Regulations

Area Coating - SCAQMD Rule 1113

Energy Use - 2020 Standards

Solid Waste - AB341 diversion rate of 75%

Sequestration -

Construction Off-road Equipment Mitigation - Rule 403 Thrice Daily Watering. Replace Ground Cover 15% Reduction.

Fleet Mix - No buses or motorhomes.

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	10
tblAreaCoating	Area_EF_Nonresidential_Interior	100	10
tblAreaCoating	Area_EF_Parking	100	10
tblAreaCoating	Area_EF_Residential_Exterior	50	10
tblAreaCoating	Area_EF_Residential_Interior	50	10
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	69
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	69
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	10.00	20.00

tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	230.00	467.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	20.00	41.00
tblEnergyUse	T24E	252.63	118.74
tblFireplaces	NumberGas	373.15	1.00
tblFireplaces	NumberNoFireplace	43.90	438.00
tblFireplaces	NumberWood	21.95	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblGrading	AcresOfGrading	20.50	20.00

tblGrading	AcresOfGrading	20.00	10.00
tblGrading	MaterialImported	0.00	14,000.00
tblLandUse	LandUseSquareFeet	114,998.40	114,880.00
tblLandUse	LandUseSquareFeet	314,400.00	292,312.00
tblLandUse	LandUseSquareFeet	439,000.00	543,496.00
tblLandUse	LotAcreage	7.07	1.04
tblLandUse	LotAcreage	11.55	2.44
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	386.48
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblSequestration	NumberOfNewTrees	0.00	150.00
tblSolidWaste	SolidWasteGenerationRate	201.94	50.49
tblVehicleTrips	ST_TR	6.39	4.27
tblVehicleTrips	SU_TR	5.86	4.27
tblVehicleTrips	WD_TR	6.65	4.27
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.8980	53.1613	41.3488	0.1140	18.7977	2.4942	21.2919	10.0413	2.2946	12.3359	0.0000	11,438.8143	11,438.8143	1.4958	0.0000	11,463.7181
2021	4.3350	29.9352	39.0838	0.1119	6.1734	1.0252	7.1986	1.6538	0.9634	2.6172	0.0000	11,232.8123	11,232.8123	0.9640	0.0000	11,256.9131
2022	86.3021	27.4374	37.1982	0.1097	6.1734	0.8714	7.0448	1.6538	0.8193	2.4731	0.0000	11,011.4017	11,011.4017	0.9379	0.0000	11,034.8489
Maximum	**86.3021**	**53.1613**	**41.3488**	**0.1140**	**18.7977**	**2.4942**	**21.2919**	**10.0413**	**2.2946**	**12.3359**	**0.0000**	**11,438.8143**	**11,438.8143**	**1.4958**	**0.0000**	**11,463.7181**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.8980	53.1613	41.3488	0.1140	6.1733	2.4942	7.5955	2.6852	2.2946	4.9798	0.0000	11,438.8143	11,438.8143	1.4958	0.0000	11,463.7181
2021	4.3350	29.9352	39.0838	0.1119	6.1734	1.0252	7.1986	1.6538	0.9634	2.6172	0.0000	11,232.8123	11,232.8123	0.9640	0.0000	11,256.9131
2022	86.3021	27.4374	37.1982	0.1097	6.1734	0.8714	7.0448	1.6538	0.8193	2.4731	0.0000	11,011.4017	11,011.4017	0.9379	0.0000	11,034.8489
Maximum	**86.3021**	**53.1613**	**41.3488**	**0.1140**	**6.1734**	**2.4942**	**7.5955**	**2.6852**	**2.2946**	**4.9798**	**0.0000**	**11,438.8143**	**11,438.8143**	**1.4958**	**0.0000**	**11,463.7181**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**40.53**	**0.00**	**38.54**	**55.11**	**0.00**	**42.21**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685
Energy	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Mobile	2.8847	4.8614	40.7831	0.1401	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		14,015.6710	14,015.6710	0.4045		14,025.7834
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**15.2541**	**6.7811**	**77.7287**	**0.1516**	**13.4790**	**0.4233**	**13.9023**	**3.5903**	**0.4157**	**4.0060**	**0.0000**	**15,997.7764**	**15,997.7764**	**0.5044**	**0.0351**	**16,020.8580**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685
Energy	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Mobile	2.8847	4.8614	40.7831	0.1401	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		14,015.6710	14,015.6710	0.4045		14,025.7834
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**15.2541**	**6.7811**	**77.7287**	**0.1516**	**13.4790**	**0.4233**	**13.9023**	**3.5903**	**0.4157**	**4.0060**	**0.0000**	**15,997.7764**	**15,997.7764**	**0.5044**	**0.0351**	**16,020.8580**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	2/26/2020	5	41	
2	Site Preparation	Site Preparation	2/27/2020	3/25/2020	5	20	
3	Grading	Grading	3/26/2020	5/21/2020	5	41	
4	Building Construction	Building Construction	5/22/2020	3/7/2022	5	467	
5	Paving	Paving	3/8/2022	5/3/2022	5	41	
6	Architectural Coating	Architectural Coating	5/4/2022	6/29/2022	5	41	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 20

Acres of Paving: 3.68

Residential Indoor: 1,100,579; Residential Outdoor: 366,860; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 24,432 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	2	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	297.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,750.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	487.00	114.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	97.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5651	0.0000	1.5651	0.2370	0.0000	0.2370			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**1.5651**	**1.6587**	**3.2238**	**0.2370**	**1.5419**	**1.7788**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0633	2.0829	0.4616	5.7200e-003	0.1267	6.6500e-003	0.1333	0.0347	6.3600e-003	0.0411		619.9562	619.9562	0.0422		621.0112
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.1323**	**2.1320**	**1.1183**	**7.4900e-003**	**0.2943**	**8.0500e-003**	**0.3024**	**0.0792**	**7.6500e-003**	**0.0868**		**796.3732**	**796.3732**	**0.0478**		**797.5672**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4124	0.0000	0.4124	0.0624	0.0000	0.0624			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**0.4124**	**1.6587**	**2.0711**	**0.0624**	**1.5419**	**1.6043**	**0.0000**	**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0633	2.0829	0.4616	5.7200e-003	0.1267	6.6500e-003	0.1333	0.0347	6.3600e-003	0.0411		619.9562	619.9562	0.0422		621.0112
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.1323**	**2.1320**	**1.1183**	**7.4900e-003**	**0.2943**	**8.0500e-003**	**0.3024**	**0.0792**	**7.6500e-003**	**0.0868**		**796.3732**	**796.3732**	**0.0478**		**797.5672**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.5965	0.0000	18.5965	9.9879	0.0000	9.9879			0.0000			0.0000
Off-Road	4.8152	53.1024	21.9542	0.0475		2.4925	2.4925		2.2931	2.2931		4,604.3414	4,604.3414	1.4891		4,641.5698
Total	**4.8152**	**53.1024**	**21.9542**	**0.0475**	**18.5965**	**2.4925**	**21.0890**	**9.9879**	**2.2931**	**12.2810**		**4,604.3414**	**4,604.3414**	**1.4891**		**4,641.5698**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0828	0.0589	0.7881	2.1300e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		211.7003	211.7003	6.6700e-003		211.8672
Total	**0.0828**	**0.0589**	**0.7881**	**2.1300e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**211.7003**	**211.7003**	**6.6700e-003**		**211.8672**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9002	0.0000	4.9002	2.6318	0.0000	2.6318			0.0000			0.0000
Off-Road	4.8152	53.1024	21.9542	0.0475		2.4925	2.4925		2.2931	2.2931	0.0000	4,604.3414	4,604.3414	1.4891		4,641.5698
Total	**4.8152**	**53.1024**	**21.9542**	**0.0475**	**4.9002**	**2.4925**	**7.3927**	**2.6318**	**2.2931**	**4.9249**	**0.0000**	**4,604.3414**	**4,604.3414**	**1.4891**		**4,641.5698**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0828	0.0589	0.7881	2.1300e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		211.7003	211.7003	6.6700e-003		211.8672
Total	**0.0828**	**0.0589**	**0.7881**	**2.1300e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**211.7003**	**211.7003**	**6.6700e-003**		**211.8672**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5780	0.0000	6.5780	3.3719	0.0000	3.3719			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5780**	**1.2734**	**7.8515**	**3.3719**	**1.1716**	**4.5435**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3728	12.2731	2.7196	0.0337	0.7463	0.0392	0.7855	0.2046	0.0375	0.2420		3,652.9407	3,652.9407	0.2486		3,659.1567
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.4419**	**12.3222**	**3.3764**	**0.0355**	**0.9140**	**0.0406**	**0.9545**	**0.2490**	**0.0388**	**0.2878**		**3,829.3576**	**3,829.3576**	**0.2542**		**3,835.7127**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7333	0.0000	1.7333	0.8885	0.0000	0.8885			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**1.7333**	**1.2734**	**3.0067**	**0.8885**	**1.1716**	**2.0601**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3728	12.2731	2.7196	0.0337	0.7463	0.0392	0.7855	0.2046	0.0375	0.2420		3,652.9407	3,652.9407	0.2486		3,659.1567
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.4419**	**12.3222**	**3.3764**	**0.0355**	**0.9140**	**0.0406**	**0.9545**	**0.2490**	**0.0388**	**0.2878**		**3,829.3576**	**3,829.3576**	**0.2542**		**3,835.7127**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4055	12.1265	3.1772	0.0296	0.7298	0.0571	0.7869	0.2101	0.0546	0.2647		3,158.0815	3,158.0815	0.1927		3,162.8994
Worker	2.2412	1.5944	21.3230	0.0575	5.4435	0.0455	5.4890	1.4437	0.0419	1.4856		5,727.6697	5,727.6697	0.1806		5,732.1842
Total	**2.6467**	**13.7209**	**24.5003**	**0.0871**	**6.1733**	**0.1026**	**6.2759**	**1.6538**	**0.0965**	**1.7503**		**8,885.7512**	**8,885.7512**	**0.3733**		**8,895.0836**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4055	12.1265	3.1772	0.0296	0.7298	0.0571	0.7869	0.2101	0.0546	0.2647		3,158.0815	3,158.0815	0.1927		3,162.8994
Worker	2.2412	1.5944	21.3230	0.0575	5.4435	0.0455	5.4890	1.4437	0.0419	1.4856		5,727.6697	5,727.6697	0.1806		5,732.1842
Total	**2.6467**	**13.7209**	**24.5003**	**0.0871**	**6.1733**	**0.1026**	**6.2759**	**1.6538**	**0.0965**	**1.7503**		**8,885.7512**	**8,885.7512**	**0.3733**		**8,895.0836**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3465	11.0682	2.8935	0.0293	0.7298	0.0226	0.7525	0.2101	0.0216	0.2318		3,133.6392	3,133.6392	0.1846		3,138.2545
Worker	2.0876	1.4349	19.6151	0.0557	5.4435	0.0440	5.4875	1.4437	0.0405	1.4842		5,545.8092	5,545.8092	0.1634		5,549.8944
Total	**2.4341**	**12.5031**	**22.5086**	**0.0850**	**6.1734**	**0.0666**	**6.2400**	**1.6538**	**0.0622**	**1.7159**		**8,679.4484**	**8,679.4484**	**0.3480**		**8,688.1488**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3465	11.0682	2.8935	0.0293	0.7298	0.0226	0.7525	0.2101	0.0216	0.2318		3,133.6392	3,133.6392	0.1846		3,138.2545
Worker	2.0876	1.4349	19.6151	0.0557	5.4435	0.0440	5.4875	1.4437	0.0405	1.4842		5,545.8092	5,545.8092	0.1634		5,549.8944
Total	**2.4341**	**12.5031**	**22.5086**	**0.0850**	**6.1734**	**0.0666**	**6.2400**	**1.6538**	**0.0622**	**1.7159**		**8,679.4484**	**8,679.4484**	**0.3480**		**8,688.1488**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3252	10.5257	2.7377	0.0290	0.7299	0.0198	0.7497	0.2101	0.0189	0.2291		3,106.3391	3,106.3391	0.1783		3,110.7957
Worker	1.9554	1.2961	18.0971	0.0537	5.4435	0.0426	5.4861	1.4437	0.0393	1.4829		5,350.7290	5,350.7290	0.1477		5,354.4211
Total	**2.2806**	**11.8218**	**20.8348**	**0.0827**	**6.1734**	**0.0624**	**6.2358**	**1.6538**	**0.0582**	**1.7120**		**8,457.0681**	**8,457.0681**	**0.3259**		**8,465.2167**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3252	10.5257	2.7377	0.0290	0.7299	0.0198	0.7497	0.2101	0.0189	0.2291		3,106.3391	3,106.3391	0.1783		3,110.7957
Worker	1.9554	1.2961	18.0971	0.0537	5.4435	0.0426	5.4861	1.4437	0.0393	1.4829		5,350.7290	5,350.7290	0.1477		5,354.4211
Total	**2.2806**	**11.8218**	**20.8348**	**0.0827**	**6.1734**	**0.0624**	**6.2358**	**1.6538**	**0.0582**	**1.7120**		**8,457.0681**	**8,457.0681**	**0.3259**		**8,465.2167**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.1687					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2715**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.1687					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2715**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	85.7081					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**85.9126**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3895	0.2582	3.6046	0.0107	1.0842	8.4900e-003	1.0927	0.2875	7.8200e-003	0.2954		1,065.7510	1,065.7510	0.0294		1,066.4863
Total	**0.3895**	**0.2582**	**3.6046**	**0.0107**	**1.0842**	**8.4900e-003**	**1.0927**	**0.2875**	**7.8200e-003**	**0.2954**		**1,065.7510**	**1,065.7510**	**0.0294**		**1,066.4863**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	85.7081					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**85.9126**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3895	0.2582	3.6046	0.0107	1.0842	8.4900e-003	1.0927	0.2875	7.8200e-003	0.2954		1,065.7510	1,065.7510	0.0294		1,066.4863
Total	**0.3895**	**0.2582**	**3.6046**	**0.0107**	**1.0842**	**8.4900e-003**	**1.0927**	**0.2875**	**7.8200e-003**	**0.2954**		**1,065.7510**	**1,065.7510**	**0.0294**		**1,066.4863**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8847	4.8614	40.7831	0.1401	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		14,015.6710	14,015.6710	0.4045		14,025.7834
Unmitigated	2.8847	4.8614	40.7831	0.1401	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		14,015.6710	14,015.6710	0.4045		14,025.7834

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,874.53	1,874.53	1874.53	6,405,554	6,405,554
Other Asphalt Surfaces	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,874.53	1,874.53	1,874.53	6,405,554	6,405,554

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Other Asphalt Surfaces	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Unenclosed Parking with Elevator	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
NaturalGas Unmitigated	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16112.1	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1738**	**1.4848**	**0.6319**	**9.4800e-003**		**0.1201**	**0.1201**		**0.1201**	**0.1201**		**1,895.5419**	**1,895.5419**	**0.0363**	**0.0348**	**1,906.8061**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16.1121	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1738**	**1.4848**	**0.6319**	**9.4800e-003**		**0.1201**	**0.1201**		**0.1201**	**0.1201**		**1,895.5419**	**1,895.5419**	**0.0363**	**0.0348**	**1,906.8061**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685
Unmitigated	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1895					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.9055					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.9400e-003	0.0166	7.0600e-003	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	21.1765	21.1765	4.1000e-004	3.9000e-004	21.3023
Landscaping	1.0988	0.4183	36.3066	1.9200e-003		0.2008	0.2008		0.2008	0.2008		65.3871	65.3871	0.0632		66.9662
Total	**12.1957**	**0.4349**	**36.3137**	**2.0300e-003**		**0.2021**	**0.2021**		**0.2021**	**0.2021**	**0.0000**	**86.5635**	**86.5635**	**0.0636**	**3.9000e-004**	**88.2685**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1895					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.9055					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.9400e-003	0.0166	7.0600e-003	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	21.1765	21.1765	4.1000e-004	3.9000e-004	21.3023
Landscaping	1.0988	0.4183	36.3066	1.9200e-003		0.2008	0.2008		0.2008	0.2008		65.3871	65.3871	0.0632		66.9662
Total	**12.1957**	**0.4349**	**36.3137**	**2.0300e-003**		**0.2021**	**0.2021**		**0.2021**	**0.2021**	**0.0000**	**86.5635**	**86.5635**	**0.0636**	**3.9000e-004**	**88.2685**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	12	50	0.73	Diesel
Fire Pump	1	0	6	50	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (50 - 75 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Fire Pump - Diesel (50 - 75 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

11.0 Vegetation

Alexan Specific Plan (Project Emissions) CH

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.64	Acre	2.64	114,880.00	0
Unenclosed Parking with Elevator	786.00	Space	1.04	292,312.00	0
Apartments Mid Rise	439.00	Dwelling Unit	2.44	543,496.00	1256

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	386.48	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Project Characteristics - Adjusted Intensities

Land Use - Per Site Plan

Construction Phase - Per Construction Schedule

Off-road Equipment - Per Grading Plan

Demolition -

Grading - Per Grading Plan

Architectural Coating - SCAQMD Rule 1113

Vehicle Trips - Per TIA

Woodstoves - Per Regulations

Area Coating - SCAQMD Rule 1113

Energy Use - 2020 Standards

Solid Waste - AB341 diversion rate of 75%

Sequestration -

Construction Off-road Equipment Mitigation - Rule 403 Thrice Daily Watering. Replace Ground Cover 15% Reduction.

Fleet Mix - No buses or motorhomes.

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	10.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	10.00
tblArchitecturalCoating	EF_Parking	100.00	10.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	10.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	10.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	10
tblAreaCoating	Area_EF_Nonresidential_Interior	100	10
tblAreaCoating	Area_EF_Parking	100	10
tblAreaCoating	Area_EF_Residential_Exterior	50	10

tblAreaCoating	Area_EF_Residential_Interior	50	10
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	69
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	69
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	230.00	467.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	10.00	20.00
tblEnergyUse	T24E	252.63	118.74
tblFireplaces	NumberGas	373.15	1.00
tblFireplaces	NumberNoFireplace	43.90	438.00
tblFireplaces	NumberWood	21.95	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	SBUS	6.9200e-004	0.00

tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblGrading	AcresOfGrading	20.50	20.00
tblGrading	AcresOfGrading	20.00	10.00
tblGrading	MaterialImported	0.00	14,000.00
tblLandUse	LandUseSquareFeet	114,998.40	114,880.00
tblLandUse	LandUseSquareFeet	314,400.00	292,312.00
tblLandUse	LandUseSquareFeet	439,000.00	543,496.00
tblLandUse	LotAcreage	7.07	1.04
tblLandUse	LotAcreage	11.55	2.44
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	386.48
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblSequestration	NumberOfNewTrees	0.00	150.00
tblSolidWaste	SolidWasteGenerationRate	201.94	50.49
tblVehicleTrips	ST_TR	6.39	4.27
tblVehicleTrips	SU_TR	5.86	4.27
tblVehicleTrips	WD_TR	6.65	4.27
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.8980	53.1613	41.3488	0.1140	18.7977	2.4942	21.2919	10.0413	2.2946	12.3359	0.0000	11,438.8143	11,438.8143	1.4958	0.0000	11,463.7181
2021	4.3350	29.9352	39.0838	0.1119	6.1734	1.0252	7.1986	1.6538	0.9634	2.6172	0.0000	11,232.8123	11,232.8123	0.9640	0.0000	11,256.9131
2022	17.4594	27.4374	37.1982	0.1097	6.1734	0.8714	7.0448	1.6538	0.8193	2.4731	0.0000	11,011.4017	11,011.4017	0.9379	0.0000	11,034.8489
Maximum	**17.4594**	**53.1613**	**41.3488**	**0.1140**	**18.7977**	**2.4942**	**21.2919**	**10.0413**	**2.2946**	**12.3359**	**0.0000**	**11,438.8143**	**11,438.8143**	**1.4958**	**0.0000**	**11,463.7181**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	4.8980	53.1613	41.3488	0.1140	6.1733	2.4942	7.5955	2.6852	2.2946	4.9798	0.0000	11,438.8143	11,438.8143	1.4958	0.0000	11,463.7181
2021	4.3350	29.9352	39.0838	0.1119	6.1734	1.0252	7.1986	1.6538	0.9634	2.6172	0.0000	11,232.8123	11,232.8123	0.9640	0.0000	11,256.9131
2022	17.4594	27.4374	37.1982	0.1097	6.1734	0.8714	7.0448	1.6538	0.8193	2.4731	0.0000	11,011.4017	11,011.4017	0.9379	0.0000	11,034.8489
Maximum	**17.4594**	**53.1613**	**41.3488**	**0.1140**	**6.1734**	**2.4942**	**7.5955**	**2.6852**	**2.2946**	**4.9798**	**0.0000**	**11,438.8143**	**11,438.8143**	**1.4958**	**0.0000**	**11,463.7181**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**40.53**	**0.00**	**38.54**	**55.11**	**0.00**	**42.21**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685
Energy	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Mobile	2.8847	4.8614	40.7831	0.1401	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		14,015.6710	14,015.6710	0.4045		14,025.7834
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**15.2541**	**6.7811**	**77.7287**	**0.1516**	**13.4790**	**0.4233**	**13.9023**	**3.5903**	**0.4157**	**4.0060**	**0.0000**	**15,997.7764**	**15,997.7764**	**0.5044**	**0.0351**	**16,020.8580**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685
Energy	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Mobile	2.8847	4.8614	40.7831	0.1401	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		14,015.6710	14,015.6710	0.4045		14,025.7834
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**15.2541**	**6.7811**	**77.7287**	**0.1516**	**13.4790**	**0.4233**	**13.9023**	**3.5903**	**0.4157**	**4.0060**	**0.0000**	**15,997.7764**	**15,997.7764**	**0.5044**	**0.0351**	**16,020.8580**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	2/26/2020	5	41	
2	Site Preparation	Site Preparation	2/27/2020	3/25/2020	5	20	
3	Grading	Grading	3/26/2020	5/21/2020	5	41	
4	Building Construction	Building Construction	5/22/2020	3/7/2022	5	467	
5	Paving	Paving	3/8/2022	5/3/2022	5	41	
6	Architectural Coating	Architectural Coating	5/4/2022	6/29/2022	5	41	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 20

Acres of Paving: 3.68

Residential Indoor: 1,100,579; Residential Outdoor: 366,860; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 24,432 (Architectural Coating – sqft)

OffRoad Equipment

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	2	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	297.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,750.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	487.00	114.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	97.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5651	0.0000	1.5651	0.2370	0.0000	0.2370			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**1.5651**	**1.6587**	**3.2238**	**0.2370**	**1.5419**	**1.7788**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0633	2.0829	0.4616	5.7200e-003	0.1267	6.6500e-003	0.1333	0.0347	6.3600e-003	0.0411		619.9562	619.9562	0.0422		621.0112
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.1323**	**2.1320**	**1.1183**	**7.4900e-003**	**0.2943**	**8.0500e-003**	**0.3024**	**0.0792**	**7.6500e-003**	**0.0868**		**796.3732**	**796.3732**	**0.0478**		**797.5672**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4124	0.0000	0.4124	0.0624	0.0000	0.0624			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**0.4124**	**1.6587**	**2.0711**	**0.0624**	**1.5419**	**1.6043**	**0.0000**	**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0633	2.0829	0.4616	5.7200e-003	0.1267	6.6500e-003	0.1333	0.0347	6.3600e-003	0.0411		619.9562	619.9562	0.0422		621.0112
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.1323**	**2.1320**	**1.1183**	**7.4900e-003**	**0.2943**	**8.0500e-003**	**0.3024**	**0.0792**	**7.6500e-003**	**0.0868**		**796.3732**	**796.3732**	**0.0478**		**797.5672**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.5965	0.0000	18.5965	9.9879	0.0000	9.9879			0.0000			0.0000
Off-Road	4.8152	53.1024	21.9542	0.0475		2.4925	2.4925		2.2931	2.2931		4,604.3414	4,604.3414	1.4891		4,641.5698
Total	**4.8152**	**53.1024**	**21.9542**	**0.0475**	**18.5965**	**2.4925**	**21.0890**	**9.9879**	**2.2931**	**12.2810**		**4,604.3414**	**4,604.3414**	**1.4891**		**4,641.5698**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0828	0.0589	0.7881	2.1300e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		211.7003	211.7003	6.6700e-003		211.8672
Total	**0.0828**	**0.0589**	**0.7881**	**2.1300e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**211.7003**	**211.7003**	**6.6700e-003**		**211.8672**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9002	0.0000	4.9002	2.6318	0.0000	2.6318			0.0000			0.0000
Off-Road	4.8152	53.1024	21.9542	0.0475		2.4925	2.4925		2.2931	2.2931	0.0000	4,604.3414	4,604.3414	1.4891		4,641.5698
Total	**4.8152**	**53.1024**	**21.9542**	**0.0475**	**4.9002**	**2.4925**	**7.3927**	**2.6318**	**2.2931**	**4.9249**	**0.0000**	**4,604.3414**	**4,604.3414**	**1.4891**		**4,641.5698**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0828	0.0589	0.7881	2.1300e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		211.7003	211.7003	6.6700e-003		211.8672
Total	**0.0828**	**0.0589**	**0.7881**	**2.1300e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**211.7003**	**211.7003**	**6.6700e-003**		**211.8672**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5780	0.0000	6.5780	3.3719	0.0000	3.3719			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5780**	**1.2734**	**7.8515**	**3.3719**	**1.1716**	**4.5435**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3728	12.2731	2.7196	0.0337	0.7463	0.0392	0.7855	0.2046	0.0375	0.2420		3,652.9407	3,652.9407	0.2486		3,659.1567
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.4419**	**12.3222**	**3.3764**	**0.0355**	**0.9140**	**0.0406**	**0.9545**	**0.2490**	**0.0388**	**0.2878**		**3,829.3576**	**3,829.3576**	**0.2542**		**3,835.7127**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7333	0.0000	1.7333	0.8885	0.0000	0.8885			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**1.7333**	**1.2734**	**3.0067**	**0.8885**	**1.1716**	**2.0601**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3728	12.2731	2.7196	0.0337	0.7463	0.0392	0.7855	0.2046	0.0375	0.2420		3,652.9407	3,652.9407	0.2486		3,659.1567
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0690	0.0491	0.6568	1.7700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		176.4169	176.4169	5.5600e-003		176.5560
Total	**0.4419**	**12.3222**	**3.3764**	**0.0355**	**0.9140**	**0.0406**	**0.9545**	**0.2490**	**0.0388**	**0.2878**		**3,829.3576**	**3,829.3576**	**0.2542**		**3,835.7127**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4055	12.1265	3.1772	0.0296	0.7298	0.0571	0.7869	0.2101	0.0546	0.2647		3,158.0815	3,158.0815	0.1927		3,162.8994
Worker	2.2412	1.5944	21.3230	0.0575	5.4435	0.0455	5.4890	1.4437	0.0419	1.4856		5,727.6697	5,727.6697	0.1806		5,732.1842
Total	**2.6467**	**13.7209**	**24.5003**	**0.0871**	**6.1733**	**0.1026**	**6.2759**	**1.6538**	**0.0965**	**1.7503**		**8,885.7512**	**8,885.7512**	**0.3733**		**8,895.0836**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4055	12.1265	3.1772	0.0296	0.7298	0.0571	0.7869	0.2101	0.0546	0.2647		3,158.0815	3,158.0815	0.1927		3,162.8994
Worker	2.2412	1.5944	21.3230	0.0575	5.4435	0.0455	5.4890	1.4437	0.0419	1.4856		5,727.6697	5,727.6697	0.1806		5,732.1842
Total	**2.6467**	**13.7209**	**24.5003**	**0.0871**	**6.1733**	**0.1026**	**6.2759**	**1.6538**	**0.0965**	**1.7503**		**8,885.7512**	**8,885.7512**	**0.3733**		**8,895.0836**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3465	11.0682	2.8935	0.0293	0.7298	0.0226	0.7525	0.2101	0.0216	0.2318		3,133.6392	3,133.6392	0.1846		3,138.2545
Worker	2.0876	1.4349	19.6151	0.0557	5.4435	0.0440	5.4875	1.4437	0.0405	1.4842		5,545.8092	5,545.8092	0.1634		5,549.8944
Total	**2.4341**	**12.5031**	**22.5086**	**0.0850**	**6.1734**	**0.0666**	**6.2400**	**1.6538**	**0.0622**	**1.7159**		**8,679.4484**	**8,679.4484**	**0.3480**		**8,688.1488**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3465	11.0682	2.8935	0.0293	0.7298	0.0226	0.7525	0.2101	0.0216	0.2318		3,133.6392	3,133.6392	0.1846		3,138.2545
Worker	2.0876	1.4349	19.6151	0.0557	5.4435	0.0440	5.4875	1.4437	0.0405	1.4842		5,545.8092	5,545.8092	0.1634		5,549.8944
Total	**2.4341**	**12.5031**	**22.5086**	**0.0850**	**6.1734**	**0.0666**	**6.2400**	**1.6538**	**0.0622**	**1.7159**		**8,679.4484**	**8,679.4484**	**0.3480**		**8,688.1488**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3252	10.5257	2.7377	0.0290	0.7299	0.0198	0.7497	0.2101	0.0189	0.2291		3,106.3391	3,106.3391	0.1783		3,110.7957
Worker	1.9554	1.2961	18.0971	0.0537	5.4435	0.0426	5.4861	1.4437	0.0393	1.4829		5,350.7290	5,350.7290	0.1477		5,354.4211
Total	**2.2806**	**11.8218**	**20.8348**	**0.0827**	**6.1734**	**0.0624**	**6.2358**	**1.6538**	**0.0582**	**1.7120**		**8,457.0681**	**8,457.0681**	**0.3259**		**8,465.2167**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3252	10.5257	2.7377	0.0290	0.7299	0.0198	0.7497	0.2101	0.0189	0.2291		3,106.3391	3,106.3391	0.1783		3,110.7957
Worker	1.9554	1.2961	18.0971	0.0537	5.4435	0.0426	5.4861	1.4437	0.0393	1.4829		5,350.7290	5,350.7290	0.1477		5,354.4211
Total	**2.2806**	**11.8218**	**20.8348**	**0.0827**	**6.1734**	**0.0624**	**6.2358**	**1.6538**	**0.0582**	**1.7120**		**8,457.0681**	**8,457.0681**	**0.3259**		**8,465.2167**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.1687					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2715**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.1687					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2715**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.8654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**17.0700**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3895	0.2582	3.6046	0.0107	1.0842	8.4900e-003	1.0927	0.2875	7.8200e-003	0.2954		1,065.7510	1,065.7510	0.0294		1,066.4863
Total	**0.3895**	**0.2582**	**3.6046**	**0.0107**	**1.0842**	**8.4900e-003**	**1.0927**	**0.2875**	**7.8200e-003**	**0.2954**		**1,065.7510**	**1,065.7510**	**0.0294**		**1,066.4863**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.8654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**17.0700**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.3895	0.2582	3.6046	0.0107	1.0842	8.4900e-003	1.0927	0.2875	7.8200e-003	0.2954		1,065.7510	1,065.7510	0.0294		1,066.4863
Total	**0.3895**	**0.2582**	**3.6046**	**0.0107**	**1.0842**	**8.4900e-003**	**1.0927**	**0.2875**	**7.8200e-003**	**0.2954**		**1,065.7510**	**1,065.7510**	**0.0294**		**1,066.4863**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.8847	4.8614	40.7831	0.1401	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		14,015.6710	14,015.6710	0.4045		14,025.7834
Unmitigated	2.8847	4.8614	40.7831	0.1401	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		14,015.6710	14,015.6710	0.4045		14,025.7834

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,874.53	1,874.53	1874.53	6,405,554	6,405,554
Other Asphalt Surfaces	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,874.53	1,874.53	1,874.53	6,405,554	6,405,554

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Other Asphalt Surfaces	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Unenclosed Parking with Elevator	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
NaturalGas Unmitigated	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16112.1	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1738**	**1.4848**	**0.6319**	**9.4800e-003**		**0.1201**	**0.1201**		**0.1201**	**0.1201**		**1,895.5419**	**1,895.5419**	**0.0363**	**0.0348**	**1,906.8061**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16.1121	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1738**	**1.4848**	**0.6319**	**9.4800e-003**		**0.1201**	**0.1201**		**0.1201**	**0.1201**		**1,895.5419**	**1,895.5419**	**0.0363**	**0.0348**	**1,906.8061**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685
Unmitigated	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1895					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.9055					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.9400e-003	0.0166	7.0600e-003	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	21.1765	21.1765	4.1000e-004	3.9000e-004	21.3023
Landscaping	1.0988	0.4183	36.3066	1.9200e-003		0.2008	0.2008		0.2008	0.2008		65.3871	65.3871	0.0632		66.9662
Total	**12.1957**	**0.4349**	**36.3137**	**2.0300e-003**		**0.2021**	**0.2021**		**0.2021**	**0.2021**	**0.0000**	**86.5635**	**86.5635**	**0.0636**	**3.9000e-004**	**88.2685**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1895					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.9055					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.9400e-003	0.0166	7.0600e-003	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	21.1765	21.1765	4.1000e-004	3.9000e-004	21.3023
Landscaping	1.0988	0.4183	36.3066	1.9200e-003		0.2008	0.2008		0.2008	0.2008		65.3871	65.3871	0.0632		66.9662
Total	**12.1957**	**0.4349**	**36.3137**	**2.0300e-003**		**0.2021**	**0.2021**		**0.2021**	**0.2021**	**0.0000**	**86.5635**	**86.5635**	**0.0636**	**3.9000e-004**	**88.2685**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	12	50	0.73	Diesel
Fire Pump	1	0	6	50	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (50 - 75 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Fire Pump - Diesel (50 - 75 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

11.0 Vegetation

Alexan Specific Plan (Project Emissions) CH

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.64	Acre	2.64	114,880.00	0
Unenclosed Parking with Elevator	786.00	Space	1.04	292,312.00	0
Apartments Mid Rise	439.00	Dwelling Unit	2.44	543,496.00	1256

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	386.48	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Winter

Project Characteristics - Adjusted Intensities

Land Use - Per Site Plan

Construction Phase - Per Construction Schedule

Off-road Equipment - Per Grading Plan

Demolition -

Grading - Per Grading Plan

Architectural Coating - SCAQMD Rule 1113

Vehicle Trips - Per TIA

Woodstoves - Per Regulations

Area Coating - SCAQMD Rule 1113

Energy Use - 2020 Standards

Solid Waste - AB341 diversion rate of 75%

Sequestration -

Construction Off-road Equipment Mitigation - Rule 403 Thrice Daily Watering. Replace Ground Cover 15% Reduction.

Fleet Mix - No buses or motorhomes.

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	10
tblAreaCoating	Area_EF_Nonresidential_Interior	100	10
tblAreaCoating	Area_EF_Parking	100	10
tblAreaCoating	Area_EF_Residential_Exterior	50	10
tblAreaCoating	Area_EF_Residential_Interior	50	10
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	69
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	69
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	10.00	20.00

tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	230.00	467.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	20.00	41.00
tblEnergyUse	T24E	252.63	118.74
tblFireplaces	NumberGas	373.15	1.00
tblFireplaces	NumberNoFireplace	43.90	438.00
tblFireplaces	NumberWood	21.95	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblGrading	AcresOfGrading	20.50	20.00

tblGrading	AcresOfGrading	20.00	10.00
tblGrading	MaterialImported	0.00	14,000.00
tblLandUse	LandUseSquareFeet	114,998.40	114,880.00
tblLandUse	LandUseSquareFeet	314,400.00	292,312.00
tblLandUse	LandUseSquareFeet	439,000.00	543,496.00
tblLandUse	LotAcreage	7.07	1.04
tblLandUse	LotAcreage	11.55	2.44
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	386.48
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblSequestration	NumberOfNewTrees	0.00	150.00
tblSolidWaste	SolidWasteGenerationRate	201.94	50.49
tblVehicleTrips	ST_TR	6.39	4.27
tblVehicleTrips	SU_TR	5.86	4.27
tblVehicleTrips	WD_TR	6.65	4.27
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	5.0324	53.1676	39.8819	0.1098	18.7977	2.4942	21.2919	10.0413	2.2946	12.3359	0.0000	11,017.9197	11,017.9197	1.4954	0.0000	11,042.8759
2021	4.5868	30.0658	37.7100	0.1079	6.1734	1.0260	7.1993	1.6538	0.9641	2.6179	0.0000	10,822.9657	10,822.9657	0.9664	0.0000	10,847.1264
2022	86.3471	27.5471	35.9111	0.1057	6.1734	0.8721	7.0454	1.6538	0.8199	2.4737	0.0000	10,613.3480	10,613.3480	0.9405	0.0000	10,636.8609
Maximum	**86.3471**	**53.1676**	**39.8819**	**0.1098**	**18.7977**	**2.4942**	**21.2919**	**10.0413**	**2.2946**	**12.3359**	**0.0000**	**11,017.9197**	**11,017.9197**	**1.4954**	**0.0000**	**11,042.8759**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	5.0324	53.1676	39.8819	0.1098	6.1733	2.4942	7.5955	2.6852	2.2946	4.9798	0.0000	11,017.9197	11,017.9197	1.4954	0.0000	11,042.8758
2021	4.5868	30.0658	37.7100	0.1079	6.1734	1.0260	7.1993	1.6538	0.9641	2.6179	0.0000	10,822.9657	10,822.9657	0.9664	0.0000	10,847.1264
2022	86.3471	27.5471	35.9111	0.1057	6.1734	0.8721	7.0454	1.6538	0.8199	2.4737	0.0000	10,613.3480	10,613.3480	0.9405	0.0000	10,636.8609
Maximum	**86.3471**	**53.1676**	**39.8819**	**0.1098**	**6.1734**	**2.4942**	**7.5955**	**2.6852**	**2.2946**	**4.9798**	**0.0000**	**11,017.9197**	**11,017.9197**	**1.4954**	**0.0000**	**11,042.8758**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**40.53**	**0.00**	**38.54**	**55.11**	**0.00**	**42.21**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685
Energy	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Mobile	2.7772	5.2053	38.1937	0.1328	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		13,284.7230	13,284.7230	0.3916		13,294.5141
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**15.1466**	**7.1251**	**75.1392**	**0.1443**	**13.4790**	**0.4233**	**13.9023**	**3.5903**	**0.4157**	**4.0060**	**0.0000**	**15,266.8284**	**15,266.8284**	**0.4915**	**0.0351**	**15,289.5887**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685
Energy	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Mobile	2.7772	5.2053	38.1937	0.1328	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		13,284.7230	13,284.7230	0.3916		13,294.5141
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**15.1466**	**7.1251**	**75.1392**	**0.1443**	**13.4790**	**0.4233**	**13.9023**	**3.5903**	**0.4157**	**4.0060**	**0.0000**	**15,266.8284**	**15,266.8284**	**0.4915**	**0.0351**	**15,289.5887**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	2/26/2020	5	41	
2	Site Preparation	Site Preparation	2/27/2020	3/25/2020	5	20	
3	Grading	Grading	3/26/2020	5/21/2020	5	41	
4	Building Construction	Building Construction	5/22/2020	3/7/2022	5	467	
5	Paving	Paving	3/8/2022	5/3/2022	5	41	
6	Architectural Coating	Architectural Coating	5/4/2022	6/29/2022	5	41	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 20

Acres of Paving: 3.68

Residential Indoor: 1,100,579; Residential Outdoor: 366,860; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 24,432 (Architectural Coating – sqft)

OffRoad Equipment

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	2	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	297.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,750.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	487.00	114.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	97.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5651	0.0000	1.5651	0.2370	0.0000	0.2370			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**1.5651**	**1.6587**	**3.2238**	**0.2370**	**1.5419**	**1.7788**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0648	2.1099	0.4905	5.6200e-003	0.1267	6.7500e-003	0.1334	0.0347	6.4600e-003	0.0412		609.2803	609.2803	0.0437		610.3737
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.1415**	**2.1643**	**1.0920**	**7.2900e-003**	**0.2943**	**8.1500e-003**	**0.3025**	**0.0792**	**7.7500e-003**	**0.0869**		**775.3934**	**775.3934**	**0.0490**		**776.6176**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4124	0.0000	0.4124	0.0624	0.0000	0.0624			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**0.4124**	**1.6587**	**2.0711**	**0.0624**	**1.5419**	**1.6043**	**0.0000**	**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0648	2.1099	0.4905	5.6200e-003	0.1267	6.7500e-003	0.1334	0.0347	6.4600e-003	0.0412		609.2803	609.2803	0.0437		610.3737
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.1415**	**2.1643**	**1.0920**	**7.2900e-003**	**0.2943**	**8.1500e-003**	**0.3025**	**0.0792**	**7.7500e-003**	**0.0869**		**775.3934**	**775.3934**	**0.0490**		**776.6176**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.5965	0.0000	18.5965	9.9879	0.0000	9.9879			0.0000			0.0000
Off-Road	4.8152	53.1024	21.9542	0.0475		2.4925	2.4925		2.2931	2.2931		4,604.3414	4,604.3414	1.4891		4,641.5698
Total	**4.8152**	**53.1024**	**21.9542**	**0.0475**	**18.5965**	**2.4925**	**21.0890**	**9.9879**	**2.2931**	**12.2810**		**4,604.3414**	**4,604.3414**	**1.4891**		**4,641.5698**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0920	0.0652	0.7218	2.0000e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		199.3357	199.3357	6.2800e-003		199.4927
Total	**0.0920**	**0.0652**	**0.7218**	**2.0000e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**199.3357**	**199.3357**	**6.2800e-003**		**199.4927**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9002	0.0000	4.9002	2.6318	0.0000	2.6318			0.0000			0.0000
Off-Road	4.8152	53.1024	21.9542	0.0475		2.4925	2.4925		2.2931	2.2931	0.0000	4,604.3414	4,604.3414	1.4891		4,641.5698
Total	**4.8152**	**53.1024**	**21.9542**	**0.0475**	**4.9002**	**2.4925**	**7.3927**	**2.6318**	**2.2931**	**4.9249**	**0.0000**	**4,604.3414**	**4,604.3414**	**1.4891**		**4,641.5698**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0920	0.0652	0.7218	2.0000e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		199.3357	199.3357	6.2800e-003		199.4927
Total	**0.0920**	**0.0652**	**0.7218**	**2.0000e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**199.3357**	**199.3357**	**6.2800e-003**		**199.4927**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5780	0.0000	6.5780	3.3719	0.0000	3.3719			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5780**	**1.2734**	**7.8515**	**3.3719**	**1.1716**	**4.5435**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3819	12.4319	2.8903	0.0331	0.7463	0.0398	0.7861	0.2046	0.0381	0.2426		3,590.0357	3,590.0357	0.2577		3,596.4777
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.4585**	**12.4863**	**3.4918**	**0.0348**	**0.9140**	**0.0412**	**0.9551**	**0.2490**	**0.0393**	**0.2884**		**3,756.1487**	**3,756.1487**	**0.2629**		**3,762.7217**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7333	0.0000	1.7333	0.8885	0.0000	0.8885			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**1.7333**	**1.2734**	**3.0067**	**0.8885**	**1.1716**	**2.0601**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3819	12.4319	2.8903	0.0331	0.7463	0.0398	0.7861	0.2046	0.0381	0.2426		3,590.0357	3,590.0357	0.2577		3,596.4777
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.4585**	**12.4863**	**3.4918**	**0.0348**	**0.9140**	**0.0412**	**0.9551**	**0.2490**	**0.0393**	**0.2884**		**3,756.1487**	**3,756.1487**	**0.2629**		**3,762.7217**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4239	12.1240	3.5042	0.0288	0.7298	0.0580	0.7878	0.2101	0.0555	0.2656		3,071.7193	3,071.7193	0.2054		3,076.8544
Worker	2.4887	1.7652	19.5292	0.0542	5.4435	0.0455	5.4890	1.4437	0.0419	1.4856		5,393.1373	5,393.1373	0.1700		5,397.3870
Total	**2.9126**	**13.8892**	**23.0334**	**0.0829**	**6.1733**	**0.1035**	**6.2768**	**1.6538**	**0.0974**	**1.7512**		**8,464.8566**	**8,464.8566**	**0.3754**		**8,474.2414**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4239	12.1240	3.5042	0.0288	0.7298	0.0580	0.7878	0.2101	0.0555	0.2656		3,071.7193	3,071.7193	0.2054		3,076.8544
Worker	2.4887	1.7652	19.5292	0.0542	5.4435	0.0455	5.4890	1.4437	0.0419	1.4856		5,393.1373	5,393.1373	0.1700		5,397.3870
Total	**2.9126**	**13.8892**	**23.0334**	**0.0829**	**6.1733**	**0.1035**	**6.2768**	**1.6538**	**0.0974**	**1.7512**		**8,464.8566**	**8,464.8566**	**0.3754**		**8,474.2414**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3638	11.0453	3.2008	0.0285	0.7298	0.0234	0.7532	0.2101	0.0223	0.2325		3,047.7390	3,047.7390	0.1968		3,052.6578
Worker	2.3221	1.5883	17.9341	0.0524	5.4435	0.0440	5.4875	1.4437	0.0405	1.4842		5,221.8628	5,221.8628	0.1537		5,225.7043
Total	**2.6859**	**12.6337**	**21.1348**	**0.0809**	**6.1734**	**0.0674**	**6.2407**	**1.6538**	**0.0629**	**1.7166**		**8,269.6018**	**8,269.6018**	**0.3504**		**8,278.3621**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3638	11.0453	3.2008	0.0285	0.7298	0.0234	0.7532	0.2101	0.0223	0.2325		3,047.7390	3,047.7390	0.1968		3,052.6578
Worker	2.3221	1.5883	17.9341	0.0524	5.4435	0.0440	5.4875	1.4437	0.0405	1.4842		5,221.8628	5,221.8628	0.1537		5,225.7043
Total	**2.6859**	**12.6337**	**21.1348**	**0.0809**	**6.1734**	**0.0674**	**6.2407**	**1.6538**	**0.0629**	**1.7166**		**8,269.6018**	**8,269.6018**	**0.3504**		**8,278.3621**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3415	10.4970	3.0298	0.0283	0.7299	0.0204	0.7503	0.2101	0.0195	0.2297		3,020.6612	3,020.6612	0.1898		3,025.4072
Worker	2.1810	1.4344	16.5179	0.0506	5.4435	0.0426	5.4861	1.4437	0.0393	1.4829		5,038.3532	5,038.3532	0.1387		5,041.8215
Total	**2.5225**	**11.9315**	**19.5477**	**0.0788**	**6.1734**	**0.0630**	**6.2364**	**1.6538**	**0.0588**	**1.7126**		**8,059.0144**	**8,059.0144**	**0.3286**		**8,067.2287**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3415	10.4970	3.0298	0.0283	0.7299	0.0204	0.7503	0.2101	0.0195	0.2297		3,020.6612	3,020.6612	0.1898		3,025.4072
Worker	2.1810	1.4344	16.5179	0.0506	5.4435	0.0426	5.4861	1.4437	0.0393	1.4829		5,038.3532	5,038.3532	0.1387		5,041.8215
Total	**2.5225**	**11.9315**	**19.5477**	**0.0788**	**6.1734**	**0.0630**	**6.2364**	**1.6538**	**0.0588**	**1.7126**		**8,059.0144**	**8,059.0144**	**0.3286**		**8,067.2287**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.1687					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2715**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.1687					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2715**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	85.7081					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**85.9126**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4344	0.2857	3.2900	0.0101	1.0842	8.4900e-003	1.0927	0.2875	7.8200e-003	0.2954		1,003.5324	1,003.5324	0.0276		1,004.2232
Total	**0.4344**	**0.2857**	**3.2900**	**0.0101**	**1.0842**	**8.4900e-003**	**1.0927**	**0.2875**	**7.8200e-003**	**0.2954**		**1,003.5324**	**1,003.5324**	**0.0276**		**1,004.2232**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	85.7081					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**85.9126**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4344	0.2857	3.2900	0.0101	1.0842	8.4900e-003	1.0927	0.2875	7.8200e-003	0.2954		1,003.5324	1,003.5324	0.0276		1,004.2232
Total	**0.4344**	**0.2857**	**3.2900**	**0.0101**	**1.0842**	**8.4900e-003**	**1.0927**	**0.2875**	**7.8200e-003**	**0.2954**		**1,003.5324**	**1,003.5324**	**0.0276**		**1,004.2232**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.7772	5.2053	38.1937	0.1328	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		13,284.7230	13,284.7230	0.3916		13,294.5141
Unmitigated	2.7772	5.2053	38.1937	0.1328	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		13,284.7230	13,284.7230	0.3916		13,294.5141

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,874.53	1,874.53	1874.53	6,405,554	6,405,554
Other Asphalt Surfaces	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,874.53	1,874.53	1,874.53	6,405,554	6,405,554

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Other Asphalt Surfaces	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Unenclosed Parking with Elevator	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
NaturalGas Unmitigated	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16112.1	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1738**	**1.4848**	**0.6319**	**9.4800e-003**		**0.1201**	**0.1201**		**0.1201**	**0.1201**		**1,895.5419**	**1,895.5419**	**0.0363**	**0.0348**	**1,906.8061**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16.1121	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1738**	**1.4848**	**0.6319**	**9.4800e-003**		**0.1201**	**0.1201**		**0.1201**	**0.1201**		**1,895.5419**	**1,895.5419**	**0.0363**	**0.0348**	**1,906.8061**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685
Unmitigated	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1895					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.9055					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.9400e-003	0.0166	7.0600e-003	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	21.1765	21.1765	4.1000e-004	3.9000e-004	21.3023
Landscaping	1.0988	0.4183	36.3066	1.9200e-003		0.2008	0.2008		0.2008	0.2008		65.3871	65.3871	0.0632		66.9662
Total	**12.1957**	**0.4349**	**36.3137**	**2.0300e-003**		**0.2021**	**0.2021**		**0.2021**	**0.2021**	**0.0000**	**86.5635**	**86.5635**	**0.0636**	**3.9000e-004**	**88.2685**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1895					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.9055					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.9400e-003	0.0166	7.0600e-003	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	21.1765	21.1765	4.1000e-004	3.9000e-004	21.3023
Landscaping	1.0988	0.4183	36.3066	1.9200e-003		0.2008	0.2008		0.2008	0.2008		65.3871	65.3871	0.0632		66.9662
Total	**12.1957**	**0.4349**	**36.3137**	**2.0300e-003**		**0.2021**	**0.2021**		**0.2021**	**0.2021**	**0.0000**	**86.5635**	**86.5635**	**0.0636**	**3.9000e-004**	**88.2685**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	12	50	0.73	Diesel
Fire Pump	1	0	6	50	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (50 - 75 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Fire Pump - Diesel (50 - 75 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

11.0 Vegetation

Alexan Specific Plan (Project Emissions) CH

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.64	Acre	2.64	114,880.00	0
Unenclosed Parking with Elevator	786.00	Space	1.04	292,312.00	0
Apartments Mid Rise	439.00	Dwelling Unit	2.44	543,496.00	1256

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	386.48	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Winter

Project Characteristics - Adjusted Intensities

Land Use - Per Site Plan

Construction Phase - Per Construction Schedule

Off-road Equipment - Per Grading Plan

Demolition -

Grading - Per Grading Plan

Architectural Coating - SCAQMD Rule 1113

Vehicle Trips - Per TIA

Woodstoves - Per Regulations

Area Coating - SCAQMD Rule 1113

Energy Use - 2020 Standards

Solid Waste - AB341 diversion rate of 75%

Sequestration -

Construction Off-road Equipment Mitigation - Rule 403 Thrice Daily Watering. Replace Ground Cover 15% Reduction.

Fleet Mix - No buses or motorhomes.

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	10.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	10.00
tblArchitecturalCoating	EF_Parking	100.00	10.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	10.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	10.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	10
tblAreaCoating	Area_EF_Nonresidential_Interior	100	10
tblAreaCoating	Area_EF_Parking	100	10
tblAreaCoating	Area_EF_Residential_Exterior	50	10

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Winter

tblAreaCoating	Area_EF_Residential_Interior	50	10
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	69
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	69
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	230.00	467.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	10.00	20.00
tblEnergyUse	T24E	252.63	118.74
tblFireplaces	NumberGas	373.15	1.00
tblFireplaces	NumberNoFireplace	43.90	438.00
tblFireplaces	NumberWood	21.95	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	SBUS	6.9200e-004	0.00

tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblGrading	AcresOfGrading	20.50	20.00
tblGrading	AcresOfGrading	20.00	10.00
tblGrading	MaterialImported	0.00	14,000.00
tblLandUse	LandUseSquareFeet	114,998.40	114,880.00
tblLandUse	LandUseSquareFeet	314,400.00	292,312.00
tblLandUse	LandUseSquareFeet	439,000.00	543,496.00
tblLandUse	LotAcreage	7.07	1.04
tblLandUse	LotAcreage	11.55	2.44
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	386.48
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblSequestration	NumberOfNewTrees	0.00	150.00
tblSolidWaste	SolidWasteGenerationRate	201.94	50.49
tblVehicleTrips	ST_TR	6.39	4.27
tblVehicleTrips	SU_TR	5.86	4.27
tblVehicleTrips	WD_TR	6.65	4.27
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	5.0324	53.1676	39.8819	0.1098	18.7977	2.4942	21.2919	10.0413	2.2946	12.3359	0.0000	11,017.9197	11,017.9197	1.4954	0.0000	11,042.8759
2021	4.5868	30.0658	37.7100	0.1079	6.1734	1.0260	7.1993	1.6538	0.9641	2.6179	0.0000	10,822.9657	10,822.9657	0.9664	0.0000	10,847.1264
2022	17.5044	27.5471	35.9111	0.1057	6.1734	0.8721	7.0454	1.6538	0.8199	2.4737	0.0000	10,613.3480	10,613.3480	0.9405	0.0000	10,636.8609
Maximum	**17.5044**	**53.1676**	**39.8819**	**0.1098**	**18.7977**	**2.4942**	**21.2919**	**10.0413**	**2.2946**	**12.3359**	**0.0000**	**11,017.9197**	**11,017.9197**	**1.4954**	**0.0000**	**11,042.8759**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	5.0324	53.1676	39.8819	0.1098	6.1733	2.4942	7.5955	2.6852	2.2946	4.9798	0.0000	11,017.9197	11,017.9197	1.4954	0.0000	11,042.8758
2021	4.5868	30.0658	37.7100	0.1079	6.1734	1.0260	7.1993	1.6538	0.9641	2.6179	0.0000	10,822.9657	10,822.9657	0.9664	0.0000	10,847.1264
2022	17.5044	27.5471	35.9111	0.1057	6.1734	0.8721	7.0454	1.6538	0.8199	2.4737	0.0000	10,613.3480	10,613.3480	0.9405	0.0000	10,636.8609
Maximum	**17.5044**	**53.1676**	**39.8819**	**0.1098**	**6.1734**	**2.4942**	**7.5955**	**2.6852**	**2.2946**	**4.9798**	**0.0000**	**11,017.9197**	**11,017.9197**	**1.4954**	**0.0000**	**11,042.8758**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**40.53**	**0.00**	**38.54**	**55.11**	**0.00**	**42.21**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685
Energy	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Mobile	2.7772	5.2053	38.1937	0.1328	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		13,284.7230	13,284.7230	0.3916		13,294.5141
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**15.1466**	**7.1251**	**75.1392**	**0.1443**	**13.4790**	**0.4233**	**13.9023**	**3.5903**	**0.4157**	**4.0060**	**0.0000**	**15,266.8284**	**15,266.8284**	**0.4915**	**0.0351**	**15,289.5887**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685
Energy	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Mobile	2.7772	5.2053	38.1937	0.1328	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		13,284.7230	13,284.7230	0.3916		13,294.5141
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**15.1466**	**7.1251**	**75.1392**	**0.1443**	**13.4790**	**0.4233**	**13.9023**	**3.5903**	**0.4157**	**4.0060**	**0.0000**	**15,266.8284**	**15,266.8284**	**0.4915**	**0.0351**	**15,289.5887**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	2/26/2020	5	41	
2	Site Preparation	Site Preparation	2/27/2020	3/25/2020	5	20	
3	Grading	Grading	3/26/2020	5/21/2020	5	41	
4	Building Construction	Building Construction	5/22/2020	3/7/2022	5	467	
5	Paving	Paving	3/8/2022	5/3/2022	5	41	
6	Architectural Coating	Architectural Coating	5/4/2022	6/29/2022	5	41	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 20

Acres of Paving: 3.68

Residential Indoor: 1,100,579; Residential Outdoor: 366,860; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 24,432 (Architectural Coating – sqft)

OffRoad Equipment

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	2	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	297.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,750.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	487.00	114.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	97.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5651	0.0000	1.5651	0.2370	0.0000	0.2370			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419		3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**1.5651**	**1.6587**	**3.2238**	**0.2370**	**1.5419**	**1.7788**		**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0648	2.1099	0.4905	5.6200e-003	0.1267	6.7500e-003	0.1334	0.0347	6.4600e-003	0.0412		609.2803	609.2803	0.0437		610.3737
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.1415**	**2.1643**	**1.0920**	**7.2900e-003**	**0.2943**	**8.1500e-003**	**0.3025**	**0.0792**	**7.7500e-003**	**0.0869**		**775.3934**	**775.3934**	**0.0490**		**776.6176**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.4124	0.0000	0.4124	0.0624	0.0000	0.0624			0.0000			0.0000
Off-Road	3.3121	33.2010	21.7532	0.0388		1.6587	1.6587		1.5419	1.5419	0.0000	3,747.7049	3,747.7049	1.0580		3,774.1536
Total	**3.3121**	**33.2010**	**21.7532**	**0.0388**	**0.4124**	**1.6587**	**2.0711**	**0.0624**	**1.5419**	**1.6043**	**0.0000**	**3,747.7049**	**3,747.7049**	**1.0580**		**3,774.1536**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0648	2.1099	0.4905	5.6200e-003	0.1267	6.7500e-003	0.1334	0.0347	6.4600e-003	0.0412		609.2803	609.2803	0.0437		610.3737
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.1415**	**2.1643**	**1.0920**	**7.2900e-003**	**0.2943**	**8.1500e-003**	**0.3025**	**0.0792**	**7.7500e-003**	**0.0869**		**775.3934**	**775.3934**	**0.0490**		**776.6176**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.5965	0.0000	18.5965	9.9879	0.0000	9.9879			0.0000			0.0000
Off-Road	4.8152	53.1024	21.9542	0.0475		2.4925	2.4925		2.2931	2.2931		4,604.3414	4,604.3414	1.4891		4,641.5698
Total	**4.8152**	**53.1024**	**21.9542**	**0.0475**	**18.5965**	**2.4925**	**21.0890**	**9.9879**	**2.2931**	**12.2810**		**4,604.3414**	**4,604.3414**	**1.4891**		**4,641.5698**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0920	0.0652	0.7218	2.0000e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		199.3357	199.3357	6.2800e-003		199.4927
Total	**0.0920**	**0.0652**	**0.7218**	**2.0000e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**199.3357**	**199.3357**	**6.2800e-003**		**199.4927**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					4.9002	0.0000	4.9002	2.6318	0.0000	2.6318			0.0000			0.0000
Off-Road	4.8152	53.1024	21.9542	0.0475		2.4925	2.4925		2.2931	2.2931	0.0000	4,604.3414	4,604.3414	1.4891		4,641.5698
Total	**4.8152**	**53.1024**	**21.9542**	**0.0475**	**4.9002**	**2.4925**	**7.3927**	**2.6318**	**2.2931**	**4.9249**	**0.0000**	**4,604.3414**	**4,604.3414**	**1.4891**		**4,641.5698**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0920	0.0652	0.7218	2.0000e-003	0.2012	1.6800e-003	0.2029	0.0534	1.5500e-003	0.0549		199.3357	199.3357	6.2800e-003		199.4927
Total	**0.0920**	**0.0652**	**0.7218**	**2.0000e-003**	**0.2012**	**1.6800e-003**	**0.2029**	**0.0534**	**1.5500e-003**	**0.0549**		**199.3357**	**199.3357**	**6.2800e-003**		**199.4927**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5780	0.0000	6.5780	3.3719	0.0000	3.3719			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716		2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**6.5780**	**1.2734**	**7.8515**	**3.3719**	**1.1716**	**4.5435**		**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3819	12.4319	2.8903	0.0331	0.7463	0.0398	0.7861	0.2046	0.0381	0.2426		3,590.0357	3,590.0357	0.2577		3,596.4777
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.4585**	**12.4863**	**3.4918**	**0.0348**	**0.9140**	**0.0412**	**0.9551**	**0.2490**	**0.0393**	**0.2884**		**3,756.1487**	**3,756.1487**	**0.2629**		**3,762.7217**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.7333	0.0000	1.7333	0.8885	0.0000	0.8885			0.0000			0.0000
Off-Road	2.4288	26.3859	16.0530	0.0297		1.2734	1.2734		1.1716	1.1716	0.0000	2,872.4851	2,872.4851	0.9290		2,895.7106
Total	**2.4288**	**26.3859**	**16.0530**	**0.0297**	**1.7333**	**1.2734**	**3.0067**	**0.8885**	**1.1716**	**2.0601**	**0.0000**	**2,872.4851**	**2,872.4851**	**0.9290**		**2,895.7106**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.3819	12.4319	2.8903	0.0331	0.7463	0.0398	0.7861	0.2046	0.0381	0.2426		3,590.0357	3,590.0357	0.2577		3,596.4777
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0767	0.0544	0.6015	1.6700e-003	0.1677	1.4000e-003	0.1691	0.0445	1.2900e-003	0.0458		166.1131	166.1131	5.2400e-003		166.2440
Total	**0.4585**	**12.4863**	**3.4918**	**0.0348**	**0.9140**	**0.0412**	**0.9551**	**0.2490**	**0.0393**	**0.2884**		**3,756.1487**	**3,756.1487**	**0.2629**		**3,762.7217**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503		2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**		**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4239	12.1240	3.5042	0.0288	0.7298	0.0580	0.7878	0.2101	0.0555	0.2656		3,071.7193	3,071.7193	0.2054		3,076.8544
Worker	2.4887	1.7652	19.5292	0.0542	5.4435	0.0455	5.4890	1.4437	0.0419	1.4856		5,393.1373	5,393.1373	0.1700		5,397.3870
Total	**2.9126**	**13.8892**	**23.0334**	**0.0829**	**6.1733**	**0.1035**	**6.2768**	**1.6538**	**0.0974**	**1.7512**		**8,464.8566**	**8,464.8566**	**0.3754**		**8,474.2414**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.1198	19.1860	16.8485	0.0269		1.1171	1.1171		1.0503	1.0503	0.0000	2,553.0631	2,553.0631	0.6229		2,568.6345
Total	**2.1198**	**19.1860**	**16.8485**	**0.0269**		**1.1171**	**1.1171**		**1.0503**	**1.0503**	**0.0000**	**2,553.0631**	**2,553.0631**	**0.6229**		**2,568.6345**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.4239	12.1240	3.5042	0.0288	0.7298	0.0580	0.7878	0.2101	0.0555	0.2656		3,071.7193	3,071.7193	0.2054		3,076.8544
Worker	2.4887	1.7652	19.5292	0.0542	5.4435	0.0455	5.4890	1.4437	0.0419	1.4856		5,393.1373	5,393.1373	0.1700		5,397.3870
Total	**2.9126**	**13.8892**	**23.0334**	**0.0829**	**6.1733**	**0.1035**	**6.2768**	**1.6538**	**0.0974**	**1.7512**		**8,464.8566**	**8,464.8566**	**0.3754**		**8,474.2414**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013		2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**		**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3638	11.0453	3.2008	0.0285	0.7298	0.0234	0.7532	0.2101	0.0223	0.2325		3,047.7390	3,047.7390	0.1968		3,052.6578
Worker	2.3221	1.5883	17.9341	0.0524	5.4435	0.0440	5.4875	1.4437	0.0405	1.4842		5,221.8628	5,221.8628	0.1537		5,225.7043
Total	**2.6859**	**12.6337**	**21.1348**	**0.0809**	**6.1734**	**0.0674**	**6.2407**	**1.6538**	**0.0629**	**1.7166**		**8,269.6018**	**8,269.6018**	**0.3504**		**8,278.3621**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.9009	17.4321	16.5752	0.0269		0.9586	0.9586		0.9013	0.9013	0.0000	2,553.3639	2,553.3639	0.6160		2,568.7643
Total	**1.9009**	**17.4321**	**16.5752**	**0.0269**		**0.9586**	**0.9586**		**0.9013**	**0.9013**	**0.0000**	**2,553.3639**	**2,553.3639**	**0.6160**		**2,568.7643**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3638	11.0453	3.2008	0.0285	0.7298	0.0234	0.7532	0.2101	0.0223	0.2325		3,047.7390	3,047.7390	0.1968		3,052.6578
Worker	2.3221	1.5883	17.9341	0.0524	5.4435	0.0440	5.4875	1.4437	0.0405	1.4842		5,221.8628	5,221.8628	0.1537		5,225.7043
Total	**2.6859**	**12.6337**	**21.1348**	**0.0809**	**6.1734**	**0.0674**	**6.2407**	**1.6538**	**0.0629**	**1.7166**		**8,269.6018**	**8,269.6018**	**0.3504**		**8,278.3621**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612		2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**		**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3415	10.4970	3.0298	0.0283	0.7299	0.0204	0.7503	0.2101	0.0195	0.2297		3,020.6612	3,020.6612	0.1898		3,025.4072
Worker	2.1810	1.4344	16.5179	0.0506	5.4435	0.0426	5.4861	1.4437	0.0393	1.4829		5,038.3532	5,038.3532	0.1387		5,041.8215
Total	**2.5225**	**11.9315**	**19.5477**	**0.0788**	**6.1734**	**0.0630**	**6.2364**	**1.6538**	**0.0588**	**1.7126**		**8,059.0144**	**8,059.0144**	**0.3286**		**8,067.2287**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.7062	15.6156	16.3634	0.0269		0.8090	0.8090		0.7612	0.7612	0.0000	2,554.3336	2,554.3336	0.6120		2,569.6322
Total	**1.7062**	**15.6156**	**16.3634**	**0.0269**		**0.8090**	**0.8090**		**0.7612**	**0.7612**	**0.0000**	**2,554.3336**	**2,554.3336**	**0.6120**		**2,569.6322**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.3415	10.4970	3.0298	0.0283	0.7299	0.0204	0.7503	0.2101	0.0195	0.2297		3,020.6612	3,020.6612	0.1898		3,025.4072
Worker	2.1810	1.4344	16.5179	0.0506	5.4435	0.0426	5.4861	1.4437	0.0393	1.4829		5,038.3532	5,038.3532	0.1387		5,041.8215
Total	**2.5225**	**11.9315**	**19.5477**	**0.0788**	**6.1734**	**0.0630**	**6.2364**	**1.6538**	**0.0588**	**1.7126**		**8,059.0144**	**8,059.0144**	**0.3286**		**8,067.2287**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225		2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.1687					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2715**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**		**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.1028	11.1249	14.5805	0.0228		0.5679	0.5679		0.5225	0.5225	0.0000	2,207.6603	2,207.6603	0.7140		2,225.5104
Paving	0.1687					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**1.2715**	**11.1249**	**14.5805**	**0.0228**		**0.5679**	**0.5679**		**0.5225**	**0.5225**	**0.0000**	**2,207.6603**	**2,207.6603**	**0.7140**		**2,225.5104**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.8654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**17.0700**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4344	0.2857	3.2900	0.0101	1.0842	8.4900e-003	1.0927	0.2875	7.8200e-003	0.2954		1,003.5324	1,003.5324	0.0276		1,004.2232
Total	**0.4344**	**0.2857**	**3.2900**	**0.0101**	**1.0842**	**8.4900e-003**	**1.0927**	**0.2875**	**7.8200e-003**	**0.2954**		**1,003.5324**	**1,003.5324**	**0.0276**		**1,004.2232**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	16.8654					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**17.0700**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.4344	0.2857	3.2900	0.0101	1.0842	8.4900e-003	1.0927	0.2875	7.8200e-003	0.2954		1,003.5324	1,003.5324	0.0276		1,004.2232
Total	**0.4344**	**0.2857**	**3.2900**	**0.0101**	**1.0842**	**8.4900e-003**	**1.0927**	**0.2875**	**7.8200e-003**	**0.2954**		**1,003.5324**	**1,003.5324**	**0.0276**		**1,004.2232**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.7772	5.2053	38.1937	0.1328	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		13,284.7230	13,284.7230	0.3916		13,294.5141
Unmitigated	2.7772	5.2053	38.1937	0.1328	13.4790	0.1011	13.5801	3.5903	0.0935	3.6838		13,284.7230	13,284.7230	0.3916		13,294.5141

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,874.53	1,874.53	1874.53	6,405,554	6,405,554
Other Asphalt Surfaces	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,874.53	1,874.53	1,874.53	6,405,554	6,405,554

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Other Asphalt Surfaces	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Unenclosed Parking with Elevator	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
NaturalGas Unmitigated	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16112.1	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1738**	**1.4848**	**0.6319**	**9.4800e-003**		**0.1201**	**0.1201**		**0.1201**	**0.1201**		**1,895.5419**	**1,895.5419**	**0.0363**	**0.0348**	**1,906.8061**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	16.1121	0.1738	1.4848	0.6319	9.4800e-003		0.1201	0.1201		0.1201	0.1201		1,895.5419	1,895.5419	0.0363	0.0348	1,906.8061
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.1738**	**1.4848**	**0.6319**	**9.4800e-003**		**0.1201**	**0.1201**		**0.1201**	**0.1201**		**1,895.5419**	**1,895.5419**	**0.0363**	**0.0348**	**1,906.8061**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685
Unmitigated	12.1957	0.4349	36.3137	2.0200e-003		0.2021	0.2021		0.2021	0.2021	0.0000	86.5635	86.5635	0.0636	3.9000e-004	88.2685

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1895					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.9055					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.9400e-003	0.0166	7.0600e-003	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	21.1765	21.1765	4.1000e-004	3.9000e-004	21.3023
Landscaping	1.0988	0.4183	36.3066	1.9200e-003		0.2008	0.2008		0.2008	0.2008		65.3871	65.3871	0.0632		66.9662
Total	**12.1957**	**0.4349**	**36.3137**	**2.0300e-003**		**0.2021**	**0.2021**		**0.2021**	**0.2021**	**0.0000**	**86.5635**	**86.5635**	**0.0636**	**3.9000e-004**	**88.2685**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.1895					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	10.9055					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	1.9400e-003	0.0166	7.0600e-003	1.1000e-004		1.3400e-003	1.3400e-003		1.3400e-003	1.3400e-003	0.0000	21.1765	21.1765	4.1000e-004	3.9000e-004	21.3023
Landscaping	1.0988	0.4183	36.3066	1.9200e-003		0.2008	0.2008		0.2008	0.2008		65.3871	65.3871	0.0632		66.9662
Total	**12.1957**	**0.4349**	**36.3137**	**2.0300e-003**		**0.2021**	**0.2021**		**0.2021**	**0.2021**	**0.0000**	**86.5635**	**86.5635**	**0.0636**	**3.9000e-004**	**88.2685**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	12	50	0.73	Diesel
Fire Pump	1	0	6	50	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (50 - 75 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Fire Pump - Diesel (50 - 75 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

11.0 Vegetation

Alexan Specific Plan (Project Emissions) CH

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Asphalt Surfaces	2.64	Acre	2.64	114,880.00	0
Unenclosed Parking with Elevator	786.00	Space	1.04	292,312.00	0
Apartments Mid Rise	439.00	Dwelling Unit	2.44	543,496.00	1256

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	386.48	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Annual

Project Characteristics - Adjusted Intensities

Land Use - Per Site Plan

Construction Phase - Per Construction Schedule

Off-road Equipment - Per Grading Plan

Demolition -

Grading - Per Grading Plan

Architectural Coating - SCAQMD Rule 1113

Vehicle Trips - Per TIA

Woodstoves - Per Regulations

Area Coating - SCAQMD Rule 1113

Energy Use - 2020 Standards

Solid Waste - AB341 diversion rate of 75%

Sequestration -

Construction Off-road Equipment Mitigation - Rule 403 Thrice Daily Watering. Replace Ground Cover 15% Reduction.

Fleet Mix - No buses or motorhomes.

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	10.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	10.00
tblArchitecturalCoating	EF_Parking	100.00	10.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	10.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	10.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	10
tblAreaCoating	Area_EF_Nonresidential_Interior	100	10
tblAreaCoating	Area_EF_Parking	100	10
tblAreaCoating	Area_EF_Residential_Exterior	50	10

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tblAreaCoating	Area_EF_Residential_Interior	50	10
tblConstDustMitigation	WaterExposedAreaPM10PercentReduction	61	69
tblConstDustMitigation	WaterExposedAreaPM25PercentReduction	61	69
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	230.00	467.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	20.00	41.00
tblConstructionPhase	NumDays	10.00	20.00
tblEnergyUse	T24E	252.63	118.74
tblFireplaces	NumberGas	373.15	1.00
tblFireplaces	NumberNoFireplace	43.90	438.00
tblFireplaces	NumberWood	21.95	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	SBUS	6.9200e-004	0.00

tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblGrading	AcresOfGrading	20.50	20.00
tblGrading	AcresOfGrading	20.00	10.00
tblGrading	MaterialImported	0.00	14,000.00
tblLandUse	LandUseSquareFeet	114,998.40	114,880.00
tblLandUse	LandUseSquareFeet	314,400.00	292,312.00
tblLandUse	LandUseSquareFeet	439,000.00	543,496.00
tblLandUse	LotAcreage	7.07	1.04
tblLandUse	LotAcreage	11.55	2.44
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	4.00	2.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	386.48
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblSequestration	NumberOfNewTrees	0.00	150.00
tblSolidWaste	SolidWasteGenerationRate	201.94	50.49
tblVehicleTrips	ST_TR	6.39	4.27
tblVehicleTrips	SU_TR	5.86	4.27
tblVehicleTrips	WD_TR	6.65	4.27
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.5611	4.7277	4.3134	0.0117	0.8636	0.1837	1.0472	0.3110	0.1713	0.4823	0.0000	1,061.6676	1,061.6676	0.1284	0.0000	1,064.8764
2021	0.5677	3.9560	4.9645	0.0143	0.7901	0.1338	0.9240	0.2120	0.1258	0.3378	0.0000	1,297.4910	1,297.4910	0.1139	0.0000	1,300.3389
2022	0.4773	0.9028	1.2491	3.2300e-003	0.1644	0.0336	0.1980	0.0441	0.0314	0.0755	0.0000	292.4335	292.4335	0.0338	0.0000	293.2775
Maximum	**0.5677**	**4.7277**	**4.9645**	**0.0143**	**0.8636**	**0.1837**	**1.0472**	**0.3110**	**0.1713**	**0.4823**	**0.0000**	**1,297.4910**	**1,297.4910**	**0.1284**	**0.0000**	**1,300.3389**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.5611	4.7277	4.3134	0.0117	0.6037	0.1837	0.7873	0.1829	0.1713	0.3542	0.0000	1,061.6672	1,061.6672	0.1284	0.0000	1,064.8760
2021	0.5677	3.9560	4.9645	0.0143	0.7901	0.1338	0.9240	0.2120	0.1258	0.3378	0.0000	1,297.4906	1,297.4906	0.1139	0.0000	1,300.3386
2022	0.4773	0.9028	1.2491	3.2300e-003	0.1644	0.0336	0.1980	0.0441	0.0314	0.0755	0.0000	292.4334	292.4334	0.0338	0.0000	293.2774
Maximum	**0.5677**	**4.7277**	**4.9645**	**0.0143**	**0.7901**	**0.1837**	**0.9240**	**0.2120**	**0.1713**	**0.3542**	**0.0000**	**1,297.4906**	**1,297.4906**	**0.1284**	**0.0000**	**1,300.3386**

Alexan Specific Plan (Project Emissions) CH - Los Angeles-South Coast County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**14.30**	**0.00**	**11.98**	**22.58**	**0.00**	**14.30**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	**1-1-2020**	**3-31-2020**	1.4605	1.4605
2	**4-1-2020**	**6-30-2020**	1.2955	1.2955
3	**7-1-2020**	**9-30-2020**	1.2378	1.2378
4	**10-1-2020**	**12-31-2020**	1.2521	1.2521
5	**1-1-2021**	**3-31-2021**	1.1138	1.1138
6	**4-1-2021**	**6-30-2021**	1.1138	1.1138
7	**7-1-2021**	**9-30-2021**	1.1260	1.1260
8	**10-1-2021**	**12-31-2021**	1.1386	1.1386
9	**1-1-2022**	**3-31-2022**	0.8562	0.8562
10	**4-1-2022**	**6-30-2022**	0.5366	0.5366
		Highest	1.4605	1.4605

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.1622	0.0525	4.5384	2.4000e-004		0.0251	0.0251		0.0251	0.0251	0.0000	7.6549	7.6549	7.1700e-003	0.0000	7.8354
Energy	0.0317	0.2710	0.1153	1.7300e-003		0.0219	0.0219		0.0219	0.0219	0.0000	714.4783	714.4783	0.5451	1.9132	1,298.2438
Mobile	0.4938	0.9645	7.0869	0.0245	2.4053	0.0184	2.4237	0.6417	0.0170	0.6587	0.0000	2,223.2059	2,223.2059	0.0652	0.0000	2,224.8356
Stationary	7.4000e-004	2.4100e-003	2.6800e-003	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.3427	0.3427	5.0000e-005	0.0000	0.3439
Waste						0.0000	0.0000		0.0000	0.0000	10.2490	0.0000	10.2490	0.6057	0.0000	25.3915
Water						0.0000	0.0000		0.0000	0.0000	9.0743	100.4093	109.4836	1.0671	0.5001	285.1756
Total	**2.6884**	**1.2904**	**11.7433**	**0.0265**	**2.4053**	**0.0656**	**2.4709**	**0.6417**	**0.0642**	**0.7059**	**19.3233**	**3,046.0912**	**3,065.4145**	**2.2903**	**2.4133**	**3,841.8258**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	2.1622	0.0525	4.5384	2.4000e-004		0.0251	0.0251		0.0251	0.0251	0.0000	7.6549	7.6549	7.1700e-003	0.0000	7.8354
Energy	0.0317	0.2710	0.1153	1.7300e-003		0.0219	0.0219		0.0219	0.0219	0.0000	714.4783	714.4783	0.5451	1.9132	1,298.2438
Mobile	0.4938	0.9645	7.0869	0.0245	2.4053	0.0184	2.4237	0.6417	0.0170	0.6587	0.0000	2,223.2059	2,223.2059	0.0652	0.0000	2,224.8356
Stationary	7.4000e-004	2.4100e-003	2.6800e-003	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.3427	0.3427	5.0000e-005	0.0000	0.3439
Waste						0.0000	0.0000		0.0000	0.0000	10.2490	0.0000	10.2490	0.6057	0.0000	25.3915
Water						0.0000	0.0000		0.0000	0.0000	9.0743	100.4093	109.4836	1.0671	0.5001	285.1756
Total	**2.6884**	**1.2904**	**11.7433**	**0.0265**	**2.4053**	**0.0656**	**2.4709**	**0.6417**	**0.0642**	**0.7059**	**19.3233**	**3,046.0912**	**3,065.4145**	**2.2903**	**2.4133**	**3,841.8258**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.3 Vegetation

Vegetation

	CO2e
Category	MT
New Trees	110.1000
Total	**110.1000**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	1/1/2020	2/26/2020	5	41	
2	Site Preparation	Site Preparation	2/27/2020	3/25/2020	5	20	
3	Grading	Grading	3/26/2020	5/21/2020	5	41	
4	Building Construction	Building Construction	5/22/2020	3/7/2022	5	467	
5	Paving	Paving	3/8/2022	5/3/2022	5	41	
6	Architectural Coating	Architectural Coating	5/4/2022	6/29/2022	5	41	

Acres of Grading (Site Preparation Phase): 10

Acres of Grading (Grading Phase): 20

Acres of Paving: 3.68

Residential Indoor: 1,100,579; Residential Outdoor: 366,860; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 24,432 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Crawler Tractors	2	8.00	212	0.43
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Building Construction	Cranes	1	7.00	231	0.29
Building Construction	Forklifts	3	8.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	3	7.00	97	0.37
Building Construction	Welders	1	8.00	46	0.45
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	297.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	1,750.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	9	487.00	114.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	97.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Replace Ground Cover

Water Exposed Area

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0321	0.0000	0.0321	4.8600e-003	0.0000	4.8600e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0679	0.6806	0.4459	8.0000e-004		0.0340	0.0340		0.0316	0.0316	0.0000	69.6971	69.6971	0.0197	0.0000	70.1890
Total	**0.0679**	**0.6806**	**0.4459**	**8.0000e-004**	**0.0321**	**0.0340**	**0.0661**	**4.8600e-003**	**0.0316**	**0.0365**	**0.0000**	**69.6971**	**69.6971**	**0.0197**	**0.0000**	**70.1890**

3.2 Demolition - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3100e-003	0.0441	9.7200e-003	1.2000e-004	2.5500e-003	1.4000e-004	2.6900e-003	7.0000e-004	1.3000e-004	8.3000e-004	0.0000	11.4461	11.4461	8.0000e-004	0.0000	11.4661
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	1.1400e-003	0.0127	3.0000e-005	3.3700e-003	3.0000e-005	3.4000e-003	8.9000e-004	3.0000e-005	9.2000e-004	0.0000	3.1407	3.1407	1.0000e-004	0.0000	3.1431
Total	**2.7300e-003**	**0.0452**	**0.0224**	**1.5000e-004**	**5.9200e-003**	**1.7000e-004**	**6.0900e-003**	**1.5900e-003**	**1.6000e-004**	**1.7500e-003**	**0.0000**	**14.5868**	**14.5868**	**9.0000e-004**	**0.0000**	**14.6092**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.4500e-003	0.0000	8.4500e-003	1.2800e-003	0.0000	1.2800e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0679	0.6806	0.4459	8.0000e-004		0.0340	0.0340		0.0316	0.0316	0.0000	69.6971	69.6971	0.0197	0.0000	70.1889
Total	**0.0679**	**0.6806**	**0.4459**	**8.0000e-004**	**8.4500e-003**	**0.0340**	**0.0425**	**1.2800e-003**	**0.0316**	**0.0329**	**0.0000**	**69.6971**	**69.6971**	**0.0197**	**0.0000**	**70.1889**

3.2 Demolition - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.3100e-003	0.0441	9.7200e-003	1.2000e-004	2.5500e-003	1.4000e-004	2.6900e-003	7.0000e-004	1.3000e-004	8.3000e-004	0.0000	11.4461	11.4461	8.0000e-004	0.0000	11.4661
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	1.1400e-003	0.0127	3.0000e-005	3.3700e-003	3.0000e-005	3.4000e-003	8.9000e-004	3.0000e-005	9.2000e-004	0.0000	3.1407	3.1407	1.0000e-004	0.0000	3.1431
Total	**2.7300e-003**	**0.0452**	**0.0224**	**1.5000e-004**	**5.9200e-003**	**1.7000e-004**	**6.0900e-003**	**1.5900e-003**	**1.6000e-004**	**1.7500e-003**	**0.0000**	**14.5868**	**14.5868**	**9.0000e-004**	**0.0000**	**14.6092**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1860	0.0000	0.1860	0.0999	0.0000	0.0999	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0482	0.5310	0.2195	4.7000e-004		0.0249	0.0249		0.0229	0.0229	0.0000	41.7699	41.7699	0.0135	0.0000	42.1076
Total	**0.0482**	**0.5310**	**0.2195**	**4.7000e-004**	**0.1860**	**0.0249**	**0.2109**	**0.0999**	**0.0229**	**0.1228**	**0.0000**	**41.7699**	**41.7699**	**0.0135**	**0.0000**	**42.1076**

3.3 Site Preparation - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	6.7000e-004	7.4100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	2.0000e-005	5.4000e-004	0.0000	1.8384	1.8384	6.0000e-005	0.0000	1.8399
Total	**8.3000e-004**	**6.7000e-004**	**7.4100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**2.0000e-005**	**5.4000e-004**	**0.0000**	**1.8384**	**1.8384**	**6.0000e-005**	**0.0000**	**1.8399**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0490	0.0000	0.0490	0.0263	0.0000	0.0263	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0482	0.5310	0.2195	4.7000e-004		0.0249	0.0249		0.0229	0.0229	0.0000	41.7698	41.7698	0.0135	0.0000	42.1076
Total	**0.0482**	**0.5310**	**0.2195**	**4.7000e-004**	**0.0490**	**0.0249**	**0.0739**	**0.0263**	**0.0229**	**0.0493**	**0.0000**	**41.7698**	**41.7698**	**0.0135**	**0.0000**	**42.1076**

3.3 Site Preparation - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.3000e-004	6.7000e-004	7.4100e-003	2.0000e-005	1.9700e-003	2.0000e-005	1.9900e-003	5.2000e-004	2.0000e-005	5.4000e-004	0.0000	1.8384	1.8384	6.0000e-005	0.0000	1.8399
Total	**8.3000e-004**	**6.7000e-004**	**7.4100e-003**	**2.0000e-005**	**1.9700e-003**	**2.0000e-005**	**1.9900e-003**	**5.2000e-004**	**2.0000e-005**	**5.4000e-004**	**0.0000**	**1.8384**	**1.8384**	**6.0000e-005**	**0.0000**	**1.8399**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1349	0.0000	0.1349	0.0691	0.0000	0.0691	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5409	0.3291	6.1000e-004		0.0261	0.0261		0.0240	0.0240	0.0000	53.4204	53.4204	0.0173	0.0000	53.8524
Total	**0.0498**	**0.5409**	**0.3291**	**6.1000e-004**	**0.1349**	**0.0261**	**0.1610**	**0.0691**	**0.0240**	**0.0931**	**0.0000**	**53.4204**	**53.4204**	**0.0173**	**0.0000**	**53.8524**

3.4 Grading - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.7200e-003	0.2599	0.0573	6.9000e-004	0.0150	8.1000e-004	0.0159	4.1300e-003	7.7000e-004	4.9000e-003	0.0000	67.4434	67.4434	4.7000e-003	0.0000	67.5609
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	1.1400e-003	0.0127	3.0000e-005	3.3700e-003	3.0000e-005	3.4000e-003	8.9000e-004	3.0000e-005	9.2000e-004	0.0000	3.1407	3.1407	1.0000e-004	0.0000	3.1431
Total	**9.1400e-003**	**0.2610**	**0.0699**	**7.2000e-004**	**0.0184**	**8.4000e-004**	**0.0193**	**5.0200e-003**	**8.0000e-004**	**5.8200e-003**	**0.0000**	**70.5841**	**70.5841**	**4.8000e-003**	**0.0000**	**70.7040**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0355	0.0000	0.0355	0.0182	0.0000	0.0182	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0498	0.5409	0.3291	6.1000e-004		0.0261	0.0261		0.0240	0.0240	0.0000	53.4204	53.4204	0.0173	0.0000	53.8523
Total	**0.0498**	**0.5409**	**0.3291**	**6.1000e-004**	**0.0355**	**0.0261**	**0.0616**	**0.0182**	**0.0240**	**0.0422**	**0.0000**	**53.4204**	**53.4204**	**0.0173**	**0.0000**	**53.8523**

3.4 Grading - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	7.7200e-003	0.2599	0.0573	6.9000e-004	0.0150	8.1000e-004	0.0159	4.1300e-003	7.7000e-004	4.9000e-003	0.0000	67.4434	67.4434	4.7000e-003	0.0000	67.5609
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.4200e-003	1.1400e-003	0.0127	3.0000e-005	3.3700e-003	3.0000e-005	3.4000e-003	8.9000e-004	3.0000e-005	9.2000e-004	0.0000	3.1407	3.1407	1.0000e-004	0.0000	3.1431
Total	**9.1400e-003**	**0.2610**	**0.0699**	**7.2000e-004**	**0.0184**	**8.4000e-004**	**0.0193**	**5.0200e-003**	**8.0000e-004**	**5.8200e-003**	**0.0000**	**70.5841**	**70.5841**	**4.8000e-003**	**0.0000**	**70.7040**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1696	1.5349	1.3479	2.1500e-003		0.0894	0.0894		0.0840	0.0840	0.0000	185.2880	185.2880	0.0452	0.0000	186.4181
Total	**0.1696**	**1.5349**	**1.3479**	**2.1500e-003**		**0.0894**	**0.0894**		**0.0840**	**0.0840**	**0.0000**	**185.2880**	**185.2880**	**0.0452**	**0.0000**	**186.4181**

3.5 Building Construction - 2020

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0331	0.9883	0.2675	2.3400e-003	0.0575	4.6000e-003	0.0620	0.0166	4.4000e-003	0.0210	0.0000	226.5647	226.5647	0.0144	0.0000	226.9246
Worker	0.1799	0.1450	1.6037	4.4000e-003	0.4269	3.6400e-003	0.4306	0.1134	3.3500e-003	0.1168	0.0000	397.9182	397.9182	0.0125	0.0000	398.2317
Total	**0.2129**	**1.1333**	**1.8713**	**6.7400e-003**	**0.4844**	**8.2400e-003**	**0.4926**	**0.1300**	**7.7500e-003**	**0.1377**	**0.0000**	**624.4829**	**624.4829**	**0.0269**	**0.0000**	**625.1563**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1696	1.5349	1.3479	2.1500e-003		0.0894	0.0894		0.0840	0.0840	0.0000	185.2878	185.2878	0.0452	0.0000	186.4179
Total	**0.1696**	**1.5349**	**1.3479**	**2.1500e-003**		**0.0894**	**0.0894**		**0.0840**	**0.0840**	**0.0000**	**185.2878**	**185.2878**	**0.0452**	**0.0000**	**186.4179**

3.5 Building Construction - 2020

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0331	0.9883	0.2675	2.3400e-003	0.0575	4.6000e-003	0.0620	0.0166	4.4000e-003	0.0210	0.0000	226.5647	226.5647	0.0144	0.0000	226.9246
Worker	0.1799	0.1450	1.6037	4.4000e-003	0.4269	3.6400e-003	0.4306	0.1134	3.3500e-003	0.1168	0.0000	397.9182	397.9182	0.0125	0.0000	398.2317
Total	**0.2129**	**1.1333**	**1.8713**	**6.7400e-003**	**0.4844**	**8.2400e-003**	**0.4926**	**0.1300**	**7.7500e-003**	**0.1377**	**0.0000**	**624.4829**	**624.4829**	**0.0269**	**0.0000**	**625.1563**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2867	302.2867	0.0729	0.0000	304.1099
Total	**0.2481**	**2.2749**	**2.1631**	**3.5100e-003**		**0.1251**	**0.1251**		**0.1176**	**0.1176**	**0.0000**	**302.2867**	**302.2867**	**0.0729**	**0.0000**	**304.1099**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0462	1.4682	0.3981	3.7800e-003	0.0937	2.9900e-003	0.0967	0.0271	2.8600e-003	0.0299	0.0000	366.7130	366.7130	0.0225	0.0000	367.2753
Worker	0.2735	0.2129	2.4033	6.9500e-003	0.6964	5.7400e-003	0.7022	0.1850	5.2900e-003	0.1903	0.0000	628.4914	628.4914	0.0185	0.0000	628.9538
Total	**0.3197**	**1.6811**	**2.8014**	**0.0107**	**0.7901**	**8.7300e-003**	**0.7989**	**0.2120**	**8.1500e-003**	**0.2202**	**0.0000**	**995.2044**	**995.2044**	**0.0410**	**0.0000**	**996.2291**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.2481	2.2749	2.1631	3.5100e-003		0.1251	0.1251		0.1176	0.1176	0.0000	302.2863	302.2863	0.0729	0.0000	304.1095
Total	**0.2481**	**2.2749**	**2.1631**	**3.5100e-003**		**0.1251**	**0.1251**		**0.1176**	**0.1176**	**0.0000**	**302.2863**	**302.2863**	**0.0729**	**0.0000**	**304.1095**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0462	1.4682	0.3981	3.7800e-003	0.0937	2.9900e-003	0.0967	0.0271	2.8600e-003	0.0299	0.0000	366.7130	366.7130	0.0225	0.0000	367.2753
Worker	0.2735	0.2129	2.4033	6.9500e-003	0.6964	5.7400e-003	0.7022	0.1850	5.2900e-003	0.1903	0.0000	628.4914	628.4914	0.0185	0.0000	628.9538
Total	**0.3197**	**1.6811**	**2.8014**	**0.0107**	**0.7901**	**8.7300e-003**	**0.7989**	**0.2120**	**8.1500e-003**	**0.2202**	**0.0000**	**995.2044**	**995.2044**	**0.0410**	**0.0000**	**996.2291**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0392	0.3592	0.3764	6.2000e-004		0.0186	0.0186		0.0175	0.0175	0.0000	53.2968	53.2968	0.0128	0.0000	53.6160
Total	**0.0392**	**0.3592**	**0.3764**	**6.2000e-004**		**0.0186**	**0.0186**		**0.0175**	**0.0175**	**0.0000**	**53.2968**	**53.2968**	**0.0128**	**0.0000**	**53.6160**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.6400e-003	0.2458	0.0664	6.6000e-004	0.0165	4.6000e-004	0.0170	4.7700e-003	4.4000e-004	5.2100e-003	0.0000	64.0637	64.0637	3.8300e-003	0.0000	64.1594
Worker	0.0452	0.0339	0.3903	1.1800e-003	0.1227	9.8000e-004	0.1237	0.0326	9.0000e-004	0.0335	0.0000	106.8749	106.8749	2.9400e-003	0.0000	106.9485
Total	**0.0528**	**0.2797**	**0.4567**	**1.8400e-003**	**0.1393**	**1.4400e-003**	**0.1407**	**0.0374**	**1.3400e-003**	**0.0387**	**0.0000**	**170.9386**	**170.9386**	**6.7700e-003**	**0.0000**	**171.1079**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0392	0.3592	0.3764	6.2000e-004		0.0186	0.0186		0.0175	0.0175	0.0000	53.2967	53.2967	0.0128	0.0000	53.6160
Total	**0.0392**	**0.3592**	**0.3764**	**6.2000e-004**		**0.0186**	**0.0186**		**0.0175**	**0.0175**	**0.0000**	**53.2967**	**53.2967**	**0.0128**	**0.0000**	**53.6160**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	7.6400e-003	0.2458	0.0664	6.6000e-004	0.0165	4.6000e-004	0.0170	4.7700e-003	4.4000e-004	5.2100e-003	0.0000	64.0637	64.0637	3.8300e-003	0.0000	64.1594
Worker	0.0452	0.0339	0.3903	1.1800e-003	0.1227	9.8000e-004	0.1237	0.0326	9.0000e-004	0.0335	0.0000	106.8749	106.8749	2.9400e-003	0.0000	106.9485
Total	**0.0528**	**0.2797**	**0.4567**	**1.8400e-003**	**0.1393**	**1.4400e-003**	**0.1407**	**0.0374**	**1.3400e-003**	**0.0387**	**0.0000**	**170.9386**	**170.9386**	**6.7700e-003**	**0.0000**	**171.1079**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0226	0.2281	0.2989	4.7000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	41.0565	41.0565	0.0133	0.0000	41.3885
Paving	3.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0261**	**0.2281**	**0.2989**	**4.7000e-004**		**0.0116**	**0.0116**		**0.0107**	**0.0107**	**0.0000**	**41.0565**	**41.0565**	**0.0133**	**0.0000**	**41.3885**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2400e-003	9.3000e-004	0.0107	3.0000e-005	3.3700e-003	3.0000e-005	3.4000e-003	8.9000e-004	2.0000e-005	9.2000e-004	0.0000	2.9340	2.9340	8.0000e-005	0.0000	2.9361
Total	**1.2400e-003**	**9.3000e-004**	**0.0107**	**3.0000e-005**	**3.3700e-003**	**3.0000e-005**	**3.4000e-003**	**8.9000e-004**	**2.0000e-005**	**9.2000e-004**	**0.0000**	**2.9340**	**2.9340**	**8.0000e-005**	**0.0000**	**2.9361**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0226	0.2281	0.2989	4.7000e-004		0.0116	0.0116		0.0107	0.0107	0.0000	41.0564	41.0564	0.0133	0.0000	41.3884
Paving	3.4600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0261**	**0.2281**	**0.2989**	**4.7000e-004**		**0.0116**	**0.0116**		**0.0107**	**0.0107**	**0.0000**	**41.0564**	**41.0564**	**0.0133**	**0.0000**	**41.3884**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.2400e-003	9.3000e-004	0.0107	3.0000e-005	3.3700e-003	3.0000e-005	3.4000e-003	8.9000e-004	2.0000e-005	9.2000e-004	0.0000	2.9340	2.9340	8.0000e-005	0.0000	2.9361
Total	**1.2400e-003**	**9.3000e-004**	**0.0107**	**3.0000e-005**	**3.3700e-003**	**3.0000e-005**	**3.4000e-003**	**8.9000e-004**	**2.0000e-005**	**9.2000e-004**	**0.0000**	**2.9340**	**2.9340**	**8.0000e-005**	**0.0000**	**2.9361**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3457					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1900e-003	0.0289	0.0372	6.0000e-005		1.6800e-003	1.6800e-003		1.6800e-003	1.6800e-003	0.0000	5.2342	5.2342	3.4000e-004	0.0000	5.2427
Total	**0.3499**	**0.0289**	**0.0372**	**6.0000e-005**		**1.6800e-003**	**1.6800e-003**		**1.6800e-003**	**1.6800e-003**	**0.0000**	**5.2342**	**5.2342**	**3.4000e-004**	**0.0000**	**5.2427**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0200e-003	6.0200e-003	0.0693	2.1000e-004	0.0218	1.7000e-004	0.0220	5.7900e-003	1.6000e-004	5.9500e-003	0.0000	18.9734	18.9734	5.2000e-004	0.0000	18.9864
Total	**8.0200e-003**	**6.0200e-003**	**0.0693**	**2.1000e-004**	**0.0218**	**1.7000e-004**	**0.0220**	**5.7900e-003**	**1.6000e-004**	**5.9500e-003**	**0.0000**	**18.9734**	**18.9734**	**5.2000e-004**	**0.0000**	**18.9864**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.3457					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	4.1900e-003	0.0289	0.0372	6.0000e-005		1.6800e-003	1.6800e-003		1.6800e-003	1.6800e-003	0.0000	5.2342	5.2342	3.4000e-004	0.0000	5.2427
Total	**0.3499**	**0.0289**	**0.0372**	**6.0000e-005**		**1.6800e-003**	**1.6800e-003**		**1.6800e-003**	**1.6800e-003**	**0.0000**	**5.2342**	**5.2342**	**3.4000e-004**	**0.0000**	**5.2427**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	8.0200e-003	6.0200e-003	0.0693	2.1000e-004	0.0218	1.7000e-004	0.0220	5.7900e-003	1.6000e-004	5.9500e-003	0.0000	18.9734	18.9734	5.2000e-004	0.0000	18.9864
Total	**8.0200e-003**	**6.0200e-003**	**0.0693**	**2.1000e-004**	**0.0218**	**1.7000e-004**	**0.0220**	**5.7900e-003**	**1.6000e-004**	**5.9500e-003**	**0.0000**	**18.9734**	**18.9734**	**5.2000e-004**	**0.0000**	**18.9864**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.4938	0.9645	7.0869	0.0245	2.4053	0.0184	2.4237	0.6417	0.0170	0.6587	0.0000	2,223.2059	2,223.2059	0.0652	0.0000	2,224.8356
Unmitigated	0.4938	0.9645	7.0869	0.0245	2.4053	0.0184	2.4237	0.6417	0.0170	0.6587	0.0000	2,223.2059	2,223.2059	0.0652	0.0000	2,224.8356

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	1,874.53	1,874.53	1874.53	6,405,554	6,405,554
Other Asphalt Surfaces	0.00	0.00	0.00		
Unenclosed Parking with Elevator	0.00	0.00	0.00		
Total	1,874.53	1,874.53	1,874.53	6,405,554	6,405,554

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Other Asphalt Surfaces	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0
Unenclosed Parking with	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Other Asphalt Surfaces	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Unenclosed Parking with Elevator	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	400.6501	400.6501	0.5391	1.9075	982.5507
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	400.6501	400.6501	0.5391	1.9075	982.5507
NaturalGas Mitigated	0.0317	0.2710	0.1153	1.7300e-003		0.0219	0.0219		0.0219	0.0219	0.0000	313.8282	313.8282	6.0200e-003	5.7500e-003	315.6931
NaturalGas Unmitigated	0.0317	0.2710	0.1153	1.7300e-003		0.0219	0.0219		0.0219	0.0219	0.0000	313.8282	313.8282	6.0200e-003	5.7500e-003	315.6931

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	5.88092e+006	0.0317	0.2710	0.1153	1.7300e-003		0.0219	0.0219		0.0219	0.0219	0.0000	313.8282	313.8282	6.0200e-003	5.7500e-003	315.6931
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0317**	**0.2710**	**0.1153**	**1.7300e-003**		**0.0219**	**0.0219**		**0.0219**	**0.0219**	**0.0000**	**313.8282**	**313.8282**	**6.0200e-003**	**5.7500e-003**	**315.6931**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	5.88092e+006	0.0317	0.2710	0.1153	1.7300e-003		0.0219	0.0219		0.0219	0.0219	0.0000	313.8282	313.8282	6.0200e-003	5.7500e-003	315.6931
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0317**	**0.2710**	**0.1153**	**1.7300e-003**		**0.0219**	**0.0219**		**0.0219**	**0.0219**	**0.0000**	**313.8282**	**313.8282**	**6.0200e-003**	**5.7500e-003**	**315.6931**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.71837e +006	301.2376	0.4053	1.4342	738.7523
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	567085	99.4125	0.1338	0.4733	243.7984
Total		**400.6501**	**0.5391**	**1.9075**	**982.5507**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	1.71837e +006	301.2376	0.4053	1.4342	738.7523
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	567085	99.4125	0.1338	0.4733	243.7984
Total		**400.6501**	**0.5391**	**1.9075**	**982.5507**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	2.1622	0.0525	4.5384	2.4000e-004		0.0251	0.0251		0.0251	0.0251	0.0000	7.6549	7.6549	7.1700e-003	0.0000	7.8354
Unmitigated	2.1622	0.0525	4.5384	2.4000e-004		0.0251	0.0251		0.0251	0.0251	0.0000	7.6549	7.6549	7.1700e-003	0.0000	7.8354

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0346					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9902					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.0000e-005	2.1000e-004	9.0000e-005	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2401	0.2401	0.0000	0.0000	0.2416
Landscaping	0.1374	0.0523	4.5383	2.4000e-004		0.0251	0.0251		0.0251	0.0251	0.0000	7.4148	7.4148	7.1600e-003	0.0000	7.5938
Total	**2.1622**	**0.0525**	**4.5384**	**2.4000e-004**		**0.0251**	**0.0251**		**0.0251**	**0.0251**	**0.0000**	**7.6549**	**7.6549**	**7.1600e-003**	**0.0000**	**7.8354**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0346					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	1.9902					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	2.0000e-005	2.1000e-004	9.0000e-005	0.0000		2.0000e-005	2.0000e-005		2.0000e-005	2.0000e-005	0.0000	0.2401	0.2401	0.0000	0.0000	0.2416
Landscaping	0.1374	0.0523	4.5383	2.4000e-004		0.0251	0.0251		0.0251	0.0251	0.0000	7.4148	7.4148	7.1600e-003	0.0000	7.5938
Total	**2.1622**	**0.0525**	**4.5384**	**2.4000e-004**		**0.0251**	**0.0251**		**0.0251**	**0.0251**	**0.0000**	**7.6549**	**7.6549**	**7.1600e-003**	**0.0000**	**7.8354**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	109.4836	1.0671	0.5001	285.1756
Unmitigated	109.4836	1.0671	0.5001	285.1756

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	28.6026 / 18.0321	109.4836	1.0671	0.5001	285.1756
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**109.4836**	**1.0671**	**0.5001**	**285.1756**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	28.6026 / 18.0321	109.4836	1.0671	0.5001	285.1756
Other Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**109.4836**	**1.0671**	**0.5001**	**285.1756**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	10.2490	0.6057	0.0000	25.3915
Unmitigated	10.2490	0.6057	0.0000	25.3915

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	50.49	10.2490	0.6057	0.0000	25.3915
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**10.2490**	**0.6057**	**0.0000**	**25.3915**

8.2 Waste by Land Use

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	50.49	10.2490	0.6057	0.0000	25.3915
Other Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Unenclosed Parking with Elevator	0	0.0000	0.0000	0.0000	0.0000
Total		**10.2490**	**0.6057**	**0.0000**	**25.3915**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	12	50	0.73	Diesel
Fire Pump	1	0	6	50	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (50 - 75 HP)	4.9000e-004	1.6100e-003	1.7900e-003	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.2285	0.2285	3.0000e-005	0.0000	0.2293
Fire Pump - Diesel (50 - 75 HP)	2.5000e-004	8.0000e-004	8.9000e-004	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.1142	0.1142	2.0000e-005	0.0000	0.1146
Total	**7.4000e-004**	**2.4100e-003**	**2.6800e-003**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.3427**	**0.3427**	**5.0000e-005**	**0.0000**	**0.3439**

11.0 Vegetation

	Total CO2	CH4	N2O	CO2e
Category	MT			
Unmitigated	110.1000	0.0000	0.0000	110.1000

11.2 Net New Trees

Species Class

	Number of Trees	Total CO2	CH4	N2O	CO2e
		MT			
Mixed Hardwood	150	110.1000	0.0000	0.0000	110.1000
Total		**110.1000**	**0.0000**	**0.0000**	**110.1000**

Appendix A2

CalEEMod Project Emissions Estimates: GP/CZA

Summer, Winter, and Annual Output Files

Alexan GP/Z Amendment (Project Emissions) CH

Los Angeles-South Coast County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unenclosed Parking Structure	0.39	Acre	0.39	16,988.40	0
Apartments Mid Rise	82.00	Dwelling Unit	2.16	82,000.00	235

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	386.48	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Alexan GP/Z Amendment (Project Emissions) CH - Los Angeles-South Coast County, Summer

Project Characteristics - Adjusted Intensities

Land Use -

Demolition -

Architectural Coating - Default VOC coatings

Woodstoves - No woodstoves.

Area Coating - Low VOC Coatings

Energy Use - Adjusted for 2019 Standards

Solid Waste - 75% Waste Diversion Rate per AB431

Construction Off-road Equipment Mitigation - Once Daily Watering per Rule 403

Fleet Mix - No Buses or Mobile Homes

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	10
tblAreaCoating	Area_EF_Nonresidential_Interior	100	10
tblAreaCoating	Area_EF_Parking	100	10
tblAreaCoating	Area_EF_Residential_Exterior	50	10
tblAreaCoating	Area_EF_Residential_Interior	50	10
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblEnergyUse	T24E	252.63	118.74
tblEnergyUse	T24NG	7,012.17	3,295.72
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	69.70	73.80
tblFireplaces	NumberWood	4.10	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	386.48
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblSolidWaste	SolidWasteGenerationRate	37.72	9.43

tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.3644	20.7676	17.5258	0.0357	6.6641	1.0452	7.5808	3.3971	0.9756	4.2405	0.0000	3,370.3804	3,370.3804	0.7701	0.0000	3,382.6779
2022	52.0385	15.8876	17.0940	0.0354	0.8146	0.7100	1.5246	0.2178	0.6804	0.8982	0.0000	3,341.4145	3,341.4145	0.5464	0.0000	3,353.4256
Maximum	**52.0385**	**20.7676**	**17.5258**	**0.0357**	**6.6641**	**1.0452**	**7.5808**	**3.3971**	**0.9756**	**4.2405**	**0.0000**	**3,370.3804**	**3,370.3804**	**0.7701**	**0.0000**	**3,382.6779**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.3644	20.7676	17.5258	0.0357	3.0603	1.0452	3.9770	1.5450	0.9756	2.3883	0.0000	3,370.3804	3,370.3804	0.7701	0.0000	3,382.6779
2022	52.0385	15.8876	17.0940	0.0354	0.8146	0.7100	1.5246	0.2178	0.6804	0.8982	0.0000	3,341.4145	3,341.4145	0.5464	0.0000	3,353.4256
Maximum	**52.0385**	**20.7676**	**17.5258**	**0.0357**	**3.0603**	**1.0452**	**3.9770**	**1.5450**	**0.9756**	**2.3883**	**0.0000**	**3,370.3804**	**3,370.3804**	**0.7701**	**0.0000**	**3,382.6779**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**48.19**	**0.00**	**39.58**	**51.24**	**0.00**	**36.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0050	1.3022	7.2876	8.1700e-003		0.1364	0.1364		0.1364	0.1364	0.0000	1,575.0049	1,575.0049	0.0417	0.0287	1,584.5848
Energy	0.0235	0.2004	0.0853	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.8379	255.8379	4.9000e-003	4.6900e-003	257.3582
Mobile	0.8391	1.4142	11.8638	0.0408	3.9211	0.0294	3.9505	1.0444	0.0272	1.0716		4,077.1529	4,077.1529	0.1177		4,080.0946
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**2.8676**	**2.9168**	**19.2367**	**0.0502**	**3.9211**	**0.1820**	**4.1031**	**1.0444**	**0.1798**	**1.2242**	**0.0000**	**5,907.9957**	**5,907.9957**	**0.1642**	**0.0333**	**5,922.0376**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0050	1.3022	7.2876	8.1700e-003		0.1364	0.1364		0.1364	0.1364	0.0000	1,575.0049	1,575.0049	0.0417	0.0287	1,584.5848
Energy	0.0235	0.2004	0.0853	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.8379	255.8379	4.9000e-003	4.6900e-003	257.3582
Mobile	0.8391	1.4142	11.8638	0.0408	3.9211	0.0294	3.9505	1.0444	0.0272	1.0716		4,077.1529	4,077.1529	0.1177		4,080.0946
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**2.8676**	**2.9168**	**19.2367**	**0.0502**	**3.9211**	**0.1820**	**4.1031**	**1.0444**	**0.1798**	**1.2242**	**0.0000**	**5,907.9957**	**5,907.9957**	**0.1642**	**0.0333**	**5,922.0376**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Alexan GP/Z Amendment (Project Emissions) CH - Los Angeles-South Coast County, Summer

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/14/2021	7/9/2021	5	20	
2	Site Preparation	Site Preparation	7/10/2021	7/14/2021	5	3	
3	Grading	Grading	7/15/2021	7/22/2021	5	6	
4	Building Construction	Building Construction	7/23/2021	5/26/2022	5	220	
5	Paving	Paving	5/27/2022	6/9/2022	5	10	
6	Architectural Coating	Architectural Coating	6/10/2022	6/23/2022	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0.39

Residential Indoor: 166,050; Residential Outdoor: 55,350; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,019 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	77.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	66.00	12.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8361	0.0000	0.8361	0.1266	0.0000	0.1266			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**0.8361**	**1.0409**	**1.8770**	**0.1266**	**0.9715**	**1.0981**		**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0321	1.0327	0.2422	3.0000e-003	0.0673	3.1700e-003	0.0705	0.0185	3.0300e-003	0.0215		325.8818	325.8818	0.0221		326.4347
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0557	0.0383	0.5236	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0800e-003	0.0396		148.0401	148.0401	4.3600e-003		148.1491
Total	**0.0878**	**1.0710**	**0.7658**	**4.4900e-003**	**0.2126**	**4.3400e-003**	**0.2170**	**0.0570**	**4.1100e-003**	**0.0611**		**473.9219**	**473.9219**	**0.0265**		**474.5838**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3763	0.0000	0.3763	0.0570	0.0000	0.0570			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**0.3763**	**1.0409**	**1.4172**	**0.0570**	**0.9715**	**1.0284**	**0.0000**	**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0321	1.0327	0.2422	3.0000e-003	0.0673	3.1700e-003	0.0705	0.0185	3.0300e-003	0.0215		325.8818	325.8818	0.0221		326.4347
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0557	0.0383	0.5236	1.4900e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0800e-003	0.0396		148.0401	148.0401	4.3600e-003		148.1491
Total	**0.0878**	**1.0710**	**0.7658**	**4.4900e-003**	**0.2126**	**4.3400e-003**	**0.2170**	**0.0570**	**4.1100e-003**	**0.0611**		**473.9219**	**473.9219**	**0.0265**		**474.5838**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.5463	18.2862	10.7496	0.0245		0.7019	0.7019		0.6457	0.6457		2,372.8832	2,372.8832	0.7674		2,392.0692
Total	**1.5463**	**18.2862**	**10.7496**	**0.0245**	**1.5908**	**0.7019**	**2.2926**	**0.1718**	**0.6457**	**0.8175**		**2,372.8832**	**2,372.8832**	**0.7674**		**2,392.0692**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0343	0.0236	0.3222	9.1000e-004	0.0894	7.2000e-004	0.0901	0.0237	6.7000e-004	0.0244		91.1016	91.1016	2.6800e-003		91.1687
Total	**0.0343**	**0.0236**	**0.3222**	**9.1000e-004**	**0.0894**	**7.2000e-004**	**0.0901**	**0.0237**	**6.7000e-004**	**0.0244**		**91.1016**	**91.1016**	**2.6800e-003**		**91.1687**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7158	0.0000	0.7158	0.0773	0.0000	0.0773			0.0000			0.0000
Off-Road	1.5463	18.2862	10.7496	0.0245		0.7019	0.7019		0.6457	0.6457	0.0000	2,372.8832	2,372.8832	0.7674		2,392.0692
Total	**1.5463**	**18.2862**	**10.7496**	**0.0245**	**0.7158**	**0.7019**	**1.4177**	**0.0773**	**0.6457**	**0.7230**	**0.0000**	**2,372.8832**	**2,372.8832**	**0.7674**		**2,392.0692**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0343	0.0236	0.3222	9.1000e-004	0.0894	7.2000e-004	0.0901	0.0237	6.7000e-004	0.0244		91.1016	91.1016	2.6800e-003		91.1687
Total	**0.0343**	**0.0236**	**0.3222**	**9.1000e-004**	**0.0894**	**7.2000e-004**	**0.0901**	**0.0237**	**6.7000e-004**	**0.0244**		**91.1016**	**91.1016**	**2.6800e-003**		**91.1687**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**6.5523**	**0.9158**	**7.4681**	**3.3675**	**0.8425**	**4.2100**		**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0429	0.0295	0.4028	1.1400e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		113.8770	113.8770	3.3600e-003		113.9609
Total	**0.0429**	**0.0295**	**0.4028**	**1.1400e-003**	**0.1118**	**9.0000e-004**	**0.1127**	**0.0296**	**8.3000e-004**	**0.0305**		**113.8770**	**113.8770**	**3.3600e-003**		**113.9609**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**2.9486**	**0.9158**	**3.8643**	**1.5154**	**0.8425**	**2.3579**	**0.0000**	**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0429	0.0295	0.4028	1.1400e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		113.8770	113.8770	3.3600e-003		113.9609
Total	**0.0429**	**0.0295**	**0.4028**	**1.1400e-003**	**0.1118**	**9.0000e-004**	**0.1127**	**0.0296**	**8.3000e-004**	**0.0305**		**113.8770**	**113.8770**	**3.3600e-003**		**113.9609**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831		2,288.9355	2,288.9355	0.4503		2,300.1935
Total	**2.0451**	**16.0275**	**14.5629**	**0.0250**		**0.8173**	**0.8173**		**0.7831**	**0.7831**		**2,288.9355**	**2,288.9355**	**0.4503**		**2,300.1935**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0365	1.1651	0.3046	3.0900e-003	0.0768	2.3800e-003	0.0792	0.0221	2.2800e-003	0.0244		329.8568	329.8568	0.0194		330.3426
Worker	0.2829	0.1945	2.6583	7.5500e-003	0.7377	5.9600e-003	0.7437	0.1957	5.4900e-003	0.2011		751.5881	751.5881	0.0222		752.1417
Total	**0.3194**	**1.3595**	**2.9629**	**0.0106**	**0.8146**	**8.3400e-003**	**0.8229**	**0.2178**	**7.7700e-003**	**0.2255**		**1,081.4449**	**1,081.4449**	**0.0416**		**1,082.4843**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831	0.0000	2,288.9355	2,288.9355	0.4503		2,300.1935
Total	**2.0451**	**16.0275**	**14.5629**	**0.0250**		**0.8173**	**0.8173**		**0.7831**	**0.7831**	**0.0000**	**2,288.9355**	**2,288.9355**	**0.4503**		**2,300.1935**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0365	1.1651	0.3046	3.0900e-003	0.0768	2.3800e-003	0.0792	0.0221	2.2800e-003	0.0244		329.8568	329.8568	0.0194		330.3426
Worker	0.2829	0.1945	2.6583	7.5500e-003	0.7377	5.9600e-003	0.7437	0.1957	5.4900e-003	0.2011		751.5881	751.5881	0.0222		752.1417
Total	**0.3194**	**1.3595**	**2.9629**	**0.0106**	**0.8146**	**8.3400e-003**	**0.8229**	**0.2178**	**7.7700e-003**	**0.2255**		**1,081.4449**	**1,081.4449**	**0.0416**		**1,082.4843**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731		2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**		**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0342	1.1080	0.2882	3.0600e-003	0.0768	2.0800e-003	0.0789	0.0221	1.9900e-003	0.0241		326.9831	326.9831	0.0188		327.4522
Worker	0.2650	0.1757	2.4526	7.2800e-003	0.7377	5.7700e-003	0.7435	0.1957	5.3200e-003	0.2010		725.1501	725.1501	0.0200		725.6505
Total	**0.2992**	**1.2836**	**2.7408**	**0.0103**	**0.8146**	**7.8500e-003**	**0.8224**	**0.2178**	**7.3100e-003**	**0.2251**		**1,052.1332**	**1,052.1332**	**0.0388**		**1,053.1027**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731	0.0000	2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**	**0.0000**	**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0342	1.1080	0.2882	3.0600e-003	0.0768	2.0800e-003	0.0789	0.0221	1.9900e-003	0.0241		326.9831	326.9831	0.0188		327.4522
Worker	0.2650	0.1757	2.4526	7.2800e-003	0.7377	5.7700e-003	0.7435	0.1957	5.3200e-003	0.2010		725.1501	725.1501	0.0200		725.6505
Total	**0.2992**	**1.2836**	**2.7408**	**0.0103**	**0.8146**	**7.8500e-003**	**0.8224**	**0.2178**	**7.3100e-003**	**0.2251**		**1,052.1332**	**1,052.1332**	**0.0388**		**1,053.1027**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9412**	**9.3322**	**11.6970**	**0.0179**		**0.4879**	**0.4879**		**0.4500**	**0.4500**		**1,709.6892**	**1,709.6892**	**0.5419**		**1,723.2356**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9412**	**9.3322**	**11.6970**	**0.0179**		**0.4879**	**0.4879**		**0.4500**	**0.4500**	**0.0000**	**1,709.6892**	**1,709.6892**	**0.5419**		**1,723.2356**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0602	0.0399	0.5574	1.6500e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		164.8069	164.8069	4.5500e-003		164.9206
Total	**0.0602**	**0.0399**	**0.5574**	**1.6500e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**164.8069**	**164.8069**	**4.5500e-003**		**164.9206**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	51.7818					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**51.9863**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0522	0.0346	0.4831	1.4300e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396		142.8326	142.8326	3.9400e-003		142.9312
Total	**0.0522**	**0.0346**	**0.4831**	**1.4300e-003**	**0.1453**	**1.1400e-003**	**0.1465**	**0.0385**	**1.0500e-003**	**0.0396**		**142.8326**	**142.8326**	**3.9400e-003**		**142.9312**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	51.7818					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**51.9863**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0522	0.0346	0.4831	1.4300e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396		142.8326	142.8326	3.9400e-003		142.9312
Total	**0.0522**	**0.0346**	**0.4831**	**1.4300e-003**	**0.1453**	**1.1400e-003**	**0.1465**	**0.0385**	**1.0500e-003**	**0.0396**		**142.8326**	**142.8326**	**3.9400e-003**		**142.9312**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8391	1.4142	11.8638	0.0408	3.9211	0.0294	3.9505	1.0444	0.0272	1.0716		4,077.1529	4,077.1529	0.1177		4,080.0946
Unmitigated	0.8391	1.4142	11.8638	0.0408	3.9211	0.0294	3.9505	1.0444	0.0272	1.0716		4,077.1529	4,077.1529	0.1177		4,080.0946

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	545.30	523.98	480.52	1,821,342	1,821,342
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	545.30	523.98	480.52	1,821,342	1,821,342

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Unenclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Unenclosed Parking Structure	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0235	0.2004	0.0853	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.8379	255.8379	4.9000e-003	4.6900e-003	257.3582
NaturalGas Unmitigated	0.0235	0.2004	0.0853	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.8379	255.8379	4.9000e-003	4.6900e-003	257.3582

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2174.62	0.0235	0.2004	0.0853	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.8379	255.8379	4.9000e-003	4.6900e-003	257.3582
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0235**	**0.2004**	**0.0853**	**1.2800e-003**		**0.0162**	**0.0162**		**0.0162**	**0.0162**		**255.8379**	**255.8379**	**4.9000e-003**	**4.6900e-003**	**257.3582**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2.17462	0.0235	0.2004	0.0853	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.8379	255.8379	4.9000e-003	4.6900e-003	257.3582
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0235**	**0.2004**	**0.0853**	**1.2800e-003**		**0.0162**	**0.0162**		**0.0162**	**0.0162**		**255.8379**	**255.8379**	**4.9000e-003**	**4.6900e-003**	**257.3582**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.0050	1.3022	7.2876	8.1700e-003		0.1364	0.1364		0.1364	0.1364	0.0000	1,575.0049	1,575.0049	0.0417	0.0287	1,584.5848
Unmitigated	2.0050	1.3022	7.2876	8.1700e-003		0.1364	0.1364		0.1364	0.1364	0.0000	1,575.0049	1,575.0049	0.0417	0.0287	1,584.5848

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0282					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.6296					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1433	1.2242	0.5209	7.8100e-003		0.0990	0.0990		0.0990	0.0990	0.0000	1,562.8235	1,562.8235	0.0300	0.0287	1,572.1106
Landscaping	0.2039	0.0780	6.7667	3.6000e-004		0.0375	0.0375		0.0375	0.0375		12.1814	12.1814	0.0117		12.4742
Total	**2.0050**	**1.3022**	**7.2876**	**8.1700e-003**		**0.1364**	**0.1364**		**0.1364**	**0.1364**	**0.0000**	**1,575.0049**	**1,575.0049**	**0.0417**	**0.0287**	**1,584.5848**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0282					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.6296					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1433	1.2242	0.5209	7.8100e-003		0.0990	0.0990		0.0990	0.0990	0.0000	1,562.8235	1,562.8235	0.0300	0.0287	1,572.1106
Landscaping	0.2039	0.0780	6.7667	3.6000e-004		0.0375	0.0375		0.0375	0.0375		12.1814	12.1814	0.0117		12.4742
Total	**2.0050**	**1.3022**	**7.2876**	**8.1700e-003**		**0.1364**	**0.1364**		**0.1364**	**0.1364**	**0.0000**	**1,575.0049**	**1,575.0049**	**0.0417**	**0.0287**	**1,584.5848**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	12	50	0.73	Diesel
Fire Pump	1	0	6	50	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (50 - 75 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Fire Pump - Diesel (50 - 75 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

11.0 Vegetation

Alexan GP/Z Amendment (Project Emissions) CH

Los Angeles-South Coast County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Unenclosed Parking Structure	0.39	Acre	0.39	16,988.40	0
Apartments Mid Rise	82.00	Dwelling Unit	2.16	82,000.00	235

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	386.48	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Alexan GP/Z Amendment (Project Emissions) CH - Los Angeles-South Coast County, Winter

Project Characteristics - Adjusted Intensities

Land Use -

Demolition -

Architectural Coating - Default VOC coatings

Woodstoves - No woodstoves.

Area Coating - Low VOC Coatings

Energy Use - Adjusted for 2019 Standards

Solid Waste - 75% Waste Diversion Rate per AB431

Construction Off-road Equipment Mitigation - Once Daily Watering per Rule 403

Fleet Mix - No Buses or Mobile Homes

Stationary Sources - Emergency Generators and Fire Pumps -

Table Name	Column Name	Default Value	New Value
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	10
tblAreaCoating	Area_EF_Nonresidential_Interior	100	10
tblAreaCoating	Area_EF_Parking	100	10
tblAreaCoating	Area_EF_Residential_Exterior	50	10
tblAreaCoating	Area_EF_Residential_Interior	50	10
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblEnergyUse	T24E	252.63	118.74
tblEnergyUse	T24NG	7,012.17	3,295.72
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	69.70	73.80
tblFireplaces	NumberWood	4.10	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblFleetMix	UBUS	2.1330e-003	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	386.48
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblSolidWaste	SolidWasteGenerationRate	37.72	9.43

tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.3980	20.7844	17.3304	0.0351	6.6641	1.0453	7.5808	3.3971	0.9756	4.2405	0.0000	3,317.4359	3,317.4359	0.7700	0.0000	3,329.7323
2022	52.0445	15.9034	16.9107	0.0348	0.8146	0.7101	1.5247	0.2178	0.6805	0.8983	0.0000	3,290.0615	3,290.0615	0.5461	0.0000	3,302.0728
Maximum	**52.0445**	**20.7844**	**17.3304**	**0.0351**	**6.6641**	**1.0453**	**7.5808**	**3.3971**	**0.9756**	**4.2405**	**0.0000**	**3,317.4359**	**3,317.4359**	**0.7700**	**0.0000**	**3,329.7323**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2021	2.3980	20.7844	17.3304	0.0351	3.0603	1.0453	3.9770	1.5450	0.9756	2.3883	0.0000	3,317.4359	3,317.4359	0.7700	0.0000	3,329.7323
2022	52.0445	15.9034	16.9107	0.0348	0.8146	0.7101	1.5247	0.2178	0.6805	0.8983	0.0000	3,290.0615	3,290.0615	0.5461	0.0000	3,302.0728
Maximum	**52.0445**	**20.7844**	**17.3304**	**0.0351**	**3.0603**	**1.0453**	**3.9770**	**1.5450**	**0.9756**	**2.3883**	**0.0000**	**3,317.4359**	**3,317.4359**	**0.7700**	**0.0000**	**3,329.7323**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**48.19**	**0.00**	**39.58**	**51.24**	**0.00**	**36.04**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0050	1.3022	7.2876	8.1700e-003		0.1364	0.1364		0.1364	0.1364	0.0000	1,575.0049	1,575.0049	0.0417	0.0287	1,584.5848
Energy	0.0235	0.2004	0.0853	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.8379	255.8379	4.9000e-003	4.6900e-003	257.3582
Mobile	0.8079	1.5142	11.1105	0.0386	3.9211	0.0294	3.9505	1.0444	0.0272	1.0716		3,864.5204	3,864.5204	0.1139		3,867.3686
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**2.8363**	**3.0169**	**18.4834**	**0.0481**	**3.9211**	**0.1820**	**4.1031**	**1.0444**	**0.1798**	**1.2243**	**0.0000**	**5,695.3632**	**5,695.3632**	**0.1605**	**0.0333**	**5,709.3117**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.0050	1.3022	7.2876	8.1700e-003		0.1364	0.1364		0.1364	0.1364	0.0000	1,575.0049	1,575.0049	0.0417	0.0287	1,584.5848
Energy	0.0235	0.2004	0.0853	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.8379	255.8379	4.9000e-003	4.6900e-003	257.3582
Mobile	0.8079	1.5142	11.1105	0.0386	3.9211	0.0294	3.9505	1.0444	0.0272	1.0716		3,864.5204	3,864.5204	0.1139		3,867.3686
Stationary	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**2.8363**	**3.0169**	**18.4834**	**0.0481**	**3.9211**	**0.1820**	**4.1031**	**1.0444**	**0.1798**	**1.2243**	**0.0000**	**5,695.3632**	**5,695.3632**	**0.1605**	**0.0333**	**5,709.3117**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Alexan GP/Z Amendment (Project Emissions) CH - Los Angeles-South Coast County, Winter

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/14/2021	7/9/2021	5	20	
2	Site Preparation	Site Preparation	7/10/2021	7/14/2021	5	3	
3	Grading	Grading	7/15/2021	7/22/2021	5	6	
4	Building Construction	Building Construction	7/23/2021	5/26/2022	5	220	
5	Paving	Paving	5/27/2022	6/9/2022	5	10	
6	Architectural Coating	Architectural Coating	6/10/2022	6/23/2022	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0.39

Residential Indoor: 166,050; Residential Outdoor: 55,350; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,019 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Site Preparation	Graders	1	8.00	187	0.41
Site Preparation	Scrapers	1	8.00	367	0.48
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Building Construction	Welders	3	8.00	46	0.45
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Paving	Pavers	1	8.00	130	0.42
Paving	Paving Equipment	1	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	77.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	66.00	12.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.8361	0.0000	0.8361	0.1266	0.0000	0.1266			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715		2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**0.8361**	**1.0409**	**1.8770**	**0.1266**	**0.9715**	**1.0981**		**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0329	1.0454	0.2568	2.9500e-003	0.0673	3.2200e-003	0.0705	0.0185	3.0800e-003	0.0215		320.2365	320.2365	0.0229		320.8089
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0620	0.0424	0.4787	1.4000e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0800e-003	0.0396		139.3926	139.3926	4.1000e-003		139.4952
Total	**0.0949**	**1.0878**	**0.7355**	**4.3500e-003**	**0.2126**	**4.3900e-003**	**0.2170**	**0.0570**	**4.1600e-003**	**0.0612**		**459.6291**	**459.6291**	**0.0270**		**460.3041**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.3763	0.0000	0.3763	0.0570	0.0000	0.0570			0.0000			0.0000
Off-Road	1.9930	19.6966	14.4925	0.0241		1.0409	1.0409		0.9715	0.9715	0.0000	2,322.7171	2,322.7171	0.5940		2,337.5658
Total	**1.9930**	**19.6966**	**14.4925**	**0.0241**	**0.3763**	**1.0409**	**1.4172**	**0.0570**	**0.9715**	**1.0284**	**0.0000**	**2,322.7171**	**2,322.7171**	**0.5940**		**2,337.5658**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0329	1.0454	0.2568	2.9500e-003	0.0673	3.2200e-003	0.0705	0.0185	3.0800e-003	0.0215		320.2365	320.2365	0.0229		320.8089
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0620	0.0424	0.4787	1.4000e-003	0.1453	1.1700e-003	0.1465	0.0385	1.0800e-003	0.0396		139.3926	139.3926	4.1000e-003		139.4952
Total	**0.0949**	**1.0878**	**0.7355**	**4.3500e-003**	**0.2126**	**4.3900e-003**	**0.2170**	**0.0570**	**4.1600e-003**	**0.0612**		**459.6291**	**459.6291**	**0.0270**		**460.3041**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					1.5908	0.0000	1.5908	0.1718	0.0000	0.1718			0.0000			0.0000
Off-Road	1.5463	18.2862	10.7496	0.0245		0.7019	0.7019		0.6457	0.6457		2,372.8832	2,372.8832	0.7674		2,392.0692
Total	**1.5463**	**18.2862**	**10.7496**	**0.0245**	**1.5908**	**0.7019**	**2.2926**	**0.1718**	**0.6457**	**0.8175**		**2,372.8832**	**2,372.8832**	**0.7674**		**2,392.0692**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0382	0.0261	0.2946	8.6000e-004	0.0894	7.2000e-004	0.0901	0.0237	6.7000e-004	0.0244		85.7801	85.7801	2.5200e-003		85.8432
Total	**0.0382**	**0.0261**	**0.2946**	**8.6000e-004**	**0.0894**	**7.2000e-004**	**0.0901**	**0.0237**	**6.7000e-004**	**0.0244**		**85.7801**	**85.7801**	**2.5200e-003**		**85.8432**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7158	0.0000	0.7158	0.0773	0.0000	0.0773			0.0000			0.0000
Off-Road	1.5463	18.2862	10.7496	0.0245		0.7019	0.7019		0.6457	0.6457	0.0000	2,372.8832	2,372.8832	0.7674		2,392.0692
Total	**1.5463**	**18.2862**	**10.7496**	**0.0245**	**0.7158**	**0.7019**	**1.4177**	**0.0773**	**0.6457**	**0.7230**	**0.0000**	**2,372.8832**	**2,372.8832**	**0.7674**		**2,392.0692**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0382	0.0261	0.2946	8.6000e-004	0.0894	7.2000e-004	0.0901	0.0237	6.7000e-004	0.0244		85.7801	85.7801	2.5200e-003		85.8432
Total	**0.0382**	**0.0261**	**0.2946**	**8.6000e-004**	**0.0894**	**7.2000e-004**	**0.0901**	**0.0237**	**6.7000e-004**	**0.0244**		**85.7801**	**85.7801**	**2.5200e-003**		**85.8432**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					6.5523	0.0000	6.5523	3.3675	0.0000	3.3675			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425		1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**6.5523**	**0.9158**	**7.4681**	**3.3675**	**0.8425**	**4.2100**		**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0477	0.0326	0.3683	1.0800e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		107.2251	107.2251	3.1600e-003		107.3040
Total	**0.0477**	**0.0326**	**0.3683**	**1.0800e-003**	**0.1118**	**9.0000e-004**	**0.1127**	**0.0296**	**8.3000e-004**	**0.0305**		**107.2251**	**107.2251**	**3.1600e-003**		**107.3040**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					2.9486	0.0000	2.9486	1.5154	0.0000	1.5154			0.0000			0.0000
Off-Road	1.8271	20.2135	9.7604	0.0206		0.9158	0.9158		0.8425	0.8425	0.0000	1,995.6114	1,995.6114	0.6454		2,011.7470
Total	**1.8271**	**20.2135**	**9.7604**	**0.0206**	**2.9486**	**0.9158**	**3.8643**	**1.5154**	**0.8425**	**2.3579**	**0.0000**	**1,995.6114**	**1,995.6114**	**0.6454**		**2,011.7470**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0477	0.0326	0.3683	1.0800e-003	0.1118	9.0000e-004	0.1127	0.0296	8.3000e-004	0.0305		107.2251	107.2251	3.1600e-003		107.3040
Total	**0.0477**	**0.0326**	**0.3683**	**1.0800e-003**	**0.1118**	**9.0000e-004**	**0.1127**	**0.0296**	**8.3000e-004**	**0.0305**		**107.2251**	**107.2251**	**3.1600e-003**		**107.3040**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831		2,288.9355	2,288.9355	0.4503		2,300.1935
Total	**2.0451**	**16.0275**	**14.5629**	**0.0250**		**0.8173**	**0.8173**		**0.7831**	**0.7831**		**2,288.9355**	**2,288.9355**	**0.4503**		**2,300.1935**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0383	1.1627	0.3369	3.0000e-003	0.0768	2.4600e-003	0.0793	0.0221	2.3500e-003	0.0245		320.8146	320.8146	0.0207		321.3324
Worker	0.3147	0.2153	2.4305	7.1000e-003	0.7377	5.9600e-003	0.7437	0.1957	5.4900e-003	0.2011		707.6857	707.6857	0.0208		708.2063
Total	**0.3530**	**1.3779**	**2.7674**	**0.0101**	**0.8146**	**8.4200e-003**	**0.8230**	**0.2178**	**7.8400e-003**	**0.2256**		**1,028.5004**	**1,028.5004**	**0.0415**		**1,029.5387**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.0451	16.0275	14.5629	0.0250		0.8173	0.8173		0.7831	0.7831	0.0000	2,288.9355	2,288.9355	0.4503		2,300.1935
Total	**2.0451**	**16.0275**	**14.5629**	**0.0250**		**0.8173**	**0.8173**		**0.7831**	**0.7831**	**0.0000**	**2,288.9355**	**2,288.9355**	**0.4503**		**2,300.1935**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0383	1.1627	0.3369	3.0000e-003	0.0768	2.4600e-003	0.0793	0.0221	2.3500e-003	0.0245		320.8146	320.8146	0.0207		321.3324
Worker	0.3147	0.2153	2.4305	7.1000e-003	0.7377	5.9600e-003	0.7437	0.1957	5.4900e-003	0.2011		707.6857	707.6857	0.0208		708.2063
Total	**0.3530**	**1.3779**	**2.7674**	**0.0101**	**0.8146**	**8.4200e-003**	**0.8230**	**0.2178**	**7.8400e-003**	**0.2256**		**1,028.5004**	**1,028.5004**	**0.0415**		**1,029.5387**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731		2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**		**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0360	1.1050	0.3189	2.9700e-003	0.0768	2.1500e-003	0.0790	0.0221	2.0600e-003	0.0242		317.9643	317.9643	0.0200		318.4639
Worker	0.2956	0.1944	2.2386	6.8500e-003	0.7377	5.7700e-003	0.7435	0.1957	5.3200e-003	0.2010		682.8158	682.8158	0.0188		683.2859
Total	**0.3315**	**1.2994**	**2.5575**	**9.8200e-003**	**0.8146**	**7.9200e-003**	**0.8225**	**0.2178**	**7.3800e-003**	**0.2252**		**1,000.7802**	**1,000.7802**	**0.0388**		**1,001.7498**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.8555	14.6040	14.3533	0.0250		0.7022	0.7022		0.6731	0.6731	0.0000	2,289.2813	2,289.2813	0.4417		2,300.3230
Total	**1.8555**	**14.6040**	**14.3533**	**0.0250**		**0.7022**	**0.7022**		**0.6731**	**0.6731**	**0.0000**	**2,289.2813**	**2,289.2813**	**0.4417**		**2,300.3230**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0360	1.1050	0.3189	2.9700e-003	0.0768	2.1500e-003	0.0790	0.0221	2.0600e-003	0.0242		317.9643	317.9643	0.0200		318.4639
Worker	0.2956	0.1944	2.2386	6.8500e-003	0.7377	5.7700e-003	0.7435	0.1957	5.3200e-003	0.2010		682.8158	682.8158	0.0188		683.2859
Total	**0.3315**	**1.2994**	**2.5575**	**9.8200e-003**	**0.8146**	**7.9200e-003**	**0.8225**	**0.2178**	**7.3800e-003**	**0.2252**		**1,000.7802**	**1,000.7802**	**0.0388**		**1,001.7498**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500		1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9412**	**9.3322**	**11.6970**	**0.0179**		**0.4879**	**0.4879**		**0.4500**	**0.4500**		**1,709.6892**	**1,709.6892**	**0.5419**		**1,723.2356**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.9412	9.3322	11.6970	0.0179		0.4879	0.4879		0.4500	0.4500	0.0000	1,709.6892	1,709.6892	0.5419		1,723.2356
Paving	0.0000					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Total	**0.9412**	**9.3322**	**11.6970**	**0.0179**		**0.4879**	**0.4879**		**0.4500**	**0.4500**	**0.0000**	**1,709.6892**	**1,709.6892**	**0.5419**		**1,723.2356**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0672	0.0442	0.5088	1.5600e-003	0.1677	1.3100e-003	0.1690	0.0445	1.2100e-003	0.0457		155.1854	155.1854	4.2700e-003		155.2922
Total	**0.0672**	**0.0442**	**0.5088**	**1.5600e-003**	**0.1677**	**1.3100e-003**	**0.1690**	**0.0445**	**1.2100e-003**	**0.0457**		**155.1854**	**155.1854**	**4.2700e-003**		**155.2922**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	51.7818					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817		281.4481	281.4481	0.0183		281.9062
Total	**51.9863**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**		**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0582	0.0383	0.4409	1.3500e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396		134.4940	134.4940	3.7000e-003		134.5866
Total	**0.0582**	**0.0383**	**0.4409**	**1.3500e-003**	**0.1453**	**1.1400e-003**	**0.1465**	**0.0385**	**1.0500e-003**	**0.0396**		**134.4940**	**134.4940**	**3.7000e-003**		**134.5866**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	51.7818					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Off-Road	0.2045	1.4085	1.8136	2.9700e-003		0.0817	0.0817		0.0817	0.0817	0.0000	281.4481	281.4481	0.0183		281.9062
Total	**51.9863**	**1.4085**	**1.8136**	**2.9700e-003**		**0.0817**	**0.0817**		**0.0817**	**0.0817**	**0.0000**	**281.4481**	**281.4481**	**0.0183**		**281.9062**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0582	0.0383	0.4409	1.3500e-003	0.1453	1.1400e-003	0.1465	0.0385	1.0500e-003	0.0396		134.4940	134.4940	3.7000e-003		134.5866
Total	**0.0582**	**0.0383**	**0.4409**	**1.3500e-003**	**0.1453**	**1.1400e-003**	**0.1465**	**0.0385**	**1.0500e-003**	**0.0396**		**134.4940**	**134.4940**	**3.7000e-003**		**134.5866**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.8079	1.5142	11.1105	0.0386	3.9211	0.0294	3.9505	1.0444	0.0272	1.0716		3,864.5204	3,864.5204	0.1139		3,867.3686
Unmitigated	0.8079	1.5142	11.1105	0.0386	3.9211	0.0294	3.9505	1.0444	0.0272	1.0716		3,864.5204	3,864.5204	0.1139		3,867.3686

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	545.30	523.98	480.52	1,821,342	1,821,342
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	545.30	523.98	480.52	1,821,342	1,821,342

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Unenclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Unenclosed Parking Structure	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0235	0.2004	0.0853	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.8379	255.8379	4.9000e-003	4.6900e-003	257.3582
NaturalGas Unmitigated	0.0235	0.2004	0.0853	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.8379	255.8379	4.9000e-003	4.6900e-003	257.3582

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2174.62	0.0235	0.2004	0.0853	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.8379	255.8379	4.9000e-003	4.6900e-003	257.3582
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0235**	**0.2004**	**0.0853**	**1.2800e-003**		**0.0162**	**0.0162**		**0.0162**	**0.0162**		**255.8379**	**255.8379**	**4.9000e-003**	**4.6900e-003**	**257.3582**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Apartments Mid Rise	2.17462	0.0235	0.2004	0.0853	1.2800e-003		0.0162	0.0162		0.0162	0.0162		255.8379	255.8379	4.9000e-003	4.6900e-003	257.3582
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0235**	**0.2004**	**0.0853**	**1.2800e-003**		**0.0162**	**0.0162**		**0.0162**	**0.0162**		**255.8379**	**255.8379**	**4.9000e-003**	**4.6900e-003**	**257.3582**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.0050	1.3022	7.2876	8.1700e-003		0.1364	0.1364		0.1364	0.1364	0.0000	1,575.0049	1,575.0049	0.0417	0.0287	1,584.5848
Unmitigated	2.0050	1.3022	7.2876	8.1700e-003		0.1364	0.1364		0.1364	0.1364	0.0000	1,575.0049	1,575.0049	0.0417	0.0287	1,584.5848

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0282					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.6296					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1433	1.2242	0.5209	7.8100e-003		0.0990	0.0990		0.0990	0.0990	0.0000	1,562.8235	1,562.8235	0.0300	0.0287	1,572.1106
Landscaping	0.2039	0.0780	6.7667	3.6000e-004		0.0375	0.0375		0.0375	0.0375		12.1814	12.1814	0.0117		12.4742
Total	**2.0050**	**1.3022**	**7.2876**	**8.1700e-003**		**0.1364**	**0.1364**		**0.1364**	**0.1364**	**0.0000**	**1,575.0049**	**1,575.0049**	**0.0417**	**0.0287**	**1,584.5848**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	0.0282					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.6296					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Hearth	0.1433	1.2242	0.5209	7.8100e-003		0.0990	0.0990		0.0990	0.0990	0.0000	1,562.8235	1,562.8235	0.0300	0.0287	1,572.1106
Landscaping	0.2039	0.0780	6.7667	3.6000e-004		0.0375	0.0375		0.0375	0.0375		12.1814	12.1814	0.0117		12.4742
Total	**2.0050**	**1.3022**	**7.2876**	**8.1700e-003**		**0.1364**	**0.1364**		**0.1364**	**0.1364**	**0.0000**	**1,575.0049**	**1,575.0049**	**0.0417**	**0.0287**	**1,584.5848**

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	12	50	0.73	Diesel
Fire Pump	1	0	6	50	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	lb/day										lb/day					
Emergency Generator - Diesel (50 - 75 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Fire Pump - Diesel (50 - 75 HP)	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**		**0.0000**

11.0 Vegetation

Alexan GP/Z Amendment (Project Emissions) CH

Los Angeles-South Coast County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Apartments Mid Rise	82.00	Dwelling Unit	2.16	82,000.00	235
Unenclosed Parking Structure	0.39	Acre	0.39	16,988.40	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	33
Climate Zone	9			**Operational Year**	2023
Utility Company	Southern California Edison				
CO2 Intensity (lb/MWhr)	386.48	**CH4 Intensity (lb/MWhr)**	0.52	**N2O Intensity (lb/MWhr)**	1.84

1.3 User Entered Comments & Non-Default Data

Alexan GP/Z Amendment (Project Emissions) CH - Los Angeles-South Coast County, Annual

Project Characteristics - Adjusted Intensities

Land Use -

Demolition -

Fleet Mix - No Buses or Mobile Homes

Woodstoves - No woodstoves.

Architectural Coating - Low VOC Coatings

Area Coating - Low VOC Coatings

Energy Use - Adjusted for 2019 Standards

Solid Waste - 75% Waste Diversion Rate per AB431

Stationary Sources - Emergency Generators and Fire Pumps -

Construction Off-road Equipment Mitigation - Once Daily Watering per Rule 403

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	EF_Nonresidential_Exterior	100.00	10.00
tblArchitecturalCoating	EF_Nonresidential_Interior	100.00	10.00
tblArchitecturalCoating	EF_Parking	100.00	10.00
tblArchitecturalCoating	EF_Residential_Exterior	50.00	10.00
tblArchitecturalCoating	EF_Residential_Interior	50.00	10.00
tblAreaCoating	Area_EF_Nonresidential_Exterior	100	10
tblAreaCoating	Area_EF_Nonresidential_Interior	100	10
tblAreaCoating	Area_EF_Parking	100	10
tblAreaCoating	Area_EF_Residential_Exterior	50	10
tblAreaCoating	Area_EF_Residential_Interior	50	10
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00

tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblConstEquipMitigation	NumberOfEquipmentMitigated	0.00	1.00
tblEnergyUse	T24E	252.63	118.74
tblEnergyUse	T24NG	7,012.17	3,295.72
tblFireplaces	FireplaceDayYear	25.00	0.00
tblFireplaces	FireplaceWoodMass	1,019.20	0.00
tblFireplaces	NumberGas	69.70	73.80
tblFireplaces	NumberWood	4.10	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	HHD	0.03	0.00
tblFleetMix	LDA	0.55	0.58
tblFleetMix	LDA	0.55	0.58
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	MH	8.6200e-004	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	OBUS	2.5460e-003	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	SBUS	6.9200e-004	0.00
tblFleetMix	UBUS	2.1330e-003	0.00

tblFleetMix	UBUS	2.1330e-003	0.00
tblProjectCharacteristics	CH4IntensityFactor	0.029	0.52
tblProjectCharacteristics	CO2IntensityFactor	702.44	386.48
tblProjectCharacteristics	N2OIntensityFactor	0.006	1.84
tblSolidWaste	SolidWasteGenerationRate	37.72	9.43
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	CH4_EF	0.07	0.07
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsEF	ROG_EF	2.2480e-003	2.2477e-003
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	50.00
tblStationaryGeneratorsPumpsUse	HorsePowerValue	0.00	50.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	12.00
tblStationaryGeneratorsPumpsUse	HoursPerYear	0.00	6.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblStationaryGeneratorsPumpsUse	NumberOfEquipment	0.00	1.00
tblWoodstoves	WoodstoveDayYear	25.00	0.00
tblWoodstoves	WoodstoveWoodMass	999.60	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1660	1.3074	1.2074	2.4400e-003	0.0793	0.0621	0.1414	0.0247	0.0591	0.0838	0.0000	209.8154	209.8154	0.0343	0.0000	210.6730
2022	0.1700	0.8824	0.9542	1.9400e-003	0.0431	0.0398	0.0829	0.0115	0.0381	0.0496	0.0000	166.3540	166.3540	0.0252	0.0000	166.9846
Maximum	**0.1700**	**1.3074**	**1.2074**	**2.4400e-003**	**0.0793**	**0.0621**	**0.1414**	**0.0247**	**0.0591**	**0.0838**	**0.0000**	**209.8154**	**209.8154**	**0.0343**	**0.0000**	**210.6730**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2021	0.1660	1.3074	1.2074	2.4400e-003	0.0626	0.0621	0.1247	0.0183	0.0591	0.0775	0.0000	209.8152	209.8152	0.0343	0.0000	210.6728
2022	0.1700	0.8824	0.9542	1.9400e-003	0.0431	0.0398	0.0829	0.0115	0.0381	0.0496	0.0000	166.3539	166.3539	0.0252	0.0000	166.9845
Maximum	**0.1700**	**1.3074**	**1.2074**	**2.4400e-003**	**0.0626**	**0.0621**	**0.1247**	**0.0183**	**0.0591**	**0.0775**	**0.0000**	**209.8152**	**209.8152**	**0.0343**	**0.0000**	**210.6728**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**13.67**	**0.00**	**7.46**	**17.63**	**0.00**	**4.79**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	6-14-2021	9-13-2021	0.6847	0.6847
2	9-14-2021	12-13-2021	0.6433	0.6433
3	12-14-2021	3-13-2022	0.5925	0.5925
4	3-14-2022	6-13-2022	0.5462	0.5462
5	6-14-2022	9-13-2022	0.0429	0.0429
		Highest	0.6847	0.6847

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3280	9.7500e-003	0.8458	4.0000e-005		4.6800e-003	4.6800e-003		4.6800e-003	4.6800e-003	0.0000	1.3813	1.3813	1.3300e-003	0.0000	1.4146
Energy	4.2800e-003	0.0366	0.0156	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	103.8362	103.8362	0.0835	0.2935	193.3800
Mobile	0.1404	0.2743	2.0151	6.9600e-003	0.6839	5.2300e-003	0.6892	0.1825	4.8300e-003	0.1873	0.0000	632.1418	632.1418	0.0185	0.0000	632.6052
Stationary	7.4000e-004	2.4100e-003	2.6800e-003	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.3427	0.3427	5.0000e-005	0.0000	0.3439
Waste						0.0000	0.0000		0.0000	0.0000	1.9142	0.0000	1.9142	0.1131	0.0000	4.7424
Water						0.0000	0.0000		0.0000	0.0000	1.6950	18.7553	20.4502	0.1993	0.0934	53.2674
Total	**0.4735**	**0.3230**	**2.8791**	**7.2300e-003**	**0.6839**	**0.0130**	**0.6969**	**0.1825**	**0.0126**	**0.1951**	**3.6092**	**756.4573**	**760.0665**	**0.4159**	**0.3869**	**885.7534**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	0.3280	9.7500e-003	0.8458	4.0000e-005		4.6800e-003	4.6800e-003		4.6800e-003	4.6800e-003	0.0000	1.3813	1.3813	1.3300e-003	0.0000	1.4146
Energy	4.2800e-003	0.0366	0.0156	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	103.8362	103.8362	0.0835	0.2935	193.3800
Mobile	0.1404	0.2743	2.0151	6.9600e-003	0.6839	5.2300e-003	0.6892	0.1825	4.8300e-003	0.1873	0.0000	632.1418	632.1418	0.0185	0.0000	632.6052
Stationary	7.4000e-004	2.4100e-003	2.6800e-003	0.0000		1.4000e-004	1.4000e-004		1.4000e-004	1.4000e-004	0.0000	0.3427	0.3427	5.0000e-005	0.0000	0.3439
Waste						0.0000	0.0000		0.0000	0.0000	1.9142	0.0000	1.9142	0.1131	0.0000	4.7424
Water						0.0000	0.0000		0.0000	0.0000	1.6950	18.7553	20.4502	0.1993	0.0934	53.2674
Total	**0.4735**	**0.3230**	**2.8791**	**7.2300e-003**	**0.6839**	**0.0130**	**0.6969**	**0.1825**	**0.0126**	**0.1951**	**3.6092**	**756.4573**	**760.0665**	**0.4159**	**0.3869**	**885.7534**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Alexan GP/Z Amendment (Project Emissions) CH - Los Angeles-South Coast County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	6/14/2021	7/9/2021	5	20	
2	Site Preparation	Site Preparation	7/10/2021	7/14/2021	5	3	
3	Grading	Grading	7/15/2021	7/22/2021	5	6	
4	Building Construction	Building Construction	7/23/2021	5/26/2022	5	220	
5	Paving	Paving	5/27/2022	6/9/2022	5	10	
6	Architectural Coating	Architectural Coating	6/10/2022	6/23/2022	5	10	

Acres of Grading (Site Preparation Phase): 4.5

Acres of Grading (Grading Phase): 3

Acres of Paving: 0.39

Residential Indoor: 166,050; Residential Outdoor: 55,350; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 1,019 (Architectural Coating – sqft)

OffRoad Equipment

Alexan GP/Z Amendment (Project Emissions) CH - Los Angeles-South Coast County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Cement and Mortar Mixers	1	8.00	9	0.56
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Building Construction	Generator Sets	1	8.00	84	0.74
Building Construction	Cranes	1	8.00	231	0.29
Building Construction	Forklifts	2	7.00	89	0.20
Site Preparation	Graders	1	8.00	187	0.41
Paving	Pavers	1	8.00	130	0.42
Paving	Rollers	2	8.00	80	0.38
Demolition	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Grading	Tractors/Loaders/Backhoes	2	7.00	97	0.37
Paving	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Site Preparation	Tractors/Loaders/Backhoes	1	7.00	97	0.37
Grading	Graders	1	8.00	187	0.41
Paving	Paving Equipment	1	8.00	132	0.36
Site Preparation	Scrapers	1	8.00	367	0.48
Building Construction	Welders	3	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	5	13.00	0.00	77.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	3	8.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	10.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	8	66.00	12.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	13.00	0.00	0.00	14.70	6.90	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

Water Exposed Area

3.2 Demolition - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.3600e-003	0.0000	8.3600e-003	1.2700e-003	0.0000	1.2700e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0199	0.1970	0.1449	2.4000e-004		0.0104	0.0104		9.7100e-003	9.7100e-003	0.0000	21.0713	21.0713	5.3900e-003	0.0000	21.2060
Total	**0.0199**	**0.1970**	**0.1449**	**2.4000e-004**	**8.3600e-003**	**0.0104**	**0.0188**	**1.2700e-003**	**9.7100e-003**	**0.0110**	**0.0000**	**21.0713**	**21.0713**	**5.3900e-003**	**0.0000**	**21.2060**

3.2 Demolition - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0107	2.4900e-003	3.0000e-005	6.6000e-004	3.0000e-005	6.9000e-004	1.8000e-004	3.0000e-005	2.1000e-004	0.0000	2.9348	2.9348	2.0000e-004	0.0000	2.9399
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	4.4000e-004	4.9200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2856	1.2856	4.0000e-005	0.0000	1.2865
Total	**8.8000e-004**	**0.0111**	**7.4100e-003**	**4.0000e-005**	**2.0800e-003**	**4.0000e-005**	**2.1300e-003**	**5.6000e-004**	**4.0000e-005**	**6.0000e-004**	**0.0000**	**4.2204**	**4.2204**	**2.4000e-004**	**0.0000**	**4.2265**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					3.7600e-003	0.0000	3.7600e-003	5.7000e-004	0.0000	5.7000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0199	0.1970	0.1449	2.4000e-004		0.0104	0.0104		9.7100e-003	9.7100e-003	0.0000	21.0713	21.0713	5.3900e-003	0.0000	21.2060
Total	**0.0199**	**0.1970**	**0.1449**	**2.4000e-004**	**3.7600e-003**	**0.0104**	**0.0142**	**5.7000e-004**	**9.7100e-003**	**0.0103**	**0.0000**	**21.0713**	**21.0713**	**5.3900e-003**	**0.0000**	**21.2060**

3.2 Demolition - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	3.2000e-004	0.0107	2.4900e-003	3.0000e-005	6.6000e-004	3.0000e-005	6.9000e-004	1.8000e-004	3.0000e-005	2.1000e-004	0.0000	2.9348	2.9348	2.0000e-004	0.0000	2.9399
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.6000e-004	4.4000e-004	4.9200e-003	1.0000e-005	1.4200e-003	1.0000e-005	1.4400e-003	3.8000e-004	1.0000e-005	3.9000e-004	0.0000	1.2856	1.2856	4.0000e-005	0.0000	1.2865
Total	**8.8000e-004**	**0.0111**	**7.4100e-003**	**4.0000e-005**	**2.0800e-003**	**4.0000e-005**	**2.1300e-003**	**5.6000e-004**	**4.0000e-005**	**6.0000e-004**	**0.0000**	**4.2204**	**4.2204**	**2.4000e-004**	**0.0000**	**4.2265**

3.3 Site Preparation - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.3900e-003	0.0000	2.3900e-003	2.6000e-004	0.0000	2.6000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3200e-003	0.0274	0.0161	4.0000e-005		1.0500e-003	1.0500e-003		9.7000e-004	9.7000e-004	0.0000	3.2290	3.2290	1.0400e-003	0.0000	3.2551
Total	**2.3200e-003**	**0.0274**	**0.0161**	**4.0000e-005**	**2.3900e-003**	**1.0500e-003**	**3.4400e-003**	**2.6000e-004**	**9.7000e-004**	**1.2300e-003**	**0.0000**	**3.2290**	**3.2290**	**1.0400e-003**	**0.0000**	**3.2551**

3.3 Site Preparation - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.1187	0.1187	0.0000	0.0000	0.1188
Total	**5.0000e-005**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1187**	**0.1187**	**0.0000**	**0.0000**	**0.1188**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					1.0700e-003	0.0000	1.0700e-003	1.2000e-004	0.0000	1.2000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	2.3200e-003	0.0274	0.0161	4.0000e-005		1.0500e-003	1.0500e-003		9.7000e-004	9.7000e-004	0.0000	3.2290	3.2290	1.0400e-003	0.0000	3.2551
Total	**2.3200e-003**	**0.0274**	**0.0161**	**4.0000e-005**	**1.0700e-003**	**1.0500e-003**	**2.1200e-003**	**1.2000e-004**	**9.7000e-004**	**1.0900e-003**	**0.0000**	**3.2290**	**3.2290**	**1.0400e-003**	**0.0000**	**3.2551**

3.3 Site Preparation - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	5.0000e-005	4.0000e-005	4.5000e-004	0.0000	1.3000e-004	0.0000	1.3000e-004	3.0000e-005	0.0000	4.0000e-005	0.0000	0.1187	0.1187	0.0000	0.0000	0.1188
Total	**5.0000e-005**	**4.0000e-005**	**4.5000e-004**	**0.0000**	**1.3000e-004**	**0.0000**	**1.3000e-004**	**3.0000e-005**	**0.0000**	**4.0000e-005**	**0.0000**	**0.1187**	**0.1187**	**0.0000**	**0.0000**	**0.1188**

3.4 Grading - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0197	0.0000	0.0197	0.0101	0.0000	0.0101	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4800e-003	0.0606	0.0293	6.0000e-005		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	**5.4800e-003**	**0.0606**	**0.0293**	**6.0000e-005**	**0.0197**	**2.7500e-003**	**0.0224**	**0.0101**	**2.5300e-003**	**0.0126**	**0.0000**	**5.4312**	**5.4312**	**1.7600e-003**	**0.0000**	**5.4751**

3.4 Grading - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.0000e-004	1.1300e-003	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2967	0.2967	1.0000e-005	0.0000	0.2969
Total	**1.3000e-004**	**1.0000e-004**	**1.1300e-003**	**0.0000**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2967**	**0.2967**	**1.0000e-005**	**0.0000**	**0.2969**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					8.8500e-003	0.0000	8.8500e-003	4.5500e-003	0.0000	4.5500e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	5.4800e-003	0.0606	0.0293	6.0000e-005		2.7500e-003	2.7500e-003		2.5300e-003	2.5300e-003	0.0000	5.4312	5.4312	1.7600e-003	0.0000	5.4751
Total	**5.4800e-003**	**0.0606**	**0.0293**	**6.0000e-005**	**8.8500e-003**	**2.7500e-003**	**0.0116**	**4.5500e-003**	**2.5300e-003**	**7.0800e-003**	**0.0000**	**5.4312**	**5.4312**	**1.7600e-003**	**0.0000**	**5.4751**

3.4 Grading - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3000e-004	1.0000e-004	1.1300e-003	0.0000	3.3000e-004	0.0000	3.3000e-004	9.0000e-005	0.0000	9.0000e-005	0.0000	0.2967	0.2967	1.0000e-005	0.0000	0.2969
Total	**1.3000e-004**	**1.0000e-004**	**1.1300e-003**	**0.0000**	**3.3000e-004**	**0.0000**	**3.3000e-004**	**9.0000e-005**	**0.0000**	**9.0000e-005**	**0.0000**	**0.2967**	**0.2967**	**1.0000e-005**	**0.0000**	**0.2969**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1186	0.9296	0.8447	1.4500e-003		0.0474	0.0474		0.0454	0.0454	0.0000	120.4363	120.4363	0.0237	0.0000	121.0286
Total	**0.1186**	**0.9296**	**0.8447**	**1.4500e-003**		**0.0474**	**0.0474**		**0.0454**	**0.0454**	**0.0000**	**120.4363**	**120.4363**	**0.0237**	**0.0000**	**121.0286**

3.5 Building Construction - 2021

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1600e-003	0.0687	0.0186	1.8000e-004	4.3800e-003	1.4000e-004	4.5200e-003	1.2700e-003	1.3000e-004	1.4000e-003	0.0000	17.1562	17.1562	1.0500e-003	0.0000	17.1825
Worker	0.0165	0.0128	0.1448	4.2000e-004	0.0420	3.5000e-004	0.0423	0.0111	3.2000e-004	0.0115	0.0000	37.8557	37.8557	1.1100e-003	0.0000	37.8836
Total	**0.0186**	**0.0815**	**0.1634**	**6.0000e-004**	**0.0463**	**4.9000e-004**	**0.0468**	**0.0124**	**4.5000e-004**	**0.0129**	**0.0000**	**55.0119**	**55.0119**	**2.1600e-003**	**0.0000**	**55.0661**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.1186	0.9296	0.8447	1.4500e-003		0.0474	0.0474		0.0454	0.0454	0.0000	120.4361	120.4361	0.0237	0.0000	121.0285
Total	**0.1186**	**0.9296**	**0.8447**	**1.4500e-003**		**0.0474**	**0.0474**		**0.0454**	**0.0454**	**0.0000**	**120.4361**	**120.4361**	**0.0237**	**0.0000**	**121.0285**

3.5 Building Construction - 2021

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.1600e-003	0.0687	0.0186	1.8000e-004	4.3800e-003	1.4000e-004	4.5200e-003	1.2700e-003	1.3000e-004	1.4000e-003	0.0000	17.1562	17.1562	1.0500e-003	0.0000	17.1825
Worker	0.0165	0.0128	0.1448	4.2000e-004	0.0420	3.5000e-004	0.0423	0.0111	3.2000e-004	0.0115	0.0000	37.8557	37.8557	1.1100e-003	0.0000	37.8836
Total	**0.0186**	**0.0815**	**0.1634**	**6.0000e-004**	**0.0463**	**4.9000e-004**	**0.0468**	**0.0124**	**4.5000e-004**	**0.0129**	**0.0000**	**55.0119**	**55.0119**	**2.1600e-003**	**0.0000**	**55.0661**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0965	0.7594	0.7464	1.3000e-003		0.0365	0.0365		0.0350	0.0350	0.0000	107.9937	107.9937	0.0208	0.0000	108.5145
Total	**0.0965**	**0.7594**	**0.7464**	**1.3000e-003**		**0.0365**	**0.0365**		**0.0350**	**0.0350**	**0.0000**	**107.9937**	**107.9937**	**0.0208**	**0.0000**	**108.5145**

3.5 Building Construction - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8200e-003	0.0585	0.0158	1.6000e-004	3.9300e-003	1.1000e-004	4.0400e-003	1.1300e-003	1.0000e-004	1.2400e-003	0.0000	15.2463	15.2463	9.1000e-004	0.0000	15.2691
Worker	0.0139	0.0104	0.1196	3.6000e-004	0.0376	3.0000e-004	0.0379	9.9900e-003	2.8000e-004	0.0103	0.0000	32.7466	32.7466	9.0000e-004	0.0000	32.7691
Total	**0.0157**	**0.0689**	**0.1354**	**5.2000e-004**	**0.0415**	**4.1000e-004**	**0.0420**	**0.0111**	**3.8000e-004**	**0.0115**	**0.0000**	**47.9929**	**47.9929**	**1.8100e-003**	**0.0000**	**48.0382**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0965	0.7594	0.7464	1.3000e-003		0.0365	0.0365		0.0350	0.0350	0.0000	107.9935	107.9935	0.0208	0.0000	108.5144
Total	**0.0965**	**0.7594**	**0.7464**	**1.3000e-003**		**0.0365**	**0.0365**		**0.0350**	**0.0350**	**0.0000**	**107.9935**	**107.9935**	**0.0208**	**0.0000**	**108.5144**

3.5 Building Construction - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	1.8200e-003	0.0585	0.0158	1.6000e-004	3.9300e-003	1.1000e-004	4.0400e-003	1.1300e-003	1.0000e-004	1.2400e-003	0.0000	15.2463	15.2463	9.1000e-004	0.0000	15.2691
Worker	0.0139	0.0104	0.1196	3.6000e-004	0.0376	3.0000e-004	0.0379	9.9900e-003	2.8000e-004	0.0103	0.0000	32.7466	32.7466	9.0000e-004	0.0000	32.7691
Total	**0.0157**	**0.0689**	**0.1354**	**5.2000e-004**	**0.0415**	**4.1000e-004**	**0.0420**	**0.0111**	**3.8000e-004**	**0.0115**	**0.0000**	**47.9929**	**47.9929**	**1.8100e-003**	**0.0000**	**48.0382**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7100e-003	0.0467	0.0585	9.0000e-005		2.4400e-003	2.4400e-003		2.2500e-003	2.2500e-003	0.0000	7.7550	7.7550	2.4600e-003	0.0000	7.8165
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.7100e-003**	**0.0467**	**0.0585**	**9.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**7.7550**	**7.7550**	**2.4600e-003**	**0.0000**	**7.8165**

3.6 Paving - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.3000e-004	2.6100e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7156	0.7156	2.0000e-005	0.0000	0.7161
Total	**3.0000e-004**	**2.3000e-004**	**2.6100e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.7156**	**0.7156**	**2.0000e-005**	**0.0000**	**0.7161**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	4.7100e-003	0.0467	0.0585	9.0000e-005		2.4400e-003	2.4400e-003		2.2500e-003	2.2500e-003	0.0000	7.7550	7.7550	2.4600e-003	0.0000	7.8165
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**4.7100e-003**	**0.0467**	**0.0585**	**9.0000e-005**		**2.4400e-003**	**2.4400e-003**		**2.2500e-003**	**2.2500e-003**	**0.0000**	**7.7550**	**7.7550**	**2.4600e-003**	**0.0000**	**7.8165**

3.6 Paving - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-004	2.3000e-004	2.6100e-003	1.0000e-005	8.2000e-004	1.0000e-005	8.3000e-004	2.2000e-004	1.0000e-005	2.2000e-004	0.0000	0.7156	0.7156	2.0000e-005	0.0000	0.7161
Total	**3.0000e-004**	**2.3000e-004**	**2.6100e-003**	**1.0000e-005**	**8.2000e-004**	**1.0000e-005**	**8.3000e-004**	**2.2000e-004**	**1.0000e-005**	**2.2000e-004**	**0.0000**	**0.7156**	**0.7156**	**2.0000e-005**	**0.0000**	**0.7161**

3.7 Architectural Coating - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0516					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.0526**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

3.7 Architectural Coating - 2022

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	2.0000e-004	2.2600e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	1.9000e-004	0.0000	0.6202	0.6202	2.0000e-005	0.0000	0.6206
Total	**2.6000e-004**	**2.0000e-004**	**2.2600e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6202**	**0.6202**	**2.0000e-005**	**0.0000**	**0.6206**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0516					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	1.0200e-003	7.0400e-003	9.0700e-003	1.0000e-005		4.1000e-004	4.1000e-004		4.1000e-004	4.1000e-004	0.0000	1.2766	1.2766	8.0000e-005	0.0000	1.2787
Total	**0.0526**	**7.0400e-003**	**9.0700e-003**	**1.0000e-005**		**4.1000e-004**	**4.1000e-004**		**4.1000e-004**	**4.1000e-004**	**0.0000**	**1.2766**	**1.2766**	**8.0000e-005**	**0.0000**	**1.2787**

3.7 Architectural Coating - 2022

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	2.0000e-004	2.2600e-003	1.0000e-005	7.1000e-004	1.0000e-005	7.2000e-004	1.9000e-004	1.0000e-005	1.9000e-004	0.0000	0.6202	0.6202	2.0000e-005	0.0000	0.6206
Total	**2.6000e-004**	**2.0000e-004**	**2.2600e-003**	**1.0000e-005**	**7.1000e-004**	**1.0000e-005**	**7.2000e-004**	**1.9000e-004**	**1.0000e-005**	**1.9000e-004**	**0.0000**	**0.6202**	**0.6202**	**2.0000e-005**	**0.0000**	**0.6206**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.1404	0.2743	2.0151	6.9600e-003	0.6839	5.2300e-003	0.6892	0.1825	4.8300e-003	0.1873	0.0000	632.1418	632.1418	0.0185	0.0000	632.6052
Unmitigated	0.1404	0.2743	2.0151	6.9600e-003	0.6839	5.2300e-003	0.6892	0.1825	4.8300e-003	0.1873	0.0000	632.1418	632.1418	0.0185	0.0000	632.6052

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Apartments Mid Rise	545.30	523.98	480.52	1,821,342	1,821,342
Unenclosed Parking Structure	0.00	0.00	0.00		
Total	545.30	523.98	480.52	1,821,342	1,821,342

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Apartments Mid Rise	14.70	5.90	8.70	40.20	19.20	40.60	86	11	3
Unenclosed Parking Structure	16.60	8.40	6.90	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Apartments Mid Rise	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000
Unenclosed Parking Structure	0.583408	0.044768	0.205288	0.119317	0.015350	0.006227	0.020460	0.000000	0.000000	0.000000	0.005184	0.000000	0.000000

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	61.4794	61.4794	0.0827	0.2927	150.7714
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	61.4794	61.4794	0.0827	0.2927	150.7714
NaturalGas Mitigated	4.2800e-003	0.0366	0.0156	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	42.3568	42.3568	8.1000e-004	7.8000e-004	42.6085
NaturalGas Unmitigated	4.2800e-003	0.0366	0.0156	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	42.3568	42.3568	8.1000e-004	7.8000e-004	42.6085

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	793737	4.2800e-003	0.0366	0.0156	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	42.3568	42.3568	8.1000e-004	7.8000e-004	42.6085
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**4.2800e-003**	**0.0366**	**0.0156**	**2.3000e-004**		**2.9600e-003**	**2.9600e-003**		**2.9600e-003**	**2.9600e-003**	**0.0000**	**42.3568**	**42.3568**	**8.1000e-004**	**7.8000e-004**	**42.6085**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
Apartments Mid Rise	793737	4.2800e-003	0.0366	0.0156	2.3000e-004		2.9600e-003	2.9600e-003		2.9600e-003	2.9600e-003	0.0000	42.3568	42.3568	8.1000e-004	7.8000e-004	42.6085
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**4.2800e-003**	**0.0366**	**0.0156**	**2.3000e-004**		**2.9600e-003**	**2.9600e-003**		**2.9600e-003**	**2.9600e-003**	**0.0000**	**42.3568**	**42.3568**	**8.1000e-004**	**7.8000e-004**	**42.6085**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	320971	56.2676	0.0757	0.2679	137.9902
Unenclosed Parking Structure	29729.7	5.2118	7.0100e-003	0.0248	12.7812
Total		**61.4794**	**0.0827**	**0.2927**	**150.7714**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Apartments Mid Rise	320971	56.2676	0.0757	0.2679	137.9902
Unenclosed Parking Structure	29729.7	5.2118	7.0100e-003	0.0248	12.7812
Total		**61.4794**	**0.0827**	**0.2927**	**150.7714**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.3280	9.7500e-003	0.8458	4.0000e-005		4.6800e-003	4.6800e-003		4.6800e-003	4.6800e-003	0.0000	1.3813	1.3813	1.3300e-003	0.0000	1.4146
Unmitigated	0.3280	9.7500e-003	0.8458	4.0000e-005		4.6800e-003	4.6800e-003		4.6800e-003	4.6800e-003	0.0000	1.3813	1.3813	1.3300e-003	0.0000	1.4146

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.1500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2974					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0255	9.7500e-003	0.8458	4.0000e-005		4.6800e-003	4.6800e-003		4.6800e-003	4.6800e-003	0.0000	1.3813	1.3813	1.3300e-003	0.0000	1.4146
Total	**0.3280**	**9.7500e-003**	**0.8458**	**4.0000e-005**		**4.6800e-003**	**4.6800e-003**		**4.6800e-003**	**4.6800e-003**	**0.0000**	**1.3813**	**1.3813**	**1.3300e-003**	**0.0000**	**1.4146**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	5.1500e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	0.2974					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Hearth	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0255	9.7500e-003	0.8458	4.0000e-005		4.6800e-003	4.6800e-003		4.6800e-003	4.6800e-003	0.0000	1.3813	1.3813	1.3300e-003	0.0000	1.4146
Total	**0.3280**	**9.7500e-003**	**0.8458**	**4.0000e-005**		**4.6800e-003**	**4.6800e-003**		**4.6800e-003**	**4.6800e-003**	**0.0000**	**1.3813**	**1.3813**	**1.3300e-003**	**0.0000**	**1.4146**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	20.4502	0.1993	0.0934	53.2674
Unmitigated	20.4502	0.1993	0.0934	53.2674

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.34263 / 3.36818	20.4502	0.1993	0.0934	53.2674
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**20.4502**	**0.1993**	**0.0934**	**53.2674**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Apartments Mid Rise	5.34263 / 3.36818	20.4502	0.1993	0.0934	53.2674
Unenclosed Parking Structure	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**20.4502**	**0.1993**	**0.0934**	**53.2674**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	1.9142	0.1131	0.0000	4.7424
Unmitigated	1.9142	0.1131	0.0000	4.7424

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	9.43	1.9142	0.1131	0.0000	4.7424
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**1.9142**	**0.1131**	**0.0000**	**4.7424**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Apartments Mid Rise	9.43	1.9142	0.1131	0.0000	4.7424
Unenclosed Parking Structure	0	0.0000	0.0000	0.0000	0.0000
Total		**1.9142**	**0.1131**	**0.0000**	**4.7424**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
Emergency Generator	1	0	12	50	0.73	Diesel
Fire Pump	1	0	6	50	0.73	Diesel

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

10.1 Stationary Sources

Unmitigated/Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Equipment Type	tons/yr										MT/yr					
Emergency Generator - Diesel (50 - 75 HP)	4.9000e-004	1.6100e-003	1.7900e-003	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.2285	0.2285	3.0000e-005	0.0000	0.2293
Fire Pump - Diesel (50 - 75 HP)	2.5000e-004	8.0000e-004	8.9000e-004	0.0000		7.0000e-005	7.0000e-005		7.0000e-005	7.0000e-005	0.0000	0.1142	0.1142	2.0000e-005	0.0000	0.1146
Total	**7.4000e-004**	**2.4100e-003**	**2.6800e-003**	**0.0000**		**1.4000e-004**	**1.4000e-004**		**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.3427**	**0.3427**	**5.0000e-005**	**0.0000**	**0.3439**

11.0 Vegetation

APPENDIX C: HRA Calculations

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Alexan SP Residential Development Draft EIR (Appendix A3)
DPM Emission Estimates for I-210
Derived by MIG from EMFAC2017 data file

Vehicle Class	2023 - 2050 Average PM10 Emission Factor (Grams/Mile)	2023 Vehicle Population	Vehicle Class Percentage of Population	I-210 ADT	Class Vehicles on I-210	Trip Length (miles)	Total Daily Class Miles	Total Daily PM10 (Grams)	Total Daily PM10 (Grams/Sec)
LDA	0.001611306	36,741	0.49%	252,000	1,224	0.63	776	1.2509421	1.44785E-05
LDT1	0.028116599	252	0.00%	252,000	8	0.63	5	0.1499634	1.73569E-06
LDT2	0.003345548	9,765	0.13%	252,000	325	0.63	206	0.6903391	7.99004E-06
LHDT1	0.006014986	68,776	0.91%	252,000	2,291	0.63	1,453	8.7415092	0.000101175
LHDT2	0.010734683	27,874	0.37%	252,000	928	0.63	589	6.3226286	7.31786E-05
HHDT	0.033787693	57,613	0.76%	252,000	1,919	0.63	1,217	41.133135	0.000476078
MDV	0.001345391	21,298	0.28%	252,000	709	0.63	450	0.6054664	7.00771E-06
MH	0.038410995	6,167	0.08%	252,000	205	0.63	130	5.0052745	5.79314E-05
MHDT	0.015244088	64,520	0.85%	252,000	2,149	0.63	1,363	20.783071	0.000240545
OBUS	0.023503175	3,071	0.04%	252,000	102	0.63	65	1.5253977	1.76551E-05
SBUS	0.018215134	3,497	0.05%	252,000	116	0.63	74	1.3460165	1.55789E-05
UBUS	0.003787529	10	0.00%	252,000	0	0.63	0	0.0008114	9.39173E-09
ALL DSL	0.013830779	299,585	3.96%	252,000	9,977	0.63	6,330	87.554555	0.001013363

Notes:
2023 - 2050 average emission factor derived from EMFAC 2017
2023 vehicle population dereived from EMFAC2017
I-210 ADT from 2016 Caltrans AADT data

Aermod Source Area Size:	550951.3	square feet
Rate:	1.84E-09	grams/second/sq foot
Aermod Source Area Size:	51185.1	square meters
Rate:	1.98E-08	grams/second/sq meter

Alexan SP Residential Development Draft EIR (Appendix A3)
Los Angeles South Coast, 2023 to 2050 Average Diesel Vehicle Emission Factors (65 MPH)
Derived by MIG from EMFAC2017 data file

Vehicle Class	Speed	PM10 Average Running Exhaust Emission Factor (Grams/Mile)
HHDT	65 MPH	0.033787693
LDA	65 MPH	0.001611306
LDT1	65 MPH	0.028116599
LDY2	65 MPH	0.003345548
LHDT1	65 MPH	0.006014986
LHDT2	65 MPH	0.010734683
MDV	65 MPH	0.001345391
MH	65 MPH	0.038410995
MHDT	65 MPH	0.015244088
OBUS	65 MPH	0.023503175
SBUS	65 MPH	0.018215134
UBUS	65 MPH	0.003787529

SOURCE: EMFAC 2017
Note: SBUS factors are for 55 mph travel speed

Alexan SP Residential Development Draft EIR (Appendix A3)
EMFAC2017 WebDataBase Output file
Los Angeles South Coast, 2023 to 2050 Diesel Vehicle Emission Factors (65 MPH)

EMFAC2017 (v1.0.2) Emission Rates
Region Type: Sub-Area
Region: Los Angeles (SC)
Calendar Year: 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, g/mile for RUNEX, PMBW and PMTW

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VMT	ROG_RUNEX	TOG_RUNEX	CO_RUNEX	NOx_RUNEX	SOx_RUNEX	CO2_RUNEX	PM10_RUNEX	PM2_5_RUNEX	N2O_RUNEX
Los Angeles (SC)	2023	HHDT	Aggregated	65	DSL	799268.06	0.01991	0.022666	0.13407	2.06005	0.01231	1302.772	0.035264	0.03374	0.20478
Los Angeles (SC)	2023	LDA	Aggregated	65	DSL	50688.907	0.010517	0.011973	0.13592	0.06544	0.002	211.1015	0.007185	0.00687	0.03318
Los Angeles (SC)	2023	LDT1	Aggregated	65	DSL	217.96476	0.16994	0.193466	1.49002	1.23385	0.00436	461.0612	0.129358	0.12376	0.07247
Los Angeles (SC)	2023	LDT2	Aggregated	65	DSL	14367.879	0.00863	0.009825	0.07343	0.03335	0.00269	284.8583	0.004514	0.00432	0.04478
Los Angeles (SC)	2023	LHDT1	Aggregated	65	DSL	479102.97	0.045511	0.051811	0.31168	1.16363	0.00437	461.9479	0.011195	0.01071	0.07261
Los Angeles (SC)	2023	LHDT2	Aggregated	65	DSL	186539.62	0.044694	0.050881	0.30283	1.12006	0.00468	494.9117	0.013031	0.01247	0.07779
Los Angeles (SC)	2023	MDV	Aggregated	65	DSL	29266.79	0.006022	0.006856	0.10253	0.03484	0.00353	373.8603	0.00372	0.00356	0.05877
Los Angeles (SC)	2023	MH	Aggregated	65	DSL	6951.7461	0.042254	0.048103	0.18112	2.72341	0.00824	871.8403	0.089196	0.08534	0.13704
Los Angeles (SC)	2023	MHDT	Aggregated	65	DSL	459007.72	0.008278	0.009424	0.04933	0.9973	0.00865	916.0903	0.014408	0.01378	0.144
Los Angeles (SC)	2023	OBUS	Aggregated	65	DSL	29063.743	0.012715	0.014475	0.08454	1.4643	0.01121	1186.824	0.023288	0.02228	0.18655
Los Angeles (SC)	2023	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2023	UBUS	Aggregated	65	DSL	18.700823	0.000495	0.035384	0.04306	0.26469	0.0125	1322.252	0.02121	0.02029	0.20784
Los Angeles (SC)	2024	HHDT	Aggregated	65	DSL	728804.82	0.019918	0.022676	0.13446	2.03484	0.01209	1279.441	0.035574	0.03403	0.20111
Los Angeles (SC)	2024	LDA	Aggregated	65	DSL	47924.098	0.008547	0.00973	0.12233	0.05269	0.00194	205.3442	0.005733	0.00549	0.03228
Los Angeles (SC)	2024	LDT1	Aggregated	65	DSL	184.11359	0.158071	0.179953	1.40112	1.15731	0.00429	453.7784	0.12027	0.11507	0.07133
Los Angeles (SC)	2024	LDT2	Aggregated	65	DSL	13833.494	0.007723	0.008792	0.07011	0.02924	0.00262	276.8998	0.003866	0.0037	0.04352
Los Angeles (SC)	2024	LHDT1	Aggregated	65	DSL	457373.13	0.041563	0.047317	0.2782	0.99191	0.0043	454.6272	0.010258	0.00981	0.07146
Los Angeles (SC)	2024	LHDT2	Aggregated	65	DSL	178207.67	0.041056	0.046739	0.27215	0.96166	0.00461	487.138	0.012453	0.01191	0.07657
Los Angeles (SC)	2024	MDV	Aggregated	65	DSL	28191.365	0.00556	0.00633	0.09887	0.03059	0.00344	363.4213	0.003388	0.00324	0.05712
Los Angeles (SC)	2024	MH	Aggregated	65	DSL	6087.028	0.039881	0.045402	0.16916	2.5788	0.00811	857.8617	0.081662	0.07813	0.13484
Los Angeles (SC)	2024	MHDT	Aggregated	65	DSL	397785.14	0.008283	0.00943	0.04962	0.99496	0.00852	901.7114	0.014664	0.01403	0.14174
Los Angeles (SC)	2024	OBUS	Aggregated	65	DSL	25867.378	0.013025	0.014828	0.08674	1.48845	0.01116	1180.789	0.024209	0.02316	0.1856
Los Angeles (SC)	2024	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2024	UBUS	Aggregated	65	DSL	16.164662	0.000495	0.035384	0.04306	0.26469	0.0125	1322.252	0.02121	0.02029	0.20784
Los Angeles (SC)	2025	HHDT	Aggregated	65	DSL	736699.91	0.019847	0.022594	0.13428	2.00124	0.01184	1253.364	0.03557	0.03403	0.19701
Los Angeles (SC)	2025	LDA	Aggregated	65	DSL	49428.002	0.00734	0.008356	0.11233	0.04291	0.00189	199.6093	0.004802	0.00459	0.03138
Los Angeles (SC)	2025	LDT1	Aggregated	65	DSL	171.63949	0.148055	0.16855	1.31508	1.08196	0.00421	445.6169	0.112515	0.10765	0.07004
Los Angeles (SC)	2025	LDT2	Aggregated	65	DSL	14494.446	0.007366	0.008386	0.06852	0.02636	0.00254	269.0374	0.003594	0.00344	0.04229
Los Angeles (SC)	2025	LHDT1	Aggregated	65	DSL	475877.02	0.038219	0.043509	0.2498	0.84716	0.00423	447.2447	0.009465	0.00906	0.0703
Los Angeles (SC)	2025	LHDT2	Aggregated	65	DSL	185549.02	0.038015	0.043278	0.24644	0.82918	0.00453	479.3299	0.012031	0.01151	0.07534
Los Angeles (SC)	2025	MDV	Aggregated	65	DSL	29536.939	0.005093	0.005798	0.09548	0.02662	0.00334	353.036	0.003032	0.0029	0.05549

Los Angeles (SC)	2025	MH	Aggregated	65	DSL	6275.8008	0.037841	0.04308	0.15878	2.45261	0.00798	844.5477	0.075126	0.07188	0.13275
Los Angeles (SC)	2025	MHDT	Aggregated	65	DSL	405515.99	0.00828	0.009426	0.04982	0.99061	0.00838	886.7301	0.014865	0.01422	0.13938
Los Angeles (SC)	2025	OBUS	Aggregated	65	DSL	26409.561	0.012935	0.014725	0.08611	1.45174	0.0109	1153.704	0.023915	0.02288	0.18135
Los Angeles (SC)	2025	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2025	UBUS	Aggregated	65	DSL	10.294097	0.000495	0.035384	0.04306	0.26469	0.0125	1322.252	0.02121	0.02029	0.20784
Los Angeles (SC)	2026	HHDT	Aggregated	65	DSL	744937.2	0.019723	0.022453	0.13375	1.96218	0.01159	1226.569	0.035384	0.03385	0.1928
Los Angeles (SC)	2026	LDA	Aggregated	65	DSL	50629.893	0.006184	0.00704	0.10336	0.03414	0.00184	194.6935	0.003893	0.00372	0.0306
Los Angeles (SC)	2026	LDT1	Aggregated	65	DSL	154.47559	0.129352	0.147259	1.19404	0.96234	0.00412	435.936	0.096974	0.09278	0.06852
Los Angeles (SC)	2026	LDT2	Aggregated	65	DSL	15061.356	0.007238	0.00824	0.06833	0.025	0.00248	262.4852	0.00351	0.00336	0.04126
Los Angeles (SC)	2026	LHDT1	Aggregated	65	DSL	493044.72	0.035341	0.040234	0.22543	0.72356	0.00416	439.8214	0.008781	0.0084	0.06913
Los Angeles (SC)	2026	LHDT2	Aggregated	65	DSL	192326.6	0.035425	0.040329	0.22441	0.71695	0.00446	471.4714	0.011694	0.01119	0.07411
Los Angeles (SC)	2026	MDV	Aggregated	65	DSL	30684.241	0.004658	0.005303	0.09252	0.02311	0.00325	344.1748	0.002689	0.00257	0.0541
Los Angeles (SC)	2026	MH	Aggregated	65	DSL	6451.126	0.03602	0.041006	0.14939	2.34165	0.00787	832.7743	0.069226	0.06623	0.1309
Los Angeles (SC)	2026	MHDT	Aggregated	65	DSL	413255.64	0.008265	0.009409	0.04994	0.98312	0.00824	872.3158	0.015	0.01435	0.13712
Los Angeles (SC)	2026	OBUS	Aggregated	65	DSL	26957.96	0.012858	0.014638	0.08558	1.42014	0.01067	1129.142	0.023676	0.02265	0.17749
Los Angeles (SC)	2026	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2026	UBUS	Aggregated	65	DSL	10.294097	0.000495	0.035384	0.04306	0.26469	0.0125	1322.252	0.02121	0.02029	0.20784
Los Angeles (SC)	2027	HHDT	Aggregated	65	DSL	754804.67	0.01958	0.02229	0.13306	1.91976	0.01132	1197.71	0.035115	0.0336	0.18826
Los Angeles (SC)	2027	LDA	Aggregated	65	DSL	51759.942	0.005111	0.005818	0.09534	0.02638	0.0018	190.4313	0.003037	0.00291	0.02993
Los Angeles (SC)	2027	LDT1	Aggregated	65	DSL	131.7136	0.094135	0.107167	0.9999	0.75606	0.00399	422.5541	0.067023	0.06412	0.06642
Los Angeles (SC)	2027	LDT2	Aggregated	65	DSL	15586.806	0.006953	0.007915	0.06723	0.02285	0.00243	256.6696	0.003292	0.00315	0.04034
Los Angeles (SC)	2027	LHDT1	Aggregated	65	DSL	508818.19	0.032898	0.037452	0.20466	0.61905	0.00409	432.4124	0.008186	0.00783	0.06797
Los Angeles (SC)	2027	LHDT2	Aggregated	65	DSL	198538.72	0.033239	0.03784	0.2057	0.62254	0.00438	463.6264	0.011427	0.01093	0.07288
Los Angeles (SC)	2027	MDV	Aggregated	65	DSL	31758.908	0.004116	0.004686	0.08906	0.01913	0.00318	336.4147	0.002248	0.00215	0.05288
Los Angeles (SC)	2027	MH	Aggregated	65	DSL	6610.3292	0.034345	0.039099	0.14084	2.24223	0.00776	820.5212	0.063944	0.06118	0.12897
Los Angeles (SC)	2027	MHDT	Aggregated	65	DSL	421726.1	0.008244	0.009386	0.04998	0.97259	0.0081	857.0713	0.015078	0.01443	0.13472
Los Angeles (SC)	2027	OBUS	Aggregated	65	DSL	27568.655	0.012773	0.014541	0.08499	1.38943	0.01044	1104.599	0.023399	0.02239	0.17363
Los Angeles (SC)	2027	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2027	UBUS	Aggregated	65	DSL	10.294097	0.000495	0.035384	0.04306	0.26469	0.0125	1322.252	0.02121	0.02029	0.20784
Los Angeles (SC)	2028	HHDT	Aggregated	65	DSL	761201.74	0.019445	0.022136	0.1324	1.88367	0.01105	1169.393	0.034846	0.03334	0.18381
Los Angeles (SC)	2028	LDA	Aggregated	65	DSL	52753.133	0.004426	0.005039	0.08879	0.0205	0.00177	186.75	0.002353	0.00225	0.02935
Los Angeles (SC)	2028	LDT1	Aggregated	65	DSL	120.41904	0.08061	0.091769	0.8629	0.63493	0.00388	410.9282	0.050898	0.0487	0.06459
Los Angeles (SC)	2028	LDT2	Aggregated	65	DSL	16060.241	0.006903	0.007859	0.06738	0.02212	0.00238	251.7181	0.003252	0.00311	0.03957
Los Angeles (SC)	2028	LHDT1	Aggregated	65	DSL	523380.91	0.030811	0.035076	0.18689	0.52999	0.00403	425.8955	0.007668	0.00734	0.06694
Los Angeles (SC)	2028	LHDT2	Aggregated	65	DSL	204301.5	0.031397	0.035744	0.1899	0.54321	0.00432	456.7036	0.011211	0.01073	0.07179
Los Angeles (SC)	2028	MDV	Aggregated	65	DSL	32731.716	0.003808	0.004335	0.08656	0.01637	0.00312	329.7668	0.001939	0.00186	0.05183
Los Angeles (SC)	2028	MH	Aggregated	65	DSL	6753.1991	0.032849	0.037396	0.13319	2.15383	0.00765	809.1717	0.059238	0.05668	0.12719
Los Angeles (SC)	2028	MHDT	Aggregated	65	DSL	427972.77	0.008235	0.009375	0.05007	0.96792	0.00796	843.063	0.01518	0.01452	0.13252
Los Angeles (SC)	2028	OBUS	Aggregated	65	DSL	28021.322	0.012751	0.014517	0.08482	1.37672	0.01025	1084.547	0.023373	0.02236	0.17048
Los Angeles (SC)	2028	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2028	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2029	HHDT	Aggregated	65	DSL	767642.65	0.019305	0.021977	0.13171	1.85243	0.0108	1143.231	0.034563	0.03307	0.1797
Los Angeles (SC)	2029	LDA	Aggregated	65	DSL	53625.313	0.003747	0.004265	0.08255	0.01646	0.00174	183.6033	0.001892	0.00181	0.02886
Los Angeles (SC)	2029	LDT1	Aggregated	65	DSL	111.18691	0.060066	0.068381	0.66775	0.52913	0.00379	401.0028	0.037547	0.03592	0.06303
Los Angeles (SC)	2029	LDT2	Aggregated	65	DSL	16470.84	0.006845	0.007793	0.06741	0.0216	0.00234	247.2951	0.00323	0.00309	0.03887
Los Angeles (SC)	2029	LHDT1	Aggregated	65	DSL	536960.96	0.029044	0.033064	0.17176	0.45457	0.00397	420.2819	0.007213	0.0069	0.06606

Los Angeles (SC)	2029	LHDT2	Aggregated	65	DSL	209678.27	0.029848	0.03398	0.17655	0.47657	0.00426	450.6921	0.011031	0.01055	0.07084
Los Angeles (SC)	2029	MDV	Aggregated	65	DSL	33601.162	0.003484	0.003966	0.08397	0.01427	0.00306	323.9679	0.001704	0.00163	0.05092
Los Angeles (SC)	2029	MH	Aggregated	65	DSL	6885.0679	0.03149	0.03585	0.12624	2.07418	0.00755	798.9865	0.054991	0.05261	0.12559
Los Angeles (SC)	2029	MHDT	Aggregated	65	DSL	434035.11	0.008227	0.009366	0.05014	0.96462	0.00784	830.3164	0.015267	0.01461	0.13051
Los Angeles (SC)	2029	OBUS	Aggregated	65	DSL	28475.673	0.012756	0.014522	0.08482	1.37366	0.01009	1067.809	0.023448	0.02243	0.16784
Los Angeles (SC)	2029	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2029	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2030	HHDT	Aggregated	65	DSL	774146.42	0.019183	0.021838	0.13112	1.82606	0.01057	1119.021	0.03433	0.03285	0.17589
Los Angeles (SC)	2030	LDA	Aggregated	65	DSL	54392.726	0.003206	0.00365	0.07762	0.01332	0.00171	180.8433	0.001519	0.00145	0.02843
Los Angeles (SC)	2030	LDT1	Aggregated	65	DSL	104.85422	0.043966	0.050052	0.51188	0.43854	0.0037	391.139	0.027097	0.02592	0.06148
Los Angeles (SC)	2030	LDT2	Aggregated	65	DSL	16829.679	0.006792	0.007732	0.06743	0.02116	0.0023	243.3319	0.003209	0.00307	0.03825
Los Angeles (SC)	2030	LHDT1	Aggregated	65	DSL	549638.13	0.027526	0.031336	0.15884	0.38971	0.00393	415.3829	0.006818	0.00652	0.06529
Los Angeles (SC)	2030	LHDT2	Aggregated	65	DSL	214671.83	0.028528	0.032478	0.16532	0.41976	0.00421	445.4095	0.010901	0.01043	0.07001
Los Angeles (SC)	2030	MDV	Aggregated	65	DSL	34392.602	0.003284	0.003739	0.08249	0.01284	0.00301	318.9254	0.001549	0.00148	0.05013
Los Angeles (SC)	2030	MH	Aggregated	65	DSL	7009.1637	0.03028	0.034472	0.12004	2.00309	0.00747	789.9373	0.051217	0.049	0.12417
Los Angeles (SC)	2030	MHDT	Aggregated	65	DSL	439896.7	0.008216	0.009354	0.05018	0.96089	0.00773	818.5071	0.015328	0.01466	0.12866
Los Angeles (SC)	2030	OBUS	Aggregated	65	DSL	28902.737	0.012783	0.014552	0.08498	1.37437	0.00996	1054.146	0.0236	0.02258	0.1657
Los Angeles (SC)	2030	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2030	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2031	HHDT	Aggregated	65	DSL	698779.21	0.019077	0.021718	0.13063	1.80335	0.01036	1096.929	0.034137	0.03266	0.17242
Los Angeles (SC)	2031	LDA	Aggregated	65	DSL	51753.869	0.002982	0.003395	0.07558	0.01177	0.00169	178.5202	0.001351	0.00129	0.02806
Los Angeles (SC)	2031	LDT1	Aggregated	65	DSL	94.677218	0.032569	0.037077	0.39845	0.36636	0.00361	381.8873	0.019713	0.01886	0.06003
Los Angeles (SC)	2031	LDT2	Aggregated	65	DSL	16100.862	0.00676	0.007696	0.06759	0.02086	0.00227	239.7569	0.003201	0.00306	0.03769
Los Angeles (SC)	2031	LHDT1	Aggregated	65	DSL	518485.7	0.026244	0.029877	0.14798	0.33481	0.00389	411.0767	0.006477	0.0062	0.06462
Los Angeles (SC)	2031	LHDT2	Aggregated	65	DSL	202524.13	0.027399	0.031192	0.15585	0.37144	0.00417	440.7432	0.010769	0.0103	0.06928
Los Angeles (SC)	2031	MDV	Aggregated	65	DSL	32977.415	0.003107	0.003537	0.08118	0.01163	0.00297	314.4654	0.001409	0.00135	0.04943
Los Angeles (SC)	2031	MH	Aggregated	65	DSL	5857.7218	0.029111	0.033141	0.1141	1.93938	0.00739	781.8371	0.047666	0.0456	0.12289
Los Angeles (SC)	2031	MHDT	Aggregated	65	DSL	365873.18	0.008204	0.00934	0.05021	0.95767	0.00763	807.7198	0.015371	0.01471	0.12696
Los Angeles (SC)	2031	OBUS	Aggregated	65	DSL	25067.367	0.013013	0.014814	0.08668	1.38657	0.00994	1052.353	0.024048	0.02301	0.16542
Los Angeles (SC)	2031	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2031	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2032	HHDT	Aggregated	65	DSL	703891.58	0.018975	0.021602	0.13014	1.77889	0.01018	1077.114	0.03395	0.03248	0.16931
Los Angeles (SC)	2032	LDA	Aggregated	65	DSL	52301.53	0.002705	0.003079	0.07307	0.01014	0.00167	176.4158	0.00115	0.0011	0.02773
Los Angeles (SC)	2032	LDT1	Aggregated	65	DSL	92.627303	0.026221	0.029851	0.33064	0.31399	0.00353	373.5866	0.015622	0.01495	0.05872
Los Angeles (SC)	2032	LDT2	Aggregated	65	DSL	16350.667	0.006758	0.007693	0.06796	0.02071	0.00224	236.5496	0.00321	0.00307	0.03718
Los Angeles (SC)	2032	LHDT1	Aggregated	65	DSL	528867.02	0.025181	0.028667	0.13914	0.28887	0.00385	407.2786	0.006188	0.00592	0.06402
Los Angeles (SC)	2032	LHDT2	Aggregated	65	DSL	206556.18	0.026392	0.030046	0.14757	0.32906	0.00413	436.5922	0.010641	0.01018	0.06863
Los Angeles (SC)	2032	MDV	Aggregated	65	DSL	33574.303	0.002985	0.003399	0.08034	0.01076	0.00294	310.5233	0.001305	0.00125	0.04881
Los Angeles (SC)	2032	MH	Aggregated	65	DSL	5947.3015	0.028114	0.032006	0.10887	1.88085	0.00732	774.6125	0.044491	0.04257	0.12176
Los Angeles (SC)	2032	MHDT	Aggregated	65	DSL	369778.25	0.008194	0.009328	0.05022	0.95269	0.00754	798.3107	0.015409	0.01474	0.12548
Los Angeles (SC)	2032	OBUS	Aggregated	65	DSL	25410.727	0.013015	0.014817	0.08668	1.37784	0.00984	1041.787	0.024094	0.02305	0.16375
Los Angeles (SC)	2032	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2032	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2033	HHDT	Aggregated	65	DSL	709041.48	0.018888	0.021503	0.12973	1.75654	0.01001	1059.737	0.033785	0.03232	0.16658
Los Angeles (SC)	2033	LDA	Aggregated	65	DSL	52789.505	0.002586	0.002943	0.072	0.00931	0.00165	174.6254	0.001052	0.00101	0.02745
Los Angeles (SC)	2033	LDT1	Aggregated	65	DSL	91.661801	0.023071	0.026265	0.29285	0.2771	0.00346	366.4151	0.013611	0.01302	0.0576

Los Angeles (SC)	2033	LDT2	Aggregated	65	DSL	16562.233	0.006753	0.007687	0.06825	0.02058	0.00221	233.6535	0.003215	0.00308	0.03673
Los Angeles (SC)	2033	LHDT1	Aggregated	65	DSL	538590.92	0.024277	0.027637	0.13168	0.24952	0.00382	403.9005	0.005935	0.00568	0.06349
Los Angeles (SC)	2033	LHDT2	Aggregated	65	DSL	210334.51	0.025532	0.029066	0.14062	0.293	0.00409	432.8937	0.010524	0.01007	0.06804
Los Angeles (SC)	2033	MDV	Aggregated	65	DSL	34107.344	0.002884	0.003283	0.07966	0.01006	0.0029	307.0209	0.001216	0.00116	0.04826
Los Angeles (SC)	2033	MH	Aggregated	65	DSL	6031.8887	0.027156	0.030916	0.10385	1.82625	0.00726	768.0846	0.041485	0.03969	0.12073
Los Angeles (SC)	2033	MHDT	Aggregated	65	DSL	373625.96	0.008187	0.009321	0.05025	0.94777	0.00746	789.9628	0.015445	0.01478	0.12417
Los Angeles (SC)	2033	OBUS	Aggregated	65	DSL	25758.491	0.012999	0.014798	0.08655	1.36534	0.00975	1031.725	0.024069	0.02303	0.16217
Los Angeles (SC)	2033	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2033	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2034	HHDT	Aggregated	65	DSL	714187.77	0.018799	0.021401	0.12929	1.73436	0.00986	1044.043	0.033599	0.03215	0.16411
Los Angeles (SC)	2034	LDA	Aggregated	65	DSL	53209.165	0.002481	0.002824	0.07106	0.00863	0.00164	173.0552	0.000965	0.00092	0.0272
Los Angeles (SC)	2034	LDT1	Aggregated	65	DSL	90.908981	0.020391	0.023214	0.26028	0.24458	0.0034	359.9147	0.011902	0.01139	0.05657
Los Angeles (SC)	2034	LDT2	Aggregated	65	DSL	16741.602	0.006752	0.007686	0.06853	0.02048	0.00218	231.0666	0.003222	0.00308	0.03632
Los Angeles (SC)	2034	LHDT1	Aggregated	65	DSL	547721.99	0.023539	0.026798	0.12569	0.21712	0.00379	400.8968	0.005714	0.00547	0.06302
Los Angeles (SC)	2034	LHDT2	Aggregated	65	DSL	213887.33	0.024786	0.028217	0.13475	0.26244	0.00406	429.5969	0.010385	0.00994	0.06753
Los Angeles (SC)	2034	MDV	Aggregated	65	DSL	34584.797	0.002798	0.003186	0.07909	0.00948	0.00287	303.9212	0.001138	0.00109	0.04777
Los Angeles (SC)	2034	MH	Aggregated	65	DSL	6111.2499	0.026254	0.029888	0.09909	1.77604	0.00721	762.1884	0.038654	0.03698	0.11981
Los Angeles (SC)	2034	MHDT	Aggregated	65	DSL	377375.99	0.008176	0.009308	0.05023	0.94168	0.00739	782.1761	0.015454	0.01479	0.12295
Los Angeles (SC)	2034	OBUS	Aggregated	65	DSL	26084.203	0.012955	0.014749	0.08624	1.34866	0.00965	1021.747	0.023926	0.02289	0.1606
Los Angeles (SC)	2034	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2034	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2035	HHDT	Aggregated	65	DSL	719365.02	0.018725	0.021317	0.1289	1.71479	0.00973	1030.152	0.03343	0.03198	0.16193
Los Angeles (SC)	2035	LDA	Aggregated	65	DSL	53565.494	0.002393	0.002724	0.07026	0.00808	0.00162	171.6893	0.00089	0.00085	0.02699
Los Angeles (SC)	2035	LDT1	Aggregated	65	DSL	89.797102	0.016111	0.018341	0.21437	0.2086	0.00334	353.7096	0.009146	0.00875	0.0556
Los Angeles (SC)	2035	LDT2	Aggregated	65	DSL	16895.25	0.006758	0.007694	0.06883	0.02044	0.00216	228.799	0.003233	0.00309	0.03596
Los Angeles (SC)	2035	LHDT1	Aggregated	65	DSL	556093.41	0.02288	0.026047	0.12026	0.18801	0.00376	398.1862	0.005512	0.00527	0.06259
Los Angeles (SC)	2035	LHDT2	Aggregated	65	DSL	217125.14	0.024102	0.027439	0.12928	0.23475	0.00403	426.6024	0.010237	0.00979	0.06706
Los Angeles (SC)	2035	MDV	Aggregated	65	DSL	35003.191	0.002714	0.003089	0.0785	0.00896	0.00285	301.1604	0.001062	0.00102	0.04734
Los Angeles (SC)	2035	MH	Aggregated	65	DSL	6186.5102	0.025437	0.028958	0.09468	1.73047	0.00716	756.8856	0.036045	0.03449	0.11897
Los Angeles (SC)	2035	MHDT	Aggregated	65	DSL	381084.18	0.008161	0.009291	0.05019	0.93499	0.00732	775.1561	0.01544	0.01477	0.12184
Los Angeles (SC)	2035	OBUS	Aggregated	65	DSL	26429.075	0.012901	0.014687	0.08586	1.33178	0.00956	1012.139	0.023745	0.02272	0.15909
Los Angeles (SC)	2035	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2035	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2036	HHDT	Aggregated	65	DSL	725680.71	0.018669	0.021254	0.12863	1.69862	0.00962	1018.295	0.033303	0.03186	0.16006
Los Angeles (SC)	2036	LDA	Aggregated	65	DSL	53870.946	0.00231	0.00263	0.0695	0.00759	0.00161	170.5047	0.00082	0.00078	0.0268
Los Angeles (SC)	2036	LDT1	Aggregated	65	DSL	89.277629	0.013915	0.015842	0.18791	0.18244	0.00329	348.3499	0.007746	0.00741	0.05476
Los Angeles (SC)	2036	LDT2	Aggregated	65	DSL	17030.443	0.006762	0.007698	0.06907	0.02039	0.00214	226.8391	0.003241	0.0031	0.03566
Los Angeles (SC)	2036	LHDT1	Aggregated	65	DSL	563846.56	0.022324	0.025415	0.11566	0.16314	0.00374	395.7492	0.005336	0.00511	0.06221
Los Angeles (SC)	2036	LHDT2	Aggregated	65	DSL	220225.32	0.023597	0.026863	0.12527	0.21192	0.00401	423.9792	0.010243	0.0098	0.06664
Los Angeles (SC)	2036	MDV	Aggregated	65	DSL	35377.631	0.002644	0.00301	0.07802	0.00854	0.00282	298.7247	0.000997	0.00095	0.04696
Los Angeles (SC)	2036	MH	Aggregated	65	DSL	6259.366	0.024701	0.028121	0.09066	1.68829	0.00711	752.0976	0.033628	0.03217	0.11822
Los Angeles (SC)	2036	MHDT	Aggregated	65	DSL	385390.12	0.008148	0.009276	0.05015	0.9283	0.00726	768.8635	0.015421	0.01475	0.12085
Los Angeles (SC)	2036	OBUS	Aggregated	65	DSL	26763.823	0.012844	0.014622	0.08547	1.31488	0.00948	1003.274	0.023549	0.02253	0.1577
Los Angeles (SC)	2036	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2036	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2037	HHDT	Aggregated	65	DSL	732047.11	0.018627	0.021205	0.12842	1.68569	0.00952	1007.705	0.033203	0.03177	0.1584

Los Angeles (SC)	2037	LDA	Aggregated	65	DSL	54128.977	0.002245	0.002555	0.0689	0.00721	0.0016	169.4949	0.000763	0.00073	0.02664
Los Angeles (SC)	2037	LDT1	Aggregated	65	DSL	89.125667	0.0129	0.014686	0.17299	0.16322	0.00325	343.8187	0.007111	0.0068	0.05404
Los Angeles (SC)	2037	LDT2	Aggregated	65	DSL	17146.105	0.006767	0.007704	0.0693	0.02035	0.00213	225.1562	0.003249	0.00311	0.03539
Los Angeles (SC)	2037	LHDT1	Aggregated	65	DSL	570804.39	0.021822	0.024843	0.11148	0.14064	0.00372	393.5259	0.005171	0.00495	0.06186
Los Angeles (SC)	2037	LHDT2	Aggregated	65	DSL	223005.12	0.023129	0.026331	0.12151	0.19084	0.00399	421.586	0.010245	0.0098	0.06627
Los Angeles (SC)	2037	MDV	Aggregated	65	DSL	35707.555	0.00258	0.002937	0.07757	0.00817	0.0028	296.5761	0.000937	0.0009	0.04662
Los Angeles (SC)	2037	MH	Aggregated	65	DSL	6328.2733	0.023986	0.027306	0.08677	1.64822	0.00707	747.7193	0.031314	0.02996	0.11753
Los Angeles (SC)	2037	MHDT	Aggregated	65	DSL	389625.53	0.008137	0.009263	0.0501	0.92256	0.00721	762.9935	0.0154	0.01473	0.11993
Los Angeles (SC)	2037	OBUS	Aggregated	65	DSL	27103.543	0.012792	0.014563	0.08511	1.29954	0.0094	995.2413	0.023374	0.02236	0.15644
Los Angeles (SC)	2037	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2037	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2038	HHDT	Aggregated	65	DSL	738449.31	0.018595	0.021169	0.12826	1.67522	0.00943	998.3822	0.033132	0.0317	0.15693
Los Angeles (SC)	2038	LDA	Aggregated	65	DSL	54344.163	0.002193	0.002497	0.06842	0.0069	0.00159	168.6412	0.000717	0.00069	0.02651
Los Angeles (SC)	2038	LDT1	Aggregated	65	DSL	88.902569	0.012075	0.013746	0.15935	0.14365	0.00321	339.3927	0.006602	0.00632	0.05335
Los Angeles (SC)	2038	LDT2	Aggregated	65	DSL	17245.228	0.006771	0.007708	0.06948	0.02032	0.00212	223.7269	0.003255	0.00311	0.03517
Los Angeles (SC)	2038	LHDT1	Aggregated	65	DSL	577100.85	0.021412	0.024376	0.10803	0.12205	0.0037	391.518	0.005025	0.00481	0.06154
Los Angeles (SC)	2038	LHDT2	Aggregated	65	DSL	225471.72	0.022716	0.025861	0.11821	0.17217	0.00396	419.394	0.010247	0.0098	0.06592
Los Angeles (SC)	2038	MDV	Aggregated	65	DSL	35997.532	0.002528	0.002878	0.0772	0.00786	0.00279	294.6935	0.000887	0.00085	0.04632
Los Angeles (SC)	2038	MH	Aggregated	65	DSL	6392.209	0.023312	0.026539	0.08312	1.61112	0.00703	743.7203	0.029154	0.02789	0.1169
Los Angeles (SC)	2038	MHDT	Aggregated	65	DSL	393774.28	0.008126	0.00925	0.05006	0.91741	0.00716	757.7085	0.015379	0.01471	0.1191
Los Angeles (SC)	2038	OBUS	Aggregated	65	DSL	27451.632	0.012749	0.014514	0.08481	1.28803	0.00934	988.095	0.023238	0.02223	0.15531
Los Angeles (SC)	2038	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2038	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2039	HHDT	Aggregated	65	DSL	744889.32	0.018571	0.021142	0.12815	1.66685	0.00936	990.2387	0.033088	0.03166	0.15565
Los Angeles (SC)	2039	LDA	Aggregated	65	DSL	54525.764	0.002151	0.002448	0.06802	0.00664	0.00159	167.9279	0.000679	0.00065	0.0264
Los Angeles (SC)	2039	LDT1	Aggregated	65	DSL	88.81174	0.011407	0.012986	0.14835	0.12781	0.00317	335.67	0.006192	0.00592	0.05276
Los Angeles (SC)	2039	LDT2	Aggregated	65	DSL	17331.893	0.006774	0.007712	0.06964	0.02028	0.0021	222.5311	0.003261	0.00312	0.03498
Los Angeles (SC)	2039	LHDT1	Aggregated	65	DSL	582787.59	0.021056	0.023971	0.10508	0.10585	0.00368	389.7009	0.004893	0.00468	0.06126
Los Angeles (SC)	2039	LHDT2	Aggregated	65	DSL	227645.72	0.022297	0.025384	0.11495	0.15353	0.00395	417.3802	0.010242	0.0098	0.06561
Los Angeles (SC)	2039	MDV	Aggregated	65	DSL	36252.008	0.002483	0.002826	0.07686	0.00757	0.00277	293.0467	0.000843	0.00081	0.04606
Los Angeles (SC)	2039	MH	Aggregated	65	DSL	6452.9151	0.022715	0.025859	0.07975	1.57823	0.007	740.089	0.0272	0.02602	0.11633
Los Angeles (SC)	2039	MHDT	Aggregated	65	DSL	397841.04	0.008115	0.009238	0.05001	0.91275	0.00711	752.9456	0.015354	0.01469	0.11835
Los Angeles (SC)	2039	OBUS	Aggregated	65	DSL	27781.997	0.012709	0.014468	0.08452	1.27833	0.00927	981.669	0.023109	0.02211	0.1543
Los Angeles (SC)	2039	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2039	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2040	HHDT	Aggregated	65	DSL	751350.99	0.018554	0.021123	0.12808	1.65975	0.00929	983.1156	0.033065	0.03163	0.15453
Los Angeles (SC)	2040	LDA	Aggregated	65	DSL	54679.815	0.002113	0.002406	0.06765	0.00637	0.00158	167.3349	0.000646	0.00062	0.0263
Los Angeles (SC)	2040	LDT1	Aggregated	65	DSL	88.769455	0.010816	0.012313	0.1386	0.11375	0.00314	332.4053	0.005828	0.00558	0.05225
Los Angeles (SC)	2040	LDT2	Aggregated	65	DSL	17409.445	0.006778	0.007716	0.06978	0.02027	0.00209	221.547	0.003266	0.00312	0.03482
Los Angeles (SC)	2040	LHDT1	Aggregated	65	DSL	587927.99	0.020753	0.023626	0.10257	0.09201	0.00367	388.0588	0.004774	0.00457	0.061
Los Angeles (SC)	2040	LHDT2	Aggregated	65	DSL	229715.51	0.022016	0.025064	0.1128	0.14057	0.00393	415.6282	0.010252	0.00981	0.06533
Los Angeles (SC)	2040	MDV	Aggregated	65	DSL	36475.363	0.002442	0.00278	0.07655	0.0073	0.00276	291.6082	0.000804	0.00077	0.04584
Los Angeles (SC)	2040	MH	Aggregated	65	DSL	6510.4963	0.022191	0.025263	0.07666	1.54937	0.00696	736.7187	0.025383	0.02428	0.1158
Los Angeles (SC)	2040	MHDT	Aggregated	65	DSL	401846.02	0.008105	0.009226	0.04997	0.9088	0.00707	748.696	0.015332	0.01467	0.11768
Los Angeles (SC)	2040	OBUS	Aggregated	65	DSL	28112.139	0.012684	0.01444	0.08434	1.27215	0.00922	976.2176	0.023037	0.02204	0.15345
Los Angeles (SC)	2040	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0

Los Angeles (SC)	2040	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2041	HHDT	Aggregated	65	DSL	758121.01	0.018542	0.021108	0.12804	1.65384	0.00923	976.9801	0.033057	0.03163	0.15357
Los Angeles (SC)	2041	LDA	Aggregated	65	DSL	54805.147	0.002085	0.002373	0.06738	0.00618	0.00158	166.8544	0.00062	0.00059	0.02623
Los Angeles (SC)	2041	LDT1	Aggregated	65	DSL	88.392238	0.009981	0.011363	0.1248	0.09399	0.00311	328.5822	0.005313	0.00508	0.05165
Los Angeles (SC)	2041	LDT2	Aggregated	65	DSL	17477.009	0.00678	0.007719	0.06991	0.02025	0.00209	220.7488	0.003271	0.00313	0.0347
Los Angeles (SC)	2041	LHDT1	Aggregated	65	DSL	592470.46	0.02051	0.023349	0.1006	0.08074	0.00365	386.5815	0.004672	0.00447	0.06077
Los Angeles (SC)	2041	LHDT2	Aggregated	65	DSL	231548.21	0.021777	0.024791	0.11117	0.12956	0.00391	414.0511	0.010266	0.00982	0.06508
Los Angeles (SC)	2041	MDV	Aggregated	65	DSL	36667.213	0.002407	0.00274	0.07628	0.00708	0.00275	290.3687	0.00077	0.00074	0.04564
Los Angeles (SC)	2041	MH	Aggregated	65	DSL	6564.1001	0.021716	0.024723	0.07375	1.52331	0.00694	733.6185	0.023651	0.02263	0.11531
Los Angeles (SC)	2041	MHDT	Aggregated	65	DSL	405943.97	0.008096	0.009217	0.04993	0.90519	0.00704	744.76	0.015312	0.01465	0.11707
Los Angeles (SC)	2041	OBUS	Aggregated	65	DSL	28440.043	0.012679	0.014434	0.08429	1.27007	0.00918	971.7266	0.023039	0.02204	0.15274
Los Angeles (SC)	2041	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2041	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2042	HHDT	Aggregated	65	DSL	764908.39	0.018533	0.021099	0.12803	1.64903	0.00918	971.7325	0.033058	0.03163	0.15274
Los Angeles (SC)	2042	LDA	Aggregated	65	DSL	54920.005	0.002062	0.002348	0.06717	0.00604	0.00157	166.4691	0.0006	0.00057	0.02617
Los Angeles (SC)	2042	LDT1	Aggregated	65	DSL	88.248133	0.009397	0.010698	0.11516	0.08012	0.00308	325.6425	0.004953	0.00474	0.05119
Los Angeles (SC)	2042	LDT2	Aggregated	65	DSL	17539.729	0.006783	0.007722	0.07002	0.02023	0.00208	220.1014	0.003274	0.00313	0.0346
Los Angeles (SC)	2042	LHDT1	Aggregated	65	DSL	596535.56	0.020297	0.023106	0.09883	0.07085	0.00364	385.2398	0.004578	0.00438	0.06055
Los Angeles (SC)	2042	LHDT2	Aggregated	65	DSL	233263.5	0.021588	0.024576	0.10993	0.12071	0.0039	412.6573	0.010283	0.00984	0.06486
Los Angeles (SC)	2042	MDV	Aggregated	65	DSL	36840.569	0.002376	0.002705	0.07606	0.0069	0.00273	289.3068	0.00074	0.00071	0.04548
Los Angeles (SC)	2042	MH	Aggregated	65	DSL	6615.2781	0.021291	0.024239	0.07103	1.50006	0.00691	730.7703	0.022026	0.02107	0.11487
Los Angeles (SC)	2042	MHDT	Aggregated	65	DSL	409993.08	0.008089	0.009209	0.04991	0.90203	0.007	741.2739	0.0153	0.01464	0.11652
Los Angeles (SC)	2042	OBUS	Aggregated	65	DSL	28771.552	0.012686	0.014443	0.08432	1.27094	0.00915	968.1321	0.023094	0.02209	0.15218
Los Angeles (SC)	2042	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2042	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2043	HHDT	Aggregated	65	DSL	771710.33	0.018525	0.021089	0.12802	1.64472	0.00914	967.1268	0.033063	0.03163	0.15202
Los Angeles (SC)	2043	LDA	Aggregated	65	DSL	55014.397	0.002045	0.002328	0.06701	0.00591	0.00157	166.1638	0.000584	0.00056	0.02612
Los Angeles (SC)	2043	LDT1	Aggregated	65	DSL	88.078332	0.008841	0.010065	0.10598	0.06694	0.00305	322.9272	0.00461	0.00441	0.05076
Los Angeles (SC)	2043	LDT2	Aggregated	65	DSL	17595.299	0.006785	0.007725	0.07013	0.02022	0.00208	219.5858	0.003278	0.00314	0.03452
Los Angeles (SC)	2043	LHDT1	Aggregated	65	DSL	600184.46	0.020145	0.022934	0.09758	0.0636	0.00363	384.0607	0.004501	0.00431	0.06037
Los Angeles (SC)	2043	LHDT2	Aggregated	65	DSL	234875.72	0.021461	0.024432	0.10916	0.1145	0.00389	411.4613	0.010305	0.00986	0.06468
Los Angeles (SC)	2043	MDV	Aggregated	65	DSL	36989.253	0.002351	0.002677	0.07588	0.00677	0.00273	288.4022	0.000715	0.00068	0.04533
Los Angeles (SC)	2043	MH	Aggregated	65	DSL	6662.2306	0.020901	0.023795	0.06847	1.4789	0.00688	728.0934	0.02048	0.01959	0.11445
Los Angeles (SC)	2043	MHDT	Aggregated	65	DSL	413994.41	0.008084	0.009204	0.04989	0.89925	0.00697	738.0798	0.015292	0.01463	0.11602
Los Angeles (SC)	2043	OBUS	Aggregated	65	DSL	29090.613	0.012706	0.014465	0.08445	1.27363	0.00912	965.2787	0.023189	0.02219	0.15173
Los Angeles (SC)	2043	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2043	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2044	HHDT	Aggregated	65	DSL	778512.61	0.018515	0.021078	0.12801	1.64048	0.0091	963.1626	0.033069	0.03164	0.1514
Los Angeles (SC)	2044	LDA	Aggregated	65	DSL	55094.243	0.002031	0.002313	0.06689	0.0058	0.00157	165.925	0.000572	0.00055	0.02608
Los Angeles (SC)	2044	LDT1	Aggregated	65	DSL	88.046675	0.008473	0.009646	0.09993	0.05819	0.00303	320.857	0.004384	0.00419	0.05043
Los Angeles (SC)	2044	LDT2	Aggregated	65	DSL	17644.6	0.006788	0.007727	0.07023	0.02021	0.00207	219.1717	0.003282	0.00314	0.03445
Los Angeles (SC)	2044	LHDT1	Aggregated	65	DSL	603352.04	0.019992	0.02276	0.09633	0.05642	0.00362	382.9953	0.00443	0.00424	0.0602
Los Angeles (SC)	2044	LHDT2	Aggregated	65	DSL	236182.58	0.021196	0.024131	0.10751	0.10302	0.00388	410.3079	0.010306	0.00986	0.06449
Los Angeles (SC)	2044	MDV	Aggregated	65	DSL	37119.67	0.002331	0.002653	0.07574	0.00666	0.00272	287.6372	0.000694	0.00066	0.04521
Los Angeles (SC)	2044	MH	Aggregated	65	DSL	6705.646	0.020559	0.023405	0.06609	1.46027	0.00686	725.6125	0.019026	0.0182	0.11406
Los Angeles (SC)	2044	MHDT	Aggregated	65	DSL	417961.4	0.008081	0.0092	0.04988	0.89705	0.00695	735.2263	0.01529	0.01463	0.11557

Los Angeles (SC)	2044	OBUS	Aggregated	65	DSL	29414.862	0.012724	0.014486	0.08456	1.27619	0.0091	962.8867	0.023277	0.02227	0.15135
Los Angeles (SC)	2044	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2044	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2045	HHDT	Aggregated	65	DSL	785323.48	0.018507	0.021069	0.12801	1.63675	0.00907	959.72	0.033076	0.03164	0.15085
Los Angeles (SC)	2045	LDA	Aggregated	65	DSL	55167.715	0.002021	0.002301	0.0668	0.00572	0.00157	165.7404	0.000562	0.00054	0.02605
Los Angeles (SC)	2045	LDT1	Aggregated	65	DSL	88.108307	0.008223	0.009362	0.09583	0.05222	0.00302	319.2642	0.004231	0.00405	0.05018
Los Angeles (SC)	2045	LDT2	Aggregated	65	DSL	17690.411	0.00679	0.00773	0.07032	0.02021	0.00207	218.8393	0.003285	0.00314	0.0344
Los Angeles (SC)	2045	LHDT1	Aggregated	65	DSL	606338.79	0.019872	0.022623	0.09538	0.05068	0.00361	382.0737	0.004374	0.00418	0.06006
Los Angeles (SC)	2045	LHDT2	Aggregated	65	DSL	237448.68	0.020985	0.02389	0.1062	0.09375	0.00387	409.3231	0.010311	0.00987	0.06434
Los Angeles (SC)	2045	MDV	Aggregated	65	DSL	37237.273	0.002314	0.002634	0.07564	0.00658	0.00271	286.9932	0.000677	0.00065	0.04511
Los Angeles (SC)	2045	MH	Aggregated	65	DSL	6745.6084	0.020217	0.023016	0.06382	1.44222	0.00684	723.2785	0.017672	0.01691	0.11369
Los Angeles (SC)	2045	MHDT	Aggregated	65	DSL	421898.75	0.00808	0.009198	0.04988	0.89562	0.00692	732.7181	0.015294	0.01463	0.11517
Los Angeles (SC)	2045	OBUS	Aggregated	65	DSL	29722.921	0.01274	0.014503	0.08465	1.27791	0.00908	960.9101	0.023347	0.02234	0.15104
Los Angeles (SC)	2045	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2045	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2046	HHDT	Aggregated	65	DSL	793447.59	0.018499	0.02106	0.128	1.63345	0.00904	956.885	0.033079	0.03165	0.15041
Los Angeles (SC)	2046	LDA	Aggregated	65	DSL	55223.537	0.002014	0.002293	0.06675	0.00566	0.00157	165.5992	0.000555	0.00053	0.02603
Los Angeles (SC)	2046	LDT1	Aggregated	65	DSL	88.15635	0.008012	0.009122	0.09238	0.04719	0.00301	317.8774	0.004102	0.00393	0.04997
Los Angeles (SC)	2046	LDT2	Aggregated	65	DSL	17729.631	0.006792	0.007732	0.0704	0.0202	0.00207	218.5715	0.003288	0.00315	0.03436
Los Angeles (SC)	2046	LHDT1	Aggregated	65	DSL	608912.54	0.019762	0.022498	0.09452	0.04546	0.0036	381.2493	0.004325	0.00414	0.05993
Los Angeles (SC)	2046	LHDT2	Aggregated	65	DSL	238563.13	0.020746	0.023618	0.10472	0.0835	0.00386	408.4383	0.010311	0.00987	0.0642
Los Angeles (SC)	2046	MDV	Aggregated	65	DSL	37336.062	0.0023	0.002619	0.07556	0.0065	0.00271	286.4557	0.000662	0.00063	0.04503
Los Angeles (SC)	2046	MH	Aggregated	65	DSL	6783.5008	0.019964	0.022728	0.06195	1.42838	0.00682	721.1625	0.016512	0.0158	0.11336
Los Angeles (SC)	2046	MHDT	Aggregated	65	DSL	426571.84	0.008079	0.009197	0.04988	0.89443	0.0069	730.448	0.015298	0.01464	0.11482
Los Angeles (SC)	2046	OBUS	Aggregated	65	DSL	30045.43	0.012748	0.014513	0.0847	1.27858	0.00906	959.0984	0.023394	0.02238	0.15076
Los Angeles (SC)	2046	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2046	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2047	HHDT	Aggregated	65	DSL	801592.84	0.018492	0.021051	0.12799	1.63037	0.00902	954.4307	0.033081	0.03165	0.15002
Los Angeles (SC)	2047	LDA	Aggregated	65	DSL	55276.372	0.002007	0.002285	0.0667	0.00559	0.00156	165.4896	0.000549	0.00053	0.02601
Los Angeles (SC)	2047	LDT1	Aggregated	65	DSL	87.814346	0.007448	0.008479	0.08302	0.03383	0.00298	315.5208	0.003753	0.00359	0.0496
Los Angeles (SC)	2047	LDT2	Aggregated	65	DSL	17766.439	0.006794	0.007735	0.07048	0.0202	0.00206	218.3491	0.003291	0.00315	0.03432
Los Angeles (SC)	2047	LHDT1	Aggregated	65	DSL	611280.24	0.019689	0.022414	0.09392	0.04177	0.0036	380.5282	0.004285	0.0041	0.05981
Los Angeles (SC)	2047	LHDT2	Aggregated	65	DSL	239664.94	0.020611	0.023464	0.10364	0.07729	0.00385	407.6962	0.010317	0.00987	0.06408
Los Angeles (SC)	2047	MDV	Aggregated	65	DSL	37427.77	0.002289	0.002606	0.0755	0.00644	0.0027	286.0124	0.000651	0.00062	0.04496
Los Angeles (SC)	2047	MH	Aggregated	65	DSL	6820.6247	0.019754	0.022489	0.06038	1.4168	0.0068	719.2418	0.015538	0.01487	0.11305
Los Angeles (SC)	2047	MHDT	Aggregated	65	DSL	431217.19	0.008078	0.009196	0.04988	0.89338	0.00688	728.3912	0.015303	0.01464	0.11449
Los Angeles (SC)	2047	OBUS	Aggregated	65	DSL	30374.523	0.012755	0.014521	0.08474	1.27896	0.00905	957.5145	0.023433	0.02242	0.15051
Los Angeles (SC)	2047	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2047	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2048	HHDT	Aggregated	65	DSL	809768.02	0.018488	0.021047	0.12798	1.62835	0.009	952.2986	0.03308	0.03165	0.14969
Los Angeles (SC)	2048	LDA	Aggregated	65	DSL	55317.675	0.002002	0.00228	0.06666	0.00553	0.00156	165.4052	0.000545	0.00052	0.026
Los Angeles (SC)	2048	LDT1	Aggregated	65	DSL	87.798942	0.007224	0.008224	0.07934	0.02849	0.00297	314.2752	0.003616	0.00346	0.0494
Los Angeles (SC)	2048	LDT2	Aggregated	65	DSL	17798.11	0.006796	0.007736	0.07055	0.02019	0.00206	218.1615	0.003293	0.00315	0.03429
Los Angeles (SC)	2048	LHDT1	Aggregated	65	DSL	613249.71	0.019615	0.022331	0.09333	0.03819	0.00359	379.8819	0.004247	0.00406	0.05971
Los Angeles (SC)	2048	LHDT2	Aggregated	65	DSL	240569.79	0.020438	0.023268	0.10225	0.06972	0.00385	407.0038	0.010314	0.00987	0.06398
Los Angeles (SC)	2048	MDV	Aggregated	65	DSL	37506.333	0.00228	0.002595	0.07545	0.00637	0.0027	285.6442	0.00064	0.00061	0.0449

Los Angeles (SC)	2048	MH	Aggregated	65	DSL	6854.1408	0.019662	0.022383	0.05899	1.41033	0.00678	717.4526	0.01455	0.01392	0.11277
Los Angeles (SC)	2048	MHDT	Aggregated	65	DSL	435845.55	0.008078	0.009196	0.04988	0.89264	0.00686	726.5857	0.015308	0.01465	0.11421
Los Angeles (SC)	2048	OBUS	Aggregated	65	DSL	30689.089	0.012754	0.01452	0.08474	1.2768	0.00903	955.8514	0.023436	0.02242	0.15025
Los Angeles (SC)	2048	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2048	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2049	HHDT	Aggregated	65	DSL	817973.62	0.018484	0.021043	0.12796	1.62669	0.00898	950.4733	0.033079	0.03165	0.1494
Los Angeles (SC)	2049	LDA	Aggregated	65	DSL	55348.314	0.001999	0.002276	0.06665	0.0055	0.00156	165.3411	0.000541	0.00052	0.02599
Los Angeles (SC)	2049	LDT1	Aggregated	65	DSL	87.919947	0.007169	0.008161	0.07847	0.02715	0.00296	313.5957	0.003584	0.00343	0.04929
Los Angeles (SC)	2049	LDT2	Aggregated	65	DSL	17824.939	0.006797	0.007738	0.07062	0.02018	0.00206	218.0032	0.003296	0.00315	0.03427
Los Angeles (SC)	2049	LHDT1	Aggregated	65	DSL	614898.67	0.019559	0.022267	0.09281	0.03533	0.00359	379.3148	0.004214	0.00403	0.05962
Los Angeles (SC)	2049	LHDT2	Aggregated	65	DSL	241352.47	0.020293	0.023102	0.10082	0.06316	0.00384	406.3899	0.010309	0.00986	0.06388
Los Angeles (SC)	2049	MDV	Aggregated	65	DSL	37573.689	0.002271	0.002585	0.0754	0.00628	0.0027	285.3398	0.000632	0.0006	0.04485
Los Angeles (SC)	2049	MH	Aggregated	65	DSL	6884.2897	0.019584	0.022295	0.05771	1.4047	0.00677	715.7919	0.013624	0.01303	0.11251
Los Angeles (SC)	2049	MHDT	Aggregated	65	DSL	440455.13	0.008079	0.009197	0.04989	0.89214	0.00685	725.0162	0.015316	0.01465	0.11396
Los Angeles (SC)	2049	OBUS	Aggregated	65	DSL	31000.82	0.012748	0.014513	0.0847	1.27309	0.00901	954.1499	0.023416	0.0224	0.14998
Los Angeles (SC)	2049	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2049	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2050	HHDT	Aggregated	65	DSL	826185.43	0.01848	0.021039	0.12794	1.62514	0.00901	954.1177	0.033077	0.03165	0.14997
Los Angeles (SC)	2050	LDA	Aggregated	65	DSL	55372.33	0.001997	0.002273	0.06664	0.00546	0.00156	165.2907	0.000538	0.00052	0.02598
Los Angeles (SC)	2050	LDT1	Aggregated	65	DSL	88.057044	0.007138	0.008126	0.078	0.02636	0.00296	313.076	0.003566	0.00341	0.04921
Los Angeles (SC)	2050	LDT2	Aggregated	65	DSL	17848.437	0.006797	0.007738	0.07066	0.02014	0.00206	217.8654	0.003297	0.00315	0.03425
Los Angeles (SC)	2050	LHDT1	Aggregated	65	DSL	616314.06	0.019513	0.022214	0.09239	0.03293	0.00358	378.8176	0.004184	0.004	0.05954
Los Angeles (SC)	2050	LHDT2	Aggregated	65	DSL	241909	0.020049	0.022825	0.09837	0.05268	0.00384	405.7542	0.010282	0.00984	0.06378
Los Angeles (SC)	2050	MDV	Aggregated	65	DSL	37632.884	0.002261	0.002574	0.07533	0.00615	0.0027	285.0854	0.000623	0.0006	0.04481
Los Angeles (SC)	2050	MH	Aggregated	65	DSL	6912.5655	0.019518	0.02222	0.05658	1.39984	0.00675	714.2818	0.01281	0.01226	0.11228
Los Angeles (SC)	2050	MHDT	Aggregated	65	DSL	445060.42	0.008081	0.009199	0.0499	0.89185	0.00685	724.8767	0.015327	0.01466	0.11394
Los Angeles (SC)	2050	OBUS	Aggregated	65	DSL	31315.715	0.012736	0.014499	0.08462	1.26763	0.00901	953.3878	0.023368	0.02236	0.14986
Los Angeles (SC)	2050	SBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0
Los Angeles (SC)	2050	UBUS	Aggregated	65	DSL	0	0	0	0	0	0	0	0	0	0

Alexan SP Residential Development Draft EIR (Appendix A3)
EMFAC2017 WebDataBase Output file
Los Angeles South Coast Vehicle Population Data

EMFAC2017 (v1.0.2) Emission Rates
Region Type: Sub-Area
Region: Los Angeles (SC)
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for VMT, trips/day for Trips, g/mile for RUNEX, PMBW and PMTW, g/trip for STREX, HTSK and RUNLS, g/vehicle/day for IDLEX, RESTL and DIURN

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Population	VMT	Trips	ROG_RUNEX	ROG_IDLEX	ROG_STREX
Los Angeles (SC)	2023	HHDT	Aggregated	Aggregated	GAS	52.868146	5904.51091	1057.7859	0.4720415	0	0.0015683
Los Angeles (SC)	2023	HHDT	Aggregated	Aggregated	DSL	57613.017	6949256.2	573406.49	0.019784	4.6042209	0
Los Angeles (SC)	2023	HHDT	Aggregated	Aggregated	NG	2795.8173	113851.643	10903.687	0.3105878	0.059875	0
Los Angeles (SC)	2023	LDA	Aggregated	Aggregated	GAS	3986929.1	149418106	18815398	0.0104333	0	0.2104625
Los Angeles (SC)	2023	LDA	Aggregated	Aggregated	DSL	36740.629	1426244.82	174171.3	0.018777	0	0
Los Angeles (SC)	2023	LDA	Aggregated	Aggregated	ELEC	91678.538	3806341.94	457107.93	0	0	0
Los Angeles (SC)	2023	LDT1	Aggregated	Aggregated	GAS	472375.67	17372474.6	2187811.2	0.0298518	0	0.3212965
Los Angeles (SC)	2023	LDT1	Aggregated	Aggregated	DSL	252.41187	6132.92196	894.90598	0.1826007	0	0
Los Angeles (SC)	2023	LDT1	Aggregated	Aggregated	ELEC	4635.2487	196781.624	23233.685	0	0	0
Los Angeles (SC)	2023	LDT2	Aggregated	Aggregated	GAS	1397479.3	52162943.4	6567821.3	0.0183374	0	0.2923773
Los Angeles (SC)	2023	LDT2	Aggregated	Aggregated	DSL	9765.2302	404272.137	48008.058	0.022513	0	0
Los Angeles (SC)	2023	LDT2	Aggregated	Aggregated	ELEC	18283.628	584568.842	92279.452	0	0	0
Los Angeles (SC)	2023	LHDT1	Aggregated	Aggregated	GAS	105195.93	3800052.41	1567262.6	0.0317679	0.423479	0.112138
Los Angeles (SC)	2023	LHDT1	Aggregated	Aggregated	DSL	68776.357	2893383.11	865120.05	0.0614417	0.1097597	0
Los Angeles (SC)	2023	LHDT2	Aggregated	Aggregated	GAS	17937.989	625878.524	267249.3	0.0211978	0.4251469	0.1150779
Los Angeles (SC)	2023	LHDT2	Aggregated	Aggregated	DSL	27873.775	1126544.03	350617.03	0.0608606	0.1097597	0
Los Angeles (SC)	2023	MCY	Aggregated	Aggregated	GAS	183955.37	1265084.64	367910.74	2.5957164	0	1.8021736
Los Angeles (SC)	2023	MDV	Aggregated	Aggregated	GAS	931795.97	32264362.1	4326648	0.0247481	0	0.3713853
Los Angeles (SC)	2023	MDV	Aggregated	Aggregated	DSL	21297.507	823486.054	104465.34	0.0145728	0	0
Los Angeles (SC)	2023	MDV	Aggregated	Aggregated	ELEC	10378.926	342100.126	52903.33	0	0	0
Los Angeles (SC)	2023	MH	Aggregated	Aggregated	GAS	18786.355	191391.548	1879.387	0.0447898	0	0.1209132
Los Angeles (SC)	2023	MH	Aggregated	Aggregated	DSL	6166.7976	64319.4793	616.67976	0.0645308	0	0
Los Angeles (SC)	2023	MHDT	Aggregated	Aggregated	GAS	14623.108	797300.084	292579.15	0.0542902	1.0051305	0.2029533
Los Angeles (SC)	2023	MHDT	Aggregated	Aggregated	DSL	64520.19	4246866.5	635166.64	0.0079226	0.0703788	0
Los Angeles (SC)	2023	OBUS	Aggregated	Aggregated	GAS	3965.9552	159342.808	79350.831	0.0557275	0.7442649	0.1546471
Los Angeles (SC)	2023	OBUS	Aggregated	Aggregated	DSL	3071.4533	241091.735	29880.372	0.0111139	0.8947138	0
Los Angeles (SC)	2023	SBUS	Aggregated	Aggregated	GAS	1481.565	58916.2147	5926.2602	0.0488937	10.61523	0.3184968
Los Angeles (SC)	2023	SBUS	Aggregated	Aggregated	DSL	3497.0784	110638.369	40355.8	0.1076404	0.2810165	0
Los Angeles (SC)	2023	UBUS	Aggregated	Aggregated	GAS	463.32299	33183.9659	1853.292	0.0197322	0	0.4627467
Los Angeles (SC)	2023	UBUS	Aggregated	Aggregated	DSL	10.1389	1181.23011	40.5556	0.0011593	0	0
Los Angeles (SC)	2023	UBUS	Aggregated	Aggregated	ELEC	12	1070.40331	48	0	0	0
Los Angeles (SC)	2023	UBUS	Aggregated	Aggregated	NG	4153.8408	439713.485	16615.363	0.0905348	0	0
					Total Vehicle Population:	**7,566,565**					

ROG_HOTSC	ROG_RUNLC	ROG_RESTLC	ROG_DIURN	TOG_RUNEX	TOG_IDLEX	TOG_STREX	TOG_HOTSO	TOG_RUNLC	TOG_RESTLC	TOG_DIURN	CO_RUNEX	CO_IDLEX	CO_STREX
0.1267051	0.6597345	0.0462079	0.0653095	0.6888018	0	0.0017171	0.1267051	0.6597345	0.0462079	0.0653095	32.570209	0	5.2816631
0	0	0	0	0.0225226	5.241555	0	0	0	0	0	0.2172206	67.201232	0
0	0	0	0	5.3306473	1.3434872	0	0	0	0	0	13.548792	20.364809	0
0.097942	0.2096253	0.2274498	0.2362833	0.0152196	0	0.2304291	0.097942	0.2096253	0.2274498	0.2362833	0.6866092	0	2.0977977
0	0	0	0	0.0213764	0	0	0	0	0	0	0.2811583	0	0
0.004888	0	0.0075002	0.0224074	0	0	0	0.004888	0	0.0075002	0.0224074	0	0	0
0.1850677	0.6503251	0.4655494	0.5444003	0.0435482	0	0.3517785	0.1850677	0.6503251	0.4655494	0.5444003	1.3106666	0	2.206069
0	0	0	0	0.2078787	0	0	0	0	0	0	1.0746805	0	0
0.004888	0	0.0075002	0.0224074	0	0	0	0.004888	0	0.0075002	0.0224074	0	0	0
0.1184948	0.3981981	0.3420797	0.3336875	0.0267531	0	0.320116	0.1184948	0.3981981	0.3420797	0.3336875	0.9539169	0	2.6017314
0	0	0	0	0.0256296	0	0	0	0	0	0	0.1930751	0	0
0.004888	0	0.0075002	0.0224074	0	0	0	0.004888	0	0.0075002	0.0224074	0	0	0
0.1161862	0.798777	0.0336444	0.0543763	0.0463557	0.6179395	0.1227769	0.1161862	0.798777	0.0336444	0.0543763	0.7654656	3.7532173	1.6788405
0	0	0	0	0.0699473	0.1249541	0	0	0	0	0	0.3060369	0.9097451	0
0.115058	0.7285108	0.031271	0.0493313	0.0309318	0.6203734	0.1259959	0.115058	0.7285108	0.031271	0.0493313	0.5364241	3.7601286	1.6624364
0	0	0	0	0.0692857	0.1249541	0	0	0	0	0	0.3019327	0.9097451	0
0.6362594	1.884499	1.3060708	2.1476171	3.23302	0	1.9618647	0.6362594	1.884499	1.3060708	2.1476171	18.860918	0	8.5427308
0.1376719	0.425777	0.4111326	0.3840631	0.0360305	0	0.406616	0.1376719	0.425777	0.4111326	0.3840631	1.1187919	0	3.0191653
0	0	0	0	0.0165902	0	0	0	0	0	0	0.2711278	0	0
0.004888	0	0.0075002	0.0224074	0	0	0	0.004888	0	0.0075002	0.0224074	0	0	0
0.0686858	1.7059596	0.0417315	0.0972237	0.0653572	0	0.1323847	0.0686858	1.7059596	0.0417315	0.0972237	1.2132359	0	2.7010976
0	0	0	0	0.0734641	0	0	0	0	0	0	0.2536482	0	0
0.0827975	0.4355809	0.0260205	0.0395071	0.0792202	1.4666841	0.2222083	0.0827975	0.4355809	0.0260205	0.0395071	1.3648569	14.38372	4.3582444
0	0	0	0	0.0090193	0.0801209	0	0	0	0	0	0.0755529	2.5213015	0
0.0306605	0.3678905	0.0261777	0.0506712	0.0813175	1.0860297	0.1693191	0.0306605	0.3678905	0.0261777	0.0506712	1.364894	5.7625098	3.2233612
0	0	0	0	0.0126524	1.0185636	0	0	0	0	0	0.1192105	14.288763	0
0.070086	0.434635	0.0174778	0.0321522	0.0713455	15.489719	0.3487139	0.070086	0.434635	0.0174778	0.0321522	1.0385336	82.081251	7.5394891
0	0	0	0	0.1225404	0.3199159	0	0	0	0	0	0.3171184	6.8010966	0
0.0742267	0.4713731	0.0173794	0.0218987	0.0287932	0	0.5066494	0.0742267	0.4713731	0.0173794	0.0218987	0.3531277	0	7.149494
0	0	0	0	0.0828045	0	0	0	0	0	0	0.1380373	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	6.4464311	0	0	0	0	0	0	49.056471	0	0

NOx_RUNEX	NOx_IDLEX	NOx_STREX	CO2_RUNEX	CO2_IDLEX	CO2_STREX	PM10_RUNE	PM10_IDLEX	PM10_STRE	PM10_PMTV	PM10_PMBV	PM2_5_RUN	PM2_5_IDLE	PM2_5_STRI
3.8486845	0	0.6002106	2037.4239	0	46.988586	0.0012712	0	0.0007478	0.02	0.06174	0.0011688	0	0.0006876
2.707637	57.304971	2.3978612	1365.8644	11243.413	0	0.0187258	0.0304967	0	0.0356001	0.0610542	0.0179157	0.0291775	0
2.8212388	22.752134	0	3359.9821	4009.7531	0	0.0061727	0.0398974	0	0.036	0.06174	0.0059057	0.0381714	0
0.0363387	0	0.1762394	269.43991	0	53.37874	0.0016845	0	0.0018122	0.008	0.03675	0.0015488	0	0.0016663
0.0647416	0	0	209.56177	0	0	0.0083456	0	0	0.008	0.03675	0.0079846	0	0
0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0
0.1053621	0	0.2388508	312.85464	0	62.100757	0.0024752	0	0.0024666	0.008	0.03675	0.0022759	0	0.002268
0.9875566	0	0	461.03311	0	0	0.1357518	0	0	0.008	0.03675	0.1298792	0	0
0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0
0.0758112	0	0.2593997	332.57915	0	67.106666	0.0018058	0	0.0018481	0.008	0.03675	0.0016604	0	0.0016993
0.0454151	0	0	284.84095	0	0	0.0059066	0	0	0.008	0.03675	0.0056511	0	0
0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0
0.1825114	0.0369678	0.4891643	801.787	119.66159	18.712064	0.0013455	0	0.0004162	0.008	0.07644	0.0012371	0	0.0003827
1.0345584	1.7625949	0	457.53793	128.66409	0	0.0120862	0.0277128	0	0.012	0.07644	0.0115634	0.026514	0
0.1832372	0.0370861	0.504559	920.09306	138.18857	21.305237	0.0012212	0	0.0003515	0.008	0.08918	0.0011229	0	0.0003232
0.9978902	1.7830788	0	506.26767	207.1181	0	0.0142965	0.0282813	0	0.012	0.08918	0.013678	0.0270578	0
1.1309028	0	0.2636946	223.64968	0	59.207707	0.0024798	0	0.0031545	0.004	0.01176	0.002316	0	0.0029646
0.0992283	0	0.3202875	408.96995	0	82.738205	0.0018977	0	0.001998	0.008	0.03675	0.0017451	0	0.0018373
0.0411069	0	0	367.98445	0	0	0.0047834	0	0	0.008	0.03675	0.0045765	0	0
0	0	0	0	0	0	0	0	0	0.008	0.03675	0	0	0
0.2911923	0	0.3290884	1650.508	0	25.017692	0.0014055	0	0.0003549	0.012	0.13034	0.0012923	0	0.0003263
3.2715493	0	0	953.66624	0	0	0.068592	0	0	0.016	0.13034	0.0656247	0	0
0.3882813	0.089421	0.3600666	1656.2728	539.13904	38.23287	0.0011073	0	0.000427	0.012	0.13034	0.0010182	0	0.0003926
1.2143651	5.0387888	2.1454172	913.18534	807.48588	0	0.0070728	0.0046918	0	0.012	0.13034	0.0067668	0.0044889	0
0.4362003	0.0649258	0.3203441	1676.61	375.50696	26.189048	0.0009963	0	0.0002753	0.012	0.13034	0.000916	0	0.0002532
1.6452302	12.358405	2.2092926	1143.6055	2721.7363	0	0.0111126	0.0042028	0	0.012	0.13034	0.0106319	0.004021	0
0.3842747	0.9247315	0.5969796	858.35243	2563.6235	46.638361	0.0011399	0	0.0004705	0.008	0.7448002	0.0010481	0	0.0004326
6.506548	39.728697	1.0073537	1207.2126	3604.9279	0	0.037856	0.0474633	0	0.012	0.7448002	0.0362184	0.0454101	0
0.2731504	0	0.8097461	1971.4937	0	84.305584	0.0014384	0	0.0005664	0.0113413	0.1235617	0.0013226	0	0.0005208
0.8323917	0	0	1797.1178	0	0	0.0061374	0	0	0.036	0.06174	0.0058719	0	0
0	0	0	0	0	0	0	0	0	0.012	0.1303401	0	0	0
0.4830237	0	0	1994.5861	0	0	0.0033401	0	0	0.0334626	0.0687295	0.0031956	0	0

PM2_5_PMT	PM2_5_PME	SOx_RUNEX	SOx_IDLEX	SOx_STREX	N2O_RUNEX	N2O_IDLEX	N2O_STREX
0.005	0.02646	0.020162	0	0.000465	0.1435097	0	0.0153547
0.0089	0.0261661	0.012904	0.1062222	0	0.2146949	1.7673079	0
0.009	0.02646	0	0	0	0.6849543	0.8174144	0
0.002	0.01575	0.0026663	0	0.0005282	0.0043123	0	0.024674
0.002	0.01575	0.0019811	0	0	0.0329402	0	0
0.002	0.01575	0	0	0	0	0	0
0.002	0.01575	0.003096	0	0.0006145	0.0079945	0	0.0273447
0.002	0.01575	0.0043584	0	0	0.072468	0	0
0.002	0.01575	0	0	0	0	0	0
0.002	0.01575	0.0032911	0	0.0006641	0.0063836	0	0.0304076
0.002	0.01575	0.0026928	0	0	0.044773	0	0
0.002	0.01575	0	0	0	0	0	0
0.002	0.03276	0.0079343	0.0011841	0.0001852	0.0111964	0.0031824	0.0401596
0.003	0.03276	0.0043254	0.0012163	0	0.0719186	0.0202242	0
0.002	0.03822	0.0091051	0.0013675	0.0002108	0.0120001	0.0030998	0.0401877
0.003	0.03822	0.0047861	0.001958	0	0.0795782	0.0325561	0
0.001	0.00504	0.0022132	0	0.0005859	0.065393	0	0.0150617
0.002	0.01575	0.0040471	0	0.0008188	0.0079228	0	0.0332333
0.002	0.01575	0.0034788	0	0	0.057842	0	0
0.002	0.01575	0	0	0	0	0	0
0.003	0.05586	0.0163331	0	0.0002476	0.0199369	0	0.0369478
0.004	0.05586	0.0090156	0	0	0.1499031	0	0
0.003	0.05586	0.0163902	0.0053352	0.0003783	0.0203065	0.0078759	0.0293041
0.003	0.05586	0.0086273	0.0076287	0	0.14354	0.1269255	0
0.003	0.05586	0.0165914	0.0037159	0.0002592	0.021614	0.0055221	0.0250441
0.003	0.05586	0.0108042	0.0257136	0	0.1797589	0.427819	0
0.002	0.3192001	0.0084941	0.0253691	0.0004615	0.022563	0.0870184	0.054779
0.003	0.3192001	0.0114051	0.0340576	0	0.189757	0.5666445	0
0.0028353	0.052955	0.0195095	0	0.0008343	0.022808	0	0.0702831
0.009	0.02646	0.0169892	0	0	0.2824819	0	0
0.003	0.05586	0	0	0	0	0	0
0.0083656	0.0294555	0	0	0	0.4066094	0	0

Control Pathway

Dispersion Options

Titles

C:\Lakes\AERMOD View\Alexan_ProjectArea_RCZ\Alexan_ProjectArea_RCZ.i

Dispersion Options

- [x] Regulatory Default
- [ ] Non-Default Options

Dispersion Coefficient

Urban

Population:
Name (Optional):
Roughness Length:

Output Type

- [x] Concentration
- [ ] Total Deposition (Dry & Wet)
- [ ] Dry Deposition
- [ ] Wet Deposition

Plume Depletion

- [ ] Dry Removal
- [ ] Wet Removal

Output Warnings

- [ ] No Output Warnings
- [ ] Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type

PM10

Averaging Time Options

Hours

- [ ] 1
- [ ] 2
- [ ] 3
- [ ] 4
- [ ] 6
- [ ] 8
- [ ] 12
- [ ] 24

- [ ] Month
- [x] Period
- [ ] Annual

Exponential Decay

Half-life of 4 hours will be used

Terrain Height Options

- [ ] Flat
- [x] Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors

- [x] Yes
- [ ] No

Default Height = 0.00 m

Control Pathway

Optional Files

Re-Start File	Init File	Multi-Year Analyses	Event Input File	Error Listing File
☐	☐	☐	☐	■

Detailed Error Listing File

Filename: Alexan_ProjectArea_RCZ_v2.err

Meteorology Pathway

AERMOD

Met Input Data

Surface Met Data

Filename: T:\CASE\Env\13819_Monrovia_TrammelCrowe\AGN\HRA\SCAQMD_MetData\AZUS_V9_ADJU\AZUS_v9.SI
Format Type: Default AERMET format

Profile Met Data

Filename: T:\CASE\Env\13819_Monrovia_TrammelCrowe\AGN\HRA\SCAQMD_MetData\AZUS_V9_ADJU\AZUS_v9.P
Format Type: Default AERMET format

Wind Speed

☐ Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 182.00 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2012			
Upper Air		2012			
On-Site		2012			

Data Period

Data Period to Process

Start Date: 1/1/2012 Start Hour: 1 End Date: 12/31/2016 End Hour: 24

Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

Source Pathway - Source Inputs

Polygon Area Sources

Source Type: AREA POLY

Source: PAREA1 (I-210)

Base Elevation (Optional)	Release Height [m]	Emission Rate [g/ (s-m^2)]	Initial Vertical Dim. [m]	Number of Vertices (or sides)	X Coordinate for Vertices [m]	Y Coordinate for Vertices [m]
142.58	3.28	1.98E-8		8	406639.35	3777858.98
		1.98E-8			406623.02	3777814.44
		1.98E-8			407144.12	3777616.98
		1.98E-8			407233.20	3777606.59
		1.98E-8			407637.02	3777600.65
		1.98E-8			407637.02	3777648.16
		1.98E-8			407230.23	3777658.55
		1.98E-8			407158.97	3777664.49

Receptor Pathway

Receptor Networks

Note: Terrain Elavations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Discrete Receptors

Discrete Cartesian Receptors

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	407307.69	3777427.61	FENCEGRD	132.89	
2	407302.96	3777429.21	FENCEGRD	132.82	
3	407298.23	3777430.82	FENCEGRD	132.98	
4	407293.50	3777432.42	FENCEGRD	132.94	
5	407288.77	3777434.02	FENCEGRD	132.61	
6	407284.04	3777435.62	FENCEGRD	132.50	
7	407279.32	3777437.22	FENCEGRD	132.53	
8	407274.59	3777438.82	FENCEGRD	132.72	
9	407269.86	3777440.42	FENCEGRD	132.90	
10	407265.13	3777442.02	FENCEGRD	133.04	
11	407260.40	3777443.62	FENCEGRD	132.94	
12	407255.67	3777445.22	FENCEGRD	132.64	
13	407250.95	3777446.82	FENCEGRD	132.58	
14	407246.22	3777448.43	FENCEGRD	132.64	
15	407241.49	3777450.03	FENCEGRD	132.61	
16	407236.76	3777451.63	FENCEGRD	132.79	
17	407232.03	3777453.23	FENCEGRD	133.12	
18	407227.30	3777454.83	FENCEGRD	132.96	
19	407222.58	3777456.43	FENCEGRD	132.63	
20	407217.85	3777458.03	FENCEGRD	132.60	
21	407213.12	3777459.63	FENCEGRD	132.83	
22	407208.39	3777461.23	FENCEGRD	133.09	
23	407203.66	3777462.83	FENCEGRD	133.35	
24	407198.93	3777464.43	FENCEGRD	133.26	
25	407194.21	3777466.03	FENCEGRD	133.02	
26	407189.48	3777467.64	FENCEGRD	132.40	
27	407184.75	3777469.24	FENCEGRD	132.15	
28	407180.02	3777470.84	FENCEGRD	132.66	
29	407175.29	3777472.44	FENCEGRD	133.08	
30	407170.56	3777474.04	FENCEGRD	133.40	

31	407165.83	3777475.64	FENCEGRD	133.23
32	407161.11	3777477.24	FENCEGRD	132.92
33	407156.38	3777478.84	FENCEGRD	132.82
34	407151.65	3777480.44	FENCEGRD	132.86
35	407146.92	3777482.04	FENCEGRD	133.12
36	407142.19	3777483.64	FENCEGRD	133.41
37	407137.46	3777485.25	FENCEGRD	133.50
38	407132.74	3777486.85	FENCEGRD	133.17
39	407128.01	3777488.45	FENCEGRD	132.75
40	407123.28	3777490.05	FENCEGRD	132.74
41	407118.55	3777491.65	FENCEGRD	132.96
42	407113.82	3777493.25	FENCEGRD	133.29
43	407109.09	3777494.85	FENCEGRD	133.63
44	407104.37	3777496.45	FENCEGRD	133.60
45	407099.64	3777498.05	FENCEGRD	133.43
46	407094.91	3777499.65	FENCEGRD	132.88
47	407090.18	3777501.25	FENCEGRD	132.54
48	407085.45	3777502.85	FENCEGRD	131.85
49	407080.72	3777504.46	FENCEGRD	130.94
50	407076.00	3777506.06	FENCEGRD	130.15
51	407071.27	3777507.66	FENCEGRD	130.94
52	407066.54	3777509.26	FENCEGRD	132.56
53	407061.81	3777510.86	FENCEGRD	133.06
54	407057.08	3777512.46	FENCEGRD	133.42
55	407052.35	3777514.06	FENCEGRD	133.65
56	407047.62	3777515.66	FENCEGRD	133.80
57	407042.90	3777517.26	FENCEGRD	133.74
58	407038.17	3777518.86	FENCEGRD	133.42
59	407033.44	3777520.46	FENCEGRD	133.13
60	407028.71	3777522.07	FENCEGRD	133.13
61	407023.98	3777523.67	FENCEGRD	133.29
62	407019.25	3777525.27	FENCEGRD	133.66
63	407014.53	3777526.87	FENCEGRD	134.01
64	407009.80	3777528.47	FENCEGRD	133.67
65	407005.07	3777530.07	FENCEGRD	133.40
66	407000.34	3777531.67	FENCEGRD	133.20
67	406995.61	3777533.27	FENCEGRD	133.30
68	406990.88	3777534.87	FENCEGRD	133.59

69	406986.16	3777536.47	FENCEGRD	133.93
70	406981.43	3777538.07	FENCEGRD	134.25
71	406976.70	3777539.67	FENCEGRD	133.78
72	406971.97	3777541.28	FENCEGRD	133.54
73	406967.24	3777542.88	FENCEGRD	133.48
74	406962.51	3777544.48	FENCEGRD	133.62
75	406957.79	3777546.08	FENCEGRD	133.92
76	406953.06	3777547.68	FENCEGRD	134.19
77	406948.33	3777549.28	FENCEGRD	134.20
78	406943.60	3777550.88	FENCEGRD	134.12
79	406938.87	3777552.48	FENCEGRD	134.15
80	406934.14	3777554.08	FENCEGRD	134.47
81	406929.41	3777555.68	FENCEGRD	134.72
82	406924.69	3777557.28	FENCEGRD	134.76
83	407310.61	3777423.56	FENCEGRD	132.89
84	407317.22	3777428.32	FENCEGRD	133.35
85	407306.08	3777422.88	FENCEGRD	132.31
86	407301.35	3777424.48	FENCEGRD	132.25
87	407296.63	3777426.08	FENCEGRD	132.39
88	407291.90	3777427.68	FENCEGRD	132.39
89	407287.17	3777429.28	FENCEGRD	132.25
90	407282.44	3777430.88	FENCEGRD	132.11
91	407277.71	3777432.48	FENCEGRD	131.97
92	407272.98	3777434.08	FENCEGRD	132.18
93	407268.26	3777435.69	FENCEGRD	132.35
94	407263.53	3777437.29	FENCEGRD	132.48
95	407258.80	3777438.89	FENCEGRD	132.44
96	407254.07	3777440.49	FENCEGRD	132.22
97	407249.34	3777442.09	FENCEGRD	132.02
98	407244.61	3777443.69	FENCEGRD	131.87
99	407239.89	3777445.29	FENCEGRD	131.31
100	407235.16	3777446.89	FENCEGRD	131.18
101	407230.43	3777448.49	FENCEGRD	131.57
102	407225.70	3777450.09	FENCEGRD	131.87
103	407220.97	3777451.69	FENCEGRD	131.87
104	407216.24	3777453.29	FENCEGRD	131.90
105	407211.52	3777454.90	FENCEGRD	132.09
106	407206.79	3777456.50	FENCEGRD	132.38

107	407202.06	3777458.10	FENCEGRD	132.65
108	407197.33	3777459.70	FENCEGRD	132.25
109	407192.60	3777461.30	FENCEGRD	131.94
110	407187.87	3777462.90	FENCEGRD	131.21
111	407183.14	3777464.50	FENCEGRD	130.85
112	407178.42	3777466.10	FENCEGRD	131.43
113	407173.69	3777467.70	FENCEGRD	131.78
114	407168.96	3777469.30	FENCEGRD	132.06
115	407164.23	3777470.90	FENCEGRD	132.33
116	407159.50	3777472.50	FENCEGRD	132.32
117	407154.77	3777474.11	FENCEGRD	132.03
118	407150.05	3777475.71	FENCEGRD	131.87
119	407145.32	3777477.31	FENCEGRD	132.12
120	407140.59	3777478.91	FENCEGRD	132.38
121	407135.86	3777480.51	FENCEGRD	132.59
122	407131.13	3777482.11	FENCEGRD	132.45
123	407126.40	3777483.71	FENCEGRD	131.97
124	407121.68	3777485.31	FENCEGRD	131.72
125	407116.95	3777486.91	FENCEGRD	131.83
126	407112.22	3777488.51	FENCEGRD	132.16
127	407107.49	3777490.11	FENCEGRD	132.47
128	407102.76	3777491.72	FENCEGRD	132.70
129	407098.03	3777493.32	FENCEGRD	132.61
130	407093.31	3777494.92	FENCEGRD	131.95
131	407088.58	3777496.52	FENCEGRD	131.67
132	407083.85	3777498.12	FENCEGRD	131.54
133	407079.12	3777499.72	FENCEGRD	130.71
134	407074.39	3777501.32	FENCEGRD	129.91
135	407069.66	3777502.92	FENCEGRD	131.37
136	407064.94	3777504.52	FENCEGRD	132.42
137	407060.21	3777506.12	FENCEGRD	132.46
138	407055.48	3777507.72	FENCEGRD	132.71
139	407050.75	3777509.32	FENCEGRD	132.95
140	407046.02	3777510.93	FENCEGRD	132.90
141	407041.29	3777512.53	FENCEGRD	132.77
142	407036.56	3777514.13	FENCEGRD	132.66
143	407031.84	3777515.73	FENCEGRD	132.34
144	407027.11	3777517.33	FENCEGRD	132.05

145	407022.38	3777518.93	FENCEGRD	132.10
146	407017.65	3777520.53	FENCEGRD	132.48
147	407012.92	3777522.13	FENCEGRD	132.77
148	407008.19	3777523.73	FENCEGRD	132.83
149	407003.47	3777525.33	FENCEGRD	132.65
150	406998.74	3777526.93	FENCEGRD	132.23
151	406994.01	3777528.54	FENCEGRD	132.18
152	406989.28	3777530.14	FENCEGRD	132.38
153	406984.55	3777531.74	FENCEGRD	132.76
154	406979.82	3777533.34	FENCEGRD	133.06
155	406975.10	3777534.94	FENCEGRD	133.02
156	406970.37	3777536.54	FENCEGRD	132.82
157	406965.64	3777538.14	FENCEGRD	132.48
158	406960.91	3777539.74	FENCEGRD	132.54
159	406956.18	3777541.34	FENCEGRD	132.78
160	406951.45	3777542.94	FENCEGRD	133.16
161	406946.73	3777544.54	FENCEGRD	133.46
162	406942.00	3777546.14	FENCEGRD	133.79
163	406937.27	3777547.75	FENCEGRD	133.95
164	406932.54	3777549.35	FENCEGRD	134.38
165	406927.81	3777550.95	FENCEGRD	134.65
166	406923.08	3777552.55	FENCEGRD	134.72
167	407309.01	3777418.82	FENCEGRD	132.40
168	407313.54	3777419.50	FENCEGRD	132.88
169	407320.14	3777424.27	FENCEGRD	133.38
170	407322.22	3777428.35	FENCEGRD	133.41
171	407304.48	3777418.14	FENCEGRD	131.98
172	407299.75	3777419.74	FENCEGRD	131.92
173	407295.02	3777421.34	FENCEGRD	131.88
174	407290.29	3777422.94	FENCEGRD	131.93
175	407285.57	3777424.55	FENCEGRD	131.97
176	407280.84	3777426.15	FENCEGRD	131.95
177	407276.11	3777427.75	FENCEGRD	131.91
178	407271.38	3777429.35	FENCEGRD	131.94
179	407266.65	3777430.95	FENCEGRD	131.93
180	407261.92	3777432.55	FENCEGRD	131.91
181	407257.20	3777434.15	FENCEGRD	131.95
182	407252.47	3777435.75	FENCEGRD	131.88

183	407247.74	3777437.35	FENCEGRD	131.77
184	407243.01	3777438.95	FENCEGRD	131.35
185	407238.28	3777440.55	FENCEGRD	130.41
186	407233.55	3777442.16	FENCEGRD	129.94
187	407228.83	3777443.76	FENCEGRD	130.08
188	407224.10	3777445.36	FENCEGRD	130.68
189	407219.37	3777446.96	FENCEGRD	131.09
190	407214.64	3777448.56	FENCEGRD	131.57
191	407209.91	3777450.16	FENCEGRD	131.83
192	407205.18	3777451.76	FENCEGRD	131.89
193	407200.46	3777453.36	FENCEGRD	131.65
194	407195.73	3777454.96	FENCEGRD	130.95
195	407191.00	3777456.56	FENCEGRD	130.66
196	407186.27	3777458.16	FENCEGRD	130.34
197	407181.54	3777459.76	FENCEGRD	130.52
198	407176.81	3777461.37	FENCEGRD	130.87
199	407172.08	3777462.97	FENCEGRD	130.74
200	407167.36	3777464.57	FENCEGRD	130.77
201	407162.63	3777466.17	FENCEGRD	131.51
202	407157.90	3777467.77	FENCEGRD	131.82
203	407153.17	3777469.37	FENCEGRD	131.72
204	407148.44	3777470.97	FENCEGRD	131.60
205	407143.71	3777472.57	FENCEGRD	131.53
206	407138.99	3777474.17	FENCEGRD	131.55
207	407134.26	3777475.77	FENCEGRD	131.73
208	407129.53	3777477.37	FENCEGRD	131.76
209	407124.80	3777478.98	FENCEGRD	131.61
210	407120.07	3777480.58	FENCEGRD	131.53
211	407115.34	3777482.18	FENCEGRD	131.42
212	407110.62	3777483.78	FENCEGRD	131.38
213	407105.89	3777485.38	FENCEGRD	131.39
214	407101.16	3777486.98	FENCEGRD	131.69
215	407096.43	3777488.58	FENCEGRD	131.80
216	407091.70	3777490.18	FENCEGRD	131.57
217	407086.97	3777491.78	FENCEGRD	131.55
218	407082.25	3777493.38	FENCEGRD	131.38
219	407077.52	3777494.98	FENCEGRD	130.42
220	407072.79	3777496.58	FENCEGRD	130.41

221	407068.06	3777498.19	FENCEGRD	132.01
222	407063.33	3777499.79	FENCEGRD	132.64
223	407058.60	3777501.39	FENCEGRD	132.61
224	407053.87	3777502.99	FENCEGRD	132.49
225	407049.15	3777504.59	FENCEGRD	132.44
226	407044.42	3777506.19	FENCEGRD	131.94
227	407039.69	3777507.79	FENCEGRD	131.68
228	407034.96	3777509.39	FENCEGRD	131.90
229	407030.23	3777510.99	FENCEGRD	131.91
230	407025.50	3777512.59	FENCEGRD	131.78
231	407020.78	3777514.19	FENCEGRD	131.67
232	407016.05	3777515.79	FENCEGRD	131.65
233	407011.32	3777517.40	FENCEGRD	131.70
234	407006.59	3777519.00	FENCEGRD	131.96
235	407001.86	3777520.60	FENCEGRD	132.06
236	406997.13	3777522.20	FENCEGRD	131.96
237	406992.41	3777523.80	FENCEGRD	131.89
238	406987.68	3777525.40	FENCEGRD	131.80
239	406982.95	3777527.00	FENCEGRD	131.80
240	406978.22	3777528.60	FENCEGRD	131.99
241	406973.49	3777530.20	FENCEGRD	132.22
242	406968.76	3777531.80	FENCEGRD	132.28
243	406964.04	3777533.40	FENCEGRD	132.17
244	406959.31	3777535.01	FENCEGRD	132.12
245	406954.58	3777536.61	FENCEGRD	132.07
246	406949.85	3777538.21	FENCEGRD	132.26
247	406945.12	3777539.81	FENCEGRD	132.86
248	406940.39	3777541.41	FENCEGRD	133.57
249	406935.66	3777543.01	FENCEGRD	133.96
250	406930.94	3777544.61	FENCEGRD	134.30
251	406926.21	3777546.21	FENCEGRD	134.52
252	406921.48	3777547.81	FENCEGRD	134.67
253	407307.41	3777414.09	FENCEGRD	132.04
254	407311.93	3777414.77	FENCEGRD	132.26
255	407316.46	3777415.45	FENCEGRD	132.74
256	407323.07	3777420.21	FENCEGRD	133.38
257	407325.14	3777424.30	FENCEGRD	133.43
258	407327.22	3777428.38	FENCEGRD	133.42

259	407302.88	3777413.41	FENCEGRD	131.92
260	407298.15	3777415.01	FENCEGRD	131.89
261	407293.42	3777416.61	FENCEGRD	131.86
262	407288.69	3777418.21	FENCEGRD	131.83
263	407283.96	3777419.81	FENCEGRD	131.83
264	407279.23	3777421.41	FENCEGRD	131.86
265	407274.51	3777423.01	FENCEGRD	131.83
266	407269.78	3777424.61	FENCEGRD	131.82
267	407265.05	3777426.21	FENCEGRD	131.81
268	407260.32	3777427.81	FENCEGRD	131.78
269	407255.59	3777429.41	FENCEGRD	131.72
270	407250.86	3777431.02	FENCEGRD	131.64
271	407246.14	3777432.62	FENCEGRD	131.57
272	407241.41	3777434.22	FENCEGRD	130.98
273	407236.68	3777435.82	FENCEGRD	130.11
274	407231.95	3777437.42	FENCEGRD	129.97
275	407227.22	3777439.02	FENCEGRD	129.97
276	407222.49	3777440.62	FENCEGRD	130.43
277	407217.77	3777442.22	FENCEGRD	130.80
278	407213.04	3777443.82	FENCEGRD	131.43
279	407208.31	3777445.42	FENCEGRD	131.70
280	407203.58	3777447.02	FENCEGRD	131.65
281	407198.85	3777448.63	FENCEGRD	131.11
282	407194.12	3777450.23	FENCEGRD	130.25
283	407189.39	3777451.83	FENCEGRD	130.07
284	407184.67	3777453.43	FENCEGRD	129.90
285	407179.94	3777455.03	FENCEGRD	130.35
286	407175.21	3777456.63	FENCEGRD	130.62
287	407170.48	3777458.23	FENCEGRD	130.45
288	407165.75	3777459.83	FENCEGRD	130.72
289	407161.02	3777461.43	FENCEGRD	131.37
290	407156.30	3777463.03	FENCEGRD	131.55
291	407151.57	3777464.63	FENCEGRD	131.55
292	407146.84	3777466.23	FENCEGRD	131.50
293	407142.11	3777467.84	FENCEGRD	131.44
294	407137.38	3777469.44	FENCEGRD	131.50
295	407132.65	3777471.04	FENCEGRD	131.52
296	407127.93	3777472.64	FENCEGRD	131.45

297	407123.20	3777474.24	FENCEGRD	131.42
298	407118.47	3777475.84	FENCEGRD	131.41
299	407113.74	3777477.44	FENCEGRD	131.36
300	407109.01	3777479.04	FENCEGRD	131.30
301	407104.28	3777480.64	FENCEGRD	131.31
302	407099.56	3777482.24	FENCEGRD	131.34
303	407094.83	3777483.84	FENCEGRD	131.41
304	407090.10	3777485.45	FENCEGRD	131.50
305	407085.37	3777487.05	FENCEGRD	131.53
306	407080.64	3777488.65	FENCEGRD	131.06
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310	407061.73	3777495.05	FENCEGRD	132.61
311	407057.00	3777496.65	FENCEGRD	132.67
312	407052.27	3777498.25	FENCEGRD	132.32
313	407047.54	3777499.85	FENCEGRD	132.07
314	407042.81	3777501.45	FENCEGRD	131.69
315	407038.09	3777503.05	FENCEGRD	131.49
316	407033.36	3777504.66	FENCEGRD	131.59
317	407028.63	3777506.26	FENCEGRD	131.67
318	407023.90	3777507.86	FENCEGRD	131.73
319	407019.17	3777509.46	FENCEGRD	131.71
320	407014.44	3777511.06	FENCEGRD	131.71
321	407009.72	3777512.66	FENCEGRD	131.86
322	407004.99	3777514.26	FENCEGRD	131.98
323	407000.26	3777515.86	FENCEGRD	132.04
324	406995.53	3777517.46	FENCEGRD	131.83
325	406990.80	3777519.06	FENCEGRD	131.87
326	406986.07	3777520.66	FENCEGRD	131.88
327	406981.35	3777522.27	FENCEGRD	131.91
328	406976.62	3777523.87	FENCEGRD	132.10
329	406971.89	3777525.47	FENCEGRD	132.18
330	406967.16	3777527.07	FENCEGRD	132.10
331	406962.43	3777528.67	FENCEGRD	132.04
332	406957.70	3777530.27	FENCEGRD	132.07
333	406952.98	3777531.87	FENCEGRD	132.16
334	406948.25	3777533.47	FENCEGRD	132.36

335	406943.52	3777535.07	FENCEGRD	132.94
336	406938.79	3777536.67	FENCEGRD	133.70
337	406934.06	3777538.27	FENCEGRD	133.90
338	406929.33	3777539.87	FENCEGRD	134.14
339	406924.60	3777541.48	FENCEGRD	134.35
340	406919.88	3777543.08	FENCEGRD	134.49
341	407305.80	3777409.35	FENCEGRD	131.89
342	407310.33	3777410.03	FENCEGRD	131.93
343	407314.86	3777410.71	FENCEGRD	132.22
344	407319.39	3777411.39	FENCEGRD	132.84
345	407325.99	3777416.16	FENCEGRD	133.30
346	407328.07	3777420.24	FENCEGRD	133.41
347	407330.14	3777424.33	FENCEGRD	133.44
348	407332.22	3777428.41	FENCEGRD	133.45
349	407301.27	3777408.67	FENCEGRD	131.84
350	407296.54	3777410.27	FENCEGRD	131.84
351	407291.82	3777411.87	FENCEGRD	131.83
352	407287.09	3777413.47	FENCEGRD	131.79
353	407282.36	3777415.07	FENCEGRD	131.78
354	407277.63	3777416.67	FENCEGRD	131.77
355	407272.90	3777418.28	FENCEGRD	131.74
356	407268.17	3777419.88	FENCEGRD	131.72
357	407263.45	3777421.48	FENCEGRD	131.69
358	407258.72	3777423.08	FENCEGRD	131.64
359	407253.99	3777424.68	FENCEGRD	131.58
360	407249.26	3777426.28	FENCEGRD	131.47
361	407244.53	3777427.88	FENCEGRD	131.37
362	407239.80	3777429.48	FENCEGRD	130.62
363	407235.08	3777431.08	FENCEGRD	130.00
364	407230.35	3777432.68	FENCEGRD	129.99
365	407225.62	3777434.28	FENCEGRD	130.24
366	407220.89	3777435.89	FENCEGRD	130.84
367	407216.16	3777437.49	FENCEGRD	130.82
368	407211.43	3777439.09	FENCEGRD	130.84
369	407206.71	3777440.69	FENCEGRD	131.05
370	407201.98	3777442.29	FENCEGRD	131.19
371	407197.25	3777443.89	FENCEGRD	130.62
372	407192.52	3777445.49	FENCEGRD	130.06

373	407187.79	3777447.09	FENCEGRD	130.21
374	407183.06	3777448.69	FENCEGRD	130.45
375	407178.33	3777450.29	FENCEGRD	130.92
376	407173.61	3777451.89	FENCEGRD	130.78
377	407168.88	3777453.49	FENCEGRD	130.27
378	407164.15	3777455.10	FENCEGRD	130.80
379	407159.42	3777456.70	FENCEGRD	131.56
380	407154.69	3777458.30	FENCEGRD	131.54
381	407149.96	3777459.90	FENCEGRD	131.51
382	407145.24	3777461.50	FENCEGRD	131.44
383	407140.51	3777463.10	FENCEGRD	131.40
384	407135.78	3777464.70	FENCEGRD	131.46
385	407131.05	3777466.30	FENCEGRD	131.44
386	407126.32	3777467.90	FENCEGRD	131.36
387	407121.59	3777469.50	FENCEGRD	131.34
388	407116.87	3777471.10	FENCEGRD	131.33
389	407112.14	3777472.70	FENCEGRD	131.27
390	407107.41	3777474.31	FENCEGRD	131.23
391	407102.68	3777475.91	FENCEGRD	131.23
392	407097.95	3777477.51	FENCEGRD	131.26
393	407093.22	3777479.11	FENCEGRD	131.32
394	407088.50	3777480.71	FENCEGRD	131.40
395	407083.77	3777482.31	FENCEGRD	131.47
396	407079.04	3777483.91	FENCEGRD	130.83
397	407074.31	3777485.51	FENCEGRD	129.77
398	407069.58	3777487.11	FENCEGRD	130.71
399	407064.85	3777488.71	FENCEGRD	131.70
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401	407055.40	3777491.92	FENCEGRD	132.02
402	407050.67	3777493.52	FENCEGRD	131.91
403	407045.94	3777495.12	FENCEGRD	131.76
404	407041.21	3777496.72	FENCEGRD	131.54
405	407036.48	3777498.32	FENCEGRD	131.53
406	407031.75	3777499.92	FENCEGRD	131.60
407	407027.03	3777501.52	FENCEGRD	131.66
408	407022.30	3777503.12	FENCEGRD	131.72
409	407017.57	3777504.72	FENCEGRD	131.73
410	407012.84	3777506.32	FENCEGRD	131.88

411	407008.11	3777507.92	FENCEGRD	132.16
412	407003.38	3777509.52	FENCEGRD	132.67
413	406998.66	3777511.13	FENCEGRD	133.13
414	406993.93	3777512.73	FENCEGRD	132.61
415	406989.20	3777514.33	FENCEGRD	132.14
416	406984.47	3777515.93	FENCEGRD	132.08
417	406979.74	3777517.53	FENCEGRD	132.13
418	406975.01	3777519.13	FENCEGRD	132.57
419	406970.29	3777520.73	FENCEGRD	132.85
420	406965.56	3777522.33	FENCEGRD	132.98
421	406960.83	3777523.93	FENCEGRD	132.60
422	406956.10	3777525.53	FENCEGRD	132.20
423	406951.37	3777527.13	FENCEGRD	132.26
424	406946.64	3777528.74	FENCEGRD	132.46
425	406941.91	3777530.34	FENCEGRD	133.25
426	406937.19	3777531.94	FENCEGRD	133.85
427	406932.46	3777533.54	FENCEGRD	133.86
428	406927.73	3777535.14	FENCEGRD	133.99
429	406923.00	3777536.74	FENCEGRD	134.20
430	406918.27	3777538.34	FENCEGRD	134.32
431	406921.29	3777561.95	FENCEGRD	134.81
432	406921.22	3777566.80	FENCEGRD	134.83
433	406921.15	3777571.66	FENCEGRD	134.82
434	406921.08	3777576.51	FENCEGRD	134.76
435	406921.00	3777581.36	FENCEGRD	134.70
436	406920.93	3777586.22	FENCEGRD	134.65
437	406920.86	3777591.07	FENCEGRD	134.61
438	406920.79	3777595.93	FENCEGRD	134.60
439	406920.72	3777600.78	FENCEGRD	134.58
440	406920.65	3777605.64	FENCEGRD	134.55
441	406920.58	3777610.49	FENCEGRD	134.51
442	406920.50	3777615.34	FENCEGRD	134.47
443	406920.43	3777620.20	FENCEGRD	134.43
444	406920.36	3777625.05	FENCEGRD	134.42
445	406920.29	3777629.91	FENCEGRD	134.40
446	406920.22	3777634.76	FENCEGRD	134.42
447	406920.15	3777639.62	FENCEGRD	134.44
448	406920.08	3777644.47	FENCEGRD	134.45

449	406920.00	3777649.32	FENCEGRD	134.47
450	406919.93	3777654.18	FENCEGRD	134.48
451	406919.86	3777659.03	FENCEGRD	134.50
452	406919.79	3777663.89	FENCEGRD	134.51
453	406917.25	3777559.00	FENCEGRD	134.79
454	406916.22	3777566.73	FENCEGRD	134.82
455	406916.15	3777571.58	FENCEGRD	134.80
456	406916.08	3777576.44	FENCEGRD	134.74
457	406916.01	3777581.29	FENCEGRD	134.68
458	406915.93	3777586.14	FENCEGRD	134.63
459	406915.86	3777591.00	FENCEGRD	134.59
460	406915.79	3777595.85	FENCEGRD	134.58
461	406915.72	3777600.71	FENCEGRD	134.56
462	406915.65	3777605.56	FENCEGRD	134.52
463	406915.58	3777610.42	FENCEGRD	134.48
464	406915.51	3777615.27	FENCEGRD	134.44
465	406915.43	3777620.12	FENCEGRD	134.40
466	406915.36	3777624.98	FENCEGRD	134.39
467	406915.29	3777629.83	FENCEGRD	134.38
468	406915.22	3777634.69	FENCEGRD	134.39
469	406915.15	3777639.54	FENCEGRD	134.41
470	406915.08	3777644.40	FENCEGRD	134.43
471	406915.01	3777649.25	FENCEGRD	134.45
472	406914.93	3777654.10	FENCEGRD	134.47
473	406914.86	3777658.96	FENCEGRD	134.47
474	406914.79	3777663.81	FENCEGRD	134.49
475	406912.73	3777557.49	FENCEGRD	134.76
476	406917.82	3777550.50	FENCEGRD	134.70
477	406911.22	3777566.65	FENCEGRD	134.78
478	406911.15	3777571.51	FENCEGRD	134.80
479	406911.08	3777576.36	FENCEGRD	134.74
480	406911.01	3777581.22	FENCEGRD	134.68
481	406910.93	3777586.07	FENCEGRD	134.62
482	406910.86	3777590.93	FENCEGRD	134.58
483	406910.79	3777595.78	FENCEGRD	134.58
484	406910.72	3777600.63	FENCEGRD	134.58
485	406910.65	3777605.49	FENCEGRD	134.55
486	406910.58	3777610.34	FENCEGRD	134.52

487	406910.51	3777615.20	FENCEGRD	134.49
488	406910.43	3777620.05	FENCEGRD	134.46
489	406910.36	3777624.91	FENCEGRD	134.49
490	406910.29	3777629.76	FENCEGRD	134.52
491	406910.22	3777634.61	FENCEGRD	134.51
492	406910.15	3777639.47	FENCEGRD	134.47
493	406910.08	3777644.32	FENCEGRD	134.49
494	406910.01	3777649.18	FENCEGRD	134.57
495	406909.93	3777654.03	FENCEGRD	134.61
496	406909.86	3777658.89	FENCEGRD	134.60
497	406909.79	3777663.74	FENCEGRD	134.59
498	406907.57	3777557.90	FENCEGRD	134.40
499	406913.37	3777547.86	FENCEGRD	134.60
500	406906.22	3777566.58	FENCEGRD	134.69
501	406906.15	3777571.43	FENCEGRD	134.81
502	406906.08	3777576.29	FENCEGRD	134.76
503	406906.01	3777581.14	FENCEGRD	134.70
504	406905.94	3777586.00	FENCEGRD	134.63
505	406905.86	3777590.85	FENCEGRD	134.57
506	406905.79	3777595.71	FENCEGRD	134.61
507	406905.72	3777600.56	FENCEGRD	134.65
508	406905.65	3777605.41	FENCEGRD	134.63
509	406905.58	3777610.27	FENCEGRD	134.62
510	406905.51	3777615.12	FENCEGRD	134.60
511	406905.44	3777619.98	FENCEGRD	134.58
512	406905.36	3777624.83	FENCEGRD	134.66
513	406905.29	3777629.69	FENCEGRD	134.76
514	406905.22	3777634.54	FENCEGRD	134.70
515	406905.15	3777639.39	FENCEGRD	134.56
516	406905.08	3777644.25	FENCEGRD	134.58
517	406905.01	3777649.10	FENCEGRD	134.73
518	406904.94	3777653.96	FENCEGRD	134.78
519	406904.86	3777658.81	FENCEGRD	134.74
520	406904.79	3777663.67	FENCEGRD	134.71
521	406902.49	3777558.06	FENCEGRD	134.10
522	406904.88	3777550.89	FENCEGRD	133.94
523	406909.13	3777545.06	FENCEGRD	134.19
524	406901.22	3777566.51	FENCEGRD	134.56

525	406901.15	3777571.36	FENCEGRD	134.74
526	406901.08	3777576.22	FENCEGRD	134.67
527	406901.01	3777581.07	FENCEGRD	134.60
528	406900.94	3777585.92	FENCEGRD	134.56
529	406900.86	3777590.78	FENCEGRD	134.54
530	406900.79	3777595.63	FENCEGRD	134.60
531	406900.72	3777600.49	FENCEGRD	134.67
532	406900.65	3777605.34	FENCEGRD	134.68
533	406900.58	3777610.20	FENCEGRD	134.69
534	406900.51	3777615.05	FENCEGRD	134.65
535	406900.44	3777619.90	FENCEGRD	134.61
536	406900.36	3777624.76	FENCEGRD	134.69
537	406900.29	3777629.61	FENCEGRD	134.81
538	406900.22	3777634.47	FENCEGRD	134.79
539	406900.15	3777639.32	FENCEGRD	134.71
540	406900.08	3777644.18	FENCEGRD	134.72
541	406900.01	3777649.03	FENCEGRD	134.81
542	406899.94	3777653.88	FENCEGRD	134.83
543	406899.86	3777658.74	FENCEGRD	134.76
544	406899.79	3777663.59	FENCEGRD	134.71
545	406923.75	3777669.99	FENCEGRD	134.51
546	406928.74	3777674.99	FENCEGRD	134.44
547	406916.74	3777668.63	FENCEGRD	134.51
548	406920.22	3777673.53	FENCEGRD	134.54
549	406925.21	3777678.52	FENCEGRD	134.52
550	406913.09	3777671.86	FENCEGRD	134.54
551	406916.68	3777677.06	FENCEGRD	134.53
552	406921.67	3777682.06	FENCEGRD	134.58
553	406909.48	3777675.21	FENCEGRD	134.56
554	406907.13	3777669.44	FENCEGRD	134.65
555	406913.14	3777680.60	FENCEGRD	134.51
556	406918.14	3777685.59	FENCEGRD	134.54
557	406905.89	3777678.63	FENCEGRD	134.52
558	406903.45	3777672.61	FENCEGRD	134.67
559	406909.61	3777684.13	FENCEGRD	134.47
560	406914.60	3777689.13	FENCEGRD	134.52
561	406934.29	3777676.03	FENCEGRD	134.38
562	406938.75	3777674.06	FENCEGRD	134.31

563	406943.22	3777672.10	FENCEGRD	134.28
564	406947.68	3777670.14	FENCEGRD	134.27
565	406952.14	3777668.18	FENCEGRD	134.27
566	406956.60	3777666.21	FENCEGRD	134.28
567	406961.06	3777664.25	FENCEGRD	134.21
568	406965.52	3777662.29	FENCEGRD	134.08
569	406969.98	3777660.32	FENCEGRD	134.08
570	406974.45	3777658.36	FENCEGRD	134.11
571	406978.91	3777656.40	FENCEGRD	134.10
572	406983.37	3777654.44	FENCEGRD	134.08
573	406987.83	3777652.47	FENCEGRD	133.99
574	406992.29	3777650.51	FENCEGRD	133.89
575	406996.75	3777648.55	FENCEGRD	133.91
576	407001.21	3777646.58	FENCEGRD	133.90
577	407005.68	3777644.62	FENCEGRD	133.82
578	407010.14	3777642.66	FENCEGRD	133.76
579	407014.60	3777640.70	FENCEGRD	133.70
580	407019.06	3777638.73	FENCEGRD	133.71
581	407023.52	3777636.77	FENCEGRD	133.73
582	407027.98	3777634.81	FENCEGRD	133.70
583	406933.37	3777680.94	FENCEGRD	134.45
584	406940.77	3777678.64	FENCEGRD	134.46
585	406945.23	3777676.68	FENCEGRD	134.59
586	406949.69	3777674.71	FENCEGRD	134.61
587	406954.15	3777672.75	FENCEGRD	134.45
588	406958.61	3777670.79	FENCEGRD	134.29
589	406963.08	3777668.83	FENCEGRD	134.29
590	406967.54	3777666.86	FENCEGRD	134.35
591	406972.00	3777664.90	FENCEGRD	134.41
592	406976.46	3777662.94	FENCEGRD	134.32
593	406980.92	3777660.97	FENCEGRD	134.08
594	406985.38	3777659.01	FENCEGRD	134.13
595	406989.84	3777657.05	FENCEGRD	134.13
596	406994.31	3777655.09	FENCEGRD	134.18
597	406998.77	3777653.12	FENCEGRD	134.12
598	407003.23	3777651.16	FENCEGRD	133.95
599	407007.69	3777649.20	FENCEGRD	133.85
600	407012.15	3777647.23	FENCEGRD	133.92

601	407016.61	3777645.27	FENCEGRD	133.94
602	407021.07	3777643.31	FENCEGRD	133.97
603	407025.54	3777641.35	FENCEGRD	133.83
604	407030.00	3777639.38	FENCEGRD	133.67
605	406933.92	3777685.69	FENCEGRD	134.91
606	406942.78	3777683.22	FENCEGRD	135.20
607	406947.24	3777681.25	FENCEGRD	135.06
608	406951.70	3777679.29	FENCEGRD	135.38
609	406956.17	3777677.33	FENCEGRD	135.49
610	406960.63	3777675.37	FENCEGRD	135.38
611	406965.09	3777673.40	FENCEGRD	135.00
612	406969.55	3777671.44	FENCEGRD	134.78
613	406974.01	3777669.48	FENCEGRD	134.98
614	406978.47	3777667.51	FENCEGRD	135.16
615	406982.93	3777665.55	FENCEGRD	135.12
616	406987.40	3777663.59	FENCEGRD	134.96
617	406991.86	3777661.63	FENCEGRD	134.58
618	406996.32	3777659.66	FENCEGRD	134.63
619	407000.78	3777657.70	FENCEGRD	134.81
620	407005.24	3777655.74	FENCEGRD	134.95
621	407009.70	3777653.77	FENCEGRD	134.84
622	407014.16	3777651.81	FENCEGRD	134.52
623	407018.63	3777649.85	FENCEGRD	134.38
624	407023.09	3777647.89	FENCEGRD	134.58
625	407027.55	3777645.92	FENCEGRD	134.73
626	407032.01	3777643.96	FENCEGRD	134.66
627	406936.42	3777690.21	FENCEGRD	136.41
628	406925.11	3777689.27	FENCEGRD	134.55
629	406944.80	3777687.79	FENCEGRD	137.61
630	406949.26	3777685.83	FENCEGRD	137.32
631	406953.72	3777683.87	FENCEGRD	136.93
632	406958.18	3777681.91	FENCEGRD	136.83
633	406962.64	3777679.94	FENCEGRD	136.98
634	406967.10	3777677.98	FENCEGRD	137.08
635	406971.56	3777676.02	FENCEGRD	137.16
636	406976.03	3777674.05	FENCEGRD	136.78
637	406980.49	3777672.09	FENCEGRD	136.40
638	406984.95	3777670.13	FENCEGRD	136.54

639	406989.41	3777668.17	FENCEGRD	136.63
640	406993.87	3777666.20	FENCEGRD	136.44
641	406998.33	3777664.24	FENCEGRD	136.14
642	407002.79	3777662.28	FENCEGRD	136.13
643	407007.26	3777660.31	FENCEGRD	136.28
644	407011.72	3777658.35	FENCEGRD	136.47
645	407016.18	3777656.39	FENCEGRD	136.41
646	407020.64	3777654.43	FENCEGRD	136.33
647	407025.10	3777652.46	FENCEGRD	136.06
648	407029.56	3777650.50	FENCEGRD	135.94
649	407034.02	3777648.54	FENCEGRD	136.17
650	406938.68	3777694.76	FENCEGRD	138.04
651	406931.34	3777695.60	FENCEGRD	134.61
652	406924.40	3777694.30	FENCEGRD	134.55
653	406946.81	3777692.37	FENCEGRD	140.32
654	406951.27	3777690.41	FENCEGRD	139.78
655	406955.73	3777688.44	FENCEGRD	139.13
656	406960.19	3777686.48	FENCEGRD	138.76
657	406964.65	3777684.52	FENCEGRD	138.67
658	406969.12	3777682.56	FENCEGRD	139.38
659	406973.58	3777680.59	FENCEGRD	140.00
660	406978.04	3777678.63	FENCEGRD	139.25
661	406982.50	3777676.67	FENCEGRD	138.65
662	406986.96	3777674.70	FENCEGRD	138.39
663	406991.42	3777672.74	FENCEGRD	138.42
664	406995.88	3777670.78	FENCEGRD	138.38
665	407000.35	3777668.82	FENCEGRD	138.25
666	407004.81	3777666.85	FENCEGRD	138.42
667	407009.27	3777664.89	FENCEGRD	138.40
668	407013.73	3777662.93	FENCEGRD	138.32
669	407018.19	3777660.96	FENCEGRD	138.61
670	407022.65	3777659.00	FENCEGRD	138.73
671	407027.11	3777657.04	FENCEGRD	138.57
672	407031.58	3777655.08	FENCEGRD	138.36
673	407036.04	3777653.11	FENCEGRD	138.15
674	407032.46	3777633.02	FENCEGRD	133.61
675	407037.09	3777631.17	FENCEGRD	133.55
676	407041.72	3777629.32	FENCEGRD	133.47

677	407046.34	3777627.47	FENCEGRD	133.52
678	407050.97	3777625.61	FENCEGRD	133.56
679	407055.60	3777623.76	FENCEGRD	133.61
680	407060.23	3777621.91	FENCEGRD	133.63
681	407064.86	3777620.06	FENCEGRD	133.54
682	407069.49	3777618.21	FENCEGRD	133.49
683	407074.12	3777616.35	FENCEGRD	133.52
684	407078.75	3777614.50	FENCEGRD	133.58
685	407083.38	3777612.65	FENCEGRD	133.63
686	407088.01	3777610.80	FENCEGRD	133.67
687	407092.64	3777608.95	FENCEGRD	133.68
688	407097.27	3777607.10	FENCEGRD	133.62
689	407101.90	3777605.24	FENCEGRD	133.63
690	407106.53	3777603.39	FENCEGRD	133.70
691	407034.31	3777637.66	FENCEGRD	133.66
692	407038.94	3777635.81	FENCEGRD	133.70
693	407043.57	3777633.96	FENCEGRD	133.75
694	407048.20	3777632.11	FENCEGRD	133.76
695	407052.83	3777630.26	FENCEGRD	133.59
696	407057.46	3777628.40	FENCEGRD	133.55
697	407062.09	3777626.55	FENCEGRD	133.58
698	407066.72	3777624.70	FENCEGRD	133.56
699	407071.35	3777622.85	FENCEGRD	133.66
700	407075.98	3777621.00	FENCEGRD	133.66
701	407080.61	3777619.15	FENCEGRD	133.55
702	407085.24	3777617.29	FENCEGRD	133.61
703	407089.87	3777615.44	FENCEGRD	133.65
704	407094.50	3777613.59	FENCEGRD	133.69
705	407099.13	3777611.74	FENCEGRD	133.67
706	407103.75	3777609.89	FENCEGRD	133.64
707	407108.38	3777608.03	FENCEGRD	133.64
708	407036.17	3777642.31	FENCEGRD	134.47
709	407040.80	3777640.45	FENCEGRD	134.04
710	407045.43	3777638.60	FENCEGRD	134.26
711	407050.06	3777636.75	FENCEGRD	134.49
712	407054.69	3777634.90	FENCEGRD	134.61
713	407059.32	3777633.05	FENCEGRD	134.49
714	407063.95	3777631.19	FENCEGRD	134.14

715	407068.58	3777629.34	FENCEGRD	133.74
716	407073.21	3777627.49	FENCEGRD	134.01
717	407077.83	3777625.64	FENCEGRD	134.23
718	407082.46	3777623.79	FENCEGRD	134.36
719	407087.09	3777621.94	FENCEGRD	134.26
720	407091.72	3777620.08	FENCEGRD	133.94
721	407096.35	3777618.23	FENCEGRD	133.77
722	407100.98	3777616.38	FENCEGRD	133.84
723	407105.61	3777614.53	FENCEGRD	133.91
724	407110.24	3777612.68	FENCEGRD	133.94
725	407042.66	3777645.10	FENCEGRD	136.14
726	407047.29	3777643.24	FENCEGRD	136.05
727	407051.92	3777641.39	FENCEGRD	135.89
728	407056.54	3777639.54	FENCEGRD	135.88
729	407061.17	3777637.69	FENCEGRD	136.03
730	407065.80	3777635.84	FENCEGRD	135.95
731	407070.43	3777633.99	FENCEGRD	135.76
732	407075.06	3777632.13	FENCEGRD	135.48
733	407079.69	3777630.28	FENCEGRD	135.30
734	407084.32	3777628.43	FENCEGRD	135.40
735	407088.95	3777626.58	FENCEGRD	135.52
736	407093.58	3777624.73	FENCEGRD	135.44
737	407098.21	3777622.87	FENCEGRD	135.20
738	407102.84	3777621.02	FENCEGRD	134.82
739	407107.47	3777619.17	FENCEGRD	134.34
740	407112.10	3777617.32	FENCEGRD	134.44
741	407044.51	3777649.74	FENCEGRD	138.43
742	407049.14	3777647.89	FENCEGRD	138.47
743	407053.77	3777646.03	FENCEGRD	138.36
744	407058.40	3777644.18	FENCEGRD	138.24
745	407063.03	3777642.33	FENCEGRD	138.00
746	407067.66	3777640.48	FENCEGRD	137.96
747	407072.29	3777638.63	FENCEGRD	138.01
748	407076.92	3777636.78	FENCEGRD	137.91
749	407081.55	3777634.92	FENCEGRD	137.80
750	407086.18	3777633.07	FENCEGRD	137.59
751	407090.81	3777631.22	FENCEGRD	137.33
752	407095.44	3777629.37	FENCEGRD	137.12

753	407100.07	3777627.52	FENCEGRD	137.05
754	407104.70	3777625.67	FENCEGRD	136.82
755	407109.33	3777623.81	FENCEGRD	136.46
756	407113.95	3777621.96	FENCEGRD	136.16
757	407110.84	3777601.95	FENCEGRD	133.74
758	407115.43	3777600.41	FENCEGRD	133.80
759	407120.01	3777598.87	FENCEGRD	133.81
760	407124.59	3777597.33	FENCEGRD	133.77
761	407129.17	3777595.79	FENCEGRD	133.78
762	407133.75	3777594.25	FENCEGRD	133.82
763	407138.33	3777592.71	FENCEGRD	133.89
764	407142.91	3777591.16	FENCEGRD	133.96
765	407147.49	3777589.62	FENCEGRD	133.97
766	407152.07	3777588.08	FENCEGRD	133.96
767	407156.65	3777586.54	FENCEGRD	133.88
768	407161.23	3777585.00	FENCEGRD	133.85
769	407165.81	3777583.46	FENCEGRD	133.89
770	407170.39	3777581.92	FENCEGRD	133.93
771	407174.97	3777580.38	FENCEGRD	133.97
772	407179.55	3777578.84	FENCEGRD	134.02
773	407184.13	3777577.30	FENCEGRD	134.07
774	407188.71	3777575.76	FENCEGRD	134.04
775	407117.02	3777605.15	FENCEGRD	133.75
776	407121.60	3777603.61	FENCEGRD	133.78
777	407126.18	3777602.07	FENCEGRD	133.76
778	407130.76	3777600.53	FENCEGRD	133.78
779	407135.34	3777598.98	FENCEGRD	133.76
780	407139.92	3777597.44	FENCEGRD	133.79
781	407144.50	3777595.90	FENCEGRD	133.86
782	407149.08	3777594.36	FENCEGRD	133.90
783	407153.66	3777592.82	FENCEGRD	133.92
784	407158.24	3777591.28	FENCEGRD	133.90
785	407162.82	3777589.74	FENCEGRD	133.89
786	407167.41	3777588.20	FENCEGRD	133.89
787	407171.99	3777586.66	FENCEGRD	133.91
788	407176.57	3777585.12	FENCEGRD	133.96
789	407181.15	3777583.58	FENCEGRD	134.00
790	407185.73	3777582.04	FENCEGRD	134.06

791	407190.31	3777580.50	FENCEGRD	134.04
792	407118.61	3777609.89	FENCEGRD	133.93
793	407123.19	3777608.35	FENCEGRD	133.78
794	407127.77	3777606.81	FENCEGRD	133.83
795	407132.35	3777605.26	FENCEGRD	133.92
796	407136.94	3777603.72	FENCEGRD	133.96
797	407141.52	3777602.18	FENCEGRD	133.98
798	407146.10	3777600.64	FENCEGRD	133.98
799	407150.68	3777599.10	FENCEGRD	133.94
800	407155.26	3777597.56	FENCEGRD	133.93
801	407159.84	3777596.02	FENCEGRD	133.98
802	407164.42	3777594.48	FENCEGRD	134.02
803	407169.00	3777592.94	FENCEGRD	134.06
804	407173.58	3777591.40	FENCEGRD	134.04
805	407178.16	3777589.86	FENCEGRD	134.03
806	407182.74	3777588.32	FENCEGRD	134.02
807	407187.32	3777586.78	FENCEGRD	134.04
808	407191.90	3777585.24	FENCEGRD	134.07
809	407120.21	3777614.63	FENCEGRD	134.75
810	407124.79	3777613.08	FENCEGRD	134.80
811	407129.37	3777611.54	FENCEGRD	134.71
812	407133.95	3777610.00	FENCEGRD	134.51
813	407138.53	3777608.46	FENCEGRD	134.22
814	407143.11	3777606.92	FENCEGRD	134.25
815	407147.69	3777605.38	FENCEGRD	134.31
816	407152.27	3777603.84	FENCEGRD	134.32
817	407156.85	3777602.30	FENCEGRD	134.43
818	407161.43	3777600.76	FENCEGRD	134.44
819	407166.01	3777599.22	FENCEGRD	134.36
820	407170.59	3777597.68	FENCEGRD	134.22
821	407175.17	3777596.14	FENCEGRD	134.20
822	407179.75	3777594.60	FENCEGRD	134.19
823	407184.33	3777593.06	FENCEGRD	134.20
824	407188.92	3777591.52	FENCEGRD	134.21
825	407193.50	3777589.98	FENCEGRD	134.21
826	407121.80	3777619.36	FENCEGRD	135.90
827	407126.38	3777617.82	FENCEGRD	136.02
828	407130.96	3777616.28	FENCEGRD	136.07

829	407135.54	3777614.74	FENCEGRD	136.01
830	407140.12	3777613.20	FENCEGRD	135.85
831	407144.70	3777611.66	FENCEGRD	135.60
832	407149.28	3777610.12	FENCEGRD	135.27
833	407153.86	3777608.58	FENCEGRD	134.94
834	407158.45	3777607.04	FENCEGRD	135.06
835	407163.03	3777605.50	FENCEGRD	135.18
836	407167.61	3777603.96	FENCEGRD	135.20
837	407172.19	3777602.42	FENCEGRD	135.12
838	407176.77	3777600.88	FENCEGRD	134.94
839	407181.35	3777599.34	FENCEGRD	134.72
840	407185.93	3777597.80	FENCEGRD	134.43
841	407190.51	3777596.26	FENCEGRD	134.40
842	407195.09	3777594.72	FENCEGRD	134.41
843	407196.34	3777574.72	FENCEGRD	133.97
844	407204.83	3777573.47	FENCEGRD	134.04
845	407213.33	3777572.22	FENCEGRD	134.14
846	407197.07	3777579.66	FENCEGRD	134.01
847	407205.56	3777578.41	FENCEGRD	134.04
848	407214.06	3777577.16	FENCEGRD	134.06
849	407197.80	3777584.61	FENCEGRD	134.13
850	407206.29	3777583.36	FENCEGRD	134.23
851	407214.78	3777582.11	FENCEGRD	134.28
852	407198.53	3777589.56	FENCEGRD	134.29
853	407207.02	3777588.31	FENCEGRD	134.42
854	407215.51	3777587.06	FENCEGRD	134.50
855	407203.50	3777593.88	FENCEGRD	134.54
856	407211.99	3777592.63	FENCEGRD	134.60
857	407218.08	3777571.46	FENCEGRD	134.15
858	407222.76	3777570.71	FENCEGRD	134.15
859	407227.45	3777569.96	FENCEGRD	134.13
860	407232.13	3777569.21	FENCEGRD	134.17
861	407218.87	3777576.39	FENCEGRD	134.09
862	407223.55	3777575.64	FENCEGRD	134.12
863	407228.24	3777574.89	FENCEGRD	134.14
864	407232.92	3777574.14	FENCEGRD	134.18
865	407219.66	3777581.33	FENCEGRD	134.28
866	407224.34	3777580.58	FENCEGRD	134.28

867	407229.03	3777579.83	FENCEGRD	134.27
868	407233.71	3777579.08	FENCEGRD	134.26
869	407220.45	3777586.27	FENCEGRD	134.50
870	407225.13	3777585.52	FENCEGRD	134.47
871	407229.82	3777584.77	FENCEGRD	134.45
872	407234.50	3777584.02	FENCEGRD	134.42
873	407216.55	3777591.96	FENCEGRD	134.65
874	407221.24	3777591.21	FENCEGRD	134.68
875	407225.92	3777590.46	FENCEGRD	134.70
876	407230.61	3777589.71	FENCEGRD	134.70
877	407235.29	3777588.96	FENCEGRD	134.67
878	407240.94	3777569.36	FENCEGRD	134.30
879	407245.77	3777569.41	FENCEGRD	134.36
880	407250.59	3777569.46	FENCEGRD	134.34
881	407255.42	3777569.50	FENCEGRD	134.33
882	407260.24	3777569.55	FENCEGRD	134.36
883	407265.07	3777569.60	FENCEGRD	134.39
884	407269.89	3777569.64	FENCEGRD	134.40
885	407274.72	3777569.69	FENCEGRD	134.45
886	407279.54	3777569.74	FENCEGRD	134.54
887	407284.37	3777569.79	FENCEGRD	134.60
888	407289.19	3777569.83	FENCEGRD	134.67
889	407294.02	3777569.88	FENCEGRD	134.76
890	407298.84	3777569.93	FENCEGRD	134.85
891	407303.67	3777569.97	FENCEGRD	134.95
892	407308.49	3777570.02	FENCEGRD	135.03
893	407240.89	3777574.36	FENCEGRD	134.23
894	407245.72	3777574.41	FENCEGRD	134.27
895	407250.54	3777574.46	FENCEGRD	134.28
896	407255.37	3777574.50	FENCEGRD	134.29
897	407260.19	3777574.55	FENCEGRD	134.32
898	407265.02	3777574.60	FENCEGRD	134.34
899	407269.84	3777574.64	FENCEGRD	134.36
900	407274.67	3777574.69	FENCEGRD	134.40
901	407279.49	3777574.74	FENCEGRD	134.45
902	407284.32	3777574.79	FENCEGRD	134.53
903	407289.14	3777574.83	FENCEGRD	134.63
904	407293.97	3777574.88	FENCEGRD	134.75

905	407298.79	3777574.93	FENCEGRD	134.87
906	407303.62	3777574.97	FENCEGRD	134.99
907	407308.44	3777575.02	FENCEGRD	135.07
908	407240.84	3777579.36	FENCEGRD	134.30
909	407245.67	3777579.41	FENCEGRD	134.33
910	407250.49	3777579.46	FENCEGRD	134.39
911	407255.32	3777579.50	FENCEGRD	134.45
912	407260.14	3777579.55	FENCEGRD	134.50
913	407264.97	3777579.60	FENCEGRD	134.54
914	407269.79	3777579.64	FENCEGRD	134.58
915	407274.62	3777579.69	FENCEGRD	134.62
916	407279.44	3777579.74	FENCEGRD	134.66
917	407284.27	3777579.78	FENCEGRD	134.76
918	407289.09	3777579.83	FENCEGRD	134.88
919	407293.92	3777579.88	FENCEGRD	135.01
920	407298.74	3777579.93	FENCEGRD	135.12
921	407303.57	3777579.97	FENCEGRD	135.20
922	407308.39	3777580.02	FENCEGRD	135.25
923	407240.80	3777584.36	FENCEGRD	134.46
924	407245.62	3777584.41	FENCEGRD	134.50
925	407250.45	3777584.46	FENCEGRD	134.62
926	407255.27	3777584.50	FENCEGRD	134.73
927	407260.10	3777584.55	FENCEGRD	134.81
928	407264.92	3777584.60	FENCEGRD	134.88
929	407269.75	3777584.64	FENCEGRD	134.92
930	407274.57	3777584.69	FENCEGRD	134.96
931	407279.40	3777584.74	FENCEGRD	134.99
932	407284.22	3777584.78	FENCEGRD	135.10
933	407289.05	3777584.83	FENCEGRD	135.22
934	407293.87	3777584.88	FENCEGRD	135.35
935	407298.70	3777584.93	FENCEGRD	135.44
936	407303.52	3777584.97	FENCEGRD	135.45
937	407308.35	3777585.02	FENCEGRD	135.47
938	407240.75	3777589.36	FENCEGRD	134.76
939	407245.57	3777589.41	FENCEGRD	134.85
940	407250.40	3777589.46	FENCEGRD	135.00
941	407255.22	3777589.50	FENCEGRD	135.16
942	407260.05	3777589.55	FENCEGRD	135.28

943	407264.87	3777589.60	FENCEGRD	135.39
944	407269.70	3777589.64	FENCEGRD	135.47
945	407274.52	3777589.69	FENCEGRD	135.56
946	407279.35	3777589.74	FENCEGRD	135.66
947	407284.17	3777589.78	FENCEGRD	135.72
948	407289.00	3777589.83	FENCEGRD	135.77
949	407293.82	3777589.88	FENCEGRD	135.82
950	407298.65	3777589.93	FENCEGRD	135.85
951	407303.47	3777589.97	FENCEGRD	135.82
952	407308.30	3777590.02	FENCEGRD	135.75
953	407313.54	3777565.05	FENCEGRD	135.09
954	407313.57	3777560.13	FENCEGRD	134.94
955	407313.60	3777555.22	FENCEGRD	134.79
956	407313.62	3777550.31	FENCEGRD	134.74
957	407313.65	3777545.39	FENCEGRD	134.69
958	407313.68	3777540.48	FENCEGRD	134.60
959	407313.71	3777535.57	FENCEGRD	134.51
960	407313.73	3777530.65	FENCEGRD	134.44
961	407313.76	3777525.74	FENCEGRD	134.37
962	407313.79	3777520.82	FENCEGRD	134.31
963	407313.82	3777515.91	FENCEGRD	134.25
964	407313.85	3777511.00	FENCEGRD	134.15
965	407313.87	3777506.08	FENCEGRD	134.05
966	407313.90	3777501.17	FENCEGRD	133.92
967	407313.93	3777496.26	FENCEGRD	133.78
968	407313.96	3777491.34	FENCEGRD	133.66
969	407313.98	3777486.43	FENCEGRD	133.58
970	407314.01	3777481.52	FENCEGRD	133.50
971	407314.04	3777476.60	FENCEGRD	133.43
972	407314.07	3777471.69	FENCEGRD	133.37
973	407314.10	3777466.77	FENCEGRD	133.33
974	407314.12	3777461.86	FENCEGRD	133.29
975	407314.15	3777456.95	FENCEGRD	133.26
976	407314.18	3777452.03	FENCEGRD	133.24
977	407314.21	3777447.12	FENCEGRD	133.29
978	407314.23	3777442.21	FENCEGRD	133.34
979	407314.26	3777437.29	FENCEGRD	133.37
980	407314.29	3777432.38	FENCEGRD	133.39

981	407317.05	3777568.61	FENCEGRD	135.13
982	407318.57	3777560.16	FENCEGRD	134.99
983	407318.60	3777555.25	FENCEGRD	134.88
984	407318.62	3777550.34	FENCEGRD	134.81
985	407318.65	3777545.42	FENCEGRD	134.74
986	407318.68	3777540.51	FENCEGRD	134.65
987	407318.71	3777535.59	FENCEGRD	134.56
988	407318.73	3777530.68	FENCEGRD	134.48
989	407318.76	3777525.77	FENCEGRD	134.40
990	407318.79	3777520.85	FENCEGRD	134.32
991	407318.82	3777515.94	FENCEGRD	134.25
992	407318.85	3777511.03	FENCEGRD	134.17
993	407318.87	3777506.11	FENCEGRD	134.07
994	407318.90	3777501.20	FENCEGRD	133.97
995	407318.93	3777496.28	FENCEGRD	133.86
996	407318.96	3777491.37	FENCEGRD	133.75
997	407318.98	3777486.46	FENCEGRD	133.65
998	407319.01	3777481.54	FENCEGRD	133.56
999	407319.04	3777476.63	FENCEGRD	133.47
1,000	407319.07	3777471.72	FENCEGRD	133.39
1,001	407319.10	3777466.80	FENCEGRD	133.32
1,002	407319.12	3777461.89	FENCEGRD	133.26
1,003	407319.15	3777456.98	FENCEGRD	133.23
1,004	407319.18	3777452.06	FENCEGRD	133.20
1,005	407319.21	3777447.15	FENCEGRD	133.25
1,006	407319.23	3777442.23	FENCEGRD	133.29
1,007	407319.26	3777437.32	FENCEGRD	133.34
1,008	407319.29	3777432.41	FENCEGRD	133.40
1,009	407322.05	3777568.64	FENCEGRD	135.15
1,010	407315.51	3777577.14	FENCEGRD	135.19
1,011	407323.57	3777560.19	FENCEGRD	135.00
1,012	407323.60	3777555.28	FENCEGRD	134.93
1,013	407323.62	3777550.36	FENCEGRD	134.85
1,014	407323.65	3777545.45	FENCEGRD	134.76
1,015	407323.68	3777540.54	FENCEGRD	134.67
1,016	407323.71	3777535.62	FENCEGRD	134.57
1,017	407323.73	3777530.71	FENCEGRD	134.48
1,018	407323.76	3777525.80	FENCEGRD	134.39

1,019	407323.79	3777520.88	FENCEGRD	134.31
1,020	407323.82	3777515.97	FENCEGRD	134.23
1,021	407323.85	3777511.05	FENCEGRD	134.14
1,022	407323.87	3777506.14	FENCEGRD	134.05
1,023	407323.90	3777501.23	FENCEGRD	133.95
1,024	407323.93	3777496.31	FENCEGRD	133.86
1,025	407323.96	3777491.40	FENCEGRD	133.77
1,026	407323.98	3777486.49	FENCEGRD	133.67
1,027	407324.01	3777481.57	FENCEGRD	133.57
1,028	407324.04	3777476.66	FENCEGRD	133.48
1,029	407324.07	3777471.74	FENCEGRD	133.39
1,030	407324.10	3777466.83	FENCEGRD	133.30
1,031	407324.12	3777461.92	FENCEGRD	133.23
1,032	407324.15	3777457.00	FENCEGRD	133.18
1,033	407324.18	3777452.09	FENCEGRD	133.15
1,034	407324.21	3777447.18	FENCEGRD	133.20
1,035	407324.23	3777442.26	FENCEGRD	133.25
1,036	407324.26	3777437.35	FENCEGRD	133.33
1,037	407324.29	3777432.43	FENCEGRD	133.40
1,038	407327.05	3777568.67	FENCEGRD	135.03
1,039	407324.06	3777575.74	FENCEGRD	135.25
1,040	407319.02	3777580.71	FENCEGRD	135.35
1,041	407328.57	3777560.22	FENCEGRD	134.90
1,042	407328.60	3777555.31	FENCEGRD	134.88
1,043	407328.62	3777550.39	FENCEGRD	134.78
1,044	407328.65	3777545.48	FENCEGRD	134.69
1,045	407328.68	3777540.56	FENCEGRD	134.59
1,046	407328.71	3777535.65	FENCEGRD	134.49
1,047	407328.73	3777530.74	FENCEGRD	134.39
1,048	407328.76	3777525.82	FENCEGRD	134.30
1,049	407328.79	3777520.91	FENCEGRD	134.21
1,050	407328.82	3777516.00	FENCEGRD	134.13
1,051	407328.85	3777511.08	FENCEGRD	134.03
1,052	407328.87	3777506.17	FENCEGRD	133.91
1,053	407328.90	3777501.25	FENCEGRD	133.82
1,054	407328.93	3777496.34	FENCEGRD	133.75
1,055	407328.96	3777491.43	FENCEGRD	133.67
1,056	407328.98	3777486.51	FENCEGRD	133.61

1,057	407329.01	3777481.60	FENCEGRD	133.54
1,058	407329.04	3777476.69	FENCEGRD	133.44
1,059	407329.07	3777471.77	FENCEGRD	133.36
1,060	407329.10	3777466.86	FENCEGRD	133.27
1,061	407329.12	3777461.95	FENCEGRD	133.20
1,062	407329.15	3777457.03	FENCEGRD	133.13
1,063	407329.18	3777452.12	FENCEGRD	133.07
1,064	407329.21	3777447.20	FENCEGRD	133.15
1,065	407329.23	3777442.29	FENCEGRD	133.22
1,066	407329.26	3777437.38	FENCEGRD	133.32
1,067	407329.29	3777432.46	FENCEGRD	133.41
1,068	407331.68	3777569.58	FENCEGRD	134.93
1,069	407329.81	3777574.00	FENCEGRD	135.06
1,070	407327.95	3777578.42	FENCEGRD	135.23
1,071	407321.64	3777584.63	FENCEGRD	135.47
1,072	407317.19	3777586.43	FENCEGRD	135.53
1,073	407312.74	3777588.22	FENCEGRD	135.60
1,074	407333.54	3777565.16	FENCEGRD	134.92
1,075	407333.57	3777560.25	FENCEGRD	134.92
1,076	407333.60	3777555.33	FENCEGRD	134.92
1,077	407333.62	3777550.42	FENCEGRD	134.85
1,078	407333.65	3777545.51	FENCEGRD	134.78
1,079	407333.68	3777540.59	FENCEGRD	134.68
1,080	407333.71	3777535.68	FENCEGRD	134.57
1,081	407333.73	3777530.77	FENCEGRD	134.48
1,082	407333.76	3777525.85	FENCEGRD	134.40
1,083	407333.79	3777520.94	FENCEGRD	134.31
1,084	407333.82	3777516.02	FENCEGRD	134.21
1,085	407333.85	3777511.11	FENCEGRD	134.10
1,086	407333.87	3777506.20	FENCEGRD	133.96
1,087	407333.90	3777501.28	FENCEGRD	133.85
1,088	407333.93	3777496.37	FENCEGRD	133.77
1,089	407333.96	3777491.46	FENCEGRD	133.70
1,090	407333.98	3777486.54	FENCEGRD	133.67
1,091	407334.01	3777481.63	FENCEGRD	133.63
1,092	407334.04	3777476.71	FENCEGRD	133.58
1,093	407334.07	3777471.80	FENCEGRD	133.52
1,094	407334.10	3777466.89	FENCEGRD	133.45

1,095	407334.12	3777461.97	FENCEGRD	133.36
1,096	407334.15	3777457.06	FENCEGRD	133.23
1,097	407334.18	3777452.15	FENCEGRD	133.11
1,098	407334.21	3777447.23	FENCEGRD	133.21
1,099	407334.23	3777442.32	FENCEGRD	133.30
1,100	407334.26	3777437.41	FENCEGRD	133.38
1,101	407334.29	3777432.49	FENCEGRD	133.46
1,102	407308.54	3777565.02	FENCEPRI	134.98
1,103	407309.29	3777432.35	FENCEPRI	133.30
1,104	406926.29	3777562.02	FENCEPRI	134.79
1,105	406924.79	3777663.96	FENCEPRI	134.48
1,106	406932.28	3777671.45	FENCEPRI	134.36
1,107	407025.97	3777630.23	FENCEPRI	133.78
1,108	407104.67	3777598.75	FENCEPRI	133.77
1,109	407187.12	3777571.02	FENCEPRI	134.02
1,110	407212.60	3777567.27	FENCEPRI	134.24
1,111	407231.34	3777564.27	FENCEPRI	134.21
1,112	407308.57	3777560.11	FENCEINT	134.82
1,113	407308.60	3777555.19	FENCEINT	134.67
1,114	407308.62	3777550.28	FENCEINT	134.66
1,115	407308.65	3777545.37	FENCEINT	134.66
1,116	407308.68	3777540.45	FENCEINT	134.56
1,117	407308.71	3777535.54	FENCEINT	134.46
1,118	407308.73	3777530.62	FENCEINT	134.38
1,119	407308.76	3777525.71	FENCEINT	134.30
1,120	407308.79	3777520.80	FENCEINT	134.24
1,121	407308.82	3777515.88	FENCEINT	134.19
1,122	407308.85	3777510.97	FENCEINT	134.11
1,123	407308.87	3777506.06	FENCEINT	134.02
1,124	407308.90	3777501.14	FENCEINT	133.92
1,125	407308.93	3777496.23	FENCEINT	133.82
1,126	407308.96	3777491.31	FENCEINT	133.72
1,127	407308.98	3777486.40	FENCEINT	133.63
1,128	407309.01	3777481.49	FENCEINT	133.53
1,129	407309.04	3777476.57	FENCEINT	133.41
1,130	407309.07	3777471.66	FENCEINT	133.32
1,131	407309.10	3777466.75	FENCEINT	133.25
1,132	407309.12	3777461.83	FENCEINT	133.19

1,133	407309.15	3777456.92	FENCEINT	133.18
1,134	407309.18	3777452.00	FENCEINT	133.18
1,135	407309.21	3777447.09	FENCEINT	133.23
1,136	407309.23	3777442.18	FENCEINT	133.28
1,137	407309.26	3777437.26	FENCEINT	133.29
1,138	407304.56	3777433.95	FENCEINT	133.17
1,139	407299.83	3777435.55	FENCEINT	133.12
1,140	407295.10	3777437.15	FENCEINT	133.00
1,141	407290.38	3777438.75	FENCEINT	132.86
1,142	407285.65	3777440.35	FENCEINT	132.87
1,143	407280.92	3777441.96	FENCEINT	133.05
1,144	407276.19	3777443.56	FENCEINT	133.14
1,145	407271.46	3777445.16	FENCEINT	133.08
1,146	407266.73	3777446.76	FENCEINT	132.96
1,147	407262.01	3777448.36	FENCEINT	132.79
1,148	407257.28	3777449.96	FENCEINT	132.84
1,149	407252.55	3777451.56	FENCEINT	133.11
1,150	407247.82	3777453.16	FENCEINT	133.30
1,151	407243.09	3777454.76	FENCEINT	133.22
1,152	407238.36	3777456.36	FENCEINT	133.12
1,153	407233.64	3777457.96	FENCEINT	133.01
1,154	407228.91	3777459.56	FENCEINT	133.01
1,155	407224.18	3777461.17	FENCEINT	133.05
1,156	407219.45	3777462.77	FENCEINT	133.30
1,157	407214.72	3777464.37	FENCEINT	133.42
1,158	407209.99	3777465.97	FENCEINT	133.29
1,159	407205.27	3777467.57	FENCEINT	133.18
1,160	407200.54	3777469.17	FENCEINT	133.10
1,161	407195.81	3777470.77	FENCEINT	133.22
1,162	407191.08	3777472.37	FENCEINT	133.30
1,163	407186.35	3777473.97	FENCEINT	133.51
1,164	407181.62	3777475.57	FENCEINT	133.50
1,165	407176.89	3777477.17	FENCEINT	133.34
1,166	407172.17	3777478.78	FENCEINT	133.21
1,167	407167.44	3777480.38	FENCEINT	133.17
1,168	407162.71	3777481.98	FENCEINT	133.26
1,169	407157.98	3777483.58	FENCEINT	133.53
1,170	407153.25	3777485.18	FENCEINT	133.71

1,171	407148.52	3777486.78	FENCEINT	133.53
1,172	407143.80	3777488.38	FENCEINT	133.34
1,173	407139.07	3777489.98	FENCEINT	133.24
1,174	407134.34	3777491.58	FENCEINT	133.37
1,175	407129.61	3777493.18	FENCEINT	133.38
1,176	407124.88	3777494.78	FENCEINT	133.67
1,177	407120.15	3777496.38	FENCEINT	133.72
1,178	407115.43	3777497.99	FENCEINT	133.51
1,179	407110.70	3777499.59	FENCEINT	133.38
1,180	407105.97	3777501.19	FENCEINT	133.38
1,181	407101.24	3777502.79	FENCEINT	133.63
1,182	407096.51	3777504.39	FENCEINT	133.63
1,183	407091.78	3777505.99	FENCEINT	133.78
1,184	407087.06	3777507.59	FENCEINT	132.40
1,185	407082.33	3777509.19	FENCEINT	131.32
1,186	407077.60	3777510.79	FENCEINT	130.56
1,187	407072.87	3777512.39	FENCEINT	130.71
1,188	407068.14	3777513.99	FENCEINT	132.61
1,189	407063.41	3777515.59	FENCEINT	133.70
1,190	407058.69	3777517.20	FENCEINT	133.90
1,191	407053.96	3777518.80	FENCEINT	133.57
1,192	407049.23	3777520.40	FENCEINT	133.27
1,193	407044.50	3777522.00	FENCEINT	133.35
1,194	407039.77	3777523.60	FENCEINT	133.70
1,195	407035.04	3777525.20	FENCEINT	133.78
1,196	407030.31	3777526.80	FENCEINT	134.06
1,197	407025.59	3777528.40	FENCEINT	133.91
1,198	407020.86	3777530.00	FENCEINT	133.68
1,199	407016.13	3777531.60	FENCEINT	133.73
1,200	407011.40	3777533.20	FENCEINT	133.73
1,201	407006.67	3777534.81	FENCEINT	133.95
1,202	407001.94	3777536.41	FENCEINT	134.05
1,203	406997.22	3777538.01	FENCEINT	134.29
1,204	406992.49	3777539.61	FENCEINT	134.06
1,205	406987.76	3777541.21	FENCEINT	133.90
1,206	406983.03	3777542.81	FENCEINT	133.92
1,207	406978.30	3777544.41	FENCEINT	133.95
1,208	406973.57	3777546.01	FENCEINT	134.10

1,209	406968.85	3777547.61	FENCEINT	134.32
1,210	406964.12	3777549.21	FENCEINT	134.37
1,211	406959.39	3777550.81	FENCEINT	134.16
1,212	406954.66	3777552.41	FENCEINT	134.01
1,213	406949.93	3777554.02	FENCEINT	134.06
1,214	406945.20	3777555.62	FENCEINT	134.25
1,215	406940.48	3777557.22	FENCEINT	134.43
1,216	406935.75	3777558.82	FENCEINT	134.66
1,217	406931.02	3777560.42	FENCEINT	134.74
1,218	406926.22	3777566.87	FENCEINT	134.79
1,219	406926.15	3777571.73	FENCEINT	134.77
1,220	406926.08	3777576.58	FENCEINT	134.72
1,221	406926.00	3777581.44	FENCEINT	134.67
1,222	406925.93	3777586.29	FENCEINT	134.61
1,223	406925.86	3777591.15	FENCEINT	134.56
1,224	406925.79	3777596.00	FENCEINT	134.54
1,225	406925.72	3777600.85	FENCEINT	134.51
1,226	406925.65	3777605.71	FENCEINT	134.43
1,227	406925.58	3777610.56	FENCEINT	134.35
1,228	406925.50	3777615.42	FENCEINT	134.33
1,229	406925.43	3777620.27	FENCEINT	134.31
1,230	406925.36	3777625.13	FENCEINT	134.33
1,231	406925.29	3777629.98	FENCEINT	134.34
1,232	406925.22	3777634.83	FENCEINT	134.37
1,233	406925.15	3777639.69	FENCEINT	134.39
1,234	406925.08	3777644.54	FENCEINT	134.39
1,235	406925.00	3777649.40	FENCEINT	134.39
1,236	406924.93	3777654.25	FENCEINT	134.41
1,237	406924.86	3777659.11	FENCEINT	134.45
1,238	406927.29	3777666.46	FENCEINT	134.43
1,239	406929.78	3777668.95	FENCEINT	134.39
1,240	406936.74	3777669.49	FENCEINT	134.30
1,241	406941.20	3777667.52	FENCEINT	134.27
1,242	406945.66	3777665.56	FENCEINT	134.26
1,243	406950.13	3777663.60	FENCEINT	134.26
1,244	406954.59	3777661.64	FENCEINT	134.28
1,245	406959.05	3777659.67	FENCEINT	134.19
1,246	406963.51	3777657.71	FENCEINT	134.10

1,247	406967.97	3777655.75	FENCEINT	134.10
1,248	406972.43	3777653.78	FENCEINT	134.15
1,249	406976.89	3777651.82	FENCEINT	134.14
1,250	406981.36	3777649.86	FENCEINT	134.10
1,251	406985.82	3777647.90	FENCEINT	134.02
1,252	406990.28	3777645.93	FENCEINT	133.95
1,253	406994.74	3777643.97	FENCEINT	133.97
1,254	406999.20	3777642.01	FENCEINT	133.98
1,255	407003.66	3777640.04	FENCEINT	133.85
1,256	407008.12	3777638.08	FENCEINT	133.76
1,257	407012.59	3777636.12	FENCEINT	133.79
1,258	407017.05	3777634.16	FENCEINT	133.80
1,259	407021.51	3777632.19	FENCEINT	133.81
1,260	407030.60	3777628.38	FENCEINT	133.67
1,261	407035.23	3777626.53	FENCEINT	133.62
1,262	407039.86	3777624.67	FENCEINT	133.60
1,263	407044.49	3777622.82	FENCEINT	133.61
1,264	407049.12	3777620.97	FENCEINT	133.64
1,265	407053.75	3777619.12	FENCEINT	133.67
1,266	407058.38	3777617.27	FENCEINT	133.65
1,267	407063.01	3777615.42	FENCEINT	133.55
1,268	407067.63	3777613.56	FENCEINT	133.52
1,269	407072.26	3777611.71	FENCEINT	133.55
1,270	407076.89	3777609.86	FENCEINT	133.60
1,271	407081.52	3777608.01	FENCEINT	133.62
1,272	407086.15	3777606.16	FENCEINT	133.60
1,273	407090.78	3777604.31	FENCEINT	133.59
1,274	407095.41	3777602.45	FENCEINT	133.62
1,275	407100.04	3777600.60	FENCEINT	133.71
1,276	407109.25	3777597.21	FENCEINT	133.78
1,277	407113.83	3777595.67	FENCEINT	133.82
1,278	407118.41	3777594.13	FENCEINT	133.88
1,279	407122.99	3777592.59	FENCEINT	133.87
1,280	407127.57	3777591.05	FENCEINT	133.89
1,281	407132.15	3777589.51	FENCEINT	133.94
1,282	407136.73	3777587.97	FENCEINT	134.00
1,283	407141.31	3777586.43	FENCEINT	133.99
1,284	407145.90	3777584.89	FENCEINT	133.95

1,285	407150.48	3777583.34	FENCEINT	133.89	
1,286	407155.06	3777581.80	FENCEINT	133.86	
1,287	407159.64	3777580.26	FENCEINT	133.87	
1,288	407164.22	3777578.72	FENCEINT	133.91	
1,289	407168.80	3777577.18	FENCEINT	133.94	
1,290	407173.38	3777575.64	FENCEINT	133.96	
1,291	407177.96	3777574.10	FENCEINT	133.99	
1,292	407182.54	3777572.56	FENCEINT	134.01	
1,293	407191.37	3777570.40	FENCEINT	134.01	
1,294	407195.61	3777569.77	FENCEINT	134.03	
1,295	407199.86	3777569.15	FENCEINT	134.07	
1,296	407204.11	3777568.52	FENCEINT	134.12	
1,297	407208.35	3777567.90	FENCEINT	134.19	
1,298	407217.29	3777566.52	FENCEINT	134.23	
1,299	407221.97	3777565.77	FENCEINT	134.20	
1,300	407226.66	3777565.02	FENCEINT	134.17	
1,301	407236.17	3777564.32	FENCEINT	134.28	
1,302	407240.99	3777564.36	FENCEINT	134.34	
1,303	407245.82	3777564.41	FENCEINT	134.40	
1,304	407250.64	3777564.46	FENCEINT	134.35	
1,305	407255.47	3777564.50	FENCEINT	134.33	
1,306	407260.29	3777564.55	FENCEINT	134.36	
1,307	407265.12	3777564.60	FENCEINT	134.39	
1,308	407269.94	3777564.65	FENCEINT	134.42	
1,309	407274.77	3777564.69	FENCEINT	134.49	
1,310	407279.59	3777564.74	FENCEINT	134.59	
1,311	407284.42	3777564.79	FENCEINT	134.64	
1,312	407289.24	3777564.83	FENCEINT	134.69	
1,313	407294.07	3777564.88	FENCEINT	134.75	
1,314	407298.89	3777564.93	FENCEINT	134.82	
1,315	407303.72	3777564.97	FENCEINT	134.89	

Plant Boundary Receptors

Receptor Pathway

Cartesian Plant Boundary

Primary

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	407308.54	3777565.02	FENCEPRI	134.98	
2	407309.29	3777432.35	FENCEPRI	133.30	
3	406926.29	3777562.02	FENCEPRI	134.79	
4	406924.79	3777663.96	FENCEPRI	134.48	
5	406932.28	3777671.45	FENCEPRI	134.36	
6	407025.97	3777630.23	FENCEPRI	133.78	
7	407104.67	3777598.75	FENCEPRI	133.77	
8	407187.12	3777571.02	FENCEPRI	134.02	
9	407212.60	3777567.27	FENCEPRI	134.24	
10	407231.34	3777564.27	FENCEPRI	134.21	

Intermediate

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	407308.57	3777560.11	FENCEINT	134.82	
2	407308.60	3777555.19	FENCEINT	134.67	
3	407308.62	3777550.28	FENCEINT	134.66	
4	407308.65	3777545.37	FENCEINT	134.66	
5	407308.68	3777540.45	FENCEINT	134.56	
6	407308.71	3777535.54	FENCEINT	134.46	
7	407308.73	3777530.62	FENCEINT	134.38	
8	407308.76	3777525.71	FENCEINT	134.30	
9	407308.79	3777520.80	FENCEINT	134.24	
10	407308.82	3777515.88	FENCEINT	134.19	
11	407308.85	3777510.97	FENCEINT	134.11	
12	407308.87	3777506.06	FENCEINT	134.02	
13	407308.90	3777501.14	FENCEINT	133.92	
14	407308.93	3777496.23	FENCEINT	133.82	
15	407308.96	3777491.31	FENCEINT	133.72	
16	407308.98	3777486.40	FENCEINT	133.63	
17	407309.01	3777481.49	FENCEINT	133.53	
18	407309.04	3777476.57	FENCEINT	133.41	
19	407309.07	3777471.66	FENCEINT	133.32	
20	407309.10	3777466.75	FENCEINT	133.25	
21	407309.12	3777461.83	FENCEINT	133.19	
22	407309.15	3777456.92	FENCEINT	133.18	
23	407309.18	3777452.00	FENCEINT	133.18	

24	407309.21	3777447.09	FENCEINT	133.23	
25	407309.23	3777442.18	FENCEINT	133.28	
26	407309.26	3777437.26	FENCEINT	133.29	
27	407304.56	3777433.95	FENCEINT	133.17	
28	407299.83	3777435.55	FENCEINT	133.12	
29	407295.10	3777437.15	FENCEINT	133.00	
30	407290.38	3777438.75	FENCEINT	132.86	
31	407285.65	3777440.35	FENCEINT	132.87	
32	407280.92	3777441.96	FENCEINT	133.05	
33	407276.19	3777443.56	FENCEINT	133.14	
34	407271.46	3777445.16	FENCEINT	133.08	
35	407266.73	3777446.76	FENCEINT	132.96	
36	407262.01	3777448.36	FENCEINT	132.79	
37	407257.28	3777449.96	FENCEINT	132.84	
38	407252.55	3777451.56	FENCEINT	133.11	
39	407247.82	3777453.16	FENCEINT	133.30	
40	407243.09	3777454.76	FENCEINT	133.22	
41	407238.36	3777456.36	FENCEINT	133.12	
42	407233.64	3777457.96	FENCEINT	133.01	
43	407228.91	3777459.56	FENCEINT	133.01	
44	407224.18	3777461.17	FENCEINT	133.05	
45	407219.45	3777462.77	FENCEINT	133.30	
46	407214.72	3777464.37	FENCEINT	133.42	
47	407209.99	3777465.97	FENCEINT	133.29	
48	407205.27	3777467.57	FENCEINT	133.18	
49	407200.54	3777469.17	FENCEINT	133.10	
50	407195.81	3777470.77	FENCEINT	133.22	
51	407191.08	3777472.37	FENCEINT	133.30	
52	407186.35	3777473.97	FENCEINT	133.51	
53	407181.62	3777475.57	FENCEINT	133.50	
54	407176.89	3777477.17	FENCEINT	133.34	
55	407172.17	3777478.78	FENCEINT	133.21	
56	407167.44	3777480.38	FENCEINT	133.17	
57	407162.71	3777481.98	FENCEINT	133.26	
58	407157.98	3777483.58	FENCEINT	133.53	
59	407153.25	3777485.18	FENCEINT	133.71	
60	407148.52	3777486.78	FENCEINT	133.53	
61	407143.80	3777488.38	FENCEINT	133.34	
62	407139.07	3777489.98	FENCEINT	133.24	
63	407134.34	3777491.58	FENCEINT	133.37	
64	407129.61	3777493.18	FENCEINT	133.38	

65	407124.88	3777494.78	FENCEINT	133.67	
66	407120.15	3777496.38	FENCEINT	133.72	
67	407115.43	3777497.99	FENCEINT	133.51	
68	407110.70	3777499.59	FENCEINT	133.38	
69	407105.97	3777501.19	FENCEINT	133.38	
70	407101.24	3777502.79	FENCEINT	133.63	
71	407096.51	3777504.39	FENCEINT	133.63	
72	407091.78	3777505.99	FENCEINT	133.78	
73	407087.06	3777507.59	FENCEINT	132.40	
74	407082.33	3777509.19	FENCEINT	131.32	
75	407077.60	3777510.79	FENCEINT	130.56	
76	407072.87	3777512.39	FENCEINT	130.71	
77	407068.14	3777513.99	FENCEINT	132.61	
78	407063.41	3777515.59	FENCEINT	133.70	
79	407058.69	3777517.20	FENCEINT	133.90	
80	407053.96	3777518.80	FENCEINT	133.57	
81	407049.23	3777520.40	FENCEINT	133.27	
82	407044.50	3777522.00	FENCEINT	133.35	
83	407039.77	3777523.60	FENCEINT	133.70	
84	407035.04	3777525.20	FENCEINT	133.78	
85	407030.31	3777526.80	FENCEINT	134.06	
86	407025.59	3777528.40	FENCEINT	133.91	
87	407020.86	3777530.00	FENCEINT	133.68	
88	407016.13	3777531.60	FENCEINT	133.73	
89	407011.40	3777533.20	FENCEINT	133.73	
90	407006.67	3777534.81	FENCEINT	133.95	
91	407001.94	3777536.41	FENCEINT	134.05	
92	406997.22	3777538.01	FENCEINT	134.29	
93	406992.49	3777539.61	FENCEINT	134.06	
94	406987.76	3777541.21	FENCEINT	133.90	
95	406983.03	3777542.81	FENCEINT	133.92	
96	406978.30	3777544.41	FENCEINT	133.95	
97	406973.57	3777546.01	FENCEINT	134.10	
98	406968.85	3777547.61	FENCEINT	134.32	
99	406964.12	3777549.21	FENCEINT	134.37	
100	406959.39	3777550.81	FENCEINT	134.16	
101	406954.66	3777552.41	FENCEINT	134.01	
102	406949.93	3777554.02	FENCEINT	134.06	
103	406945.20	3777555.62	FENCEINT	134.25	
104	406940.48	3777557.22	FENCEINT	134.43	
105	406935.75	3777558.82	FENCEINT	134.66	

106	406931.02	3777560.42	FENCEINT	134.74	
107	406926.22	3777566.87	FENCEINT	134.79	
108	406926.15	3777571.73	FENCEINT	134.77	
109	406926.08	3777576.58	FENCEINT	134.72	
110	406926.00	3777581.44	FENCEINT	134.67	
111	406925.93	3777586.29	FENCEINT	134.61	
112	406925.86	3777591.15	FENCEINT	134.56	
113	406925.79	3777596.00	FENCEINT	134.54	
114	406925.72	3777600.85	FENCEINT	134.51	
115	406925.65	3777605.71	FENCEINT	134.43	
116	406925.58	3777610.56	FENCEINT	134.35	
117	406925.50	3777615.42	FENCEINT	134.33	
118	406925.43	3777620.27	FENCEINT	134.31	
119	406925.36	3777625.13	FENCEINT	134.33	
120	406925.29	3777629.98	FENCEINT	134.34	
121	406925.22	3777634.83	FENCEINT	134.37	
122	406925.15	3777639.69	FENCEINT	134.39	
123	406925.08	3777644.54	FENCEINT	134.39	
124	406925.00	3777649.40	FENCEINT	134.39	
125	406924.93	3777654.25	FENCEINT	134.41	
126	406924.86	3777659.11	FENCEINT	134.45	
127	406927.29	3777666.46	FENCEINT	134.43	
128	406929.78	3777668.95	FENCEINT	134.39	
129	406936.74	3777669.49	FENCEINT	134.30	
130	406941.20	3777667.52	FENCEINT	134.27	
131	406945.66	3777665.56	FENCEINT	134.26	
132	406950.13	3777663.60	FENCEINT	134.26	
133	406954.59	3777661.64	FENCEINT	134.28	
134	406959.05	3777659.67	FENCEINT	134.19	
135	406963.51	3777657.71	FENCEINT	134.10	
136	406967.97	3777655.75	FENCEINT	134.10	
137	406972.43	3777653.78	FENCEINT	134.15	
138	406976.89	3777651.82	FENCEINT	134.14	
139	406981.36	3777649.86	FENCEINT	134.10	
140	406985.82	3777647.90	FENCEINT	134.02	
141	406990.28	3777645.93	FENCEINT	133.95	
142	406994.74	3777643.97	FENCEINT	133.97	
143	406999.20	3777642.01	FENCEINT	133.98	
144	407003.66	3777640.04	FENCEINT	133.85	
145	407008.12	3777638.08	FENCEINT	133.76	
146	407012.59	3777636.12	FENCEINT	133.79	

147	407017.05	3777634.16	FENCEINT	133.80	
148	407021.51	3777632.19	FENCEINT	133.81	
149	407030.60	3777628.38	FENCEINT	133.67	
150	407035.23	3777626.53	FENCEINT	133.62	
151	407039.86	3777624.67	FENCEINT	133.60	
152	407044.49	3777622.82	FENCEINT	133.61	
153	407049.12	3777620.97	FENCEINT	133.64	
154	407053.75	3777619.12	FENCEINT	133.67	
155	407058.38	3777617.27	FENCEINT	133.65	
156	407063.01	3777615.42	FENCEINT	133.55	
157	407067.63	3777613.56	FENCEINT	133.52	
158	407072.26	3777611.71	FENCEINT	133.55	
159	407076.89	3777609.86	FENCEINT	133.60	
160	407081.52	3777608.01	FENCEINT	133.62	
161	407086.15	3777606.16	FENCEINT	133.60	
162	407090.78	3777604.31	FENCEINT	133.59	
163	407095.41	3777602.45	FENCEINT	133.62	
164	407100.04	3777600.60	FENCEINT	133.71	
165	407109.25	3777597.21	FENCEINT	133.78	
166	407113.83	3777595.67	FENCEINT	133.82	
167	407118.41	3777594.13	FENCEINT	133.88	
168	407122.99	3777592.59	FENCEINT	133.87	
169	407127.57	3777591.05	FENCEINT	133.89	
170	407132.15	3777589.51	FENCEINT	133.94	
171	407136.73	3777587.97	FENCEINT	134.00	
172	407141.31	3777586.43	FENCEINT	133.99	
173	407145.90	3777584.89	FENCEINT	133.95	
174	407150.48	3777583.34	FENCEINT	133.89	
175	407155.06	3777581.80	FENCEINT	133.86	
176	407159.64	3777580.26	FENCEINT	133.87	
177	407164.22	3777578.72	FENCEINT	133.91	
178	407168.80	3777577.18	FENCEINT	133.94	
179	407173.38	3777575.64	FENCEINT	133.96	
180	407177.96	3777574.10	FENCEINT	133.99	
181	407182.54	3777572.56	FENCEINT	134.01	
182	407191.37	3777570.40	FENCEINT	134.01	
183	407195.61	3777569.77	FENCEINT	134.03	
184	407199.86	3777569.15	FENCEINT	134.07	
185	407204.11	3777568.52	FENCEINT	134.12	
186	407208.35	3777567.90	FENCEINT	134.19	
187	407217.29	3777566.52	FENCEINT	134.23	

188	407221.97	3777565.77	FENCEINT	134.20	
189	407226.66	3777565.02	FENCEINT	134.17	
190	407236.17	3777564.32	FENCEINT	134.28	
191	407240.99	3777564.36	FENCEINT	134.34	
192	407245.82	3777564.41	FENCEINT	134.40	
193	407250.64	3777564.46	FENCEINT	134.35	
194	407255.47	3777564.50	FENCEINT	134.33	
195	407260.29	3777564.55	FENCEINT	134.36	
196	407265.12	3777564.60	FENCEINT	134.39	
197	407269.94	3777564.65	FENCEINT	134.42	
198	407274.77	3777564.69	FENCEINT	134.49	
199	407279.59	3777564.74	FENCEINT	134.59	
200	407284.42	3777564.79	FENCEINT	134.64	
201	407289.24	3777564.83	FENCEINT	134.69	
202	407294.07	3777564.88	FENCEINT	134.75	
203	407298.89	3777564.93	FENCEINT	134.82	
204	407303.72	3777564.97	FENCEINT	134.89	

Receptor Groups

Record Number	Group ID	Group Description
1	FENCEPRI	Cartesian plant boundary Primary Receptors
2	FENCEGRD	Receptors generated from Fenceline Grid
3	FENCEINT	Cartesian plant boundary Intermediate Receptors

Source Pathway

Building Downwash Information

Option not in use

Emission Rate Units for Output

For Concentration

Unit Factor:	1E6
Emission Unit Label:	GRAMS/SEC
Concentration Unit Label:	MICROGRAMS/M**3

Results Summary

C:\Lakes\AERMOD View\Alexan_ProjectArea_RCZ\Alexan_ProjectArea_RCZ.i

PM10 - Concentration - Source Group: ALL

Averaging Period	Rank	Peak	Units	X (m)	Y (m)	ZELEV (m)	ZFLAG (m)	ZHILL (m)	Peak Date, Start Hour
PERIOD		0.07087	ug/m^3	406946.81	3777692.37	140.32	0.00	140.72	

HARP2 - HRACalc (dated 16057) 7/30/2018 2:47:36 PM - Output Log

GLCs loaded successfully
Pollutants loaded successfully
****
RISK SCENARIO SETTINGS

Receptor Type: Resident
Scenario: Cancer
Calculation Method: HighEnd

****
EXPOSURE DURATION PARAMETERS FOR CANCER

Start Age: -0.25
Total Exposure Duration: 30

Exposure Duration Bin Distribution
3rd Trimester Bin: 0.25
0<2 Years Bin: 2
2<9 Years Bin: 0
2<16 Years Bin: 14
16<30 Years Bin: 14
16 to 70 Years Bin: 0

****
PATHWAYS ENABLED

NOTE: Inhalation is always enabled and used for all assessments. The remaining pathways are only used for cancer and noncancer chronic assessments.

Inhalation: True
Soil: False
Dermal: False
Mother's milk: False
Water: False
Fish: False
Homegrown crops: False
Beef: False
Dairy: False
Pig: False
Chicken: False
Egg: False

****
INHALATION

Daily breathing rate: LongTerm24HR

Worker Adjustment Factors
Worker adjustment factors enabled: NO

Fraction at time at home
3rd Trimester to 16 years: ON
16 years to 70 years: ON

****
TIER 2 SETTINGS
Tier2 not used.

****

Alexan SP Residential Development Draft EIR (Appendix A3)
HARP Output for Alexan SP - MEIR

*HARP - HRACalc v16057 7/30/2018 2:50:50 PM - Cancer Risk

INDEX	GRP1	GRP2	POLID	POLABBRE'	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK
	1		9901	DieselExhP	0.03481	2.37E-05	30YrCancer	*	2.37E-05

Alexan SP Residential Development Draft EIR (Appendix A3)
HARP Output for GP/ZCA - MEIR

*HARP - HRACalc v16057 7/30/2018 2:45:56 PM - Cancer Risk

INDEX	GRP1	GRP2	POLID	POLABBRE	CONC	RISK_SUM	SCENARIO	DETAILS	INH_RISK
1			9901	DieselExhP	0.03768	2.57E-05	30YrCance	*	2.57E-05

APPENDIX D
BIOLOGICAL RESOURCES DOCUMENTATION

APPENDIX D1
GENERAL BIOLOGICAL RESOURCES ASSESSMENT REPORT

General Biological Resources Assessment

Alexan Foothills Specific Plan
Monrovia, Los Angeles County, California



Prepared for:
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Prepared by:
MIG
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May 2018

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Appendices

Appendix A Special-Status Animal Species with Potential to Occur
Appendix B Special-Status Plant Species with Potential to Occur
Appendix C State and Federal Database Search Results for Special-Status Animal and Plant Species

List of Abbreviated Terms

AMM	Avoidance and Minimization Measures
AMSL	Above Mean Sea Level
BMP	Best Management Practice
BRA	Biological Resources Assessment
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CWA	Clean Water Act
FESA	Federal Endangered Species Act
HCP	Habitat Conservation Plan
LSAA	Lake and Streambed Alteration Agreement
MBTA	Migratory Bird Treaty Act
NCCP	Natural Community Conservation Planning
NOAA	National Oceanic Atmospheric Administration
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service
RWQCB	Regional Water Quality Control Board
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

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1.0 INTRODUCTION

This report presents the results of MIG's general biological resources assessment (BRA) of the approximately 6.77-acre Alexan Foothills Specific Plan area (referred to as Project Site in this document) located in Monrovia, Los Angeles County, California (APNs 8507-006-016, -022, -024, -035, -041, -042, -043, and -044). The purpose of this report is to verify the type, location, and extent of potential sensitive biological resources within the Project Site and vicinity. MIG conducted a field survey of the Project Site on January 19, 2018. This report provides a thorough description of the biological setting of the site and surrounding area, including the vegetation communities, potential habitat for special status plant and wildlife species, sensitive natural communities, wildlife migration corridors, and potential state- and federal-jurisdictional habitats. An assessment of the project impacts and recommended mitigation measures to avoid, minimize, or compensate for potential adverse impacts to sensitive habitats and species is also included in the report. The evaluation of potential project impacts follows the checklist items from Appendix G of the California Environmental Quality Act (CEQA) guidelines and has been prepared in a format suitable to support CEQA review and to submit with any future regulatory application packages that might be required.

1.1 Project Location

The 6.77-acre Alexan Foothills Specific Plan is located on a single city block at 1625 Magnolia Avenue in the City of Monrovia, Los Angeles County, California (APNs 8507-006-016, -022, -024, -035, -041, -042, -043, and -044). The block is by bounded by West Evergreen Avenue to the north, South Magnolia Avenue to the east, South Mayflower Avenue to the west, and the METRO Light Rail Gold Line to the south (Figure 1, Regional Map and Figure 2, Project Site Map). The Specific Plan area occurs within the United States Geological Survey (USGS) 7.5' series Mt. Wilson Quadrangle, Township 1 North, Range 12 West (no section noted). The Project Site is relatively flat, with elevations ranging between approximately 430-445 feet above mean sea level (AMSL) (see Figure 3, USGS Topographic Map). Residential land uses border the Project Site to the south and west. Mixed commercial and residential land uses lie to the east and Interstate 210 lies to the north.

2.0 REGULATORY SETTING

The following discussion identifies federal, state, and local environmental regulations that serve to protect sensitive biological resources relevant to the proposed Project Site and CEQA review process.

2.1 Federal

2.1.1 Federal Endangered Species Act

The Federal Endangered Species Act (FESA) of 1973, as amended, provides the regulatory framework for the protection of plant and animal species (and their associated critical habitats), which are formally listed, proposed for listing, or candidates for listing as endangered or threatened under the FESA. The FESA has the following four major components: (1) provisions for listing species, (2) requirements for consultation with the United States Fish and Wildlife Service (USFWS) and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NOAA Fisheries), (3) prohibitions against "taking" (meaning harassing, harming, hunting, shooting, wounding, killing, trapping, capturing, or collecting, or attempting to engage in any such conduct) of listed species, and (4) provisions for permits that allow incidental "take". The FESA also discusses recovery plans and the designation of critical habitat for listed species. Section 7 requires Federal agencies, in consultation with, and with the assistance of the USFWS or NOAA Fisheries, as appropriate, to ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of threatened or endangered species or result in the destruction or adverse modification of critical habitat for these species. Both the USFWS and NOAA Fisheries share the responsibility for administration of the FESA.

2.1.2 The Migratory Bird Treaty Act

The Federal Migratory Bird Treaty Act (MBTA) (16 U.S.C. 703 et seq.), Title 50 Code of Federal Regulations (CFR) Part 10, prohibits taking, killing, possessing, transporting, and importing of migratory birds, parts of migratory birds, and their eggs and nests, except when specifically authorized by the Department of the Interior. As used in the act, the term "take" is defined as meaning, "to pursue, hunt, capture, collect, kill or attempt to pursue, hunt, shoot, capture, collect or kill, unless the context otherwise requires." With a few exceptions, most birds are considered migratory under the MBTA. Disturbances that causes nest abandonment and/or loss of reproductive effort or loss of habitat upon which these birds depend would be in violation of the MBTA.

2.1.3 The Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act that was first passed in 1940 regulates take, possession, sale, purchase, barter, transport, import, and export of any bald or golden eagle or their parts (e.g., nests, eggs, young) unless allowed by permit (16 U.S.C. § 668(a); 50 CFR 22). Take was broadly defined to include shoot, wound, kill, capture, collect, molest, or disturb. In the 1972 amendments, penalties for violations were raised to a maximum fine of $250,000 for an individual or a maximum of two years in prison for a felony conviction, with a doubling for organizations instead of individuals.

2.1.4 Clean Water Act Sections 404 and 401

The U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (U.S. EPA) regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act (CWA) (33 U.S.C. § 1344). Waters of the United States are defined in Title 33 CFR Part 328.3(a) and include a range of wet environments such as lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows,

playa lakes, or natural ponds. The lateral limits of jurisdiction in those waters may be divided into three categories – territorial seas, tidal waters, and non-tidal waters – and is determined depending on which type of waters is present (Title 33 CFR Part 328.4[a], [b], [c]). Activities in waters of the United States regulated under Section 404 include fill for development, water resource projects (e.g., dams and levees), infrastructure developments (e.g., highways, rail lines, and airports) and mining projects. Section 404 of the CWA requires a Federal permit before dredged or fill material may be discharged into waters of the United States, unless the activity is exempt from Section 404 regulation (e.g., certain farming and forestry activities).

Section 401 of the CWA (33 U.S.C. § 1341) requires an applicant for a Federal license or permit to conduct any activity that may result in a discharge of a pollutant into waters of the United States to obtain a water quality certification from the State in which the discharge originates. The discharge is required to comply with the applicable water quality standards. A certification obtained for the construction of any facility must also pertain to the subsequent operation of the facility. The responsibility for the protection of water quality in California rests with the State Water Resources Control Board (State Water Board) and its nine Regional Water Quality Control Boards (Water Boards).

2.2 State

2.2.1 California Endangered Species Act

The State of California enacted similar laws to the FESA, the California Native Plant Protection Act (NPPA) in 1977, and the California Endangered Species Act (CESA) in 1984. The CESA expanded upon the original NPPA and enhanced legal protection for plants, but the NPPA remains part of the California Fish and Game Code. To align with the FESA, CESA created the categories of "threatened" and "endangered" species. It converted all "rare" animals into the CESA as threatened species but did not do so for rare plants. Thus, these laws provide the legal framework for protection of California-listed rare, threatened, and endangered plant and animal species. The California Department of Fish and Wildlife (CDFW) implements NPPA and CESA, and its Wildlife and Habitat Data Analysis Branch maintains the California Natural Diversity Database (CNDDB), a computerized inventory of information on the general location and status of California's rarest plants, animals, and natural communities. During the CEQA review process, the CDFW is given the opportunity to comment on the potential of the proposed Project to affect listed plants and animals.

2.2.2 Native Plant Protection Act

The NPPA of 1977 (California Fish and Game Code, §§ 1900 through 1913) directed the CDFW to carry out the Legislature's intent to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by the CDFW, which has the authority to designate native plants as endangered or rare and to protect them from "take."

2.2.3 California Environmental Quality Act

CEQA was enacted in 1970 to provide for full disclosure of environmental impacts to the public before issuance of a permit by state and local public agencies. CEQA (Public Resources Code Sections 21000 et. seq.) requires public agencies to review activities which may affect the quality of the environment so that consideration is given to preventing damage to the environment. When a lead agency issues a permit for development that could affect the environment, it must disclose the potential environmental effects of the project. This is done with an Initial Study and Negative Declaration (or Mitigated Negative Declaration) or with an Environmental Impact Report. Certain classes of projects are exempt from detailed analysis under

CEQA. CEQA Guidelines Section 15380 defines endangered, threatened, and rare species for purposes of CEQA and clarifies that CEQA review extends to other species that are not formally listed under the state or federal Endangered Species Acts but that meet specified criteria.

2.2.4 Fully Protected Species and Species of Special Concern

The classification of "fully protected" was the CDFW's initial effort to identify and provide additional protection to those animals that were rare or faced possible extinction. Lists were created for fish, amphibian and reptiles, birds, and mammals. Most of the species on these lists have subsequently been listed under CESA and/or FESA. The Fish and Game Code sections (fish at §5515, amphibian and reptiles at §5050, birds at §3511, and mammals at §4700) dealing with "fully protected" species states that these species "…may not be taken or possessed at any time and no provision of this code or any other law shall be construed to authorize the issuance of permits or licenses to take any fully protected species," (CDFW Fish and Game Commission 1998) although take may be authorized for necessary scientific research. This language makes the "fully protected" designation the strongest and most restrictive regarding the "take" of these species. In 2003, the code sections dealing with fully protected species were amended to allow the CDFW to authorize take resulting from recovery activities for state-listed species.

Species of special concern are broadly defined as animals not listed under the FESA or CESA, but which are nonetheless of concern to the CDFW because they are declining at a rate that could result in listing or historically occurred in low numbers and known threats to their persistence currently exist. This designation is intended to result in special consideration for these animals by the CDFW, land managers, consulting biologist, and others, and is intended to focus attention on the species to help avert the need for costly listing under FESA and CESA and cumbersome recovery efforts that might ultimately be required. This designation also is intended to stimulate collection of additional information on the biology, distribution, and status of poorly known at-risk species, and focus research and management attention on them. Although these species generally have no special legal status, they are given special consideration under the CEQA during project review.

2.2.5 California Fish and Wildlife Code Sections 3503 and 3513

According to Section 3503 of the California Fish and Wildlife Code, it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird (except English sparrow (*Passer domesticus*) and European Starling (*Sturnus vulgaris*). Section 3503.5 specifically protects birds in the orders Falconiformes and Strigiformes (birds-of-prey). Section 3513 essentially overlaps with the MBTA, prohibiting the take or possession of any migratory non-game bird. Disturbance that causes nest abandonment and/or loss of reproductive effort is considered "take" by the CDFW.

2.2.6 Porter-Cologne Water Quality Control Act

Waters of the State are defined by the Porter-Cologne Act as "any surface water or groundwater, including saline waters, within the boundaries of the State." The State Water Board protects all waters in its regulatory scope but has special responsibility for isolated wetlands and headwaters. These water bodies have high resource value, are vulnerable to filling, and may not be regulated by other programs, such as Section 404 of the CWA. Waters of the State are regulated by the Water Boards under the State Water Quality Certification Program, which regulates discharges of dredged and fill material under Section 401 of the CWA and the Porter-Cologne Water Quality Control Act. Projects that require a USACE permit, or fall under other Federal jurisdiction, and have the potential to impact Waters of the State are required to comply with the terms of the Water Quality Certification Program. If a proposed project does not require a

Federal license or permit but does involve activities that may result in a discharge of harmful substances to Waters of the State, the Water Boards have the option to regulate such activities under its State authority in the form of Waste Discharge Requirements or Certification of Waste Discharge Requirements.

2.2.7 Other Sensitive Plants – California Native Plant Society

The California Native Plant Society (CNPS), a non-profit plant conservation organization, publishes and maintains an Inventory of Rare and Endangered Vascular Plants of California in both hard copy and electronic version (http://www.cnps.org/cnps/rareplants/inventory/).

The Inventory assigns plants to the following categories:

1A Presumed extinct in California;
1B Rare, threatened, or endangered in California and elsewhere;
2 Rare, threatened, or endangered in California, but more common elsewhere;
3 Plants for which more information is needed – A review list; and
4 Plants of limited distribution – A watch list.

Additional endangerment codes are assigned to each taxon as follows:

1 Seriously endangered in California (over 80% of occurrences threatened/high degree of immediacy of threat).
2 Fairly endangered in California (20-80% occurrences threatened).
3 Not very endangered in California (<20% of occurrences threatened or no current threats known).

Plants on Lists 1A, 1B, and 2 of the CNPS Inventory consist of plants that may qualify for listing, and the CDFW, as well as other state agencies (e.g., California Department of Forestry and Fire Protection). As part of the CEQA process, such species should be fully considered, as they meet the definition of threatened or endangered under the NPPA and Sections 2062 and 2067 of the California Fish and Game Code. California Rare Plant Rank 3 and 4 species are considered to be plants about which more information is needed or are uncommon enough that their status should be regularly monitored. Such plants may be eligible or may become eligible for state listing, and CNPS and CDFW recommend that these species be evaluated for consideration during the preparation of CEQA documents (CNPS 2018, CDFW 2018b).

2.2.8 California Fish and Game Code Section 1600-1603

Streams, lakes, and riparian vegetation, as habitat for fish and other wildlife species, are subject to jurisdiction by the CDFW under Sections 1600-1616 of the California Fish and Game Code. Any activity that will do one or more of the following: (1) substantially obstruct or divert the natural flow of a river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of a river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it can pass into a river, stream, or lake generally require a 1602 Lake and Streambed Alteration Agreement. The term “stream”, which includes creeks and rivers, is defined in the California Code of Regulations (“CCR”) as follows: “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life”. This includes watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14

CCR 1.72). In addition, the term stream can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife (CDFW 1994). Riparian vegetation is defined as, "vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself" (CDFW 1994). In addition to impacts to jurisdictional streambeds, removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from the CDFW.

2.2.9 Sensitive Natural Communities

Sensitive vegetation communities are natural communities and habitats that are either unique in constituent components, of relatively limited distribution in the region, or of particularly high wildlife value. These communities may or may not necessarily contain special-status species. Sensitive natural communities are usually identified in local or regional plans, policies or regulations, or by the CDFW (i.e., CNDDB) or the USFWS. The CNDDB identifies a number of natural communities as "rare", which are given the highest inventory priority (Holland 1986; CDFW 2010). Impacts to sensitive natural communities and habitats must be considered and evaluated under the CEQA.

2.2.9 CDFW California Natural Diversity Database

CDFW maintains the California Natural Diversity Database (CNDDB), which is a program that inventories the status and locations of rare plants and animals in California. Each rare species or plant community is assigned an "element ranking" in the CNDDB, which quantifies and qualifies the rarity of each species/community within its global and State range. The CNDDB gives five categories of rarity for each species' global and State range; these are summarized in the General Biological Assessment Report in Appendix D. All Federal and State listed species are assigned a ranking; however, even non-listed species (such as Species of Concern, Special Animals, or plants on the CNPS list) are assigned an element ranking by CDFW for the CNDDB. Impacts to species which are assigned an element ranking in the CNDDB are considered under CEQA.

2.3 Local

2.3.1 City of Monrovia General Plan

According to the City of Monrovia General Plan, "little vacant land suitable for development is available. Therefore, future development, like current development patterns, will involve either the intensification of already existing uses or recycling to similar uses." The over 4.5-mile trail system and surrounding Hillside Wilderness Preserve, discussed at length in the Hillside Wilderness Preserve Resource Management Plan (adopted in 2012), will remain protected and intact. Other areas within City boundaries have been designated or envisioned for future development/improvement, are generally urbanized, and have very little value for biological resources.

2.3.2 City of Monrovia Oak Tree Preservation Ordinance

The City of Monrovia Oak Tree Preservation Ordinance (87-11) adopted in 1987 to preserve Monrovia's native oak trees, contains regulations in §17.20.40 of the Monrovia Municipal Code. Oak trees protected include any trees of the genus Quercus within the city limits of Monrovia with trunks ten inches in diameter or more, measured at two feet above level ground. Oaks are protected within: single-family, multiple-family, commercial, or industrial zones, in addition to vacant lots and/or oak trees indicated in an oak tree preservation plan. Oaks must also be protected from grading, oil/gas/other construction chemicals, or signage or other obstructions during construction via an oak protection plan approved by the City's

Development Review Committee, which includes guidelines for placing fencing around protected oaks. Activities that will cut an oak to the ground, extract an oak, kill/remove an oak by other means, prune and oak so that more than one-third of the crown/existing foliage/root system is removed, or will disturb underground beneath the dripline of an oak require permitting through the City of Monrovia.

3.0 METHODS

This analysis of potential biological resources located on the Project Site includes a review of available background information in and around the vicinity of the Project Site and completion of a field survey.

3.1 Literature Review

Prior to conducting field surveys, MIG biologists reviewed available background information pertaining to the biological resources on and in the vicinity of the project. Available literature and resource mapping reviewed included the occurrence records for special-status species and sensitive natural communities and numerous other information sources listed below:

- CDFW California Natural Communities Database (CNDDB) record search within the Mt Wilson and surrounding eight USGS quadrangles (CDFW 2018a)
- CNPS Rare Plant Program, Inventory of Rare and Endangered Plants of California (CNPS 2018) records search within the Mt Wilson and surrounding eight USGS quadrangles
- Soil Survey Staff, Natural Resource Conservation Service (NRCS), United States Department of Agricultural (USDA NRCS 2018)
- CDFW California Natural Community List (CDFW 2018b)
- CDFW State and Federally Listed Endangered, Threatened, and Rare Plants of California (CDFW 2018c)
- USFWS Information for Planning and Consultation (IPaC; USFWS 2018a)
- USFWS National Wetlands Inventory (USFWS 2018b)

3.2 Field Surveys

A biological field survey was conducted by MIG biologists Jonathan Campbell, PhD and Melinda Mohamed on January 19, 2018. The field survey was conducted on foot to assess the existing conditions of the Project Site, including recording observed plant and wildlife species, characterizing and delineating the vegetation communities and associated wildlife habitats, and evaluating the potential for these habitats to support special-status species and sensitive communities.

3.2.1 Plant Communities

During the field survey, MIG biologists traversed the entire Project Site by foot and evaluated the suitability of onsite vegetation communities to support special status species documented within the Project Site. An attempt was made to classify plant communities according to the Second Edition of the Manual of California Vegetation (Sawyer et al. 2009) classification system, as this method is preferred (but not required) by CDFW. However, for certain vegetation types, this system is too species-specific in its definitions of plant associations and alliances and does not accurately characterize the highly variable species composition of plant communities. For this Project Site, it was necessary to identify variants of plant community types for ornamental plant assemblages and non-vegetated areas that are not described in the literature. The List of California Natural and Terrestrial Communities (CDFW 2018b) was consulted to determine if any rare or

sensitive plant communities are present. In addition, plant communities were evaluated to determine if they are considered sensitive under federal and/or other state regulations and local policies. Plant communities within the Study Area were mapped in the field onto a color aerial photograph and digitized into ArcView Geographic Information System (GIS) shapefiles (refer to Figure 5, Biological Resources Map).

3.2.2 Jurisdictional Habitats and Aquatic Features

Although a formal jurisdiction delineation report has not been conducted, habitats on the project site were assessed to determine if any wetlands and "other waters" or streambeds potentially subject to jurisdiction by the USACE, RWQCB, or CDFW were present. Habitats were evaluated for the presence of wetland indicators including dominance by hydrophytic plant species and presence of wetland hydrology. Estimation of the approximate boundaries of potential USACE and/or RWQCB jurisdictional areas followed standard methodologies as described in the *Interim Regional Supplement to the USACE Wetland Delineation Manual: Arid West Region* (*USACE 2008*). The site was also inspected for the presence of drainages, streams, and other aquatic features, including those that support stream-dependent (riparian) plant species that may be considered jurisdictional by CDFW. During the site assessment, potentially jurisdictional areas were identified by the presence of one or more indicators of hydrophytic vegetation and wetland hydrology for wetlands or the presence of an "ordinary high water mark" for non-wetland other water features. Hydrophytic vegetation communities were identified as areas dominated by plant species with a wetland indicator status of OBL, FACW, or FAC as listed on the *USFWS List of Plant Species that Occur in Wetlands* (Lichvar and Kartesz 2016). Indicators of wetland hydrology include visible inundation or saturation, drift deposits, oxidized root channels, and biotic crusts. The preliminary assessment of other water features was based primarily on the presence of unvegetated, ponded areas or flowing water, or evidence indicating their presence such as an ordinary high water mark or well-defined drainage patterns.

3.2.3 Special-Status Species Habitat Assessment

The potential occurrence of special-status plant and animal species on the Project Site was initially evaluated by developing a list of special-status species that are known to or have the potential to occur in the vicinity of the Project Site based on a review of past studies including species-specific studies; search of current database records (e.g., CNDDB and CNPS Electronic Inventory records); and review of the USFWS list of federal endangered and threatened species (See Appendix C). The potential for occurrence of those species included on the list were then evaluated based on the habitat requirements of each species relative to the conditions observed during the field survey conducted by MIG. Plant species that have been documented to occur well outside of the elevation and geographic range of the Project Site were eliminated from further consideration. Each species was evaluated for its potential to occur on or in the immediate vicinity of the Project Site according to the following criteria.

> **Not Expected.** There is no suitable habitat present on the Project Site (i.e., habitats on the Project Site are clearly unsuitable for the species requirements [e.g., foraging, breeding, cover, substrate, elevation, hydrology, plant community, disturbance regime, etc.]). Additionally, there are no recent known records of occurrence in the vicinity of the Project Site. The species has no potential of being found on the Project Site.
>
> **Low Potential.** Limited suitable habitat is present on the Project Site (i.e., few of the habitat components meeting the species requirements are present and/or the majority of habitat on the Project Site is unsuitable or of very low quality). Additionally, there are no or few recent known

records of occurrence in the vicinity of the Project Site. The species has a low probability of being found on the Project Site.

Moderate Potential. Suitable habitat is present on the Project Site (i.e., some of the habitat components meeting the species requirements are present and/or the majority of the habitat on the Project Site is suitable or of marginal quality). Additionally, there are few or many recent known records of occurrences in the vicinity of the Project Site. The species has a moderate probability of being found on the Project Site.

High Potential. Highly suitable habitat is present on the Project Site (i.e., all habitat components meeting the species requirements are present and/or all of the habitat on the Project Site is highly suitable or of high quality). Additionally, there are few or many recent known records of occurrences in the vicinity of the Project Site. This species has a high probability of being found on the Project Site.

Present. Species was observed on the Project Site (i.e., species was either observed during recent surveys or has a recorded observation in the CNDDB on the Project Site).

Appendices A and B present the list of special-status plants and animals (respectively) that have the potential to occur in the vicinity of the Project Site, their habitat requirements, and a ranking of potential for occurrence on the Project Site. Nomenclature used for plant names follows the *Second Edition of The Jepson Manual* (Baldwin *et al*. 2012). Nomenclature for wildlife follows CDFW's *Complete List of Amphibian, Reptile, Bird, And Mammal Species in California* (CDFW 2016) and any changes made to species nomenclature as published in scientific journals since the publication of CDFW's list.

4.0 EXISTING CONDITIONS

The following provides a description of the soils, vegetation communities, wildlife, and wildlife movement corridors present on the Project Site.

4.1 Physical Characteristics

The Project area is flat with elevations ranging between 430-445 feet above mean sea level (AMSL). The Project area is dominated by a parking lot, several industrial buildings, five residential buildings, and an office. The vast majority of the Project area is paved, with very little, mostly weedy vegetation. Interstate-210 and its associated landscaping is located to the north of the Project area. METRO's Gold Line light rail tracks are located directly to the Project area's south property line. Residences occur west and east of the Project area, and industrial structures occur east of the Project area.

A concrete-lined drainage channel crosses the Project area. It initiates near Interstate-210 and drains to the southeast off the Project site, mapped drainage by the National Wetlands Inventory. This approximately 10-feet wide x 400-feet long open drainage runs along the Alexan Foothills Specific Plan's western boundary and flows into a culvert passing under the METRO Gold Line tracks.

4.2 Soils

The Web Soil Survey reports the following soils within the boundary of the 6.77-acre Alexan Foothills Specific Plan area as shown on Figure 4, Soils Map (USDA NRCS 2018):

- Urban land-Palmview-Tujunga complex, 0 to 5 percent slopes (1002). The Palmview and Tujunga series consist of very deep, somewhat excessively drained soils that formed in alluvium from granitic sources. This soil type occurs on alluvial fans and floodplains, including urban areas. Slopes range from 0 to 15 percent.

4.3 Plant Communities & Associated Wildlife Habitats

As described in Section 3 (Methods), plant communities on-site were mapped in the field onto a color aerial photograph (See Figure 5, Biological Resources Map) and were evaluated to determine if they are considered sensitive under federal, state, or local regulations or policies. Biological communities were classified as sensitive or non-sensitive as defined by CEQA and other applicable laws and regulations.

4.3.1 Vegetation Communities

The majority of the Project area is unvegetated due to development and characterized by weedy species. Vegetation communities that are present are described in more detail below.

Developed (6.03 acres)

The Project Site is dominated car lots and structures (Figure 6, Current Project Site Photographs). These areas are generally unvegetated although weedy species such as wild oats (*Avena fatua*), tree of heaven (*Ailanthus altissima*), castor bean (*Ricinus communis*), Bermuda grass (*Cynodon dactylon*), broad leaf filaree (*Erodium botrys*), and common groundsel (*Senecio vulgaris*) are present.

Ornamental (0.58 acres)
Portions of the Project Site are characterized by ornamental plantings including Siberian elm (*Ulmus pumila*), carob (*Ceratonia siliqua*), ash (*Fraxinus* sp.), crimson bottlebrush (*Callistemon citrinus*), Mexican fan palm (*Washingtonia robusta*), honeysuckle (*Lonicera* sp.), oceanblue morning glory (*Ipomoea indica*), multiflora rose (*Rosa multiflora*), lily of the Nile (*Agapanthus africanus*), and gardenia (*Gardenia* sp.) (Figures 6 and 7, Current Project Site Photographs). Weedy species are common in these communities and include smilo grass (*Stipa miliacea*), Bermuda buttercup (*Oxalis pes-caprae*), and wild oats.

Coast Live Oak (0.16 acres)
Three coast live oak trees (*Quercus agrifolia*) are present along the western boundary of the Alexan Foothills Specific Plan area and grow along the edge of the drainage channel (Figure 6, Current Project Site Photographs). These trees are all over 10" in diameter or more, 2 feet above ground level. Therefore, they are protected by the City of Monrovia Oak Tree Preservation Ordinance and may be regulated as riparian habitat by California Department of Fish and Wildlife (CDFW).

Additional oak trees occur in the remaining GP/ZCA area along and adjacent to the unnamed drainage channel and may also be regulated as riparian habitat by CDFW.

4.4 Wildlife

Wildlife species that were observed on site during the January 19, 2018 biological field survey include Anna's hummingbird (*Calypte anna*), house finch (*Haemorhous mexicanus*), northern mockingbird (*Mimus polyglottus*), American crow (*Corvus brachyrhynchos*), house sparrow (*Passer domesticus*), mourning dove (*Zenaida macroura*), ruby-crowned kinglet (*Regulus calendula*), and yellow-rumped warbler (*Setophaga coronata*).

Other wildlife species that could inhabit the Project area are limited to urban species adapted to high levels of anthropogenic disturbance. Common urban-tolerant birds include: black phoebe (*Sayornis nigricans*), non-native European Starling (*Sturnus vulgaris*), non-native Eurasian collared dove (*Streptopelia decaocto*) and various other migrant songbirds, such as warblers, vireos, and grosbeaks. Common small mammals expected to occur in the urban setting include, but are not limited to, western gray squirrel (*Sciurus griseus*), raccoon (*Procyon lotor*), California mouse (*Peromyscus californicus*), Virginia opossum (*Didelphis virginiana*), and Botta's pocket gopher (*Thomomys bottae*). The unnamed, concrete drainage channel in the Project Area may occasionally provide aquatic habitat to the disturbance-tolerant Sierran treefrog (*Pseudacris sierra*) (formerly Pacific Treefrog [*Pseudacris regilla*] or Pacific Tree Chorus Frog [*Hyla regilla*]), when it contains water.

4.5 Sensitive Plant Communities

CDFW and CNPS have identified several native plant communities that are rare and unique to California. While they have no legal, protective status, impacts to these plant communities may be considered "significant" under CEQA. No sensitive plant communities were observed on the Project Site, as they did not exhibit the characteristic attributes of these communities, such as the known distribution and elevation, landscape position, plant species composition, soil and/or substrate type, water chemistry, and/or hydroperiod.

4.6 Special-Status Plants

Special-status plants are defined here to include: (1) plants that are federal- or state-listed as rare, threatened or endangered, (2) federal and state candidates for listing, (3) plants assigned a Rank of 1 through 4 by the CNPS Inventory, and (4) plants that qualify under the definition of "rare" in CEQA, Section 15380.

The Alexan Foothills Specific Plan was initially determined to provide potentially suitable habitat for a total of 49 special-status plant species based on the Plan area's proximity to previously recorded occurrences in the region, vegetation types and habitat quality, topography, elevation, soil types, other species-specific habitat requirements, and geographic ranges of special-status plant species known to occur in the region (CDFW 2018). Based on the California Natural Diversity Data Base (CNDDB) and the biological field survey and habitat suitability analysis performed by MIG biologists on the Alexan Foothills Specific Plan site, none of the 49 species are expected to occur (i.e. species ranked as "Not Expected"). A table presenting all special-status plant species considered and evaluated for their potential occurrence in the Alexan Foothills Specific Plan area, including plant species' habitat requirements and reported blooming periods, is provided in Appendix A. Due the developed nature of the remaining GP/ZCA area, it is expected to have less potential to support special-status plant species than the Alexan Foothills Specific Plan.

4.7 Special-Status Wildlife

Special-status wildlife species include those species listed as endangered or threatened under the FESA or CESA; candidates for listing by the USFWS or CDFW; and species of special concern to the CDFW; and birds protected by the USFWS under the MTBA and/or by the CDFW under Fish and Game Code Sections 3503 and 3513. It was initially determined that 43 special-status wildlife species have been recorded in the vicinity of the Project Site (CDFW 2018a). Of these animal species, none are expected to occur on the Project Site (i.e., species ranked as "Not Expected"). Reasons include the absence of essential habitat requirements for the species, the distance to known occurrences and/or the species distributional range, the limited availability of foraging and nesting habitat, amount of site disturbance from past and present land uses, and/or the proximity of existing human-related disturbances. In addition, no USFWS-designated critical habitat areas for any federally listed animals are present. A table presenting all special-status animal species considered and evaluated for their potential occurrence on the Project Site, including species' habitat requirements is provided in Appendix B.

Nesting Birds

Migratory birds are also protected under the Federal MBTA, which prohibits killing any migratory bird or disturbing or destroying an active nest of a migratory bird; this list contains hundreds of birds, including many of which are considered common or even nuisance or non-native species. Nesting birds are also protected under California Fish and Game Code 3503, 3503.5, and 3512, which prohibits the take of active bird nests. The existing trees on the Project Site provide potentially suitable nesting habitat for songbirds. Although no active nests were observed during the field surveys, there is potential for ground- and tree-nesting birds to establish nests on the Project Site prior to initiation of project construction. These species are protected under the MBTA and would be protected under the California Fish and Game Code when actively nesting.

4.8 Wildlife Movement Corridors

Providing functional habitat connectivity between natural areas is essential to sustaining healthy wildlife populations and allowing for the continued dispersal of native plant and animal species. The regional movement and migration of wildlife species has been substantially altered due to habitat fragmentation over the past century. This fragmentation is most commonly caused by development of open areas, which can result in large patches of land becoming inaccessible and forming a virtual barrier between undeveloped areas. Additional roads associated with development, although narrow, may result in barriers to smaller or less mobile wildlife species. Habitat fragmentation results in isolated islands of habitat, which affects wildlife behavior, foraging activity, reproductive patterns, immigration and emigration or dispersal capabilities, and survivability. Wildlife corridors can consist of a sequence of discontinuous areas of habitat such as isolated wetlands, or continuous lineal strips of vegetation and habitat (e.g., riparian strips and ridge lines), or they may be parts of larger habitat areas selected for its known or likely importance to local wildlife. The Project area does not act as a wildlife movement corridor due to the current built environment at the site as well as the presence of dense urban development surrounding the site including residential neighborhoods, I-210 freeway to the north, METRO rail line to the south, and other commercial development nearby.

4.9 Jurisdictional Waters/Wetlands

As discussed above, an unnamed concrete-lined drainage (approximately 10 feet wide) occurs through the Project area along the Alexan Foothills Specific Plan's western boundary and flows southeast. The drainage is mapped as a blue-line drainage by the U.S. Geological Survey and is subject to California Department of Fish and Wildlife (CDFW) jurisdiction pursuant to Division 2, Chapter 6, Section 1600 of the Fish and Game Code. The drainage is also subject to U.S. Army Corps of Engineers' (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA) and the Los Angeles Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to Section 401 of the CWA. No other waters or wetlands were observed in the Project area.

5.0 Environmental Impacts

This section describes potential impacts to sensitive biological resources—including special-status plants and animals, and aquatic resources that may occur in the Project Site. Each impact discussion includes mitigation measures that would be implemented during the project to avoid and/or reduce the potential for and/or level of impacts to each resource. With the implementation of the recommended mitigation measures, all impacts to biological resources are anticipated to be reduced to less than significant pursuant to CEQA.

5.1 Thresholds of Significance

This section describes potential impacts to biological resources that may occur as a result of the construction of the proposed project. CEQA Guidelines provide guidance in evaluating project impacts and determining whether impacts may be significant. CEQA defines "significant effect on the environment" as "a substantial adverse change in the physical conditions which exist in the area affected by the proposed project." In accordance with Appendix G of the CEQA Guidelines, a project could have a significant environmental impact on biological resources if it would:

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

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

- Have a substantial adverse effect on State or Federally protected wetlands (including but not limited to marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;

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

- Conflict with any local policies or Ordinances protecting biological resources, such as a tree preservation policy or Ordinance; or

- Conflict with the provisions of an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or State habitat conservation plan

5.2 Impacts and Mitigation Measures

Implementation of the proposed Project would involve alteration of an already-developed area that does not support a wide diversity of biological resources. Though the majority of the Project area currently encompasses residential, commercial, industrial, and other urban development, sensitive habitat along an unnamed drainage channel and coast live oak trees still exist that could support plant and wildlife species. Potential impacts to these resources, and where necessary, associated mitigation measures to offset these impacts, are discussed below.

Impact BIO-1: Nesting Birds

Native and ornamental vegetation in the Project area have the potential to provide nesting habitat for bird species protected by the MBTA and California Fish and Game Code Sections 3503 and 3513. There is potential for ground- and tree-nesting birds to establish nests in the Project area prior to construction activities. Intentional destruction of or disturbance to an active nest is prohibited under state and federal law. Construction activities including site mobilization, tree removal, other vegetation clearing, grubbing, grading, and noise and vibration from the operation of heavy equipment have the potential to result in significant direct (i.e., death or physical harm) and/or indirect (i.e., nest abandonment) impacts to nesting birds. Implementation of mitigation measure MM BIO-1 would be required to reduce impacts to nesting birds to a less than significant level.

Mitigation Measures

MM BIO-1: Nesting Bird Protection. If vegetation removal is scheduled during the nesting season (typically February 1 to September 1), then a focused survey for active nests shall be conducted by a qualified

biologist (as determined by a combination of academic training and professional experience in biological sciences and related resource management activities) no more than five (5) days prior to the beginning of excavation, grading and/or vegetation removal. Surveys would be conducted in proposed work areas, staging and storage areas, along equipment transportation routes, and soil, equipment, and material stockpile areas. For passerines and small raptors, surveys should be conducted within a 250-foot radius surrounding the work area (in non-developed areas and where access is feasible). For larger raptors, such as those from the genus Buteo, the survey area should encompass a 500-foot radius. Surveys shall be conducted during weather conditions suited to maximize the observation of possible nests and shall concentrate on areas of suitable habitat. If a lapse in Project-related work of five (5) days or longer occurs, an additional nest survey shall be required before work can be reinitiated.

If active nests are found during any preconstruction survey, a qualified biologist shall establish an appropriate buffer between the nest and active construction. The qualified biologist shall clearly mark the established buffer. The Project proponent shall maintain the buffer until young have fledged and are foraging independently. The qualified biologist shall document pre-construction baseline monitoring of the nest to characterize "normal" bird behavior. The qualified biologist shall monitor the nesting birds daily during construction activities and shall increase the buffer if birds are showing signs of unusual or distressed behavior (e.g., defensive flights and vocalizations, standing up from a brooding position, and flying away from the nest). If this is not possible, work shall cease in the area until young have fledged and the nest is no longer active (e.g. young have fledged, predation, or other non-anthropogenic nest failure). Requirements and Timing: Measure shall be printed on all construction drawings. Monitoring: City Planning staff shall conduct periodic inspections in the field during construction to ensure measure is adhered to.

Impact BIO-2: Potential Adverse Effects on Jurisdictional Waters

A significant impact would occur if a Project has a substantial adverse effect on jurisdictional waters. The USACE and EPA regulate the discharge of dredged or fill material into waters of the United States, including wetlands, under Section 404 of the Clean Water Act. Section 404 of the CWA requires a permit before dredged or fill material may be discharged into waters of the United States. Section 401 of the CWA requires that an applicant for a federal permit obtain a certification from the RWQCB as well. Additionally, Section 1602 of the California Fish and Game Code requires the issuance of a Lake and Streambed Alteration Agreement (LSAA) to authorize work in jurisdictional streambeds.

Although a federal/state jurisdictional delineation was not completed as part of this effort, the onsite USGS blue line, concrete-lined drainage channel represents a potential USACE, CDFW, and RWQCB jurisdictional resource. Overflow stormwater discharge would be routed to this drainage channel during large storm events. However, it is unknown whether disturbance of the jurisdictional resource would be required in order to connect to it. It may be possible to avoid disturbance of the jurisdictional resource or it may be required to install a stormwater pipe into the bank of the drainage. In addition, future proposed development in the remaining GP/ZCA area could propose disturbance to the drainage channel.

No direct impacts to oak trees associated with the drainage is proposed and the channel is completely concrete-lined. However, modification of the bank of the jurisdictional drainage and discharge of stormwater to it, would be considered a potentially significant impact on the drainage and would be subject to permits by the CDFW, RWQCB, and likely the USACE. Impacts would be mitigated to a less than significant level, however, by implementing mitigation measures BIO-2a through BIO-2c.

Mitigation Measures

MM BIO-2a: Obtain USACE 404 Permit. If any alterations of, or discharges into, waters of the United States, including Section 404 wetlands are proposed, these alterations must be in conformance with the Sections 404 and 401 of the CWA via certification and permitting prior to any grading or construction that may impact jurisdictional area(s), as applicable. Activities that usually involve a regulated discharge of dredged or fill materials include (but are not limited to) grading, placing of riprap for erosion control, pouring concrete, laying sod, preparing soil for planting (e.g., turning soil over, adding soil amendments), stockpiling excavated material, mechanized removal of vegetation, and driving of piles for certain types of structures. If avoidance of federally protected wetlands is not feasible, securing 404 and 401 permits under the Clean Water Act and compliance with the federal and state "no net loss of wetlands" policy will be required in accordance with USACE and RWQCB regulations. The terms and conditions of these permits are anticipated to require mitigation consistent with *Compensatory Mitigation for Losses of Aquatic Resources; Final Rule* (USACE, United States Environmental Protection Agency [EPA], *Federal Register*, April 10, 2008).

Prior to initiation of ground disturbance activities within waters of the U.S., the applicant shall submit a jurisdictional delineation of waters of the U.S. to the USACE to request a formal verification of the limits of their jurisdiction and to identify potential impacts to waters of the U.S. If the USACE determines that jurisdictional waters of the U.S. will be impacted, the appropriate CWA Section 404 permit shall be acquired by the applicant for the construction of the proposed project. In addition, the Applicant shall be required to submit a Section 401 Water Quality Certification application to the Los Angeles RWQCB. If the USACE does not assert regulatory jurisdiction, then the applicant may be required to submit a Notice of Intent to the RWQCB for their General Permit R6T-2003-0004 for minor impact projects. If required, all regulatory permits will be obtained, and all conditions will be agreed upon to prior to project implementation. The Applicant shall be responsible for complying with all conditions outlined in the applicable USACE, and/or RWQCB permit. Impact minimization measures associated with permit conditions of approval may include implementation of best management practices (i.e., erosion and sediment control measures) and seasonal work restrictions, as appropriate. Impacts to jurisdictional features shall not occur until the permits are received from the appropriate regulatory agencies, or correspondence is received from the agencies indicating that a permit is not required. Requirements and Timing: Measure shall be printed on all drawings. A Section 404 permit and Section 401 Water Quality Certification or Waiver shall be obtained prior to issuance of building permits for any portion of the project impacting the drainage in the Project area. Monitoring: For projects disturbing the drainage in the Project area, City Planning staff shall confirm that any required Section 404 permit and Section 401 Water Quality Certification or Waiver is obtained prior to issuance of building permits for the portion of the project impacting the jurisdictional drainage.

MM BIO-2b: Consult CDFW on Section 1602 Requirements. If waters of the State cannot be feasibly avoided, the project proponent shall consult with CDFW regarding the need to apply for a Lake and Streambed Alteration Agreement (LSAA) to authorize work in jurisdictional streambeds and removal of coast live oak trees that may be regulated as riparian habitat. If this permit is required, the Applicant shall be responsible for complying with all conditions outlined in the LSAA, which may include wildlife habitat and streambed impact avoidance, minimization, and mitigation measures consistent with CDFW requirements for LSAAs. Impacts to state jurisdictional streambeds or riparian vegetation shall not occur until an LSAA is received from CDFW, or correspondence is received indicating that a permit is not required. Requirements and Timing: Measure shall be printed on all drawings. A LSAA shall be obtained prior to issuance of building permits for any portion of the project impacting the jurisdictional drainage**.** Monitoring: For projects

disturbing the drainage in the Project area, City Planning staff shall confirm that any required LSAA is obtained prior to issuance of building permits for the portion of the project impacting the drainage.

MM BIO-2c: Habitat Mitigation Plan. Preparation of a habitat mitigation plan may be required prior to permit issuance. The mitigation plan would address protection measures for the potential jurisdictional drainage and any protected trees retained onsite, quantify the total acreage of impacts to each sensitive resource, describe creation/replacement ratio for acres impacted (typically at least 1:1), identify potential mitigation sites, provide a planting plan, and outline monitoring and maintenance requirements. The amount of compensatory acreage shall be based on the functions and values of the impacted drainage and riparian habitat. If required, the plan would be prepared by a qualified biologist pursuant to, and through consultation with, CDFW. As an alternative, equivalent mitigation credits may be purchased at a mitigation bank to offset impacts to jurisdictional resources. The mitigation plan would provide detailed information about the bank and how the purchase of credits will result in no net loss of these protected resources. Purchase of mitigation credits would be subject to approval and verification by CDFW. Requirements and Timing: Measure shall be printed on all drawings. If required by the permitting resource agencies (i.e., USACE, RWQCB, or CDFW), a Habitat Mitigation Plan shall be prepared and approved by the City and other responsible natural resource agencies prior to issuance of building permits for the portion of the project impacting the drainage. Monitoring: For projects disturbing the jurisdictional drainage in the Project area, City Planning staff and the City Engineer shall review and approve of the Habitat Mitigation Plan, if one is required by resource agencies, prior to issuance of building permits for the portion of the project impacting the drainage.

Impact BIO-3: Impact on Sensitive Natural Vegetation Communities

No sensitive natural vegetation communities documented in CNDDB (CDFW 2018) are present in the Project area. However, the stand coast live oak trees along the concrete-lined drainage channel may be regulated as riparian habitat by CDFW. As stated under Impact BIO-2 above, buildout of the Alexan Foothills Specific Plan would avoid impacts on oak trees; however, future buildout in the remaining GP/ZCA area could propose disturbance to this drainage. Removal of riparian habitat would be considered a potentially significant impact. This impact would be mitigated to a level of less than significant with implementation of mitigation measures BIO-2a through BIO-2c.

Mitigation Measures

Refer to mitigation measures BIO-2a through BIO-2c.

Impact BIO-4: Impact on Wildlife Corridors

The Project area represents a developed and urbanized area and is not located within an established wildlife movement corridor, movement pathway, or linkage between larger habitat areas for terrestrial or aquatic wildlife. Due to the disturbed, limited, and fragmented condition of habitats on-site, which would preclude most species from using the site for breeding/nesting, the Project area also does not function as a wildlife nursery site that would contribute disproportionately to a population. Thus, wildlife species, migratory corridors and native wildlife nursery sites would not be impacted due to Project implementation.

Mitigation Measures

No mitigation measures are required.

Impact BIO-5: Impact on Other Special-Status Species

No other special status plant or wildlife species are expected to occur within the Project area due to a lack of suitable habitat and due to the high degree of site disturbance from existing development within and surrounding the Project area. Therefore, impacts on other special-status plant and wildlife species would be less than significant.

Mitigation Measures

No mitigation measures are required.

Impact BIO-6: Conflict with Local Policies or Ordinances or Conservation Plans

The Project area contains protected coast live oak trees (>10" in diameter at least 2 feet above the ground), including three along the Alexan Foothills Specific Plan area's western border. Disturbance to these oak trees would be avoided under the Alexan Foothills Specific Plan. However, any planned Project-related alterations to any/all of these oaks under buildout of the remaining GP/ZCA area would be required to comply with the City of Monrovia's Oak Tree Preservation Ordinance, which may require a permit through the City's Development Review Committee. The City's permit procedures require consideration of the condition of the following criteria:

1. The condition of the tree with respect to disease, danger of falling, proximity to existing or proposed structures, and interference with utility service;
2. The necessity to remove the tree for compelling economic necessity to construct proposed structural improvements, or for the purpose of re-landscaping with plant material more suitable to the immediate environment;
3. Good forestry practice, such as in the thinning of growth where necessary or desirable to promote the healthy growth of the tree;
4. The topography of the land and the effect of tree removal on erosion, soil retention or surface water flow shall be taken into account and balanced with all other considerations affecting decision upon the permit; and
5. The number of oak trees or other trees existing in the neighborhood on improved property.
6. The Development Review Committee shall be guided by the standards established in the neighborhood and the effect of tree removal upon property values in the area. Accordingly, due to the City's Oak Tree Preservation Ordinance requirements, impacts on protected oak trees would be less than significant.

The Project area is not located within an adopted Habitat Conservation Plan (HCP), Natural Community Conservation Plan (NCCP), or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur.

Standard Conditions

SC BIO-1: Compliance with the City of Monrovia Oak Tree Preservation Ordinance (87-11), Municipal Code Section 17.20.40 is required for disturbance to protected coast live oak trees that are greater than or equal to 10" in diameter at least 2 feet above the ground. Requirements and Timing: Measure shall be printed on all construction drawings. Any planned removal or encroachment upon oak trees shall be shown on proposed site plans and grading plans, including the number and size of each oak tree, as well as the limits of the dripline of each oak tree. Monitoring: City Planning staff shall review and approve of site plans and

grading plans prior to issuance of land use clearance to confirm that the Oak Tree Preservation Ordinance is adhered to.

Mitigation Measures

No mitigation measures are required.

5.2 Impact Conclusions

The Project area is almost entirely hardscaped and provides very little biological resource value. However, the limited amount of native and non-native vegetation as well as the concrete-lined channel in the Project area may provide marginal habitat to some species. Any disturbance of the jurisdictional drainage would result in a significant impact. However, with implementation of standard conditions and mitigation measures MM BIO-1 and MM BIO-2a through MM BIO-2c, impacts would be reduced to less than significant levels.

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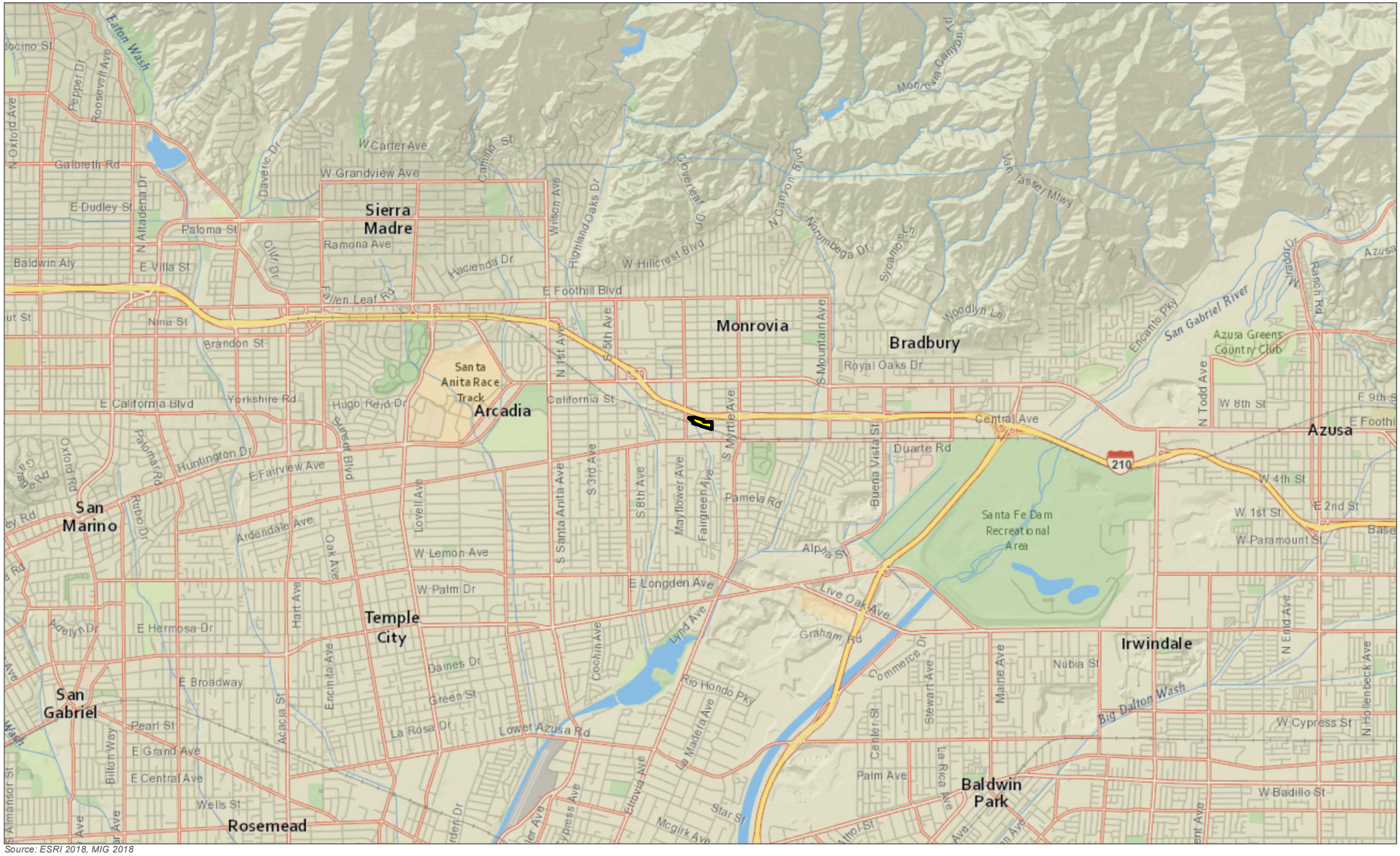
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FIGURES

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Source: ESRI 2018, MIG 2018

Project Boundary (6.77 ac)

0 0.5 1 2 Miles

N

Figure 1 Regional Map

Alexan Foothills Specific Plan, Monrovia, CA

MIG

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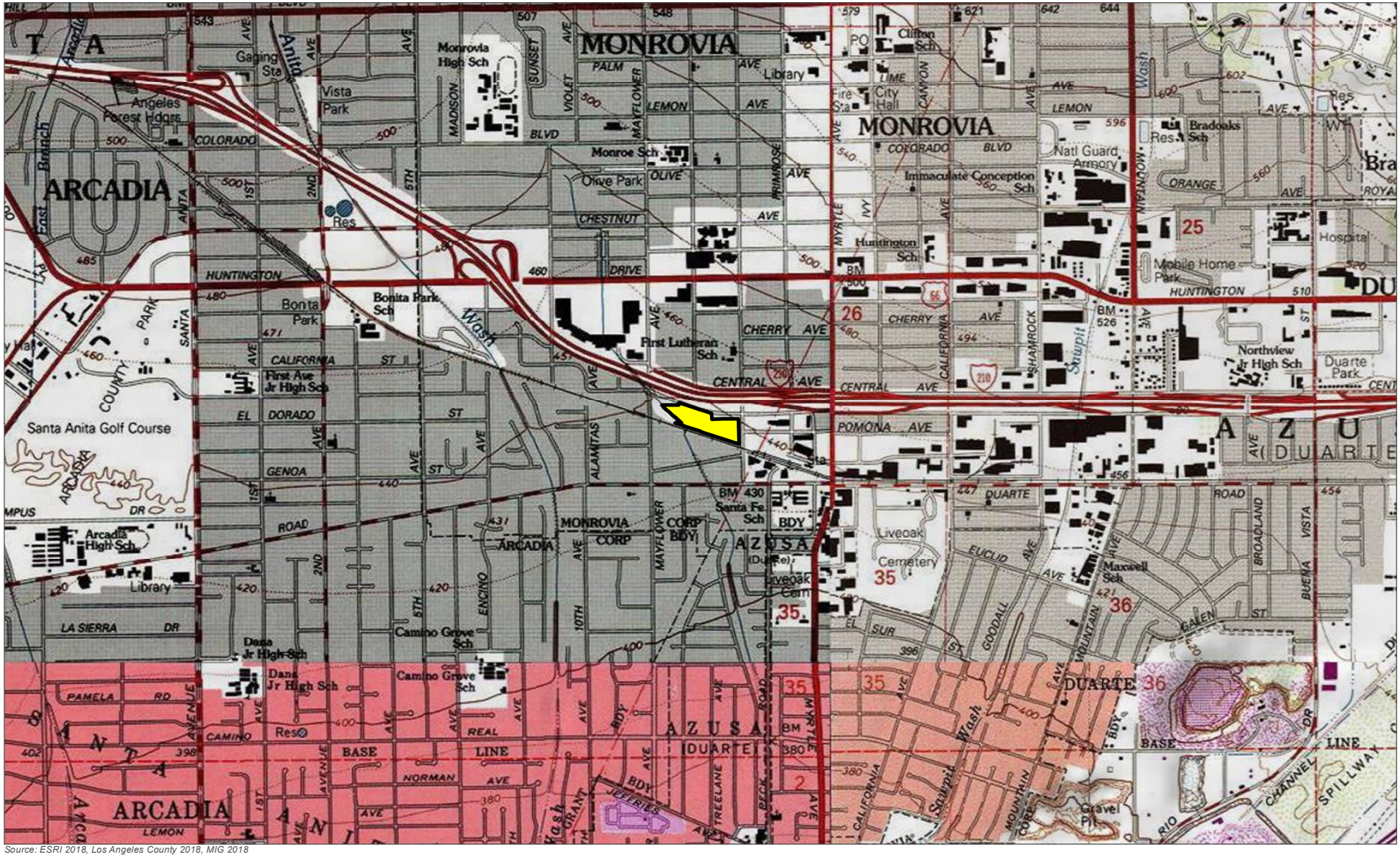
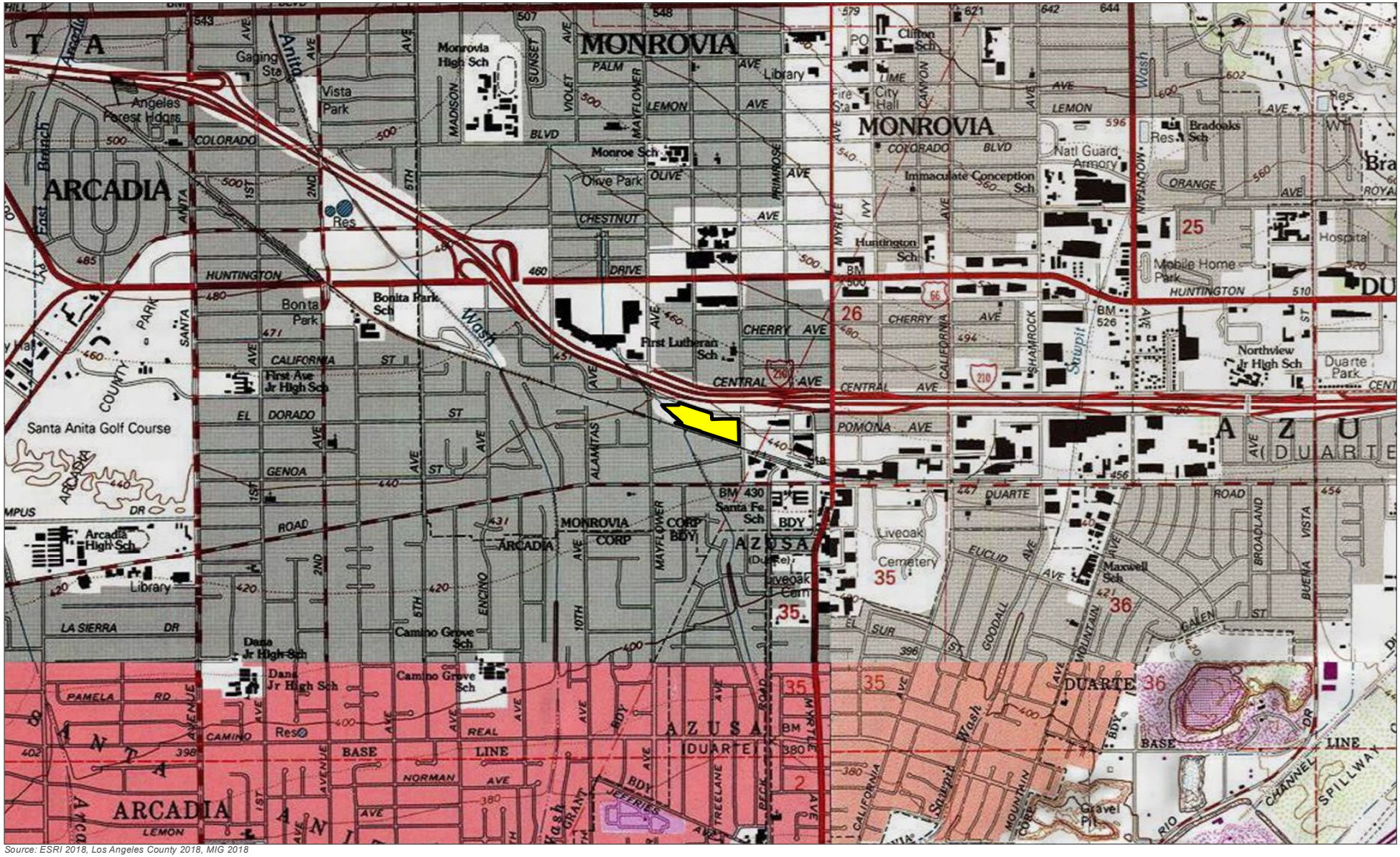


Figure 3 USGS Map

Alexan Foothills Specific Plan Monrovia, CA

MIG

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Source: ESRI 2018, Los Angeles County 2018, MIG 2018

Project Boundary (6.77 ac)

0 1,000 2,000 4,000 Feet

N

Figure 3 USGS Topographic Map

Alexan Foothills Specific Plan, Monrovia, CA

MIG

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Source: ESRI 2018, Soil Survey Staff 2018. MIG 2018

Project Boundary (6.77 ac)

Urban land-Palmview-Tujunga complex, 0 to 5 percent slopes (1002)

0 50 100 200 Feet

N

Figure 4 Soils Map

Alexan Foothills Specific Plan, Monrovia, CA

MIG

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Figure 5 Biological Resources Map

Alexan Foothills Specific Plan, Monrovia, CA

MIG

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PHOTOGRAPH 1 - Cars and structures dominate the Project Site. These areas are generally devoid of vegetation.



PHOTOGRAPH 2 - In addition to landscape plantings, the ornamental community includes escaped, invasive species like this oceanblue morning glory along the western boundary of the Project Site.

Figure 6 Current Project Site Photographs

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PHOTOGRAPH 3 - An unnamed concrete culvert runs along the western boundary of the Poject Site.



PHOTOGRAPH 4 - Coast live oak trees are present along the western boundary of the Project Site.

Figure 7 Current Project Site Photographs

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Appendix A
Special-Status Plant Species with Potential to Occur on the Project Site

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Appendix A: Special-Status Plant Species with Potential to Occur

Species	Status			Habitat Requirements	Elevation Range; Life Form; Blooming Period	Potential Occurrence in the Project Area[1]
	Federal	State	CNPS			
DICOTS						
slender silver moss *Anomobryum julaceum*	--	--	4.2	Occurs in damp rock and soil on rocky outcrops, usually on roadcuts; occurs in broadleafed upland forest, lower montane coniferous forest, and North Coast coniferous forest	100-1000 m; moss	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
Braunton's milk-vetch *Astragalus brauntonii*	FE	--	1B.1	Occurs in recently burned or disturbed areas, usually in sandstone with carbonate layers; occurs in chaparral, coastal scrub, valley grassland, or foothill grassland	4-640 m; Perennial herb; Blooms January to August	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
Davidson's saltscale *Atriplex serenana var. davidsonii*	--	--	1B.2	Occurs in alkaline coastal bluff scrub or coastal scrub	10-200 m; Annual herb; Blooms April to October	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
Nevin's barberry *Berberis nevinii*	FE	SE	1B.1	Occurs in chaparral, cismontane woodland, coastal scrub, riparian scrun and on steep, north-facing slopes or in low grade sandy washes.	290-1,575 m; Shrub; Blooms March to June	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.

[1] The potential for occurrence is based on occurrences recorded in the CNDDB, knowledge of species requirements, and site inspections during 2018 field surveys

Appendix A: Special Status Plant Species With Potential to Occur

Species	Status			Habitat Requirements	Elevation Range; Life Form; Blooming Period	Potential Occurrence in the Project Area[1]
	Federal	State	CNPS			
Mt. Gleason paintbrush *Castilleja gleasoni*	--	--	1B.2	Occurs in granitic habitats, including: chaparral, lower montane coniferous forest, pinyon woodland, and juniper woodland	1160-2170 m; Perennial hemiparasitic herb; Blooms May to June	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
slender mariposa-lily *Calochortus clavatus var. gracilis*	--	--	1B.2	Occurs in chaparral, coastal scrub, valley, and foothill grassland. Found in shaded foothill canyons; often on grassy slopes within other habitat.	310 to 1,620 m; Perennial herb (bulb); Blooms March to June	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
Palmer's mariposa-lily *Calochortus palmeri var. palmeri*	--	--	1B.2	Occurs in chaparral, lower montane coniferous forest, meadows, and seeps	710-2390 m; Perennial bulbiferous herb; Blooms April to July	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
Plummer's mariposa-lily *Calochortus plummerae*	--	--	4.2	Occurs in coastal scrub, chaparral, valley and foothill grassland, cismontane woodland, and lower montane coniferous forest. Found on rocky and sandy sites, usually of granitic or alluvial material. Can be very common after fire.	140-1,920 m; Perennial herb (bulb); Blooms May to July	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
alkali mariposa-lily *Calochorus striatus*	--	--	1B.2	Occurs in alkaline and mesic habitats, including: chaparral, chenopod scrub, Mojavean desert scrub, meadows, and seeps	70-1595 m; Perennial bulbiferous herb; Blooms April to June	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.

Appendix A: Special Status Plant Species With Potential to Occur

Species	Status			Habitat Requirements	Elevation Range; Life Form; Blooming Period	Potential Occurrence in the Project Area[1]
	Federal	State	CNPS			
Intermediate mariposa-lily *Calochortus weedii var. intermedius*	--	--	1B.2	Occurs in coastal scrub, chaparral, valley and foothill grassland. Found in dry, rocky open slopes and rock outcrops.	17-1,260 m; Perennial herb (bulb); Blooms May to July	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
southern tarplant *Centromadia parry ssp. australis*	--	--	1B.1	Found on the margins of marshes and swamps, is vernally mesic in valley and foothill grasslands, and occurs in vernal pools	0-480 m; Annual herb; Blooms May to November	**Not Expected.** There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
Smooth tarplant *Centromadia pungens* ssp. *laevis*	--	--	1B.1	Found in valley and foothill grassland, chenopod scrub, meadows, playas, riparian woodland. Occurs in alkali meadows, alkali scrub, and also in disturbed places.	0-640 m; Annual herb; Blooms April to September	**Not Expected.** There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
Parry's spineflower *Chorizanthe parryi* var. *parryi*	--	--	1B.1	Occurs in coastal scrub, chaparral, cismontane woodland, valley, and foothill grassland. Found in dry slopes and flats; sometimes at interface of two vegetation types, such as chaparral and oak woodland; dry, sandy soils.	225-1,220 m; Annual herb; Blooms April to June	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
California saw-grass *Cladium californicum*	--	--	2B.2	Occurs in meadows and seeps, marshes and swamps (alkaline or freshwater). Found in freshwater or alkaline moist habitats.	-24 to 1,810 m; Perennial grasslike herb; Blooms June to September	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
Peruvian dodder *Cuscuta obtusiflora var. glandulosa*	--	--	2B.2	Occurs in freshwater marshes and swamps	15-280 m; Annual vine; Blooms July to October	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.

Appendix A: Special Status Plant Species With Potential to Occur

Species	Status			Habitat Requirements	Elevation Range; Life Form; Blooming Period	Potential Occurrence in the Project Area[1]
	Federal	State	CNPS			
Slender-horned spineflower *Dodecahema leptoceras*	FE	SE	1B.1	Occurs in chaparral, cismontane woodland, coastal scrub (alluvial fan sage scrub). Found in flood deposited terraces and washes; associates include *Encelia, Dalea*, and *Lepidospartum*. Sandy soils.	200-760 m; Annual herb; Blooms April to June	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. Not observed during January 2018 field survey; however, focused surveys were not conducted. The species is not expected to be found on the Project Site.
San Gabriel River dudleya *Dudleya cymosa ssp. crebrifolia*	--	--	1B.2	Occurs in granitic chaparral	275-457 m; Perennial herb; Blooms April to July	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
San Gabriel Mountains dudleya *Dudleya densiflora*	--	--	1B.1	Occurs in granitic cliffs and canyon walls, also in chaparral, cismontane woodland, coastal scrub, lower montane coniferous forest, and riparian woodland	244-610 m; Perennial herb; Blooms March to June	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
many-stemmed dudleya *Dudleya multicaulis*	--	--	1B.2	Occurs in chaparral, coastal scrub, valley and foothill grassland. Found in heavy, often clayey soils or grassy slopes.	20-1,000 m; Perennial herb; Blooms April to July	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.

Appendix A: Special Status Plant Species With Potential to Occur

Species	Status			Habitat Requirements	Elevation Range; Life Form; Blooming Period	Potential Occurrence in the Project Area[1]
	Federal	State	CNPS			
San Gabriel bedstraw *Galium grande*	--	--	1B.2	Occurs in broadleafed upland forest, chaparral, cismontane woodland, and lower montane coniferous forests	425-1500 m; Perennial deciduous shrub; Blooms January to July	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
Los Angeles sunflower *Helianthus nuttallii ssp. parishii*	--	--	1A	Occurs in salt or freshwater marshes and swamps	10-1525 m; Perennial rhizomatous herb; Blooms August-October	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
Mesa horkelia *Horkelia cuneata* var. *puberula*	--	--	1B.1	Occurs in chaparral, cismontane woodland, coastal scrub. Found on sandy or gravelly sites.	70-810 m; Perennial herb; Blooms February to July	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
California satintail *Imperata brevifolia*	--	--	2B.1	Occurs in chaparral, coastal scrub, Mojavean desert scrub, meadows, seeps (especially alkali), and riparian scrub	0-1215 m; Perennial rhizomatous herb; Blooms September to May	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
Coulter's goldfields *Lasthenia glabrata* ssp. *coulteri*	--	--	1B.1	Occurs in coastal salt marshes, playas, vernal pools. Usually found on alkaline soils in playas, sinks, and grasslands.	1-1,200 m; Annual herb; Blooms February to June	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.

Appendix A: Special Status Plant Species With Potential to Occur

Species	Status			Habitat Requirements	Elevation Range; Life Form; Blooming Period	Potential Occurrence in the Project Area[1]
	Federal	State	CNPS			
Robinson's pepper-grass *Lepidium virginicum* var. *robinsonii*	--	--	4.3	Occurs in chaparral, coastal scrub. Found on dry soils and shrubland.	1-885 m; Annual herb; Blooms January to July	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
Davidson's bush-mallow *Malacothamnus davidsonii*	--	--	1B.2	Occurs in chaparral, cismontane woodland, coastal scrub, and riparian woodland	185-1140 m; Perennial deciduous shrub; Blooms June through January	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
California muhly *Muhlenbergia californica*	--	--	4.3	Occurs in coastal scrub, chaparral, lower montane coniferous forest, meadows and seeps. Usually found near streams or seeps.	440 to 2,380 m; Perennial grass (rhizomatus); Blooms June to September	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
Prostrate vernal pool navarretia *Navarretia prostrata*	--	--	1B.1	Occurs in coastal scrub, valley and foothill grassland, vernal pools, meadows, and seeps. Found on alkaline soils in grasslands, or in vernal pools. Occurs on mesic and alkaline sites.	20-640 m; Annual herb; Blooms April to July	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
Robbins' nemacladus *Nemacladus secundiflorus var. robbinsii*	--	--	1B.2	Occurs in openings in chaparral, valley grasslands, and foothill grasslands	350-1700 m; Annual herb; Blooms April to June	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.

Appendix A: Special Status Plant Species With Potential to Occur

Species	Status			Habitat Requirements	Elevation Range; Life Form; Blooming Period	Potential Occurrence in the Project Area[1]
	Federal	State	CNPS			
Short-joint beavertail *Opuntia basilaris var. brachyclada*	--	--	1B.2	Occurs in chaparral, Joshua tree woodland, Mojavean desert scrub, and pinyon-juniper woodland. Found in sandy soil or coarse, granitic loam.	750-1,900 m; Shrub (stem succulent); Blooms April to June	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
Brand's star phacelia *Phacelia stellaris*	--	--	1B.1	Occurs in coastal scrub and coastal dunes. Found in open areas.	1-400 m; Annual herb, Blooms March to June	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
White rabbit-tobacco *Pseudognaphalium leucocephalum*	--	--	2B.2	Occurs in riparian woodland, cismontane woodland, coastal scrub, and chaparral. Found on sandy and gravelly sites.	14-1,400 m; Perennial herb; Blooms August to November	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
Parish's gooseberry *Ribes divaricatus var. parishii*	--	--	1A	Occurs in riparian woodland	65-300m; Perennial deciduous shrub; Blooms February to April	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
Sanford's arrowhead *Sagittaria sanfordii*	--	--	1B.2	Occurs in marshes and swamps. Found in standing or slow-moving freshwater ponds, marshes, and ditches.	7 to 1,270 m; Perennial herb (rhizomatus); Blooms May to October	**Not Expected.** There are no recent known records of occurrence in the vicinity of the project (within 5 miles). There is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.

Appendix A: Special Status Plant Species With Potential to Occur

Species	Status			Habitat Requirements	Elevation Range; Life Form; Blooming Period	Potential Occurrence in the Project Area[1]
	Federal	State	CNPS			
southern mountains skullcap *Scutellaria bolanderi ssp. austromontana*	--	--	1B.2	Occurs in chaparral, cismontane woodland; and lower montane coniferous forest	425-2000m; Perennial rhizomatous herb; Blooms June to August	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
Salt Spring checkerbloom *Sidalcea neomexicana*	--	--	2B.2	Occurs on playas, chaparral, coastal scrub, lower montane coniferous forest, and Mojavean desert scrub. Found in alkali springs and marshes.	0-1,390; Perennial herb; Blooms March to June	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
Prairie wedge grass *Sphenopholis obtusata*	--	--	2B.2	Occurs in cismontane woodland, meadows, and seeps. Found in open moist sites, along rivers and springs, alkaline desert seeps.	240 to 2,870 m; Perennial grass; Blooms August to July	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
San Bernardino aster *Symphyotrichum defoliatum*	--	--	1B.2	Occurs in meadows and seeps, marshes and swamps, coastal scrub, cismontane woodland, lower montane coniferous forest, and grassland. Found in vernally mesic grassland or near ditches, streams and springs; disturbed areas.	2-2,040 m; Perennial herb; Blooms July to November	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). Not observed during January 2018 field survey; however, focused surveys were not conducted. The species is not expected to be found on the Project Site.
Greata's aster *Symphyotrichum greatae*	--	--	1B.3	Occurs in chaparral, cismontane woodland, broadleaved upland forest, lower montane coniferous forest, and riparian woodland. Found in mesic canyons.	310 to 2,040 m; Perennial herb; Blooms June to October	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.

Appendix A: Special Status Plant Species With Potential to Occur

Species	Status			Habitat Requirements	Elevation Range; Life Form; Blooming Period	Potential Occurrence in the Project Area[1]
	Federal	State	CNPS			
Sonoran maiden fern *Thelypteris puberula var. sonorensis*	--	--	2B.2	Occurs in meadows, seeps, and along streams	50-610 m; Perennial rhizomatous herb; Blooms January - September	**Not Expected.** There are records of occurrences of this species in the vicinity of the project (within 5 miles), however there is no suitable habitat present on the Project Site. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
Rigid fringepod *Thysanocarpus rigidus*	--	--	1B.2	Occurs in pinyon and juniper woodland. Found on dry, rocky slopes and ridges of oak and pine woodland in arid mountain ranges.	425-2,165 m; Annual herb; Blooms February to May	**Not Expected.** There is no suitable habitat present on the Project Site. There are no recent known records of occurrence in the vicinity of the project (within 5 miles). The species is not expected to be found on the Project Site.
Plant Communities						
Canyon Live Oak Ravine Forest						This plant community is not present on the Project Site.
California Walnut Woodland						This plant community is not present on the Project Site.
Coastal and Valley Freshwater Marsh						This plant community is not present on the Project Site.
Riversidean Alluvial Fan Sage Scrub						This plant community is not present on the Project Site.
Southern Coast Live Oak Riparian Forest						This plant community is not present on the Project Site.
Southern Cottonwood Willow Riparian Forest						This plant community is not present on the Project Site.
Southern Riparian Forest						This plant community is not present on the Project Site.
Southern Sycamore Alder Riparian Woodland						This plant community is not present on the Project Site.
Southern Willow Scrub						This plant community is not present on the Project Site.

Appendix A: Special Status Plant Species With Potential to Occur

STATUS KEY:

Federal

FE: Federally-listed Endangered
FT: Federally-listed Threatened

State

CE: California-listed Endangered
CT: California-listed Threatened

California Native Plant Society (CNPS)**:**

1B: Plants listed as rare, threatened, or endangered in California and elsewhere
2B: Plants rare, threatened, or endangered in California, but more common elsewhere
3: Plants about which we need more information
4: Plants of Limited Distribution, a watch list

CNPS added a decimal threat rank to the List rank to parallel that used by the CNDDB. This extension replaces the E (Endangerment) value from the R-E-D Code. CNPS ranks therefore read like this: 1B.1, 1B.2, etc. Threat code extensions and their meanings are as follows:

.1 – Seriously endangered in California (over 80% of occurrences threatened / high degree of immediacy of threat)
.2 – Fairly endangered in California (20-80% occurrences threatened)
.3 – Not very endangered in California (<20% of occurrences threatened or no current threats known)

SOURCES:

1 Calflora and the California Native Plant Society Rare and Endangered Plant Inventory was used to identify preferred habitat for each species
2 CNDDB records are from CNDDB 2018

Appendix B
Special-Status Wildlife Species with Potential to Occur on the Project Site

This document is formatted for double-sided printing

Appendix B: Special-Status Wildlife Species with Potential to Occur

Species	Status		Habitat Requirements	Potential for Occurrence
	Federal	State		
INVERTEBRATES				
crotch bumble bee *Bombus crotchii*	--	--	Found along coastal California east to the Sierra-Cascade crest and south into Mexico. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.*	**Not Expected.** There is no suitable food plant or habitat located on the Project Site. There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles). Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
FISHES				
Santa Ana sucker *Catostomus santaanae*	FT	--	Endemic to Los Angeles Basin south coastal streams. Habitat generalists, but prefer sand-rubble-boulder bottoms, cool, clear water, and algae.	**Not Expected.** No water bodies are present on the Project Site; therefore, there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
Arroyo chub *Gila orcuttii*	--	CSC	Native to streams from Malibu Creek to San Luis Rey River basin. Introduced into streams in Santa Clara, Ventura, Santa Ynez, Mohave and San Diego river basins. Inhabits slow water stream sections with mud or sand bottoms. Feeds heavily on aquatic vegetation and associated invertebrates.	**Not Expected.** No water bodies are present on the Project Site. The species is not expected to be found on the Project Site.
Santa Ana speckled dace *Rhinichthys osculus ssp. 3*	--	CSC	Inhabits headwaters of the Santa Ana and San Gabriel rivers. May be extirpated from the Los Angeles River system. Requires permanent flowing streams with summer water temps of 17-20 Celsius. Usually inhabits shallow cobble and gravel riffles.	**Not Expected.** No water bodies are present on the Project Site; therefore, there is no suitable habitat present on the Project Site. The species is not expected to be found on the Project Site.
AMPHIBIANS				
Arroyo toad *Anaxyrus californicus*	FE	CSC	Found in semi-arid regions near washes or intermittent streams, including valley-foothill and desert riparian, and desert washes. Inhabits rivers with sandy banks, willows, cottonwoods, and sycamores; loose, gravelly areas of streams in drier parts of range.	**Not Expected.** There is no suitable habitat located on the Project Site. There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles). Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
southern mountain yellow-legged frog *Rana muscosa*	FE	SE, CSC	Species always encountered within a few feet of water. Tadpoles may require 2 to 4 years to complete their aquatic development.	**Not Expected.** There is no suitable habitat including water bodies located on the Project Site. The only occurrences within 5 miles of the Project Site are listed as extirpated or possibly extirpated on CNDDB due to surrounding urbanization. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.

Appendix B: Special-Status Wildlife Species with Potential to Occur

Species	Status		Habitat Requirements	Potential for Occurrence
	Federal	State		
coast range newt *Taricha torosa*	--	CSC	Found in Coastal drainages from Mendocino County to San Diego County. Lives in terrestrial habitats and will migrate over one kilometer to breed in ponds, reservoirs, and slow moving streams.	**Not Expected.** There is no suitable habitat including water bodies located on the Project Site. One occurrence nearly 5 miles to the north is within rural hills and the species has likely been excluded from the region due to urbanization. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
REPTILES				
silvery legless lizard *Anniella pulchra pulchra*	--	CSC	Sandy or loose loamy soils under sparse vegetation. Soil moisture is essential. they prefer soils with a high moisture content.	**Not Expected.** There is no suitable habitat located on the Project Site. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
Southern California legless lizard *Anniella stebbinsi*	--	CSC	Inhabits coastal sand dunes, sandy washes, alluvial fans—generally in sandy soils with vegetative cover.	**Not Expected.** There is no suitable habitat located on the Project Site. There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles). Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
California glossy snake *Arizona elegans occidentalis*	--	CSC	Inhabits arid scrub, rocky washes, grasslands, chaparral.	**Not Expected.** There is no suitable habitat located on the Project Site. There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles). Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
coastal whiptail *Aspidoscelis tigris stejnegeri*	--	--	Found in deserts and semiarid areas with sparse vegetation and open areas. Also found in woodland and riparian areas. Ground may be firm soil, sandy, or rocky.	**Not Expected.** There is no suitable habitat located on the Project Site. One occurrence within the vicinity (within 5 miles) of the Project Site is located in a flood control basin and is highly unlikely to disperse into an already urbanized site like that of the Project Site. Not observed during April 2016 field survey. The species is not expected to be found on the Project Site.
western pond turtle *Emys marmorata*	--	CSC	Inhabits ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Requires basking sites and sandy banks or open grassy fields up to 0.5 kilometers from the water's edge for egg-laying.	**Not Expected.** There is no suitable habitat located on the Project Site. There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles). Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.

Appendix B: Special-Status Wildlife Species with Potential to Occur

Species	Status		Habitat Requirements	Potential for Occurrence
	Federal	State		
coast horned lizard *Phrynosoma blainvillii*	--	CSC	Frequents a wide variety of habitats, most common in lowlands along sandy washes with scattered low bushes. Requires open areas for sunning, bushes for cover, patches of loose soil for refuge, and abundant supply of insects.	**Not Expected.** There is no suitable habitat located on the Project Site. One occurrence within the vicinity (within 5 miles) of the Project Site is located in a flood control basin and is highly unlikely to disperse into an already urbanized site like that of the Project Site. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
two-striped garter snake *Thamnophis hammondii*	--	CSC	Found along coastal California from vicinity of Salinas to northwest Baja California. Inhabits areas from the sea to about 7,000 feet in elevation. Highly aquatic, found in or near permanent fresh water. Often found along streams with rocky beds and riparian growth.	**Not Expected.** There is no suitable habitat including water bodies located on the Project Site. One occurrence nearly 5 miles to the north is within rural hills and the species has likely been excluded from the region due to urbanization. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
BIRDS				
tricolored blackbird *Agelaius tricolor*	--	CSC	Inhabits freshwater marsh, marsh and swamp, swamp, and wetland habitats. Highly colonial species, most numerous in Central Valley and vicinity. Largely endemic to California. Requires open water, protected nesting substrate, and foraging area with insect prey within a few kilometers of the colony.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
golden eagle *Aquila chrysaetos*	--	--	Inhabits rolling foothills, mountain areas, sage-juniper flats, and desert. Nesting habitat includes cliff-walled canyons and large trees in open areas.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
burrowing owl *Athene cunicularia*	--	CSC	Inhabits open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation. Subterranean nester, dependent upon burrowing mammals, most notably, the California ground squirrel (*Otospermophilius beecheyi*).	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.

Appendix B: Special-Status Wildlife Species with Potential to Occur

Species	Status		Habitat Requirements	Potential for Occurrence
	Federal	State		
Swainson's hawk *Buteo swainsoni*	--	ST	Occurs in Great Basin grassland, riparian forest, riparian woodland, valley and foothill grassland habitats. Breeds in grasslands with scattered trees, juniper-sage flats, riparian areas, savannahs, and agricultural or ranch lands with groves or lines of trees. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FT	SE	Riparian forest nester, along the broad, lower flood-bottoms of larger river systems. Nests in riparian jungles of willow (*Salix* sp.) often mixed with cottonwoods (*Populus* sp.), with lower story of blackberry (*Rubus sp.*), nettles (*Urtica sp.*), or wild grape (*Vitis girdiana*).	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
American swift *Cypseloides niger*	--	CSC	Occurs along the coastal belt of Santa Cruz and Monterey counties; central and southern Sierra Nevada; San Bernardino and San Jacinto Mountains. Breeds in small colonies on cliffs behind or adjacent to waterfalls in deep canyons and sea-bluffs above the surf; forages widely.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
southwestern willow flycatcher *Empidonax traillii extimus*	FE	SE	Inhabits riparian and wetland thickets, generally of willow, tamarisk, or both, sometimes boxelder or Russian olive.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
American peregrine falcon *Falco peregrinus anatum*	--	FP	Prefers extremely high vertical habitat for nesting (i.e. skyscrapers, clifftops, etc.). More likely to occur in habitat with nearby freshwater sources.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.

Appendix B: Special-Status Wildlife Species with Potential to Occur

Species	Status		Habitat Requirements	Potential for Occurrence
	Federal	State		
California condor *Gynogyps californianus*	FE	SE	Prefers chaparral scrub and forested mountains for nesting and is an opportunistic forager over open areas, including grasslands.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
yellow-breasted chat *Icteria virens*	--	CSC	Summer resident; inhabits riparian thickets of willow and other brushy tangles near watercourses. Nests in low, dense riparian, consisting of willow, blackberry, wild grape.	**Not Expected.** There is no suitable habitat located on the Project Site. One occurrence within the vicinity (within 5 miles) of the Project Site is located in a flood control basin and is highly unlikely to disperse into an already urbanized site like that of the Project Site. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
coastal California gnatcatcher *Polioptila californica californica*	FT	CSC	Obligate, permanent resident of coastal sage scrub below 2,500 feet in Southern California. Inhabits low, coastal sage scrub in arid washes, on mesas and slopes. Not all areas classified as coastal sage scrub are occupied.	**Not Expected.** There are recent known records of occurrence in the vicinity of the Project Site (within 5 miles). However, there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
bank swallow *Riparia riparia*	--	ST	Inhabits low areas along waterways (riparian, freshwater reservoirs, or coastal). Nests in colonies on vertical cliff habitat.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
American yellow warbler *Setophaga petechia*	--	CSC	Occurs in riparian plant associations in close proximity to water. Also nests in montane shrubbery in open conifer forests in Cascades and Sierra Nevada. Frequently found nesting and foraging in willow shrubs and thickets, and in other riparian plants including cottonwoods, sycamores, ash, and alders.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.

Appendix B: Special-Status Wildlife Species with Potential to Occur

Species	Status		Habitat Requirements	Potential for Occurrence
	Federal	State		
least Bell's vireo *Vireo bellii pusillus*	FE	SE	Summer resident of Southern California in low riparian in vicinity of water or in dry river bottoms below 2,000 feet. Nests placed along margins of bushes or on twigs projecting into pathways (usually *salix*, *baccharis*, *Prosopis*).	**Not Expected.** There are recent known records of occurrence in the vicinity of the Project Site (within 5 miles). However, there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
MAMMALS				
pallid bat *Antrozous pallidus*	--	CSC	Occurs in deserts, grasslands, shrublands, woodlands, and forests. Most common in open, dry habitats with rocky areas for roosting. Roosts must protect bats from high temperatures. Very sensitive to disturbance of roosting sites.	**Not Expected.** There are historic records of occurrence in the vicinity of the Project Site (within 5 miles). However, there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
Townsend's big-eared bat *Corynorhinus townsendii*	--	CSC	Occurs through North America in a wide variety of habitats including coniferous forests, mixed wood forests, deserts, prairies, riparian, agricultural, and coastal habitats.	**Not Expected.** There are recent known records of occurrence in the vicinity of the Project Site (within 5 miles). However, there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
western mastiff bat *Eumops perotis californicus*	--	CSC	Inhabits many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, valley and foothill grasslands, and chaparral. Roosts in crevices in cliff faces, high buildings, trees and tunnels.	**Not Expected.** There are historic records of occurrence in the vicinity of the Project Site (within 5 miles). However, there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
silver-haired bat *Lasionycteris noctivagans*	--	--	Occurs throughout most of the United States and into parts of Canada and Mexico, primarily associated with coniferous and mixed coniferous forests, but seasonally in lower elevation habitats.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.

Appendix B: Special-Status Wildlife Species with Potential to Occur

Species	Status		Habitat Requirements	Potential for Occurrence
	Federal	State		
hoary bat *Lasiurus cinereus*	--	--	Prefers open habitats or habitat mosaics, with access to trees for cover and open areas or habitat edges for feeding. Roosts in dense foliage of medium to large trees. Feeds primarily on moths. Requires water.	**Not Expected.** There are historic records of occurrence in the vicinity of the Project Site (within 5 miles). However, there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
western yellow bat *Lasiurus xanthinus*	--	CSC	Found in valley foothill riparian, desert riparian, desert wash, and palm oasis habitats. Roosts in trees, particularly palms. Forages over water and among trees.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	--	CSC	Found in intermediate canopy stages of shrub habitats and open shrub/herbaceous and tree/herbaceous edges. Inhabits coastal sage scrub habitats in Southern California.	**Not Expected.** There is no suitable habitat located on the Project Site. One occurrence within the vicinity (within 5 miles) of the Project Site is located in a flood control basin and is highly unlikely to disperse into an already urbanized site like that of the Project Site. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
fringed myotis *Myotis thysanodes*	--	--	Occurs throughout western North America. This species is more common in oak/pinyon-juniper/ponderosa pine woodlines but less commonly occurs in desert scrub, coniferous forests, grassland, and sage-grass steppe as well.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
long-legged myotis *Myotis volans*	--	--	Occurs throughout western North America, primarily in coniferous forests, but seasonally within riparian and desert habitats.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.

Appendix B: Special-Status Wildlife Species with Potential to Occur

Species	Status		Habitat Requirements	Potential for Occurrence
	Federal	State		
lodgepole chipmunk *Neotamia speciosus speciosus*	--	--	Isolated populations occur in Southern California mountains in mixed wood and chaparral habitat.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
pocketed free-tailed bat *Nyctinomops femorosaccus*	--	CSC	Inhabits a variety of arid areas in Southern California, including pine-juniper woodlands, desert scrub, palm oasis, desert wash, and desert riparian. Prefers rocky areas with high cliffs.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
big free-tailed bat *Nyctinomops macrotis*	--	CSC	Occurs in low-lying arid areas in Southern California. Needs high cliffs or rocky outcrops for roosting sites. Feeds principally on large moths.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
southern grasshopper mouse *Onychomys torridus ramona*	--	CSC	Occurs in arid deserts and desert scrub habitat. Prey is almost exclusively arthropods.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.
desert bighorn sheep *Ovis canadensis nelsoni*	--	--	Widely distributed from the White Mountains in Mono County to the Chocolate Mountains in Imperial County. Occurs in open, rocky, steep areas with available water and herbaceous forage.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.

Appendix B: Special-Status Wildlife Species with Potential to Occur

Species	Status		Habitat Requirements	Potential for Occurrence
	Federal	State		
American badger *Taxidea taxus*	--	CSC	Prefers vast, wide-open grassland habitat with abundant sources of burrowing mammal prey.	**Not Expected.** There are no recent known records of occurrence in the vicinity of the Project Site (within 5 miles) and there is no suitable habitat present on the Project Site. The Project Site is completely paved with gravel and asphalt. Not observed during January 2018 field survey. The species is not expected to be found on the Project Site.

Appendix B: Special-Status Wildlife Species with Potential to Occur

KEY:
(nesting and/or wintering) = For most taxa, the CNDDB is interested in information that indicates the presence of a resident population. For some species (primarily birds), the CNDDB only tracks certain parts of the species range or life history (e.g., nesting locations).

STATUS:

Federal
FE: Federally-listed Endangered
FT: Federally-listed Threatened
FD: Federally-delisted

State
SE: State-listed Endangered
ST: State-listed Threatened
CSC: State Species of Special Concern
FP: Fully-Protected

SOURCES:
1 California Natural Diversity Database (CNDDB), BIOS 5 Data Viewer, and NatureServe.org Explorer were used to identify preferred habitat for each species
2 CNDDB records are from CNDDB 2018

Appendix C
State and Federal Database Search Results for Special-Status Plant and Wildlife Species

This document is formatted for double-sided printing

Plant List

78 matches found. *Click on scientific name for details*

Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B, 3, 4], Found in Quads 3411832, 3411831, 3411738, 3411822, 3411821, 3411728, 3411812 3411811 and 3411718;

Modify Search Criteria | Export to Excel | Modify Columns | Modify Sort | Display Photos

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Acanthoscyphus parishii var. parishii	Parish's oxytheca	Polygonaceae	annual herb	Jun-Sep	4.2	S3S4	G4?T3T4
Anomobryum julaceum	slender silver moss	Bryaceae	moss		4.2	S2	G5?
Arctostaphylos glandulosa ssp. gabrielensis	San Gabriel manzanita	Ericaceae	perennial evergreen shrub	Mar	1B.2	S3	G5T3
Arctostaphylos parryana ssp. tumescens	interior manzanita	Ericaceae	perennial evergreen shrub	Feb-Apr	4.3	S3S4	G4T3T4
Asplenium vespertinum	western spleenwort	Aspleniaceae	perennial rhizomatous herb	Feb-Jun	4.2	S4	G4
Astragalus brauntonii	Braunton's milk-vetch	Fabaceae	perennial herb	Jan-Aug	1B.1	S2	G2
Astragalus pulsiferae var. coronensis	Modoc Plateau milk-vetch	Fabaceae	perennial herb	May-Jul	4.2	S3	G4T3
Atriplex serenana var. davidsonii	Davidson's saltscale	Chenopodiaceae	annual herb	Apr-Oct	1B.2	S1	G5T1
Berberis nevinii	Nevin's barberry	Berberidaceae	perennial evergreen shrub	(Feb)Mar-Jun	1B.1	S1	G1
Calochortus catalinae	Catalina mariposa lily	Liliaceae	perennial bulbiferous herb	(Feb)Mar-Jun	4.2	S3S4	G3G4
Calochortus clavatus var. gracilis	slender mariposa lily	Liliaceae	perennial bulbiferous herb	Mar-Jun(Nov)	1B.2	S2S3	G4T2T3
Calochortus palmeri var. palmeri	Palmer's mariposa lily	Liliaceae	perennial bulbiferous herb	Apr-Jul	1B.2	S2	G3T2
Calochortus plummerae	Plummer's mariposa lily	Liliaceae	perennial bulbiferous herb	May-Jul	4.2	S4	G4
Calochortus striatus	alkali mariposa lily	Liliaceae	perennial bulbiferous herb	Apr-Jun	1B.2	S3	G3
Calochortus weedii var. intermedius	intermediate mariposa lily	Liliaceae	perennial bulbiferous herb	May-Jul	1B.2	S2	G3G4T2
Castilleja gleasoni	Mt. Gleason paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	May-Jun(Sep)	1B.2	S2	G2
Castilleja plagiotoma	Mojave paintbrush	Orobanchaceae	perennial herb (hemiparasitic)	Apr-Jun	4.3	S4	G4
Centromadia parryi ssp. australis	southern tarplant	Asteraceae	annual herb	May-Nov	1B.1	S2	G3T2
Centromadia pungens ssp. laevis	smooth tarplant	Asteraceae	annual herb	Apr-Sep	1B.1	S2	G3G4T2
Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	Polygonaceae	annual herb	Apr-Jul	1B.1	S1	G2T1
Chorizanthe parryi var. parryi	Parry's spineflower	Polygonaceae	annual herb	Apr-Jun	1B.1	S2	G3T2
Cladium californicum	California sawgrass	Cyperaceae	perennial rhizomatous herb	Jun-Sep	2B.2	S2	G4
Clinopodium mimuloides	monkey-flower savory	Lamiaceae	perennial herb	Jun-Oct	4.2	S3	G3
Cuscuta obtusiflora var. glandulosa	Peruvian dodder	Convolvulaceae	annual vine (parasitic)	Jul-Oct	2B.2	SH	G5T4T5
Diplacus johnstonii	Johnston's monkeyflower	Phrymaceae	annual herb	May-Aug	4.3	S4	G4
Dodecahema leptoceras	slender-horned spineflower	Polygonaceae	annual herb	Apr-Jun	1B.1	S1	G1
Dudleya cymosa ssp. crebrifolia	San Gabriel River dudleya	Crassulaceae	perennial herb	Apr-Jul	1B.2	S2	G5T2
Dudleya densiflora	San Gabriel Mountains dudleya	Crassulaceae	perennial herb	Mar-Jun	1B.1	S2	G2
Dudleya multicaulis	many-stemmed dudleya	Crassulaceae	perennial herb	Apr-Jul	1B.2	S2	G2
Erythranthe diffusa	Palomar monkeyflower	Phrymaceae	annual herb	Apr-Jun	4.3	S3	G4
Frasera neglecta	pine green-gentian	Gentianaceae	perennial herb	May-Jul	4.3	S4	G4
Galium angustifolium ssp. gabrielense	San Antonio Canyon bedstraw	Rubiaceae	perennial herb	Apr-Aug	4.3	S3	G5T3
Galium grande	San Gabriel bedstraw	Rubiaceae	perennial deciduous	Jan-Jul	1B.2	S1	G1

			shrub				
Galium jepsonii	Jepson's bedstraw	Rubiaceae	perennial rhizomatous herb	Jul-Aug	4.3	S3	G3
Galium johnstonii	Johnston's bedstraw	Rubiaceae	perennial herb	Jun-Jul	4.3	S4	G4
Helianthus nuttallii ssp. parishii	Los Angeles sunflower	Asteraceae	perennial rhizomatous herb	Aug-Oct	1A	SH	G5TH
Heuchera caespitosa	urn-flowered alumroot	Saxifragaceae	perennial rhizomatous herb	May-Aug	4.3	S3	G3
Hordeum intercedens	vernal barley	Poaceae	annual herb	Mar-Jun	3.2	S3S4	G3G4
Horkelia cuneata var. puberula	mesa horkelia	Rosaceae	perennial herb	Feb-Jul(Sep)	1B.1	S1	G4T1
Hulsea vestita ssp. gabrielensis	San Gabriel Mountains sunflower	Asteraceae	perennial herb	May-Jul	4.3	S4	G5T3
Imperata brevifolia	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	2B.1	S3	G4
Juglans californica	Southern California black walnut	Juglandaceae	perennial deciduous tree	Mar-Aug	4.2	S3	G3
Juncus duranii	Duran's rush	Juncaceae	perennial rhizomatous herb	Jul-Aug	4.3	S3	G3
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	Asteraceae	annual herb	Feb-Jun	1B.1	S2	G4T2
Lepechinia fragrans	fragrant pitcher sage	Lamiaceae	perennial shrub	Mar-Oct	4.2	S3	G3
Lepidium virginicum var. robinsonii	Robinson's pepper-grass	Brassicaceae	annual herb	Jan-Jul	4.3	S3	G5T3
Lilium humboldtii ssp. ocellatum	ocellated Humboldt lily	Liliaceae	perennial bulbiferous herb	Mar-Jul(Aug)	4.2	S3	G4T3
Lilium parryi	lemon lily	Liliaceae	perennial bulbiferous herb	Jul-Aug	1B.2	S3	G3
Linanthus concinnus	San Gabriel linanthus	Polemoniaceae	annual herb	Apr-Jul	1B.2	S2	G2
Linanthus orcuttii	Orcutt's linanthus	Polemoniaceae	annual herb	May-Jun	1B.3	S2	G3
Lupinus albifrons var. johnstonii	interior bush lupine	Fabaceae	perennial shrub	May-Jul	4.3	S4	G4T4
Lupinus elatus	silky lupine	Fabaceae	perennial herb	Jun-Aug	4.3	S4	G4
Lupinus peirsonii	Peirson's lupine	Fabaceae	perennial herb	Apr-Jun	1B.3	S3	G3
Malacothamnus davidsonii	Davidson's bush-mallow	Malvaceae	perennial deciduous shrub	Jun-Jan	1B.2	S2	G2
Monardella australis ssp. cinerea	gray monardella	Lamiaceae	perennial rhizomatous herb	Jul-Aug	4.3	S3	G4T3
Muhlenbergia californica	California muhly	Poaceae	perennial rhizomatous herb	Jun-Sep	4.3	S4	G4
Navarretia prostrata	prostrate vernal pool navarretia	Polemoniaceae	annual herb	Apr-Jul	1B.1	S2	G2
Opuntia basilaris var. brachyclada	short-joint beavertail	Cactaceae	perennial stem succulent	Apr-Jun(Aug)	1B.2	S3	G5T3
Oreonana vestita	woolly mountain-parsley	Apiaceae	perennial herb	Mar-Sep	1B.3	S3	G3
Orobanche valida ssp. valida	Rock Creek broomrape	Orobanchaceae	perennial herb (parasitic)	May-Sep	1B.2	S2	G4T2
Packera ionophylla	Tehachapi ragwort	Asteraceae	perennial herb	Jun-Jul	4.3	S4	G4
Phacelia hubbyi	Hubby's phacelia	Hydrophyllaceae	annual herb	Apr-Jul	4.2	S4	G4
Phacelia mohavensis	Mojave phacelia	Hydrophyllaceae	annual herb	Apr-Aug	4.3	S4	G4Q
Phacelia stellaris	Brand's star phacelia	Hydrophyllaceae	annual herb	Mar-Jun	1B.1	S1	G1
Pickeringia montana var. tomentosa	woolly chaparral-pea	Fabaceae	evergreen shrub	May-Aug	4.3	S3S4	G5T3T4
Pseudognaphalium leucocephalum	white rabbit-tobacco	Asteraceae	perennial herb	(Jul)Aug-Nov(Dec)	2B.2	S2	G4
Quercus durata var. gabrielensis	San Gabriel oak	Fagaceae	perennial evergreen shrub	Apr-May	4.2	S3	G4T3
Quercus engelmannii	Engelmann oak	Fagaceae	perennial deciduous tree	Mar-Jun	4.2	S3	G3
Ribes divaricatum var. parishii	Parish's gooseberry	Grossulariaceae	perennial deciduous shrub	Feb-Apr	1A	SX	G5TX
Romneya coulteri	Coulter's matilija poppy	Papaveraceae	perennial rhizomatous herb	Mar-Jul(Aug)	4.2	S4	G4
Rupertia rigida	Parish's rupertia	Fabaceae	perennial herb	Jun-Aug	4.3	S4	G4
Scutellaria bolanderi ssp. austromontana	southern mountains skullcap	Lamiaceae	perennial rhizomatous herb	Jun-Aug	1B.2	S3	G4T3
Senecio astephanus	San Gabriel ragwort	Asteraceae	perennial herb	May-Jul	4.3	S3	G3
Sidalcea neomexicana	salt spring checkerbloom	Malvaceae	perennial herb	Mar-Jun	2B.2	S2	G4
Sidotheca caryophylloides	chickweed oxytheca	Polygonaceae	annual herb	Jul-Sep(Oct)	4.3	S4	G4
Symphyotrichum defoliatum	San Bernardino aster	Asteraceae	perennial rhizomatous herb	Jul-Nov	1B.2	S2	G2
Symphyotrichum greatae	Greata's aster	Asteraceae	perennial rhizomatous	Jun-Oct	1B.3	S2	G2

			herb				
Thelypteris puberula var. sonorensis	Sonoran maiden fern	Thelypteridaceae	perennial rhizomatous herb	Jan-Sep	2B.2	S2	G5T3

Suggested Citation

California Native Plant Society, Rare Plant Program. 2018. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website http://www.rareplants.cnps.org [accessed 19 March 2018].

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Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Mt. Wilson (3411821) OR Azusa (3411728) OR Baldwin Park (3411718) OR El Monte (3411811) OR Los Angeles (3411812) OR Pasadena (3411822) OR Chilao Flat (3411831) OR Waterman Mtn. (3411738) OR Condor Peak (3411832))
 AND Taxonomic Group IS (Ferns OR Gymnosperms OR Monocots OR Dicots OR Lichens OR Bryophytes)
 AND (Federal Listing Status IS (Endangered OR Threatened OR Proposed Endangered OR Proposed Threatened OR Candidate OR All CNDDB element occurrences OR Delisted) OR State Listing Status IS (Endangered OR Threatened OR Rare OR All CNDDB element occurrences OR Delisted OR Candidate Endangered OR Candidate Threatened))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Anomobryum julaceum slender silver moss	NBMUS80010	None	None	G5?	S2	4.2
Arctostaphylos glandulosa ssp. gabrielensis San Gabriel manzanita	PDERI042P0	None	None	G5T3	S3	1B.2
Astragalus brauntonii Braunton's milk-vetch	PDFAB0F1G0	Endangered	None	G2	S2	1B.1
Atriplex serenana var. davidsonii Davidson's saltscale	PDCHE041T1	None	None	G5T1	S1	1B.2
Berberis nevinii Nevin's barberry	PDBER060A0	Endangered	Endangered	G1	S1	1B.1
Calochortus clavatus var. gracilis slender mariposa-lily	PMLIL0D096	None	None	G4T2T3	S2S3	1B.2
Calochortus palmeri var. palmeri Palmer's mariposa-lily	PMLIL0D122	None	None	G3T2	S2	1B.2
Calochortus plummerae Plummer's mariposa-lily	PMLIL0D150	None	None	G4	S4	4.2
Calochortus striatus alkali mariposa-lily	PMLIL0D190	None	None	G3	S3	1B.2
Calochortus weedii var. intermedius intermediate mariposa-lily	PMLIL0D1J1	None	None	G3G4T2	S2	1B.2
Castilleja gleasoni Mt. Gleason paintbrush	PDSCR0D140	None	Rare	G2	S2	1B.2
Centromadia parryi ssp. australis southern tarplant	PDAST4R0P4	None	None	G3T2	S2	1B.1
Centromadia pungens ssp. laevis smooth tarplant	PDAST4R0R4	None	None	G3G4T2	S2	1B.1
Chorizanthe parryi var. parryi Parry's spineflower	PDPGN040J2	None	None	G3T2	S2	1B.1
Cladium californicum California saw-grass	PMCYP04010	None	None	G4	S2	2B.2
Cuscuta obtusiflora var. glandulosa Peruvian dodder	PDCUS01111	None	None	G5T4T5	SH	2B.2

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Dodecahema leptoceras slender-horned spineflower	PDPGN0V010	Endangered	Endangered	G1	S1	1B.1
Dudleya cymosa ssp. crebrifolia San Gabriel River dudleya	PDCRA040A8	None	None	G5T2	S2	1B.2
Dudleya densiflora San Gabriel Mountains dudleya	PDCRA040B0	None	None	G2	S2	1B.1
Dudleya multicaulis many-stemmed dudleya	PDCRA040H0	None	None	G2	S2	1B.2
Galium grande San Gabriel bedstraw	PDRUB0N0V0	None	None	G1	S1	1B.2
Helianthus nuttallii ssp. parishii Los Angeles sunflower	PDAST4N102	None	None	G5TH	SH	1A
Horkelia cuneata var. puberula mesa horkelia	PDROS0W045	None	None	G4T1	S1	1B.1
Imperata brevifolia California satintail	PMPOA3D020	None	None	G4	S3	2B.1
Lasthenia glabrata ssp. coulteri Coulter's goldfields	PDAST5L0A1	None	None	G4T2	S2	1B.1
Lepidium virginicum var. robinsonii Robinson's pepper-grass	PDBRA1M114	None	None	G5T3	S3	4.3
Lilium parryi lemon lily	PMLIL1A0J0	None	None	G3	S3	1B.2
Linanthus concinnus San Gabriel linanthus	PDPLM090D0	None	None	G2	S2	1B.2
Lupinus peirsonii Peirson's lupine	PDFAB2B330	None	None	G3	S3	1B.3
Malacothamnus davidsonii Davidson's bush-mallow	PDMAL0Q040	None	None	G2	S2	1B.2
Muhlenbergia californica California muhly	PMPOA480A0	None	None	G4	S4	4.3
Navarretia prostrata prostrate vernal pool navarretia	PDPLM0C0Q0	None	None	G2	S2	1B.1
Nemacladus secundiflorus var. robbinsii Robbins' nemacladus	PDCAM0F0B2	None	None	G3T2	S2	1B.2
Opuntia basilaris var. brachyclada short-joint beavertail	PDCAC0D053	None	None	G5T3	S3	1B.2
Oreonana vestita woolly mountain-parsley	PDAPI1G030	None	None	G3	S3	1B.3
Orobanche valida ssp. valida Rock Creek broomrape	PDORO040G2	None	None	G4T2	S2	1B.2
Phacelia stellaris Brand's star phacelia	PDHYD0C510	None	None	G1	S1	1B.1

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
Pseudognaphalium leucocephalum white rabbit-tobacco	PDAST440C0	None	None	G4	S2	2B.2
Ribes divaricatum var. parishii Parish's gooseberry	PDGRO020F3	None	None	G5TX	SX	1A
Scutellaria bolanderi ssp. austromontana southern mountains skullcap	PDLAM1U0A1	None	None	G4T3	S3	1B.2
Sidalcea neomexicana salt spring checkerbloom	PDMAL110J0	None	None	G4	S2	2B.2
Symphyotrichum defoliatum San Bernardino aster	PDASTE80C0	None	None	G2	S2	1B.2
Symphyotrichum greatae Greata's aster	PDASTE80U0	None	None	G2	S2	1B.3
Thelypteris puberula var. sonorensis Sonoran maiden fern	PPTHE05192	None	None	G5T3	S2	2B.2

Record Count: 44

Selected Elements by Common Name

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (Mt. Wilson (3411821) OR Azusa (3411728) OR Baldwin Park (3411718) OR El Monte (3411811) OR Los Angeles (3411812) OR Pasadena (3411822) OR Condor Peak (3411832) OR Chilao Flat (3411831) OR Waterman Mtn. (3411738))
 AND Taxonomic Group IS (Fish OR Amphibians OR Reptiles OR Birds OR Mammals OR Mollusks OR Arachnids OR Crustaceans OR Insects)
 AND (Federal Listing Status IS (Endangered OR Threatened OR Proposed Endangered OR Proposed Threatened OR Candidate OR All CNDDB element occurrences OR Delisted) OR State Listing Status IS (Endangered OR Threatened OR Rare OR All CNDDB element occurrences OR Delisted OR Candidate Endangered OR Candidate Threatened))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
American badger *Taxidea taxus*	AMAJF04010	None	None	G5	S3	SSC
American peregrine falcon *Falco peregrinus anatum*	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
arroyo chub *Gila orcuttii*	AFCJB13120	None	None	G2	S2	SSC
arroyo toad *Anaxyrus californicus*	AAABB01230	Endangered	None	G2G3	S2S3	SSC
bank swallow *Riparia riparia*	ABPAU08010	None	Threatened	G5	S2	
big free-tailed bat *Nyctinomops macrotis*	AMACD04020	None	None	G5	S3	SSC
black swift *Cypseloides niger*	ABNUA01010	None	None	G4	S2	SSC
burrowing owl *Athene cunicularia*	ABNSB10010	None	None	G4	S3	SSC
California glossy snake *Arizona elegans occidentalis*	ARADB01017	None	None	G5T2	S2	SSC
coast horned lizard *Phrynosoma blainvillii*	ARACF12100	None	None	G3G4	S3S4	SSC
Coast Range newt *Taricha torosa*	AAAAF02032	None	None	G4	S4	SSC
coastal California gnatcatcher *Polioptila californica californica*	ABPBJ08081	Threatened	None	G4G5T2Q	S2	SSC
coastal whiptail *Aspidoscelis tigris stejnegeri*	ARACJ02143	None	None	G5T5	S3	SSC
Cooper's hawk *Accipiter cooperii*	ABNKC12040	None	None	G5	S4	WL
Crotch bumble bee *Bombus crotchii*	IIHYM24480	None	None	G3G4	S1S2	

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
desert bighorn sheep *Ovis canadensis nelsoni*	AMALE04013	None	None	G4T4	S3	FP
fringed myotis *Myotis thysanodes*	AMACC01090	None	None	G4	S3	
hoary bat *Lasiurus cinereus*	AMACC05030	None	None	G5	S4	
least Bell's vireo *Vireo bellii pusillus*	ABPBW01114	Endangered	Endangered	G5T2	S2	
lodgepole chipmunk *Neotamias speciosus speciosus*	AMAFB02172	None	None	G4T2T3	S2S3	
long-legged myotis *Myotis volans*	AMACC01110	None	None	G5	S3	
pallid bat *Antrozous pallidus*	AMACC10010	None	None	G5	S3	SSC
pocketed free-tailed bat *Nyctinomops femorosaccus*	AMACD04010	None	None	G4	S3	SSC
San Diego black-tailed jackrabbit *Lepus californicus bennettii*	AMAEB03051	None	None	G5T3T4	S3S4	SSC
Santa Ana speckled dace *Rhinichthys osculus ssp. 3*	AFCJB3705K	None	None	G5T1	S1	SSC
Santa Ana sucker *Catostomus santaanae*	AFCJC02190	Threatened	None	G1	S1	
silver-haired bat *Lasionycteris noctivagans*	AMACC02010	None	None	G5	S3S4	
southern California legless lizard *Anniella stebbinsi*	ARACC01060	None	None	G3	S3	SSC
southern grasshopper mouse *Onychomys torridus ramona*	AMAFF06022	None	None	G5T3	S3	SSC
southern mountain yellow-legged frog *Rana muscosa*	AAABH01330	Endangered	Endangered	G1	S1	WL
southwestern willow flycatcher *Empidonax traillii extimus*	ABPAE33043	Endangered	Endangered	G5T2	S1	
Swainson's hawk *Buteo swainsoni*	ABNKC19070	None	Threatened	G5	S3	
Townsend's big-eared bat *Corynorhinus townsendii*	AMACC08010	None	None	G3G4	S2	SSC
two-striped gartersnake *Thamnophis hammondii*	ARADB36160	None	None	G4	S3S4	SSC
western mastiff bat *Eumops perotis californicus*	AMACD02011	None	None	G5T4	S3S4	SSC
western pond turtle *Emys marmorata*	ARAAD02030	None	None	G3G4	S3	SSC

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
western red bat *Lasiurus blossevillii*	AMACC05060	None	None	G5	S3	SSC
western yellow bat *Lasiurus xanthinus*	AMACC05070	None	None	G5	S3	SSC
western yellow-billed cuckoo *Coccyzus americanus occidentalis*	ABNRB02022	Threatened	Endangered	G5T2T3	S1	
yellow-breasted chat *Icteria virens*	ABPBX24010	None	None	G5	S3	SSC

Record Count: 40

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

Location

Los Angeles County, California



Local office

Carlsbad Fish And Wildlife Office

(760) 431-9440
(760) 431-5901

2177 Salk Avenue - Suite 250
Carlsbad, CA 92008-7385

http://www.fws.gov/carlsbad/

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Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population, even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information.
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

NOT FOR CONSULTATION

Birds

NAME	STATUS
California Condor *Gymnogyps californianus* There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8193	Endangered
Coastal California Gnatcatcher *Polioptila californica californica* There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/8178	Threatened

Flowering Plants

NAME	STATUS
Braunton's Milk-vetch *Astragalus brauntonii* There is **final** critical habitat for this species. Your location is outside the critical habitat. https://ecos.fws.gov/ecp/species/5674	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see maps of where birders and the general public have sighted birds in and around your project area, visit E-bird tools such as the E-bird data mapping tool (search for the name of a bird on your list to see specific locations where that bird has been reported to occur within your project area over a certain timeframe) and the E-bird Explore Data Tool (perform a query to see a list of all birds sighted in your county or region and within a certain timeframe). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NOT FOR CONSULTATION

NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA *SOMETIME WITHIN THE TIMEFRAME* SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Allen's Hummingbird *Selasphorus sasin* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9637	Breeds Feb 1 to Jul 15

Ashy Storm-petrel Oceanodroma homochroa — Breeds May 1 to Jan 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/7237

Bald Eagle Haliaeetus leucocephalus — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1626

Black Oystercatcher Haematopus bachmani — Breeds Apr 15 to Oct 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9591

Black Skimmer Rynchops niger — Breeds May 20 to Sep 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5234

Black Swift Cypseloides niger — Breeds Jun 15 to Sep 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8878

Black Turnstone Arenaria melanocephala — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Black-chinned Sparrow Spizella atrogularis — Breeds Apr 15 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9447

Burrowing Owl Athene cunicularia — Breeds Mar 15 to Aug 31
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9737

California Thrasher Toxostoma redivivum — Breeds Jan 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Clark's Grebe Aechmophorus clarkii — Breeds Jan 1 to Dec 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.

Costa's Hummingbird Calypte costae — Breeds Jan 15 to Jun 10
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9470

Golden Eagle Aquila chrysaetos — Breeds Jan 1 to Aug 31
This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities.
https://ecos.fws.gov/ecp/species/1680

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Gull-billed Tern Gelochelidon nilotica — Breeds May 1 to Jul 31
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9501

Lawrence's Goldfinch Carduelis lawrencei — Breeds Mar 20 to Sep 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9464

Le Conte's Thrasher toxostoma lecontei — Breeds Feb 15 to Jun 20
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8969

Lewis's Woodpecker Melanerpes lewis — Breeds Apr 20 to Sep 30
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9408

Long-billed Curlew Numenius americanus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/5511

Marbled Godwit Limosa fedoa — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9481

Mountain Plover Charadrius montanus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3638

Nuttall's Woodpecker Picoides nuttallii — Breeds Apr 1 to Jul 20
This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA
https://ecos.fws.gov/ecp/species/9410

Oak Titmouse Baeolophus inornatus — Breeds Mar 15 to Jul 15
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9656

Rufous Hummingbird selasphorus rufus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/8002

Short-billed Dowitcher Limnodromus griseus — Breeds elsewhere
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/9480

Tricolored Blackbird Agelaius tricolor — Breeds Mar 15 to Aug 10
This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.
https://ecos.fws.gov/ecp/species/3910

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Whimbrel Numenius phaeopus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9483	Breeds elsewhere
White Headed Woodpecker Picoides albolarvatus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9411	Breeds May 1 to Aug 15
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere
Wrentit Chamaea fasciata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Mar 15 to Aug 10

Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in your project's counties during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the counties of your project area. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

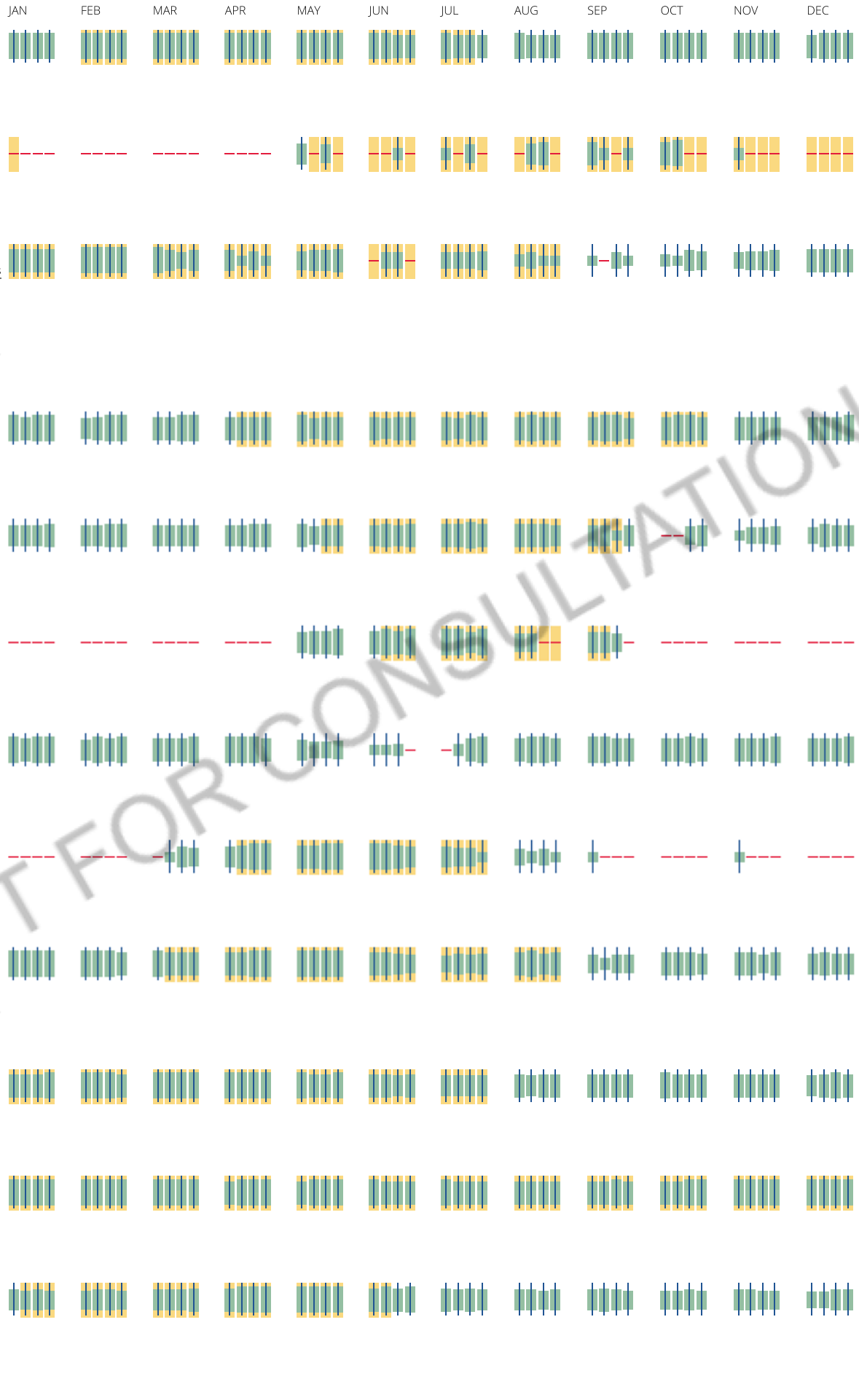
To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

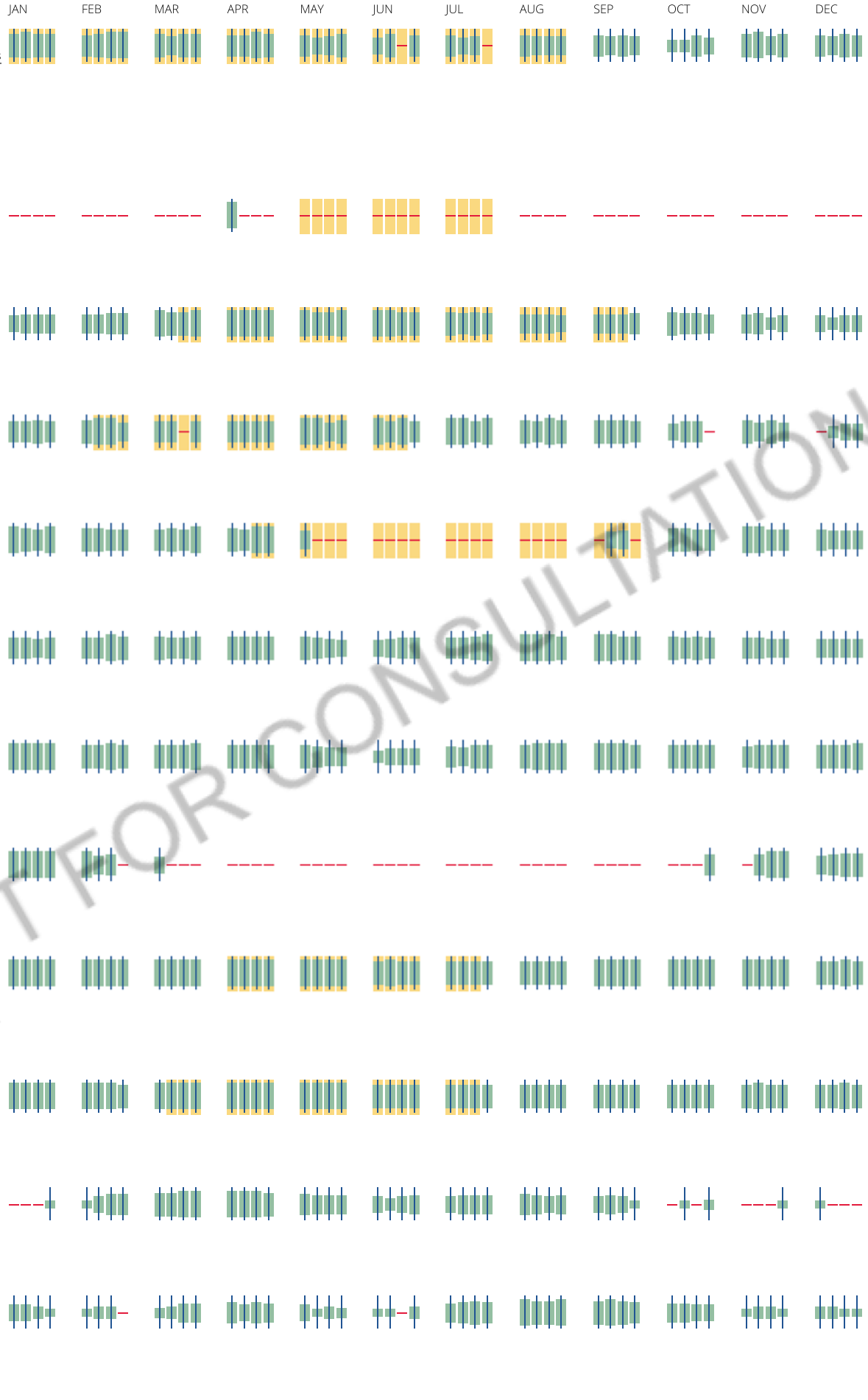
Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information.

■ probability of presence ■ breeding season | survey effort – no data

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Tricolored Blackbird
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Whimbrel
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



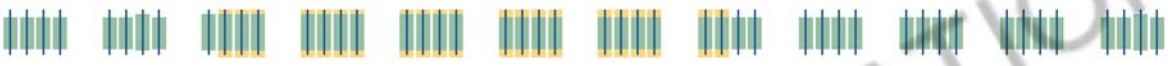
White Headed Woodpecker
BCC - BCR (This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA)



Willet
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



Wrentit
BCC Rangewide (CON) (This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.)



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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the counties which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird entry on your migratory bird species list indicates a breeding season, it is probable that the bird breeds in your project's counties at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the BGEPA should such impacts occur.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS AT THIS LOCATION.

Fish hatcheries

THERE ARE NO FISH HATCHERIES AT THIS LOCATION.

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

THERE ARE NO KNOWN WETLANDS AT THIS LOCATION.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

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The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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APPENDIX D2
JURISDICTIONAL DELINEATION

HELIX Environmental Planning, Inc.
16485 Laguna Canyon Road
Suite 150
Irvine, CA 92618
949.234.8792 **tel.**
619.462.0552 fax
www.**helixepi**.com

July 16, 2019 TCW-04

Mr. Alec Schiffer
Trammell Crow Residential
5790 Fleet Street, Suite 140
Carlsbad, CA 92008

Subject: Jurisdictional Delineation Results for the South Magnolia Avenue Apartment Project

Dear Mr. Schiffer:

This letter presents the results of a jurisdictional delineation conducted by HELIX Environmental Planning, Inc. (HELIX) for the South Magnolia Avenue Apartment Project (project). The delineation was conducted to identify and map existing areas within the study area that are "waters of the U.S." under U.S. Army Corps of Engineers (USACE) jurisdiction pursuant to Section 404 of the Clean Water Act (CWA); waters of the State under Regional Water Quality Control Board (RWQCB) jurisdiction pursuant to Section 401 of the CWA; and streambed habitats under California Department of Fish and Wildlife (CDFW) jurisdiction pursuant to Section 1600 of the California Fish and Game Code. This report presents HELIX's best efforts to quantify jurisdiction within the study area using the current regulations, written policies, and guidance from the regulatory agencies. The results presented here are subject to confirmation by USACE, RWQCB, and CDFW.

PROJECT LOCATION

The approximately 8-acre study area is in the City of Monrovia, Los Angeles County, California. The study area is generally located to the south of Interstate (I-) 210 and to the west of I-605 (Figure 1, *Regional Location*). The study area is within the U.S. Geological Survey (USGS) 7.5-minute Mount Wilson quadrangle map in Township 1 North, Range 11 West (Figure 2, *USGS Topography*). Specifically, the study area is located to the south of W Evergreen Avenue, west of S Magnolia Avenue, north of an Atchison Topeka and Santa Fe railroad right-of-way (ROW), and east of Mayflower Avenue (Figure 3, *Aerial Photograph*).

PROJECT DESCRIPTION

The proposed project consists of a 436-unit for rent apartment development consisting of a five-story residential building surrounding a seven-story parking structure (Figure 4, *Site Plan*). A rectangular

concrete channel is located adjacent to the southwestern study area boundary. The project will require a 12-inch outflow pipe to properly divert overflow stormwater from the site to the channel.

METHODS

Prior to beginning fieldwork, aerial photographs (1 inch = 150 feet), topographic maps (1 inch = 150 feet), USGS quadrangle maps, and National Wetland Inventory maps (U.S. Fish and Wildlife Service 2019) were reviewed. HELIX biologists Lauren Singleton and Matthew Dimson conducted the jurisdictional delineation field work on April 30, 2019. Data collection was targeted in areas that were deemed to have the potential to support jurisdictional resources, such as the presence of an ordinary high water mark (OHWM) and/or other surface indications of streambed hydrology. Representative photographs were taken of the drainage feature and are included as Attachment A, *Drainage Photographs*. Delineation methods used to determine each agency's jurisdictional limits are discussed below.

U.S. Army Corps of Engineers

The USACE waters of the U.S. were determined using current USACE guidelines (Environmental Laboratory 1987, U.S. Army Corps of Engineers [USACE] 2008a). Areas were determined to be waters of the U.S. if there was evidence of regular surface flow (e.g., bed and bank). Jurisdictional limits for these areas were measured according to the presence of a discernible OHWM, which is defined in 33 Code of Federal Regulations (CFR) Section 329.11 as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank; shelving; changes in the character of the soil; destruction of terrestrial vegetation; the presence of litter or debris; or other appropriate means that consider the characteristics of the surrounding areas." The USACE has issued further guidance on the OHWM (Riley 2005; USACE 2008b), which also was considered in this jurisdictional assessment.

The jurisdictional delineation was conducted in accordance with court decisions (i.e., Rapanos v. United States, Carabell v. United States, and Solid Waste Agency of Northern Cook County v. USACE), as outlined and applied by the USACE (USACE 2007; Grumbles and Woodley 2007); and USACE and U.S. Environmental Protection Agency (EPA; 2007). These publications explain that the EPA and USACE will assert jurisdiction over traditional navigable waters (TNW) and tributaries to TNWs that are a relatively permanent water body (RPW), which has year-round or continuous seasonal flow. For water bodies that are not RPWs, a significant nexus evaluation is used to determine if the non-RPW is jurisdictional. As an alternative to the significant nexus evaluation process, a preliminary jurisdictional delineation may be submitted to the USACE. The preliminary jurisdictional delineation treats all waters and wetlands on a site as if they are jurisdictional waters of the U.S. (USACE 2008a). A significant nexus evaluation or preliminary jurisdictional delineation are typically only required for projects that propose impacts to potentially jurisdictional features and, therefore, require a Section 404 permit from the USACE.

Regional Water Quality Control Board

The RWQCB asserts regulatory jurisdiction over activities affecting wetland and non-wetland waters of the State pursuant to Section 401 of the CWA and the State Porter-Cologne Water Quality Control Act. Potential RWQCB jurisdiction found within the study area follows the boundaries of potential USACE

jurisdiction for waters of the U.S. There are no areas supporting isolated waters of the State subject to exclusive RWQCB jurisdiction pursuant to the State Porter-Cologne Water Quality Control Act.

California Department of Fish and Wildlife

The CDFW jurisdictional boundaries were determined based on the presence of riparian vegetation or regular surface flow, if present. Streambeds within CDFW jurisdiction were delineated based on the definition of streambed as "a body of water that flows at least periodically or intermittently through a bed or channel having banks and supporting fish or other aquatic life. This includes watercourses with surface or subsurface flow that supports riparian vegetation" (Title 14, Section 1.72). This definition for CDFW jurisdictional habitat allows for a wide variety of habitat types to be jurisdictional, including some that do not include wetland species (e.g., oak woodland and alluvial fan sage scrub). Jurisdictional limits for CDFW streambeds were defined by the top of bank. Vegetated CDFW habitats were mapped at the limits of streambed-associated vegetation, if present.

RESULTS

Channel A, which is a USGS-mapped blueline stream, is a concrete rectangular channel that runs northwest to southeast along the southwestern study area boundary. Based on the USGS Mount Wilson quadrangle map, the headwaters of Channel A appear to originate approximately 0.70 mile to the northwest of the study area near the near the terminus of West Olive Avenue. The channel likely collects sheet flow from impervious surfaces in the surrounding area. The channel is underground from its headwaters until it reaches the study area. Channel A surfaces on the study area via a cement culvert near the northwestern study area boundary. The channel flows southeast through the study area for approximately 384 linear feet (LF) and exits the study area near the southern boundary, just north of the railroad ROW. After exiting the study area, the channel extends southeast for approximately 0.80 mile and then continues underground approximately 600 feet to the north of the intersection of Peck Road and W Camino Real Street. Channel A likely connects to Sawpit Wash approximately 0.5 mile to the southeast of Peck Road. Sawpit Wash is a tributary to Rio Hondo, which drains to the Los Angeles River. The Los Angeles River ultimately drains into the Pacific Ocean approximately 28 miles to the southwest of the study area.

USACE/RWQCB jurisdictional waters of the U.S. in the study area is defined by signs of flow as well as water stains as a result of intermittent flows in Channel A. CDFW jurisdiction within the study area consists of nearly vertical concrete walls and concrete bottom within Channel A. Since a number of large cracks were observed in the concrete lining of the channel, coast live oak (*Quercus agrifolia*) trees directly adjacent to the channel were included as CDFW jurisdiction since the trees appear to be supported or partially supported by water in the channel. The channel was mostly unvegetated, with the exception of an area near the center of the channel where sediment had accumulated on the concrete bottom of the channel. The sediment was likely dirt that collapsed from the embankment above the concrete wall of the channel. Vegetation observed in this area included bigleaf periwinkle (*Vinca major*), Himalayan blackberry (*Rubus armeniacus*), smilo grass (*Piptatherum miliaceum*), spiny sowthistle (*Sonchus asper*), and wild radish (*Raphanus sativus*). Soils within Channel A are mapped as Urban land-Palmview-Tujunga complex (0 to 5 percent slopes; NRCS 2019; Figure 5, *Soils*). The majority of the channel does not support soil, except for the areas where the concrete lining is cracked and where the embankment collapsed.

Based on the results of the jurisdictional delineation, Channel A supports approximately 0.08 acre (384 LF) of USACE/RWQCB non-wetland waters of the U.S. and 0.12 acre of CDFW jurisdictional streambed and associated vegetation (Figure 6, *Jurisdictional Features*). Representative photographs of jurisdictional areas delineated on the study area are included as Attachment A.

IMPACTS

The project will require installation of an outflow pipe to properly divert overflow stormwater from the development to Channel A. To install the pipe, an approximately two-foot diameter hole will be bored into the concrete wall to install the outflow pipe. Since the invert of the channel will not be impacted, the project will only temporarily impact a small area of CDFW jurisdiction totaling approximately 1.5 square feet (Figure 7, *Impacts to Jurisdictional Features*). The project would not impact USACE/RWQCB waters of the U.S. or any drainage-associated coast live oak trees.

AVOIDANCE AND MINIMIZATION MEASURES

The project will not require work within USACE/RWQCB jurisdictional waters but may require work within CDFW jurisdiction associated with Channel A in order to install a stormwater overflow pipe within the channel banks. If CDFW jurisdictional waters cannot be feasibly avoided for the overflow pipe installation, the Project Proponent shall submit to CDFW a Section 1602 Notification regarding the potential need for a Lake and Streambed Agreement (LSA) to authorize work in CDFW jurisdictional areas. If an LSA is required, the Applicant shall be responsible for complying with all conditions outlined in the LSA, which may include wildlife habitat and streambed impact avoidance, minimization, and mitigation measures consistent with CDFW requirements for LSAs. Impacts to project areas subject to CDFW's jurisdiction shall not occur unless an LSA is received from CDFW, or correspondence is received indicating that (1) an LSA is not required, or (2) the work is authorized by "operation of law" pursuant to the Fish and Game Code.

The following minimization measures shall also be implemented during construction if work is required within Channel A:

1. Construction-related equipment shall be stored in upland areas, outside of the channel except as required by project design (restoration, trash removal, etc.).

2. Source control and treatment control BMPs shall be implemented to minimize the potential contaminants that are generated during and after construction. Source control BMPs may include landscape planning, roof runoff controls, trash storage areas, use of alternative building materials, and education of future tenants and residents. Treatment control BMPs may include detention basins, vegetated swales (bio-swales), drain inlets, and vegetated buffers. Water quality BMPs shall be implemented throughout the project to capture and treat contaminants.

3. To avoid attracting predators during construction, the project shall be kept clean of debris to the extent possible. All food-related trash items shall be enclosed in sealed containers and regularly removed from site.

4. Employees shall strictly limit their activities, vehicles, equipment, and construction material to the proposed project footprint, staging areas, and designated routes of travel.

5. Construction limits shall be fenced with orange snow screen and exclusion fencing should be maintained until the completion of construction activities.

CONCLUSION

The project may require minor impacts to Channel A to install an outflow pipe, which would result in approximately 1.5 square feet of temporary impacts to CDFW jurisdiction. The project would not impact USACE/RWQCB waters of the U.S. or any drainage-associated coast live oak trees. If CDFW jurisdictional waters cannot be feasibly avoided, the Project Proponent shall submit to CDFW a Section 1602 Notification regarding need for an LSA to authorize work in CDFW jurisdictional areas. In addition, the minimization measures outlined above should be implemented during construction of the project if temporary impacts are required to Channel A.

If you have any questions regarding the information presented in this letter report, please contact me at LaurenS@helixepi.com or (949) 234-8770.

Sincerely,

Lauren Singleton
Biologist

Attachments:

Figure 1: Regional Location
Figure 2: USGS Topography
Figure 3: Aerial Photograph
Figure 4: Site Plan
Figure 5: Soils
Figure 6: Jurisdictional Features
Figure 7: Impacts to Jurisdictional Features

Attachment A: Drainage Photographs

REFERENCES

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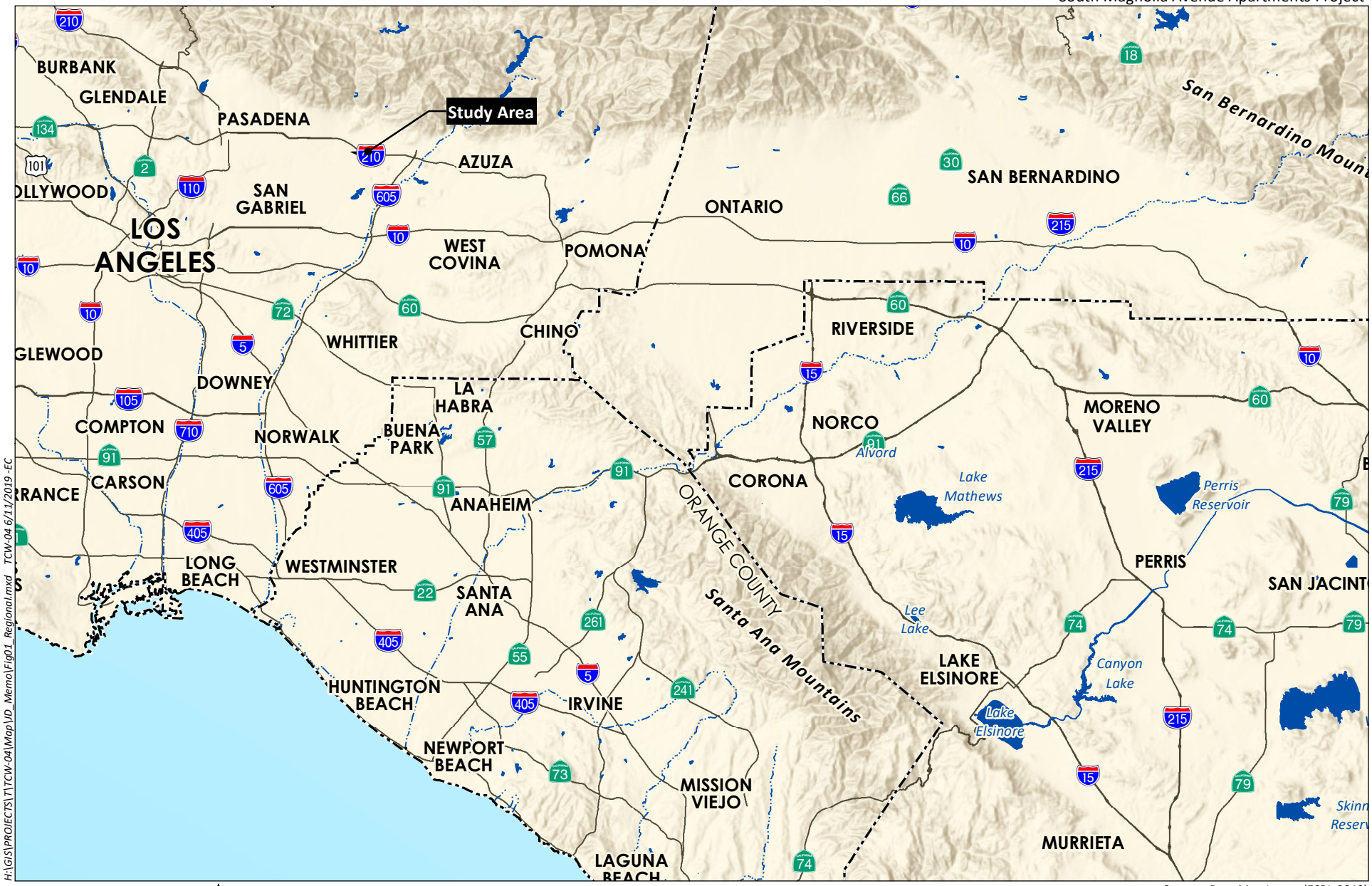
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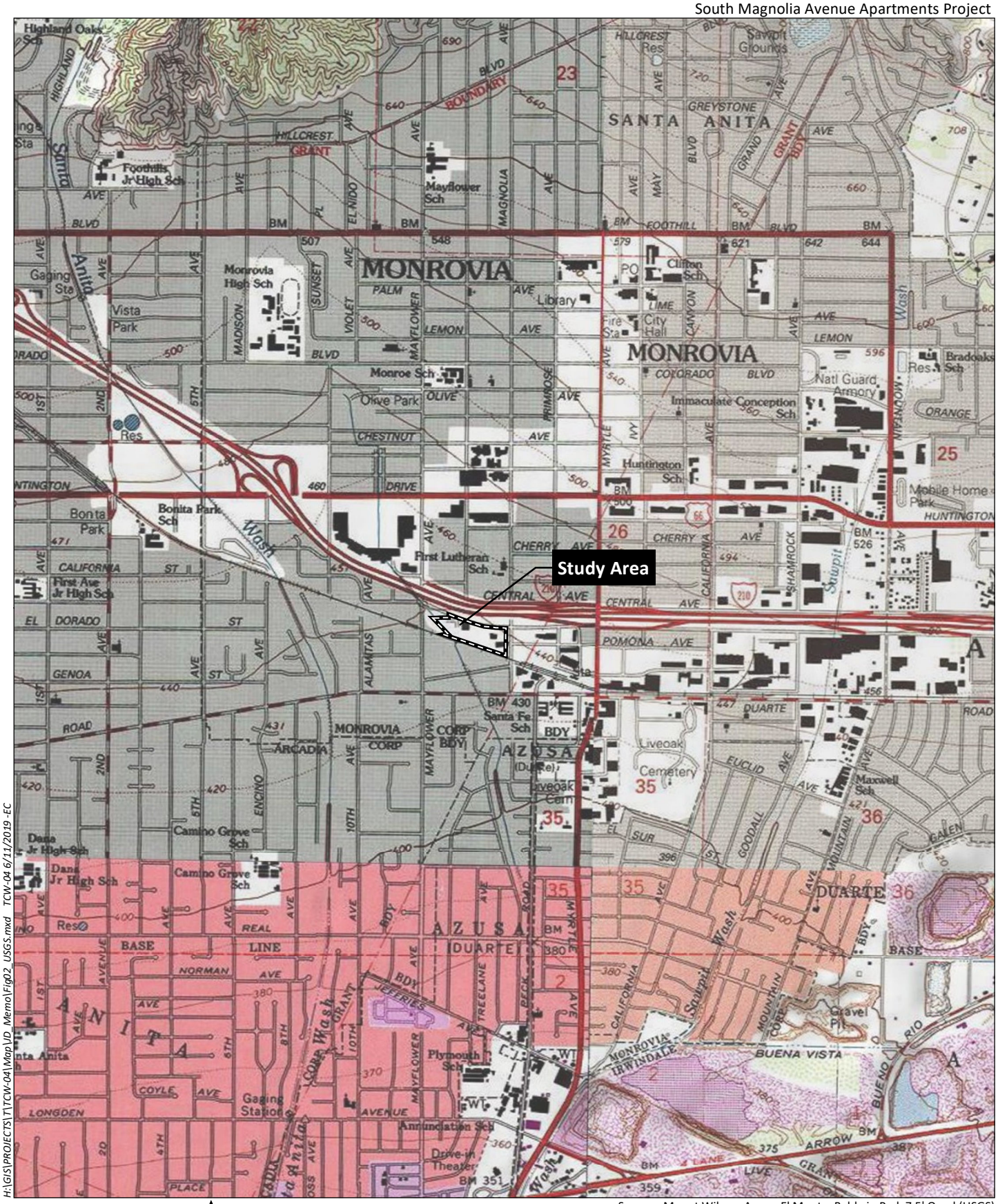
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Source: Base Map Layers (ESRI, 2013)

HELIX Environmental Planning

Regional Location

Figure 1



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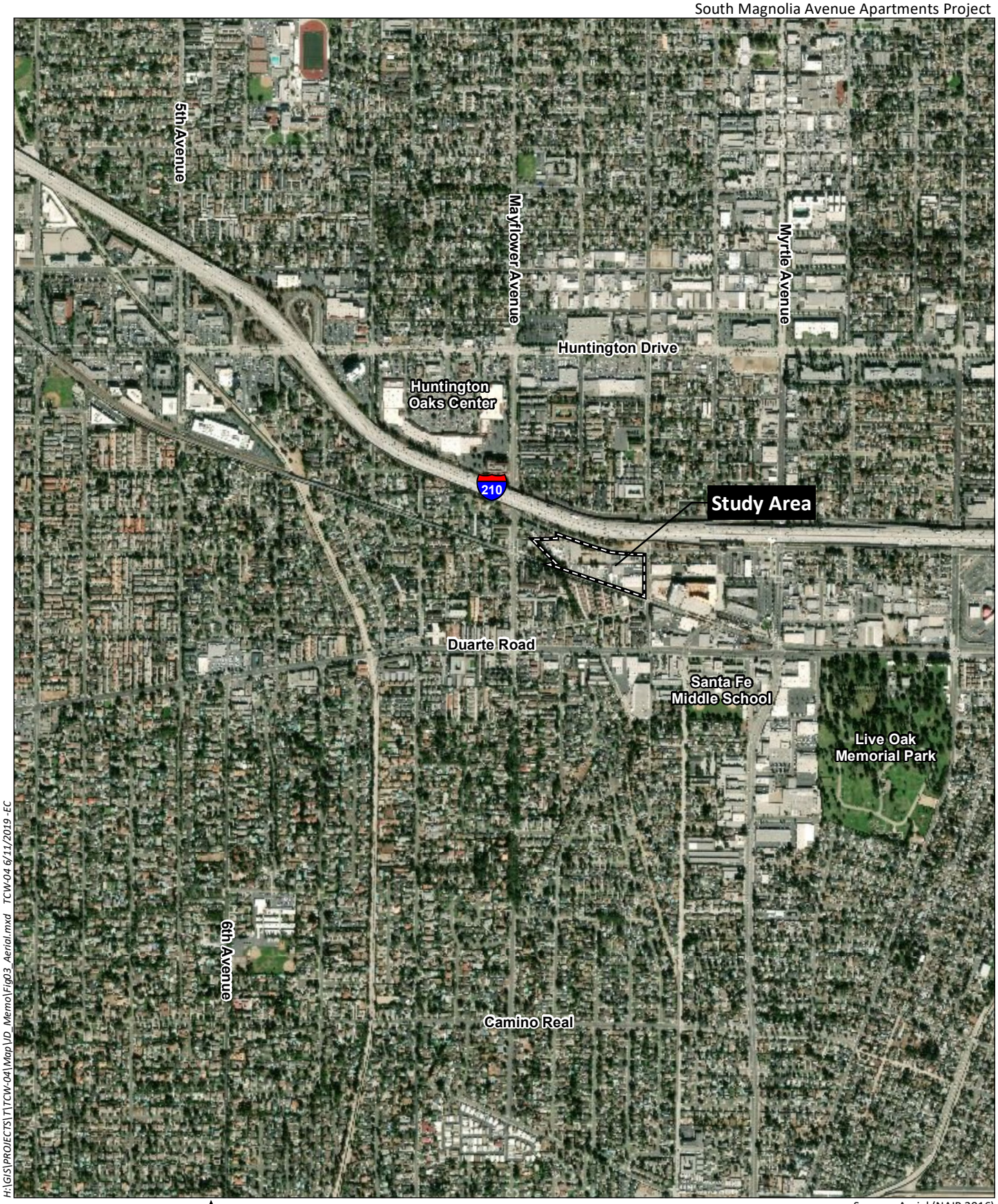
0 2,000 Feet

Source: Mount Wilson, Azusa, El Monte, Baldwin Park 7.5' Quad (USGS)

HELIX Environmental Planning

USGS Topography

Figure 2



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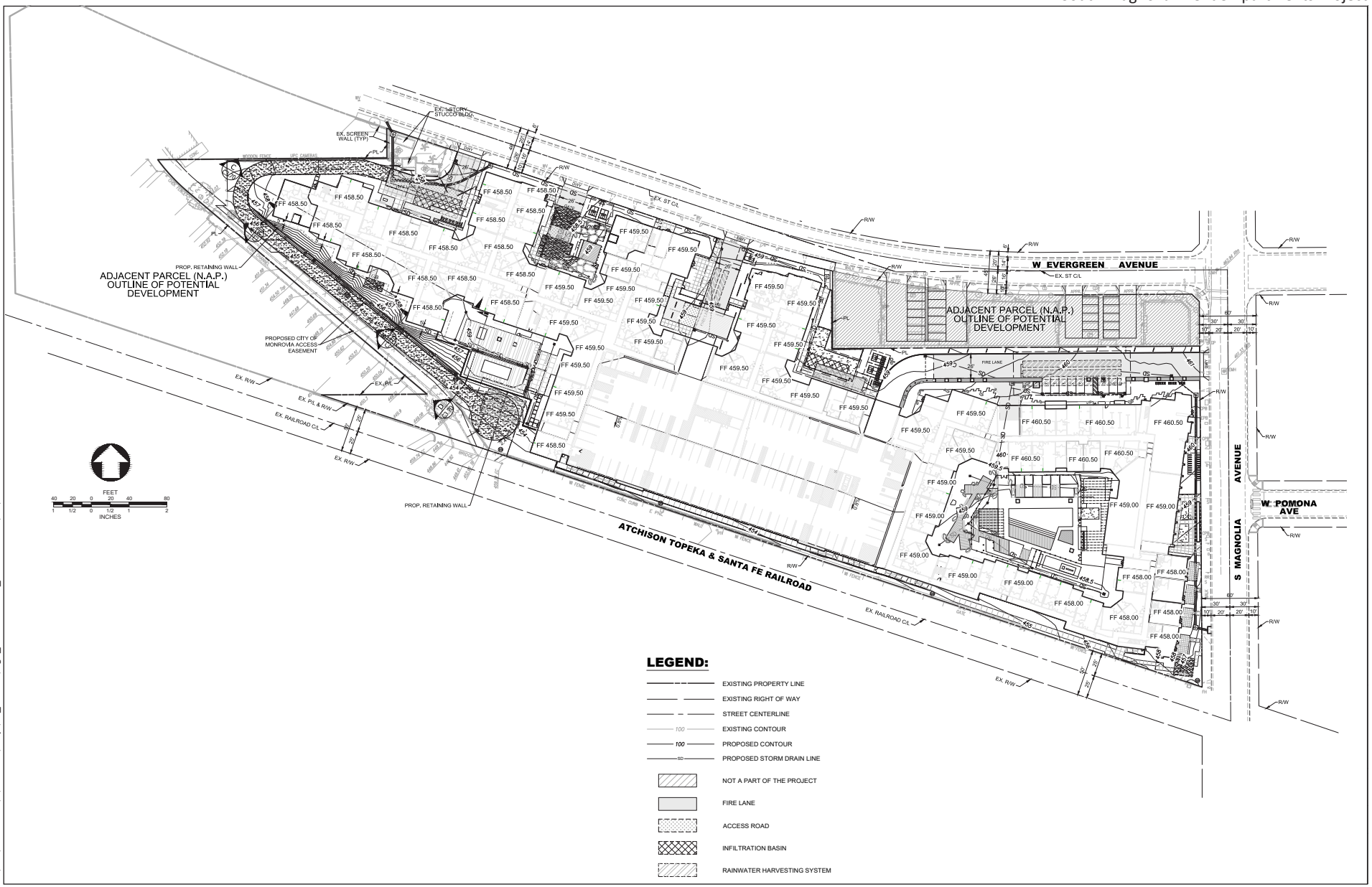
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Source: Aerial (NAIP 2016)

HELIX Environmental Planning

Aerial Photograph

Figure 3



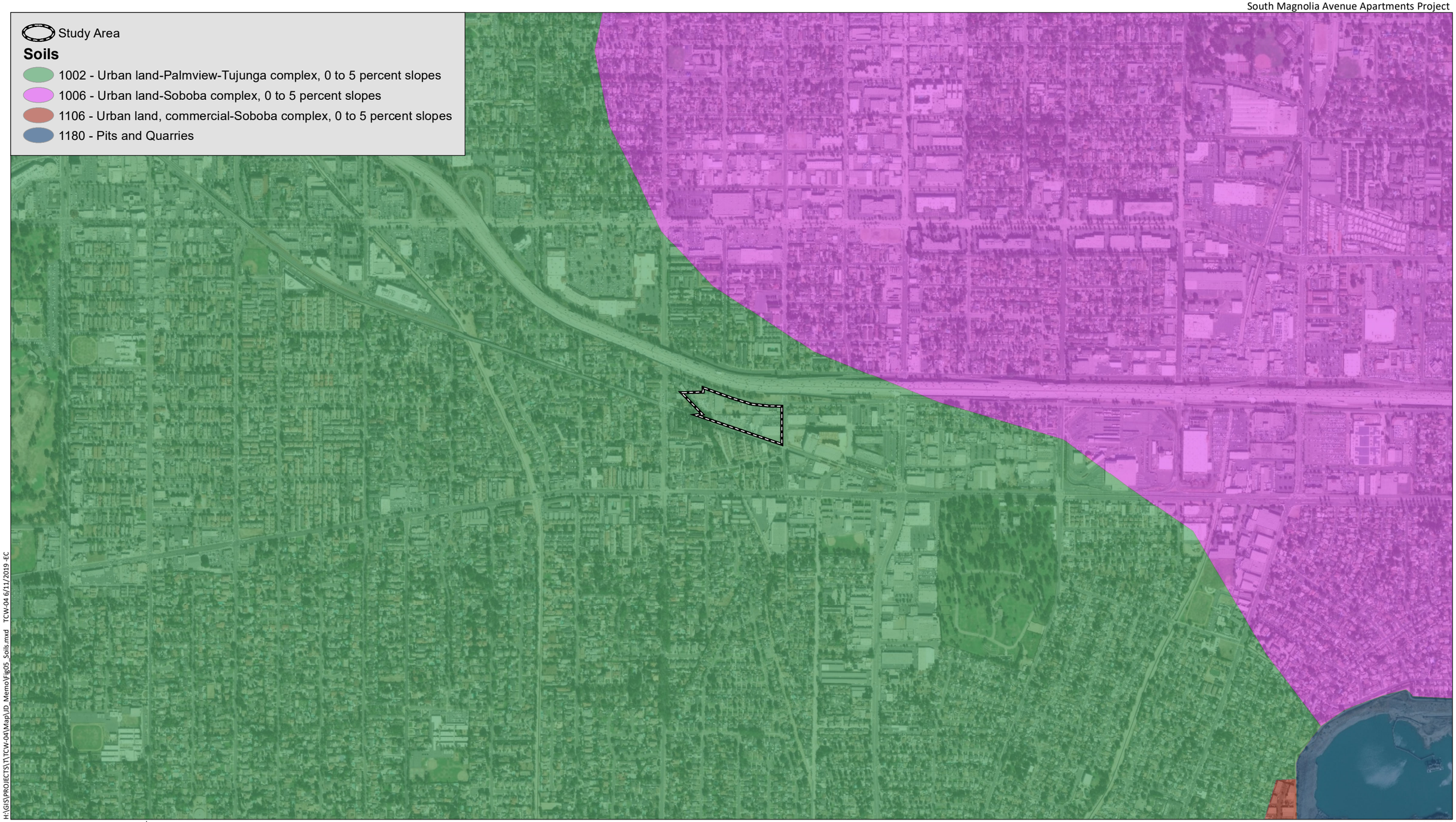
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Source: Psomas, 2019

HELIX Environmental Planning

Site Plan

Figure 4



Source: NRCS, 2005

HELIX Environmental Planning

Soils

Figure 5



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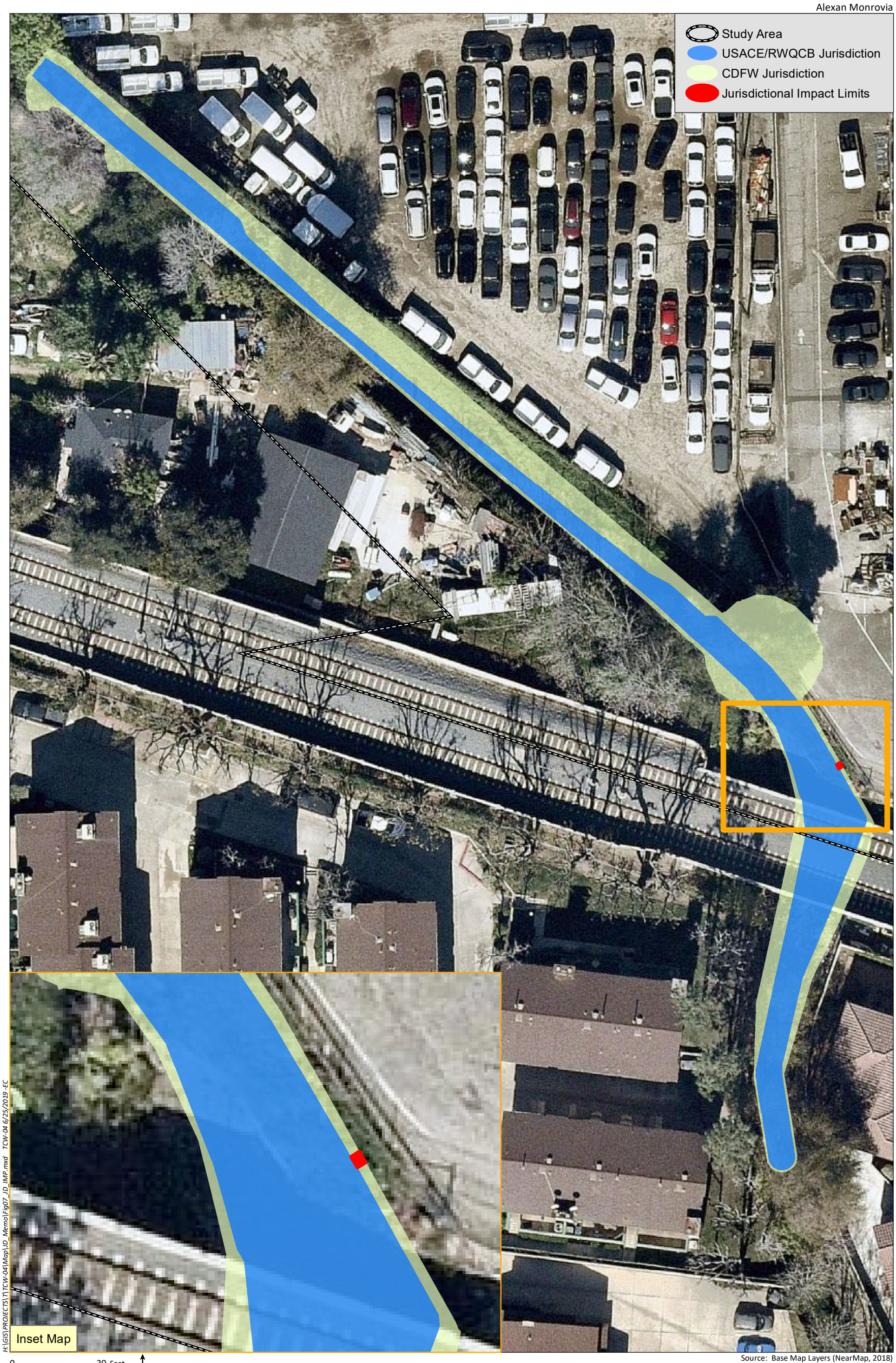
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Source: Base Map Layers (NearMap, 2018)

HELIX Environmental Planning

Jurisdictional Features

Figure 6



Source: Base Map Layers (NearMap, 2018)

HELIX Environmental Planning

Impacts to Jurisdictional Features

Figure 7



Photograph 1: View of Channel A, facing north (upstream). This photo was taken just downstream of the study area on the south side of the railroad crossing.



Photograph 2: View of the downstream portion of Channel A on the study area, facing southeast (downstream).



Photograph 3: View of the middle portion of Channel A on the study area, facing northwest (upstream). Note vegetation and sediment to the right and cracked concrete channel bottom to the left.



Photograph 4: View of the upstream portion of Channel A on the study area, facing northwest (upstream). Water surfaces onto the study area through the cement culvert.

Note: See Figure 6 for photograph locations.

Source: HELIX 2019

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APPENDIX E
CULTURAL RESOURCES DOCUMENTATION

APPENDIX E1
AB 52 and SB18 CONSULTATION DOCUMENTATION

City of MONROVIA 1887

All-America City

November 1, 2018

Gabrieleno Band of Mission Indians - Kizh Nation
Andrew Salas, Chairperson
Post Office Box 393
Covina, CA 91723

Subject: **AB 52 Consultation Request for Alexan Specific Plan and General Plan/Zoning Code Amendment**

Dear: Mr. Salas

Thank you for your letter of October 26, 2018 in which you requested consultation regarding the Alexan Specific Plan and General Plan/Zoning Code Amendment. You may have recently received the project's Notice of Preparation (NOP) which describes the proposed project and a list of environmental issues to be studied in the Environmental Impact Report.

On January 11, 2018, we consulted with you about this particular project. On that day, we received your recommended mitigation measures regarding the Tribal Cultural Resources and human remains and associated funerary objects within the Kizh Gabrieleno Tribal Territory. We also received a screenshot of the project site with the tribal cultural resources identified in the 1938 LA County map. These are attached for your review.

We are more than happy to meet with you again to review these mitigation measures, and any additional consultation as needed. Please notify me within 30 calendar days from receipt of this letter if you wish to consult further on this project.

Sincerely,

John Mayer, AICP
Senior Planner

415 South Ivy Avenue • Monrovia, California 91016-2888 • (626) 932-5550 • FAX (626) 932-5520

Printed on Recycled Paper.

Kizh Gabrieleno Band of Mission Indians

Re: Cultural Resources Mitigation Measures, regarding Tribal Cultural Resources and Human Remains and associated funerary objects within Kizh Gabrieleño Tribal Territory.

Note: *The Gabrieleño Band of Mission Indians Kizh -Nation ONLY replies to projects within their ANCESTRAL territory, because it's the highest degree of relationship to the land, even over culturally or traditionally affiliated, and our Oral History and documented information pertain to our Tribe's village areas, commerce areas, recreation areas, and burial locations within our tribe's ancestral territory. Therefore, in order to protect these irreplaceable Tribal Cultural Resources within our ancestral tribal territory, Native American Monitors shall be from the Gabrieleño Band of Mission Indians Kizh -Nation.*

Retain a Native American Monitor: The project Applicant will be required to obtain the services of a qualified Native American Monitor(s) during construction-related ground disturbance activities. Ground disturbance is defined by the Tribal Representatives from the Gabrieleño Band of Mission Indians-Kizh Nation as activities that include, but are not limited to, pavement removal, pot-holing or auguring, grubbing, weed abatement, boring, grading, excavation, drilling, and trenching, within the project area. The monitor(s) must be approved by the Tribal Representatives and will be present on-site during the construction phases that involve any ground disturbing activities. The Native American Monitor(s) will complete monitoring logs on a daily basis. The logs will provide descriptions of the daily activities, including construction activities, locations, soil, and any cultural materials identified. The monitor(s) shall possess Hazardous Waste Operations and Emergency Response (HAZWOPER) certification. In addition, the monitor(s) will be required to provide insurance certificates, including liability insurance, for any archaeological resource(s) encountered during grading and excavation activities pertinent to the provisions outlined in the California Environmental Quality Act, California Public Resources Code Division 13, Section 21083.2 (a) through (k). The on-site monitoring shall end when the project site grading and excavation activities are completed, or when the Tribal Representatives and monitor have indicated that the site has a low potential for archeological resources.

***Hazwoper is needed only if the site has hazardous concerns.*

Unanticipated Discovery of Tribal Cultural Resources: All archaeological resources unearthed by project construction activities shall be evaluated by the Qualified Archaeologist and Native Monitor. If the resources are Native American in origin, the Tribe shall coordinate with the landowner regarding treatment and curation of these resources. Typically, the Tribe will request reburial or preservation for educational purposes. If a resource is determined by the Qualified Archaeologist to constitute a "historical resource" pursuant to CEQA Guidelines Section 15064.5(a) or has a "unique archaeological resource" pursuant to Public Resources Code Section 21083.2(g), the Qualified Archaeologist shall coordinate with the applicant and the City to develop a formal treatment plan that would serve to reduce impacts to the resources. The treatment plan established for the resources shall be in accordance with CEQA Guidelines Section 15064.5(f) for historical resources and Public Resources Code Sections 21083.2(b) for unique archaeological resources. Preservation in place (i.e., avoidance) is the preferred manner of treatment. If preservation in place is not feasible, treatment may include implementation of archaeological data recovery excavations to remove the resource along with

If the coroner determines the remains represent a historic non-Native American burial, the burial shall be treated in the same manner of respect with agreement of the coroner. Reburial will be in an appropriate setting. If the coroner determines the remains to be modern, the coroner will take custody of the remains.

Each occurrence of human remains and associated funerary objects will be stored using opaque cloth bags. All human remains, funerary objects, sacred objects and objects of cultural patrimony will be removed to a secure container on site if possible. These items should be retained and reburied within six months of recovery. The site of reburial/repatriation shall be on the project site but at a location mitigated between the Tribe and the landowner at a site to be protected in perpetuity. There shall be no publicity regarding any cultural materials recovered.

Professional Standards: Archaeological and Native American monitoring and excavation during construction projects will be consistent with current professional standards. All feasible care to avoid any unnecessary disturbance, physical modification, or separation of human remains and associated funerary objects shall be taken. Principal personnel must meet the Secretary of Interior standards for archaeology and have a minimum of 10 years of experience as a principal investigator working with Tribal Cultural Resources in southern California. The Qualified Archaeologist shall ensure that all other personnel are appropriately trained and qualified.

APPENDIX E2
HISTORIC REPORT

DALY & ASSOCIATES
2242 El Capitan Drive, Riverside, California 92506
(951) 369-1366 ■ daly.rvrsde@sbcglobal.net

July 31, 2018

Michelle Gibbs
Senior Planner/Biologist
MIG, Inc.
800 Hearst Avenue
Berkeley, CA 94710

Re: Alexan Monrovia and MIG Project #13819

Dear Ms. Gibbs;

Please find attached the completed California Department of Parks and Recreation (DPR) Series 523 Inventory Site forms for the documentation and evaluation of the properties at 340 West Evergreen Avenue and 1607 South Magnolia Avenue in the City of Monrovia, California. The DPR forms were completed per the instructions of the City of Monrovia's "Requirements for Preparing Historic Assessments" in association with the use of the *Final City of Monrovia Historic Context Statement (2018)*, for the evaluation of the built-environment resources situated in the project parcels.

Methodology

The field survey and evaluation of the buildings at 340 West Evergreen Avenue and 1607 South Magnolia Avenue, was conducted by Pamela Daly, M.S.H.P., Principal Architectural Historian. Ms. Daly holds a Master of Science Degree in Historic Preservation from the University of Vermont, and a Bachelor of Science Degree in Business Management (with a minor in History), and exceeds the Secretary of the Interior's Professional Qualifications (36 CFR 61) for Architectural Historians and Historians. Ms. Daly has authored over 150 historical resource assessments and evaluations required for buildings/structures/objects/features/and landscapes under the California Environmental Quality Act (CEQA). (See attachment for additional information.)

In order to identify and evaluate the subject properties as potential historical resources, a multi-step methodology was utilized. An inspection of the sites and the existing structures, combined with a review of data for these parcels, was performed to document existing conditions and assist in assessing and evaluating the properties for significance. Photographs were taken of the subject buildings, surrounding landscape, or other points of interest situated in the proposed project area, during the intensive-level pedestrian survey.

The *Final City of Monrovia Historic Context Statement*, prepared by ASM Affiliates, Inc., for the City of Monrovia (2018), was utilized to provide historical backgrounds for the subject

properties located within the City, and as a framework for understanding the properties place in the history of the City.

The criteria for listing a property in the California Register of Historical Resources, and the City of Monrovia Designation Criteria (MMC § 17.40.060(b)), were employed to evaluate the potential historical significance of the subject properties. In addition, the following tasks were performed for the study:

- Ordinances, statutes, regulations, bulletins, and technical materials relating to federal, state, and local historic preservation, designation assessment processes, and related programs were reviewed and analyzed;
- site-specific research was conducted on the subject property utilizing historic United States Geological Survey (USGS) topographic maps;
- historical road maps of the Automobile Club of Southern California were referenced;
- *Los Angeles City Directory Company* books for Monrovia resident and street listings were referenced;
- U.S. Census data was accessed from Ancestry.com;
- U.S. Military draft cards were accessed from Ancestry.com;
- Los Angeles County voting roles were accessed from Ancestry.com;
- building permit records for the properties were provided by the City; and
- historic aerial photographs dating from 1948 were accessed from NETR Historic aerials.

Assessment Results

340 West Evergreen Avenue: The property at 340 West Evergreen Avenue was evaluated for significance by using the theme of "Residential Development 1941-1967", with the sub-theme of "Single-Family Residential Infill", as presented in the *Final City of Monrovia Historic Context Statement* (ASM, 2018).

- The property was found not to be part of, or potential contributor to any historic district in the City.
- The property was not found to be a significant historical resource when evaluated under the criteria for listing in the California Register of Historical Resources.
- The property was not found to meet the criteria to be eligible for being considered a Designated Historical Resource in the City of Monrovia.
- The property was assigned the California Historical Resources Status Code of 6Z.

1607 South Magnolia Avenue: Due to the architectural style of the residence at 1607 South Magnolia Avenue, and the good possibility that the building dates from circa 1910 to 1940, the property was evaluated for significance by using the theme of Residential Development 1903-1940", with the sub-theme of "Single-Family Residential", as presented in the *Final City of Monrovia Historic Context Statement* (ASM, 2018).

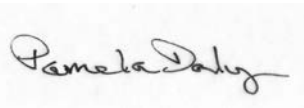
- The property was found not to be part of, or potential contributor to any historic district in the City.

- The property was not found to be a significant historical resource when evaluated under the criteria for listing in the California Register of Historical Resources.
- The property was not found to meet the criteria to be eligible for being considered a Designated Historical Resource in the City of Monrovia.
- The property was assigned the California Historical Resources Status Code of 6Z.

Complete set of DPR 523 Series inventory site forms for each property are attached to this memorandum. The DPR forms contain detailed architectural descriptions of each building, histories of each property, and statements of significance for the resources.

Please do not hesitate to contact me with any questions.

Sincerely,



Pamela Daly, M.S.H.P.
Principal

Attachments: Daly & Associates biography
DPR forms for 340 West Evergreen Avenue
DPR forms for 1607 South Magnolia Avenue

Pamela Daly, M.S.H.P., Principal Architectural Historian
Daly & Associates, 2242 El Capitan Drive, Riverside, CA 92506
(951) 369-1366 daly.rvrsde@sbcglobal.net

Ms. Daly is a 36 CFR 61 Qualified Architectural Historian with more than 21 years experience in historic resource management and consulting in California, Vermont, New York, and Nevada. She earned a Master of Science degree in Historic Preservation at University of Vermont, and a Bachelor of Science degree in Business Management from Elmira College in Elmira, New York. Ms. Daly's coursework in Historic Preservation included the study of American Architecture, Historic Landscapes, and Building Conservation Techniques.

Ms. Daly has experience with federal agencies including U.S. Air Force, U.S. Navy, U.S. Army Reserve, U.S. Army Corps of Engineers, Bureau of Land Management, the U.S. Forest Service, the National Park Service, and U.S. Fish & Wildlife. She is accepted as a principal investigator for both Architectural History and History by the California State Office of Historic Preservation, and holds the qualifications to work throughout the United States. Ms. Daly belongs to the National Trust for Historic Preservation, Vernacular Architecture Forum, Society of Industrial Archaeology, and Association of Preservation Technology.

Ms. Daly has expertise not only in assessing and evaluating classic residential architectural styles of the United States dating from the eighteenth to the twenty-first century, but she has a wide range of experience in the survey and evaluation of military sites and structures in both the western and eastern United States. She has performed studies on airplane hangars, military housing, helicopter hangers, ammunition bunkers, flight simulators, and Cold War radar arrays. Industrial archaeological sites include automobile and railroad bridges, irrigation canals and ditches, gravity-fed water supply systems, sewer treatments systems, gold mines, water-pumping systems, privately-owned reservoirs, electric transmission line towers, historic roads, historic signage, airplane hangars, steam-powered belt and pulley systems, and a historic zanja.

Studies of built-environment resources include archival research, field investigation, significance criteria and determinations, assessment of impacts/effects, management plans, and mitigation implementation. Mitigation measures include preparation of Historic American Building Survey (HABS) documentation, Historic American Engineering Record (HAER) documentation, Historic American Landscape (HALS) documentation, interpretive signage, layout and production of brochures, websites, and video displays. Ms. Daly has also worked with clients with historically significant buildings to restore or rehabilitate them in accordance with the *Secretary of the Interior's Standards for the Treatment of Historic Properties*.

From her training at the University of Vermont, Ms. Daly is qualified to prepare Historic Structure Reports (HSR) for built-environment resources. She has the expertise and equipment to perform chromochronology, mortar analysis, historic interior evaluations, and analysis of historic paint finishes. She has prepared reports detailing the existing conditions of the interior and exterior features of a building, and presented the recommended repair and maintenance tasks necessary to protect the historic resource.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code: 6Z

Other Listings
Review Code | Reviewer | Date

 ***Resource Name or #:** 340 West Evergreen Avenue

P1. Other Identifier: APN 8507-006-016

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Mount Wilson **Date:** 1995 **T** ; **R** ; **¼ of** **¼ of Sec** **;** S.B.**B.M.**

c. Address: 340 West Evergreen Avenue City: Monrovia Zip: 91016

d. UTM: Zone: 11; 407155 mE/ 3777572 mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 440 feet a.s.l.

The building is located approximately 177 yards west of the intersection of South Magnolia Avenue and West Evergreen Avenue, on the south side of the street.

***P3a. Description:** (Describe resource and its major elements. Include design, materials, condition, alterations, size, setting, and boundaries)

The building permit for erection of this dwelling was not in the file for this property. According to Permit No. 2468 filed by the owners of the property in 1952, the house at that time was a one-story residence and garage, with the residence measuring 20 feet x 32 feet, for a total of 640 square feet of living space. The house was comprised of only five rooms, and a review of a historical aerial photographs dating from 1948, 1952, 1964, and 1972, provide information as to the original massing of the house, its location, and the reorientation of South Alta Vista Street and West Evergreen Avenue because of the construction of the 210 Freeway through this area in Monrovia.

The original building had a rectangular massing and a low-pitched gable roof set on an east-west axis, with rafter tails extending from under the overhanging eaves. The house sits on a poured-concrete foundation. To this main block, an addition was made to the west elevation, and this addition connected to the original unattached garage. Many of the windows are currently covered over from the outside, but those visible present primarily 1-over-1 wood sash, double-hung windows. On the front façade, a large square window comprised of nine fixed lights, set in wood sash and frame is situated immediately to the west of the exterior chimney. In 1999, David Miller received a permit to remove the existing doors of the house, and replace a sliding door on the rear elevation, and some other windows, with modern composite units.

The addition and garage conversion to living space extended the house approximately 24 feet to the west. A small addition, approximately 8' x 8' was constructed off of the east elevation, and its gable-on-hip roof height is noticeably lower than the main block. A faux birdhouse is set in the east gable end of the main block, and the east façade of the small addition has "ranch style" wood shutters and framing the window. The main front entrance appears to be situated at the east end of the front (north) elevation under a sheet of plywood. A chimney was added to the front elevation in the approximate middle of the main block. This location of the front door and chimney are out of character for the orientation of features on the front façade, and may have resulted from the alteration of 1952. The house is currently vacant and has been boarded up.

***P3b. Resource Attributes:** HP6 (1-3 story commercial building) HP39 (Other: single family dwelling now used as a religious center.)

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing



P5b. Description of Photo: Front (north) elevation. View looking south. July 5, 2018.

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
1949-1951 per Los Angeles County Assessor data.

***P7. Owner and Address:**
Unknown.

***P8. Recorded by:**
Pamela Daly, M.S.H.P.
Daly & Associates
2242 El Capitan Drive
Riverside, CA 92506

***P9. Date Recorded:** July 30, 2018

***P10. Survey Type:** CEQA - Intensive

***P11. Report Citation: None.**

***Attachments:** ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code**: 6Z

***Resource Name or # : 340 West Evergreen Avenue**

B1. Historic Name: 1519 South Alta Vista Ave. (address was changed when streets were reorganized due to construction of the 210 Freeway)

B2. Common Name:

B3. Original Use: single-family dwelling B4. Present Use: vacant

***B5. Architectural Style:** Minimalist

***B6. Construction History:** The original building permit is not available. Based upon review of historic aerial photographs, the subject house appears to have been constructed contemporaneously with other small tract houses in this area, such as the houses on Montana Street that were also constructed between 1948 and 1952. A permit was issued in April 1952 for the house to be substantially enlarged to 1,540 feet, but that does not appear to have been completed. (Permit No. 2468, April 29, 1952.) The L. A. County Assessor notes the building as currently having 1,080 square feet.

***B7. Moved?** ■**No** ☐**Yes** ☐**Unknown** **Date:** **Original Location:**

***B8. Related Features:** None.

B9a. Architect: Unknown b. Builder: Unknown

***B10. Significance:** N/A **Theme:** Residential Development 1941-1960; Minimal Traditional style **Area:** City of Monrovia
Period of Significance: N/A **Property Type:** Single-family residence **Applicable Criteria:** NA

The single-family dwelling at 340 West Evergreen Avenue is purported to have been constructed in 1949 per the Los Angeles County Assessor property tax records. At the time it was built, prior to the construction of the 210 Freeway through Monrovia, the property had the street address of 1519 South Alta Vista. The City was undergoing a housing boom in the 1940s, and what had been agricultural land, between Central Avenue and the Atchison Topeka and Santa Fe Railroad line, and Magnolia Avenue and Mayflower Avenue, was converted to use for residential dwellings. Historic aerial photographs present evidence that light industrial complexes began to move into the area after 1952. After the 210 Freeway was completed through the subject area, it was – for all intents and purposes – cut off from the rest of the main center of the City, and the subject property was given the address of 340 West Evergreen Avenue.

Donald S. and Alta Warren are noted as the owners of the property when a permit was issued in 1952 to substantially alter the original 640 square foot house with additions totally 900 square feet. Donald Warren was a sheet metal worker at Gauf/Gough Brothers, and this may have been a starter home for his family. The house was enlarged by only 440 additional square feet, and most of the enlargement consisted of an addition off the west elevation, to connect to what had been a standalone garage. The Warrens moved to Pasadena in 1955. According to the City Directory, Charles R. Simons, an electrician, and his wife Dorothy were the next residents of the property, and lived there until 1968. Permit records are quiet until 1985, when David Miller files a request for some electrical and plumbing work. Miller would establish his plumbing and sewer business (SGV Plumbing and Sewer) on the property, using the house for his residence and office.

(See Continuation Sheet for evaluation text.)

B11. Additional Resource Attributes: None.

***B12. References:**

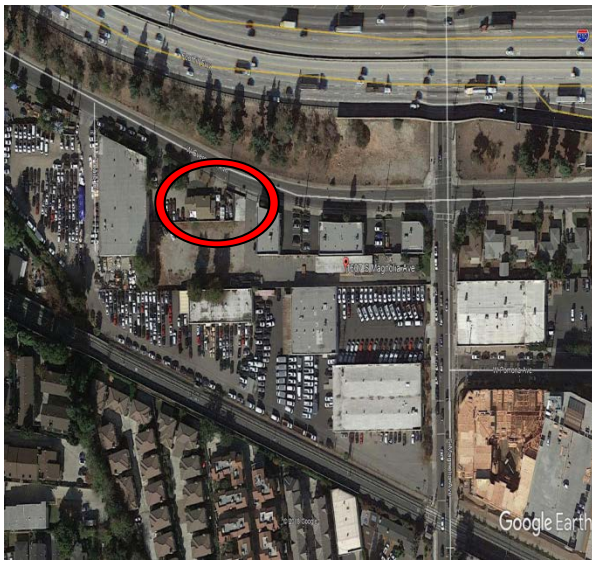
City of Monrovia building permits for 340 W. Evergreen Ave./1519 South Alta Vista Ave.
NETR Historic Aerials
City of Arcadia and Monrovia City Directories
Sanborn Fire Insurance Maps
Sierra Madre 1941 U.S.G.S. topographic map

B13. Remarks:

***B14. Evaluator:** Pamela Daly, M.S.H.P.

***Date of Evaluation:** July 30, 2018.

(This space reserved for official comments.)



B10. Statement of Significance, continued:

The property at 340 West Evergreen Avenue was evaluated for significance by using the theme of "Residential Development 1941-1967", with the sub-theme of "Single-Family Residential Infill", as presented in the *Final City of Monrovia Historic Context Statement* (ASM, 2018).

California Register of Historical Resources

California Register Criterion 1: The property at 340 West Evergreen Avenue does not appear to be eligible under Criterion 1 for listing in the California Register of Historical Resources (CRHR) for any association with themes important to the City of Monrovia or California. As required for a property under the theme of "Residential Development 1941-1967", the property does not express the updated functionality and quality of life expectations of housing in the post-World War II era. When first constructed, the house at 340 West Evergreen Avenue was recorded as being 640 square feet. A house of that size would have been one that was built and marketed to returning veterans (World War II or the Korean Conflict) as a "starter home". From a review of historic photographs, many of the tract houses on Montana Street (due north, on the other side of the 210 Freeway), appear to have been built contemporaneously with the subject property. Many of the Montana Street houses have been altered with additions, but they still retain sufficient architectural attributes to show their evolution from a "starter house" into a residence that reflected the growth of a family within. The house at 340 West Evergreen Avenue does not represent an important association with residential development, nor is it a better example of circa 1949/1952 construction than the houses on Montana Street.

CRHR Criterion 2: Under the criterion for evaluating properties for listing in the California Register for their *direct* association with the lives of persons important to the history of Monrovia, the San Gabriel Valley, or California, the property at 340 West Evergreen Avenue does not appear eligible for listing in the CRHR under Criterion 2. We could find no evidence that any individual owners or tenants associated with the property were persons identified as having made an important contribution to the history of the City, region, or state.

CRHR Criterion 3: Evaluating the subject property under Criterion 3 the CRHR for determining the significance of the architecture, design, or construction of the built-environment resource at 340 West Evergreen Avenue, it is apparent that the building was constructed as a modest interpretation of Minimal Traditional architecture. Subsequent alterations and additions to the house since its construction have caused the loss of a majority of its original design. The additions to both the east and west elevations of the house, as well as the rearrangement of windows and doors on the front façade, didn't enhance or improve the buildings original design, massing, balance, and proportions, but rather served to present a disjointed and unpleasant appearance to this house. Compared to many of the houses on Montana Street, which appear to have been built around the same time as the subject house, the house at 340 West Evergreen Avenue has lost its ability to convey its roots in the Minimal Traditional style as a small, single-family, post-World War II residence.

The house at 340 West Evergreen Avenue has lost many of the essential physical aspects of its original, physical integrity that adversely affect its ability to convey any historic significance:

Design: this aspect of integrity was lost with the construction of the badly designed additions, removal of the original windows and doors, and converting the garage to living space.

Materials: although some of the original architectural features remain, they are not part of a larger cohesive plan for the building. The construction of the additions, and the removal and replacement of original windows and doors, has created a disrupted visage.

Workmanship: the additions made to the house do not appear to have been made with a concern for high quality outcome of effort and appearance of the building after work was completed.

Setting: the setting of the house has changed from that of a lightly-settled residential neighborhood, with some remaining citrus groves nearby, to that of a major, eight-lane freeway on the other side of the street, and commercial light-industrial business surrounding the property on its other three sides.

Feeling: the property has lost its ability to convey a sense of the late 1940s and/or early 1950s period of residential construction.

Association: the property has lost its association with the post-World War II era, and the boom period in Southern California actualizing the optimism for a peaceful future.

Location: the house has remained in its original location.

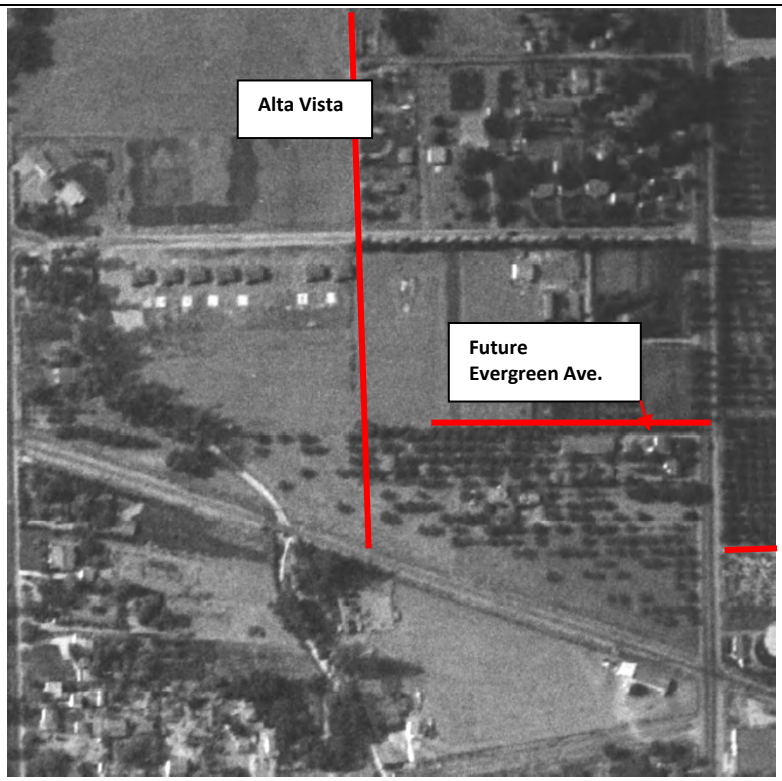
(See Continuation sheet for additional text)

B10. Statement of Significance, continued:

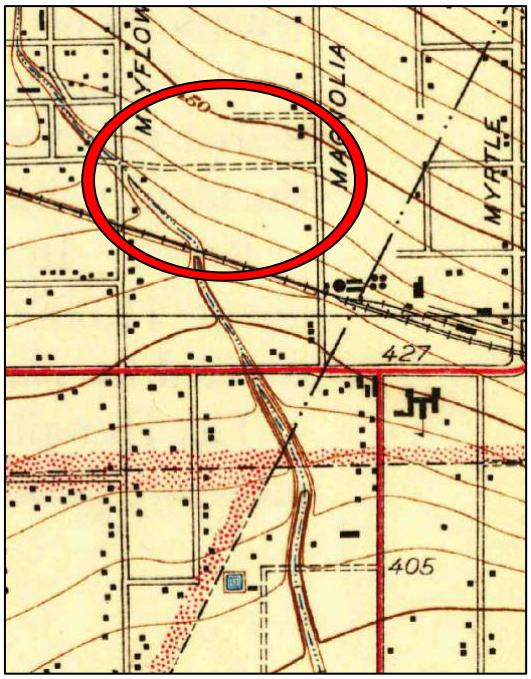
The property at 340 West Evergreen Avenue has not yielded, nor does it appear to have the potential to yield, information important to the history of the local area, California or the nation. The property does not appear eligible for listing in the National Register under Criterion D, or the California Register under Criterion 4.

City of Monrovia criterion

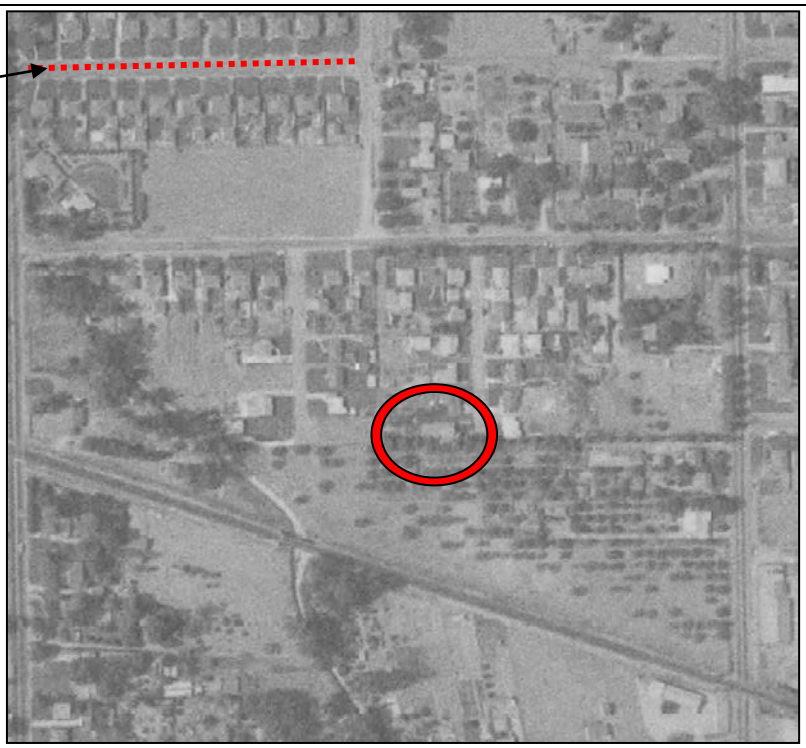
1. It is identified with persons or events significant in local, regional, state or national history.
   The property at 340 West Evergreen Avenue has not been identified with persons or events significant in local, regional, state, or national history.
2. It is representative of work of a notable builder, designer, or architect.
   The original building permit for the property was not available, but based on our experience, the property at 340 West Evergreen Avenue does not appear to be the product of a notable builder, designer, or architect. The building has been substantially altered with the addition of inappropriate modifications, and does not present a professionally designed residence.
3. It contributes to the significance of an historic area, being a geographically definable area possessing a concentration of not less than 50% of historic or architecturally related grouping of properties which contribute to each other and are unified aesthetically by physical layout or development.
   The house at 340 West Evergreen Avenue was literally cut-off from its original neighborhood with the construction of the 210 Freeway through Monrovia. It is not related to any similar buildings in its immediate setting.
4. It embodies one or more distinctive characteristics of style, type, period, design, materials, detail, or craftsmanship.
   To be considered a historic resource in the City of Monrovia, the Sub-Theme for Minimal Traditional buildings states that eligible buildings under this theme should "exemplify tenets of the Modern era and Minimal Traditional style" and "retain all of its character-defining features" to be considered significant. The house at 340 West Evergreen Avenue, has lost by way of inappropriate alterations and ill-designed additions, substantial aspects of the Minimal Traditional style that comprised the original structure.
5. It has a unique location or physical characteristics or represents an established and familiar visual feature of a neighborhood, a community, or the City.
   The residence at 340 West Evergreen Avenue is not situated in a unique location, does not possess unique physical characteristics, or represent an established and familiar visual feature to the light industrial area situated south of the 210 Freeway, west of Magnolia Avenue.
6. It incorporates elements that help preserve and protect a historic place or area of historic interest in the City.
   The residence at 340 West Evergreen Avenue is not located in an area of historic interest in the City.
7. It has yielded, or may be likely to yield information important in prehistory or history.
   The property at 340 West Evergreen Avenue has not yielded, nor does it appear likely to yield, information important to the history of Monrovia.



1948 aerial photograph of the project site, before the subject house was constructed. Magnolia Avenue runs north-south to the east; Central Avenue is the paved road to the north; the Atchison Topeka and Santa Fe Railroad lines run diagonally northwest-southeast; and Mayflower Avenue to the west. South Alta Vista Street does not go below Central Avenue at this time. (NETR Historic Aerials)



Excerpt from historic map of 1941 showing the lightly settled area where the subject house was built in 1949.
U.S.G.S. Topographic Map: 1941 Sierra Madre, 1:24,000



1952 aerial photograph of the project site. Magnolia Avenue runs north-south to the east; Central Avenue is the paved road to the north; the Atchison Topeka and Santa Fe Railroad lines run diagonally northwest-southeast; and Mayflower Avenue to the west. South Alta Vista Street does not go below Central Avenue at this time. Note the rapid development of tract houses along Central Avenue and north on Montana Street. (NETR Historic Aerials)

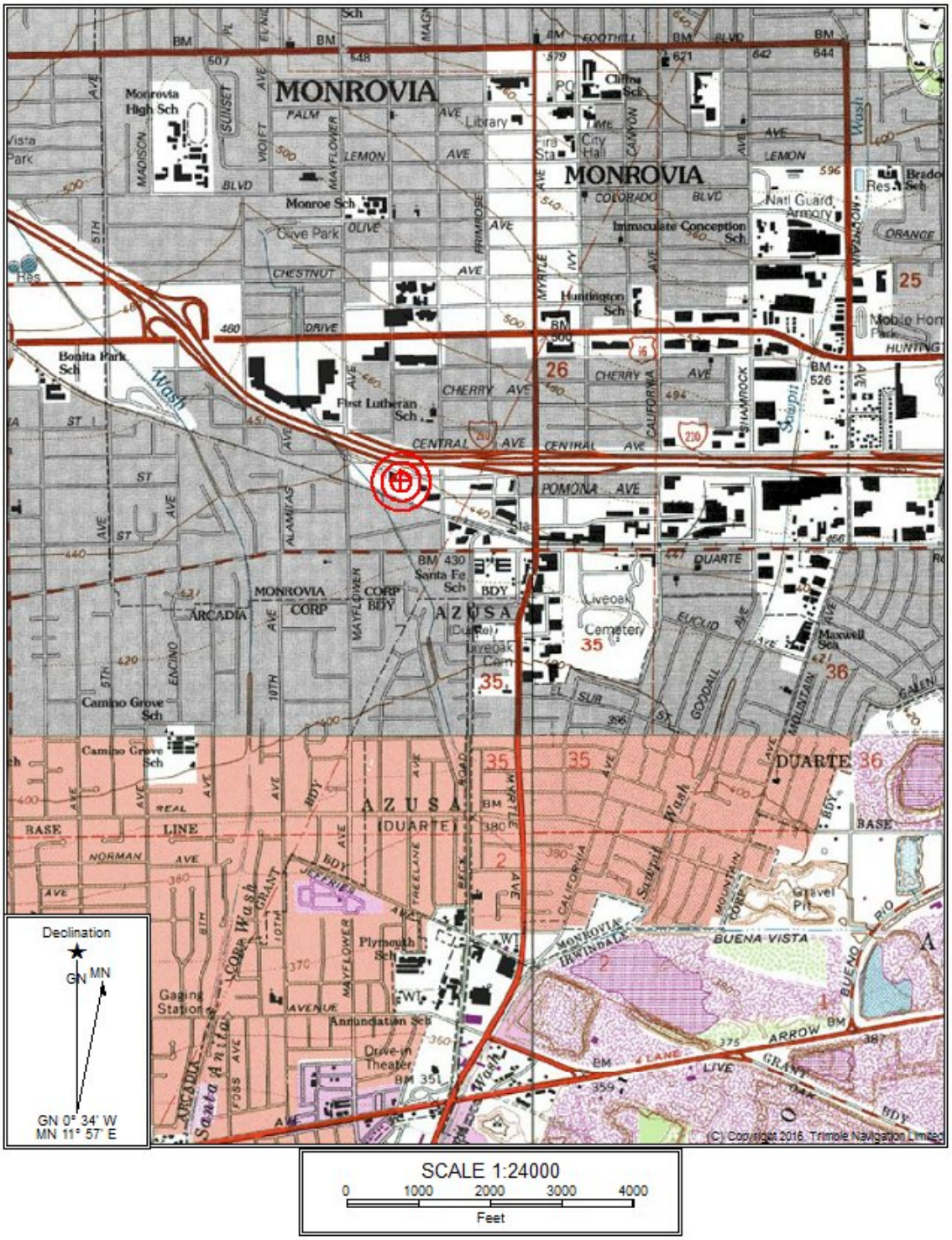


Aerial view of subject property in 1972 after the construction of the 210 Freeway. Note that the surrounding neighborhood has changed entirely to light industrial use.

State of California — The Resources Agency DEPARTMENT OF PARKS AND RECREATION **LOCATION MAP**	Primary # HRI# Trinomial

Page 7 **of** 7 ***Resource Name or #: 340 West Evergreen Avenue**

***Map Name:** Mount Wilson ***Scale:** 1:24,000 ***Date of Map:** 1995



DPR 523J (1/95) ***Required information**

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

PRIMARY RECORD

Primary #
HRI #
Trinomial
NRHP Status Code: 6Z

Other Listings
Review Code | Reviewer | Date

***Resource Name or #:** 1607 South Magnolia Avenue

P1. Other Identifier: APN 8507-006-035

***P2. Location:** ☐ **Not for Publication** ☒ **Unrestricted** ***a. County:** Los Angeles

and (P2b and P2c or P2d. Attach a Location Map as necessary.)

***b. USGS 7.5' Quad:** Mount Wilson **Date:** 1995 **T** ; **R** ; **¼ of** **¼ of Sec** **;** S.B.**B.M.**

c. Address: 1607 South Magnolia Avenue City: Monrovia Zip: 91016

d. UTM: Zone: 11; 407302 mE/ 3777544 mN (G.P.S.)

e. Other Locational Data: (e.g., parcel #, directions to resource, elevation, etc., as appropriate) Elevation: 441 feet a.s.l.

The building is located approximately 100 feet south of the intersection of South Magnolia Avenue and West Evergreen Avenue, on the west side of the street.

***P3a. Description:**

This building is a one-story vernacular bungalow, with a rectangular massing that measures approximately 28' x 26'. The building has a medium-pitched side-gable roof that has a shed roof extending from the rear (west) gable roof slope. All the original windows and doors have been removed and replaced with modern, vinyl composite units. The original redwood siding and trim boards were removed and replaced with pressboard siding in the late 1990s or 2000s when extensive renovations were made to the house. (Pressboard siding, also called synthetic wood siding, or hardboard siding, is mainly comprised of wood fibers, flakes or chips that are held together by glues and resins and then pressed in forms to look like wood boards.) The house sits on a slightly raised poured-concrete foundation. There is a short extension of the east roof slope over the area of the front door, and a set of three poured-concrete steps, with metal pipe railings, lead up to the front door. The rear of the property is used for vehicle storage, and there is just a small amount of front lawn that still remains from the larger, 1.5 acre parcel on which the building was situated.

***P3b. Resource Attributes:** HP6 (1-3 story commercial building) HP39 (Other: single family dwelling most recently used as a religious center.)

***P4. Resources Present:** ☒Building ☐Structure ☐Object ☐Site ☐District ☐Element of District ☐Other (Isolates, etc.)

P5a. Photo or Drawing



P5b. Description of Photo:
Front (east) elevation, view looking northwest. July 6, 2018.

***P6. Date Constructed/Age and Sources:** ☒Historic ☐Prehistoric ☐Both
Per the LA County Assessor's Office the house was constructed in 1942.

***P7. Owner and Address:**
Unknown

***P8. Recorded by:**
Pamela Daly, M.S.H.P.
Daly & Associates
2242 El Capitan Drive
Riverside, CA 92506

***P9. Date Recorded:** July 30, 2018

***P10. Survey Type:** CEQA - Intensive

***P11. Report Citation: None.**

***Attachments:** ☐NONE ☒Location Map ☐Sketch Map ☒Continuation Sheet ☒Building, Structure, and Object Record ☐Archaeological Record ☐District Record ☐Linear Feature Record ☐Milling Station Record ☐Rock Art Record ☐Artifact Record ☐Photograph Record ☐ Other (List):

BUILDING, STRUCTURE, AND OBJECT RECORD

***NRHP Status Code**: 6Z

***Resource Name or # : 1607 South Magnolia Avenue**

B1. Historic Name: Unknown
B2. Common Name: Unknown
B3. Original Use: Single-family dwelling
B4. Present Use: Religious center/vacant

***B5. Architectural Style:** Vernacular one-story dwelling

***B6. Construction History:**
Los Angeles County Assessor's Office records state that the building was constructed in 1942, and a plumbing permit was issued by the City of Monrovia for a residential hookup in 1942. But the residence does not appear in Monrovia City Directory until 1948. Because of its simple design of wood frame on post foundation, it could have been built circa 1910-1930, located elsewhere, and easily moved to its present location in 1942.

***B7. Moved?** ☐No ☐Yes ☒Unknown **Date:** circa 1942 **Original Location:** Unknown

***B8. Related Features:** None.

B9a. Architect: Unknown
b. Builder: Unknown

***B10. Significance:** None. **Theme:** Residential Development 1903-1940 **Area:** City of Monrovia
Period of Significance: N/A **Property Type:** single-family dwelling **Applicable Criteria:** N/A

David Garett Fields and his wife Margaret lived at the house situated at the corner of South Magnolia Avenue and (future) West Evergreen Avenue in 1939, and David G. Fields was noted as being employed as a printer in the Monrovia City Directory, at that time. The U.S. Census of 1930 noted that he and his wife were living in Stockton, California, at that time, and that he was a printer for a newspaper.

Fields owned a large lot on South Magnolia Avenue in Monrovia that measured 103' along South Magnolia, and 635' to the west (parallel to Huntington Drive), for a total of 65,405 square feet, or 1.5 acres. The building permit file for 1607 South Magnolia Avenue also contains permits issued for projects issued for 1603 South Magnolia Avenue. Unfortunately, it is difficult to read many of the older (1940s) permits issued for work on the entire parcel, but there is a permit for multiple poultry houses to be built, and also a 5-family apartment building. The apartment building was constructed due west of the house at 1603 South Magnolia Avenue, and the flat roof of the linear row of units appears in aerial photographs from 1948 to 1972. The apartment building and the house at 1603 South Magnolia Avenue were demolished sometime after the 210 Freeway and West Evergreen Avenue were constructed, and replaced with light industrial buildings.

Margaret Fields died between 1940 and 1943 (based on information from U.S. Census of 1940 and the 1943 Monrovia City Directory), and David then married (a much younger) Clara M. Lowry in 1943, and they settled in the house at 1603 South Magnolia Avenue. In 1948, Clara and David moved into the small house at 1607 South Magnolia Avenue, and Lyman W. Stuckey and his wife Helen moved into the house at 1603 South Magnolia Avenue. David and Clara Fields (a nurse) lived at 1607 South Magnolia Avenue together until his death in 1963, and then she continued to live there alone until 1996. Landon Lowry (a family relation of Clara's) moved into the house in 1997, and lived there for six years. According to building permit records, the interior and exterior of the house were substantially altered during renovations in the late 1990s and 2000s.

(See Continuation Sheet for additional text.)

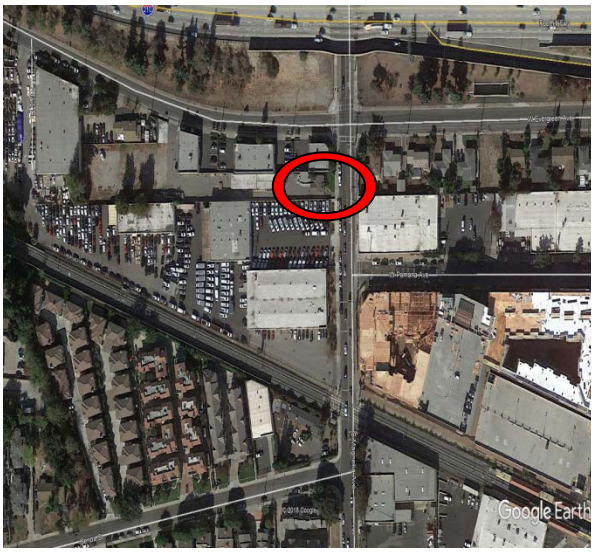
B11. Additional Resource Attributes: None.

***B12. References:**
U.S. Census data for 1930 and 1940.
City of Monrovia Directories.
City of Monrovia building permit records for 1603 and 1607 South Magnolia Avenue.
NETR Historic Aerial photographs.

B13. Remarks:

***B14. Evaluator:** Pamela Daly, M.S.H.P.

***Date of Evaluation:** July 30, 2018



(This space reserved for official comments.)

*Recorded by: Pamela Daly, M.S.H.P. *Date: July 30, 2018 ☒Continuation ☐ Update

B10. Statement of Significance, continued:

Due to the architectural style of the residence at 1607 South Magnolia Avenue, and the good possibility that the building dates from circa 1910 to 1940, the property will be evaluated for significance by using the theme of Residential Development 1903-1940", with the sub-theme of "Single-Family Residential", as presented in the *Final City of Monrovia Historic Context Statement* (ASM, 2018)

California Register of Historical Resources

California Register Criterion 1: Evaluating the subject property for its association with the historic themes of the City of Monrovia, the property at 1607 South Magnolia Avenue does not appear to be eligible under Criterion 1 for listing in the California Register of Historical Resources (CRHR). The property does not represent an important association with residential development in a previously established neighborhood, or a residential area developed during the early twentieth century. The house at 1607 South Magnolia Avenue does not reflect the pattern and form of development typical of early suburban development and trends.

CRHR Criterion 2: Under the criterion for evaluating properties for listing in the California Register for their *direct* association with the lives of persons important to the history of Monrovia, the San Gabriel Valley, or Los Angeles County, the property at 1607 South Magnolia Avenue does not appear eligible for listing in the CRHR under Criterion 2. We could find no evidence that individual owners or tenants associated with the property were persons identified as having made an important contribution to the history of the City, region, or state.

CRHR Criterion 3: Evaluating the subject property under Criterion 3 of the CRHR for determining the significance of the architecture, design, or construction of the built-environment resource at 1607 South Magnolia Avenue, it is apparent that the building was constructed as a modest dwelling in a simple vernacular style of architecture. As stated in the *Final City of Monrovia Historic Context Statement*, small vernacular cottages were usually located on the very outer edges of a city, and occupied by families in the lower stratus of society, and finding a building that represents this aspect of early twentieth-century life is very difficult. Unfortunately, even though the subject building appears to have retained its original massing, all the exterior materials including the original wood siding, windows and doors, that are integral features of simple, wood buildings, were removed during renovations. With the loss of its original material, and character-defining features, the building is unable to convey a structure dating from the early twentieth century.

The house at 1607 South Magnolia Avenue has lost many of the essential physical aspects of its original, physical integrity that adversely affect its ability to convey any historic significance:

Design: this aspect of integrity was lost with complete removal of the original wood siding, wood windows and doors, and trim boards.

Materials: this aspect of integrity was lost with complete removal of the original wood siding, wood windows and doors, and trim boards.

Workmanship: this aspect of integrity was lost with complete removal of the original wood siding, wood windows and doors, and trim boards.

Setting: the setting of the house has changed from that of a lightly-settled residential neighborhood, with some remaining citrus groves nearby, to that of a major, eight-lane freeway on the other side of the street, and commercial light-industrial business surrounding the property on its other three sides.

Feeling: this aspect of integrity was lost with complete removal of the original wood siding, wood windows and doors, and trim boards.

Association: the house was most probably moved from a prior location to its current site in the early 1940s. Not only has it lost association with its true location, but the neighborhood where the building was set in the 1940s has also been substantially altered from light agricultural to light industrial use.

Location: the house has been in its current location since 1942.

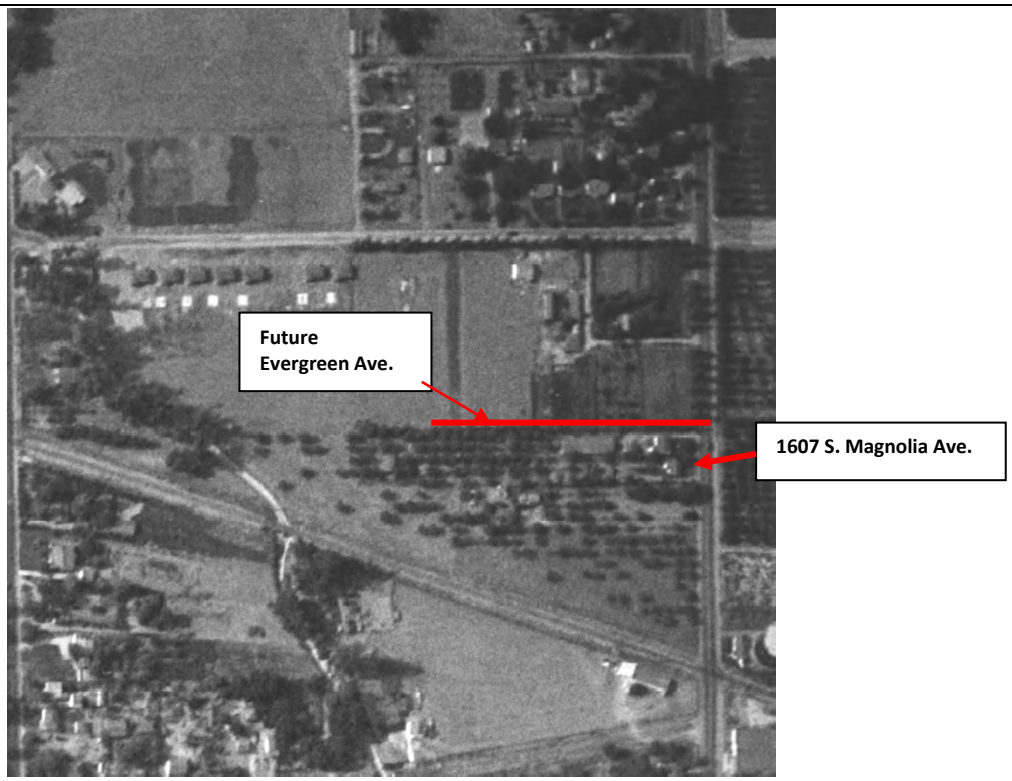
The property at 1607 South Magnolia Avenue has not yielded, nor does it appear to have the potential to yield, information important to the history of the local area, California or the nation. The property does not appear eligible for listing in the National Register under Criterion D, or the California Register under Criterion 4.

*Recorded by: Pamela Daly, M.S.H.P. *Date: July 30, 2018 ☒Continuation ☐ Update

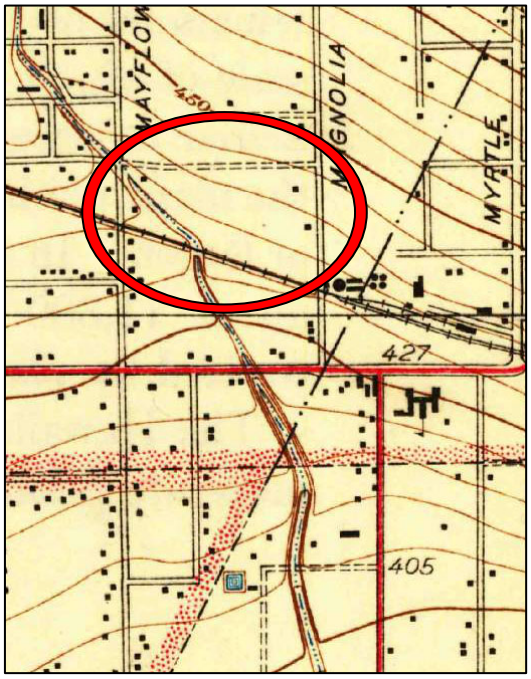
B10. Statement of Significance, continued:

City of Monrovia criterion:

1. It is identified with persons or events significant in local, regional, state or national history.
   The property at 1607 South Magnolia Avenue has not been identified with persons or events significant in local, regional, state, or national history.
2. It is representative of work of a notable builder, designer, or architect.
   The original building permit for the property was not available, but based on our experience, the property at 1607 South Magnolia Avenue was not the product of a notable builder, designer, or architect. The building was substantially altered when the original windows, doors, siding, and trim were removed during renovations, and the building is unable to convey its association with the early twentieth century.
3. It contributes to the significance of a historic area, being a geographically definable area possessing a concentration of not less than 50% of historic or architecturally related grouping of properties which contribute to each other and are unified aesthetically by physical layout or development.
   The house at 1607 South Magnolia Avenue was literally cut-off from its original neighborhood and setting with the construction of the 210 Freeway through Monrovia. It is not related to any similar buildings in its immediate setting.
4. It embodies one or more distinctive characteristics of style, type, period, design, materials, detail, or craftsmanship.
   To be considered a historic resource under the theme for Residential Development 1903-1940, eligible buildings should "reflect the pattern and form of development typical of early to mid-twentieth century suburban development and trends" and "retain the essential aspects of integrity" that reflect this theme. Because of the substantial loss of physical integrity suffered by the house at 1607 South Magnolia Avenue, and that the house has completely lost any association with a setting dating from the early 1900s, the property does not appear to be significant.
5. It has a unique location or physical characteristics or represents an established and familiar visual feature of a neighborhood, a community, or the City.
   The residence at 1607 South Magnolia Avenue is not situated in a unique location, does not possess unique physical characteristics, or represent an established and familiar visual feature to the light industrial area situated south of the 210 Freeway, west of Magnolia Avenue.
6. It incorporates elements that help preserve and protect a historic place or area of historic interest in the City.
   The residence at 1607 South Magnolia Avenue is not located in an area of historic interest in the City.
7. It has yielded, or may be likely to yield information important in prehistory or history.
   The property at 1607 South Magnolia Avenue has not yielded, nor does it appear likely to yield, information important to the history of Monrovia.



1948 aerial photograph of the project site. Magnolia Avenue runs north-south to the east; Central Avenue is the paved road to the north; the Atchison Topeka Santa Fe Railroad lines run diagonally northwest-southeast; and Mayflower Avenue to the west. The house at 1603 South Magnolia Avenue is immediately north of the subject building. (NETR Historic Aerials)



U.S.G.S. Topographic Map: 1941 Sierra Madre, 1:24,000

*Recorded by: Pamela Daly, M.S.H.P. *Date: July 30, 2018 ☒Continuation ☐ Update



1952 aerial photograph of the project site. Magnolia Avenue runs north-south to the east; Central Avenue is the paved road to the north; the Atchison Topeka and Santa Fe Railroad lines run diagonally northwest-southeast; and Mayflower Avenue to the west. (NETR Historic Aerials)



Aerial view of subject property in 1972 after the construction of the 210 Freeway. Note that the surrounding neighborhood has changed entirely to light industrial use.

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION

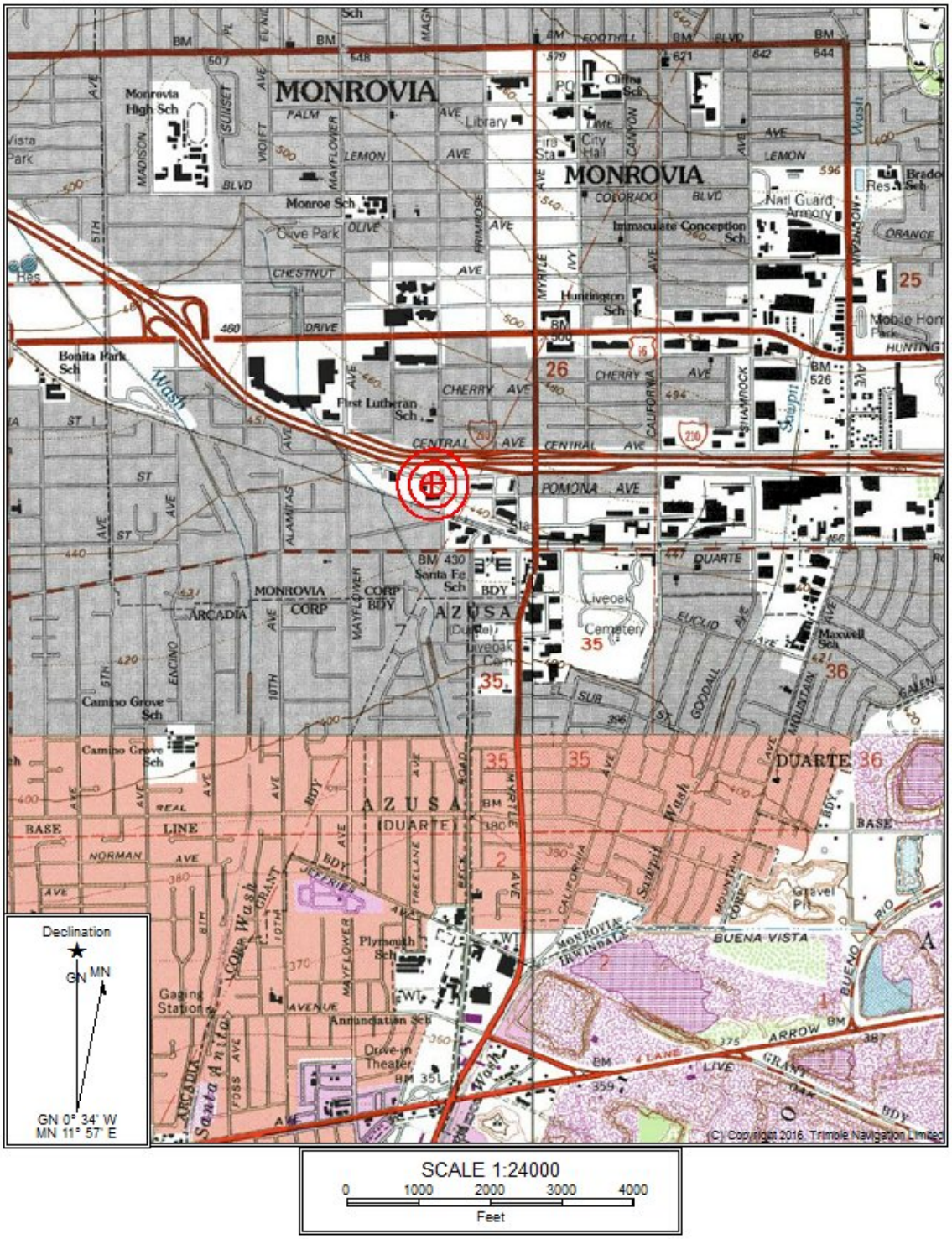
LOCATION MAP

Primary #
HRI#
Trinomial

*Resource Name or #: 1607 South Magnolia Avenue

*Map Name: Mount Wilson

*Scale: 1:24,000 *Date of Map: 1995



*Required information

APPENDIX F
GEOTECHNICAL REPORT

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GEOTECHNICAL INVESTIGATION

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT 1625 SOUTH MAGNOLIA AVENUE MONROVIA, CALIFORNIA

GEOCON WEST, INC.

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

TRAMMELL CROW RESIDENTIAL
CARLSBAD, CALIFORNIA

PROJECT NO. A9621-06-01

JULY 12, 2017

Project No. A9621-06-01
July 12, 2017

Trammell Crow Residential
5790 Fleet Street, Suite 140
Carlsbad, California 92008

Attention: Mr. Bryce Tabb

Subject: GEOTECHNICAL INVESTIGATION
PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

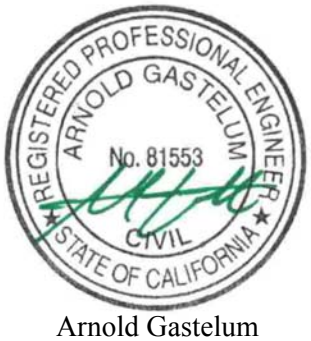
Dear Mr. Tabb:

In accordance with your authorization of our proposal dated March 23, 2017, we have performed a geotechnical investigation for the proposed multi-family residential development located at 1625 South Magnolia Avenue in the City of Monrovia, California. The accompanying report presents the findings of our study, and our conclusions and recommendations pertaining to the geotechnical aspects of proposed design and construction. Based on the results of our investigation, it is our opinion that the site can be developed as proposed, provided the recommendations of this report are followed and implemented during design and construction.

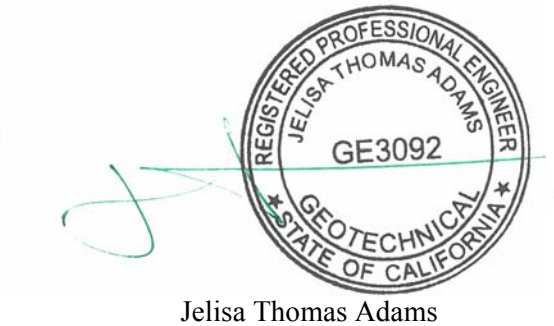
If you have any questions regarding this report, or if we may be of further service, please contact the undersigned.

Very truly yours,

GEOCON WEST, INC.



Arnold Gastelum
PE 81553



Jelisa Thomas Adams
GE 3092



Susan F. Kirkgard
CEG 1754

(Email) Addressee

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APPENDIX A
- FIELD INVESTIGATION
- Figures A1 through A6, Boring Logs

APPENDIX B
- LABORATORY TESTING
- Figures B1 and B2, Direct Shear Test Results
- Figures B3 through B7, Consolidation Test Results
- Figure B8, Lab Test Results
- Figure B9, Corrosivity Test Results

GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of a geotechnical investigation for the proposed multi-family residential development located at 1625 South Magnolia Avenue in the City of Monrovia, California (see Vicinity Map, Figure 1). The purpose of the investigation was to evaluate subsurface soil and geologic conditions underlying the site and, based on conditions encountered, to provide conclusions and recommendations pertaining to the geotechnical aspects of design and construction.

The scope of this investigation included a site reconnaissance, field exploration, laboratory testing, engineering analysis, and the preparation of this report. The site was explored on June 12, 2017, by excavating six 8-inch diameter borings to depths of approximately 25½ feet below the existing ground surface utilizing a truck-mounted hollow-stem auger drilling machine. The approximate locations of the exploratory borings are depicted on the Site Plan (see Figure 2). A detailed discussion of the field investigation, including boring logs, is presented in Appendix A.

Laboratory tests were performed on selected soil samples obtained during the investigation to determine pertinent physical and chemical soil properties. Appendix B presents a summary of the laboratory test results.

The recommendations presented herein are based on analysis of the data obtained during the investigation and our experience with similar soil and geologic conditions. References reviewed to prepare this report are provided in the *List of References* section.

If project details vary significantly from those described above, Geocon should be contacted to determine the necessity for review and possible revision of this report.

2. SITE AND PROJECT DESCRIPTION

The subject site is located at 1625 South Magnolia Avenue in the City of Monrovia, California. The site consists of a 5.73-acre irregularly shaped parcel which is currently an automobile distribution lot. The site is occupied by four existing commercial/industrial structures, paved surface parking lots, and associated hardscape and landscaping. Two single-story residential structures also occupy a portion of the site adjacent to Evergreen Avenue. The site is bounded by Magnolia Avenue to the east, by a railroad right-of-way to the south, by residential and industrial structures to the west, by Evergreen Avenue to the north and northwest, and by commercial structures and associated surface parking lots to the east. The site is relatively level, with no pronounced highs or lows. The topography at the site and in the general site vicinity slopes downward toward the south and southwest. Surface water drainage at the site appears to be by sheet flow along the existing ground contours to the city streets. Vegetation consists of some isolated trees and sparse grass and shrubbery in isolated planter areas.

Based on the information provided by the Client, it is our understanding that the proposed project will consist of a Type III wrap development including five-story residential buildings and a seven-level parking structure. The development will include approximately 436 residential housing units. It is our further understanding that the proposed structures will be constructed at or near present site grade. The footprints of the proposed structures are shown on Figure 2 (Site Plan).

Due to preliminary nature of the design at this time, wall and column loads were not available. It is anticipated that column loads for the proposed residential buildings will be up to 200 kips, and wall loads will be up to 5 kips per linear foot. It is anticipated that column loads for the proposed parking structure will be up to 800 kips, and wall loads will be up to 10 kips per linear foot.

Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

3. GEOLOGIC SETTING

The site is located in the northeastern San Gabriel Valley. The San Gabriel Valley is an alluvial filled valley bounded by the Sierra Madre Fault Zone and San Gabriel Mountains on the north, by the Puente Hills on the south, by the Covina and Indian Hills on the east, and by the Raymond Basin on the west. The alluvial deposits are derived from erosion of the San Gabriel Mountains to the north and subsequent deposition by the San Gabriel River and other local drainages. The alluvium is estimated to be approximately 200 feet thick at the base of the mountains, extending to hundreds of feet thick in the central portion of the valley.

Regionally, the site is located within the northern portion of the Peninsular Ranges geomorphic province. This geomorphic province is characterized by northwest-trending physiographic and geologic features such as the Whittier Fault located approximately 7.2 miles to the southwest. The active Raymond Fault, located approximately 1.4 miles to the northwest of the site, forms the boundary between the Peninsular Ranges Geomorphic Province and the Transverse Ranges Geomorphic Province to the north.

4. SOIL AND GEOLOGIC CONDITIONS

Based on our field investigation and published geologic maps of the area, the site is underlain by artificial fill and Holocene are young alluvial fan deposits consisting of varying amounts of sand, silt, clay and gravel (California Geological Survey [CGS], 2010). Detailed stratigraphic profiles are provided on the boring logs in Appendix A.

4.1 Artificial Fill

Artificial fill was encountered in the exploratory borings to a maximum depth of 2½ feet below existing ground surface. The artificial fill generally consists of light yellowish brown, grayish brown and dark brown silty sand with lesser amounts of sandy silt and varying amounts of fine gravel and trace roots. The fill is characterized as moist and loose to medium dense. The fill is likely the result of past grading or construction activities at the site. Deeper fill may exist between excavations and in other portions of the site that were not directly explored.

4.2 Alluvium

Holocene age young alluvial deposits were encountered beneath the artificial fill and consist primarily of light gray, yellowish brown, dark brown, and reddish brown interbedded silty sand, poorly graded and well-graded sand, sandy silt, and silt with varying amounts of fine gravel. The soil is characterized as slightly moist to moist and loose to very dense or firm.

5. GROUNDWATER

Based on a review of the Seismic Hazard Evaluation of the Mount Wilson Quadrangle, Los Angeles County, California (California Division of Mines and Geology [CDMG], 1998), the historically highest groundwater level in the area is approximately 145 feet beneath the ground surface. Groundwater information presented in this document is generated from data collected in the early 1900's to the late 1990s. Based on current groundwater basin management practices, it is unlikely that groundwater levels will ever exceed the historic high levels.

Considering the historic high groundwater level (CDMG, 1998), the lack of groundwater encountered in our borings, and the depth of the proposed construction, it is unlikely that groundwater will be encountered during construction. However, it is not uncommon for groundwater levels to vary seasonally or for groundwater seepage conditions to develop where none previously existed, especially in impermeable fine-grained soils which are heavily irrigated or after seasonal rainfall. In addition, recent requirements for stormwater infiltration could result in shallower seepage conditions in the immediate site vicinity. Proper surface drainage of irrigation and precipitation will be critical for future performance of the project. Recommendations for drainage are provided in the S*urface Drainage* section of this report (see Section 7.21).

6. GEOLOGIC HAZARDS

6.1 Surface Fault Rupture

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey (CGS, formerly known as CDMG) for the Alquist-Priolo Earthquake Fault Zone Program (Bryant and Hart, 2007). By definition, an active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The site is not within a currently established State of California Alquist-Priolo Earthquake Fault Zone for surface fault rupture hazards (CGS, 2017). In addition, the site is not located within the Raymond Hill Fault Zone as defined by the City of Monrovia Safety Element of the General Plan (2002). No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low. However, the site is located in the seismically active Southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active Southern California faults. The faults in the vicinity of the site are shown in Figure 3, Regional Fault Map.

The closest active fault to the site is the Raymond Fault located approximately 1.4 miles to the northwest (CDMG, 2007). Other nearby active faults are the Duarte Fault, the Sierra Madre Fault, the Verdugo Fault, the Whittier Fault, the Hollywood Fault, and the Cucamonga Fault, located approximately 1.6 miles northeast, 2.1 miles north-northeast, 7.1 miles west, 7.2 miles southwest, 13½ miles west, and 19 miles east of the site, respectively. (Ziony and Jones, 1989). The active San Andreas Fault Zone is located approximately 23 miles north-northeast of the site.

The closest potentially active faults to the site are the San Jose Fault and the Indian Hill Fault located approximately 7.4 miles to the southeast and 7.5 miles to the southeast, respectively. The potentially active San Gabriel Fault located is located approximately 7.7 miles north of the site (Ziony and Jones, 1989).

Several buried thrust faults, commonly referred to as blind thrusts, underlie the Los Angeles Basin at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than 3.0 kilometers. The October 1, 1987 M_w 5.9 Whittier Narrows earthquake and the January 17, 1994, M_w 6.7 Northridge earthquake were a result of movement on the Puente Hills Blind Thrust and the Northridge Thrust, respectively. These thrust faults and others in the Los Angeles area do not present a potential surface fault rupture hazard at the site. However, these deep thrust faults are considered active features capable of generating future earthquakes that could result in moderate to significant ground shaking at the site.

6.2 Seismicity

As with all of Southern California, the site has experienced historic earthquakes from various regional faults. The seismicity of the region surrounding the site was formulated based on research of an electronic database of earthquake data. The epicenters of recorded earthquakes with magnitudes equal to or greater than 5.0 in the site vicinity are depicted on Figure 4, Regional Seismicity Map. A partial list of moderate to major magnitude earthquakes that have occurred in the Southern California area within the last 100 years is included in the following table.

LIST OF HISTORIC EARTHQUAKES

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
San Jacinto-Hemet area	April 21, 1918	6.8	63	ESE
Near Redlands	July 23, 1923	6.3	44	ESE
Long Beach	March 10, 1933	6.4	36	S
Tehachapi	July 21, 1952	7.5	83	NW
San Fernando	February 9, 1971	6.6	29	NW
Whittier Narrows	October 1, 1987	5.9	7	SW
Sierra Madre	June 28, 1991	5.8	9	N
Landers	June 28, 1992	7.3	90	E
Big Bear	June 28, 1992	6.4	68	E
Northridge	January 17, 1994	6.7	31	W
Hector Mine	October 16, 1999	7.1	104	ENE

The site could be subjected to strong ground shaking in the event of an earthquake. However, this hazard is common in Southern California and the effects of ground shaking can be mitigated if the proposed structures are designed and constructed in conformance with current building codes and engineering practices.

6.3 Seismic Design Criteria

The following table summarizes summarizes site-specific design criteria obtained from the 2016 California Building Code (CBC; Based on the 2015 International Building Code [IBC] and ASCE 7-10), Chapter 16 Structural Design, Section 1613 Earthquake Loads. The data was calculated using the computer program *U.S. Seismic Design Maps*, provided by the USGS. The short spectral response uses a period of 0.2 second. We evaluated the Site Class based on the discussion in Section 1613.3.2 of the 2016 CBC and Table 20.3-1 of ASCE 7-10. The values presented below are for the risk-targeted maximum considered earthquake (MCE_R).

2016 CBC SEISMIC DESIGN PARAMETERS

Parameter	Value	2016 CBC Reference
Site Class	D	Section 1613.3.2
MCE_R Ground Motion Spectral Response Acceleration – Class B (short), S_S	2.157g	Figure 1613.3.1(1)
MCE_R Ground Motion Spectral Response Acceleration – Class B (1 sec), S_1	0.834g	Figure 1613.3.1(2)
Site Coefficient, F_A	1.0	Table 1613.3.3(1)
Site Coefficient, F_V	1.5	Table 1613.3.3(2)
Site Class Modified MCE_R Spectral Response Acceleration (short), S_{MS}	2.157g	Section 1613.3.3 (Eqn 16-37)
Site Class Modified MCE_R Spectral Response Acceleration – (1 sec), S_{M1}	1.251g	Section 1613.3.3 (Eqn 16-38)
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.438g	Section 1613.3.4 (Eqn 16-39)
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.834g	Section 1613.3.4 (Eqn 16-40)

The table below presents the mapped maximum considered geometric mean (MCE_G) seismic design parameters for projects located in Seismic Design Categories of D through F in accordance with ASCE 7-10.

ASCE 7-10 PEAK GROUND ACCELERATION

Parameter	Value	ASCE 7-10 Reference
Mapped MCE_G Peak Ground Acceleration, PGA	0.819g	Figure 22-7
Site Coefficient, F_{PGA}	1.0	Table 11.8-1
Site Class Modified MCE_G Peak Ground Acceleration, PGA_M	0.819g	Section 11.8.3 (Eqn 11.8-1)

The Maximum Considered Earthquake Ground Motion (MCE) is the level of ground motion that has a 2 percent chance of exceedance in 50 years, with a statistical return period of 2,475 years. According to the 2016 California Building Code and ASCE 7-10, the MCE is to be utilized for the evaluation of liquefaction, lateral spreading, seismic settlements, and it is our understanding that the intent of the Building code is to maintain "Life Safety" during a MCE event. The Design Earthquake Ground Motion (DE) is the level of ground motion that has a 10 percent chance of exceedance in 50 years, with a statistical return period of 475 years.

Deaggregation of the MCE peak ground acceleration was performed using the USGS online BETA Unified Hazard Tool, 2008 Conterminous U.S. Dynamic edition. The result of the deaggregation analysis indicates that the predominant earthquake contributing to the MCE peak ground acceleration is characterized as a 6.7 magnitude event occurring at a hypocentral distance of 6.87 kilometers from the site.

Deaggregation was also performed for the Design Earthquake (DE) peak ground acceleration, and the result of the analysis indicates that the predominant earthquake contributing to the DE peak ground acceleration is characterized as a 6.7 magnitude occurring at a hypocentral distance of 10.44 kilometers from the site.

Conformance to the criteria in the above tables for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a large earthquake occurs. The primary goal of seismic design is to protect life, not to avoid all damage, since such design may be economically prohibitive.

6.4 Liquefaction Potential

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations.

The current standard of practice, as outlined in the "Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California" and "Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California" requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction.

The Seismic Hazards Zone Map for the Mount Wilson 7.5 Minute Quadrangle (CGS, 2017; CDMG, 1999) indicates that the site is not located within a zone of required investigation for liquefaction. In addition, the County of Los Angeles Safety Element (Leighton, 1990), indicates that the site is not located in a liquefiable area. Groundwater was not encountered in our borings drilled to a maximum depth of 25½ feet beneath the existing ground surface and the historic high groundwater level in the area is reported to be approximately 145 feet beneath the existing ground surface (CDMG, 1998). Based on these considerations, it is our opinion that the potential for liquefaction and associated ground deformations beneath the site is very low.

6.5 Slope Stability

The site is relatively level and the topography in the site vicinity slopes downward toward the south and southwest. The County of Los Angeles Safety Element (Leighton, 1990), indicates that the site is not located in a hillside area. Also, the State of California Seismic Hazard Zone Map for the Mount Wilson Quadrangle (CGS, 2017; CDMG, 1999) indicates that the site is not located within a zone of required investigation for earthquake-induced landslides. There are no known landslides near the site, nor is the site in the path of any known or potential landslides. Therefore, the potential for slope stability hazards to adversely impact the site is considered low.

6.6 Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. The City of Monrovia Safety Element (2002) and the Los Angeles County Safety Element (Leighton, 1990) indicates that the site is located within the potential inundation area for Big Santa Anita Dam, Sierra Madre Dam, and Saw Pit Dam. However, these reservoirs, as well as others in California, are continually monitored by various governmental agencies (such as the State of California Division of Safety of Dams and the U.S. Army Corps of Engineers) to guard against the threat of dam failure. Current design, construction practices, and ongoing programs of review, modification, or total reconstruction of existing dams are intended to ensure that all dams are capable of withstanding the maximum considered earthquake (MCE) for the site. Therefore, the potential for inundation at the site as a result of an earthquake-induced dam failure is considered low.

6.7 Tsunamis, Seiches, and Flooding

The site is not located within a coastal area. Therefore, tsunamis, seismic sea waves, are not considered a significant hazard at the site.

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the project site. Therefore, flooding from a seismically-induced seiche is considered unlikely.

The majority of the site is within an area of minimal flooding (zone X) as defined by the Federal Emergency Management Agency, however the eastern portion of the site (adjacent to Magnolia Avenue) is within a flood zone D for possible but undetermined flood hazards (FEMA, 2017; LACDPW, 2017b).

6.8 Oil Fields & Methane Potential

Information on the California Division of Oil, Gas and Geothermal Resources (DOGGR) Well Finder Website (DOGGR, 2017) indicates the site is not located within the limits of an oilfield and oil or gas wells are not located within a mile of the site vicinity. However, due to the voluntary nature of record reporting by the oil well drilling companies, wells may be improperly located or not shown on the location map and undocumented wells could be encountered during construction. Any wells encountered during construction will need to be properly abandoned in accordance with the current requirements of the DOGGR.

As previously indicated, the site is not located within an oilfield. Therefore, the potential for methane or other volatile gases to occur at the site is considered very low. However, should it be determined that a methane study is required for the proposed development it is recommended that a qualified methane consultant be retained to perform the study and provide mitigation measures as necessary.

6.9 Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

7.1.1 It is our opinion that neither soil nor geologic conditions were encountered during this investigation that would preclude the construction of the proposed development provided the recommendations presented herein are followed and implemented during design and construction.

7.1.2 Up to 2½ feet of existing artificial fill was encountered during site exploration. The existing fill encountered is believed to be the result of past grading and construction activities at the site. Deeper fill may exist in other areas of the site that were not directly explored. It is our opinion that the existing fill, in its present condition, is not suitable for direct support of proposed foundations or slabs. The existing fill and site soils are suitable for re-use as engineered fill provided the recommendations in the Grading section of this report are followed (see Section 7.5).

7.1.3 As a minimum, the upper 5 feet of existing soils within the footprint areas of the proposed residential buildings and parking structure should be excavated and properly compacted for foundation and slab support. The engineered fill blanket should extend at least 5 feet beyond the edge of foundations or for a distance equal to the depth of fill below the foundations, whichever is greater. Where the recommended grading cannot be performed, such as adjacent to property lines, alternate grading and foundation design recommendations may be required. Proposed foundations should be underlain by at least 3 feet of newly compacted engineered fill. Foundations with an embedment greater than 2 feet will require deeper grading in order to maintain the required 3-foot-thick fill blanket beneath foundations. It is recommended that the grading contractor verify the depth of all building foundations prior to commencement of site grading activities in order to correctly determine the required excavation depth. Deeper fill or soft soils encountered during site grading operations should be excavated as necessary at the direction of the Geotechnical Engineer. The limits of existing fill and/or soft soil removal will be verified by the Geocon representative during site grading operations.

7.1.4 Subsequent to the recommended grading, the proposed residential buildings and parking structure may be supported on conventional foundation systems deriving support the newly placed engineered fill. All foundation excavations must be observed and approved in writing by the Geotechnical Engineer prior to placement of steel or concrete. Recommendations for *Conventional Foundation Design* are provided in Sections 7.7 through 7.9 of this report.

7.1.5 It is recommended that a seismic separation or flexible connection be utilized where adjacent structures abut. The design of the connection is at the discretion of the project structural engineer.

7.1.6 It is recommended that flexible utility connections be utilized for all rigid utilities to minimize or prevent damage to utilities from minor differential movements.

7.1.7 It is anticipated that stable excavations for the recommended grading associated with the proposed structures can be achieved with sloping measures. However, if excavations in close proximity to an adjacent property line and/or existing structure are required, special excavation measures such as slot-cutting may be necessary in order to maintain lateral support of offsite improvements. Excavation recommendations for *Temporary Excavations* and *Slot Cutting* are provided in Sections 7.18 and 7.19.

7.1.8 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be tied to the proposed structure, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and proper compaction cannot be performed or is undesirable, foundations may derive support directly in the undisturbed alluvial soils found at or below a depth of 12 inches, and should be deepened as necessary to maintain a minimum 12-inch embedment into the recommended bearing materials. If the soils exposed in the excavation bottom are soft or loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved in writing by a Geocon representative.

7.1.9 Where new paving is to be placed, it is recommended that all existing fill and soft alluvial soils be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all existing fill and soft soils in the area of new paving is not required; however, paving constructed over existing uncertified fill or unsuitable alluvium may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper 12 inches of soil should be scarified and properly compacted for paving support. *Preliminary Pavement Recommendations* are provided in Section 7.13.

7.1.10 Based on the results of percolation testing performed at the site, a stormwater infiltration system is considered feasible for this project. Recommendations for *Stormwater Infiltration* are provided in Section 7.20.

7.1.11 Once the design and foundation loading configuration for the proposed structure proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Based on the final foundation loading configurations, the potential for settlement should be re-evaluated by this office.

7.1.12 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

7.1.13 The most recent ASTM standards apply to this project and must be utilized, even if older ASTM standards are indicated in this report.

7.2 Soil and Excavation Characteristics

7.2.1 The in-situ soils can be excavated with moderate effort using conventional excavation equipment. Due to the loose and granular nature of the soils, minor caving should be anticipated in unshored excavations. In addition, the contractor should be aware that formwork may be required to prevent caving of shallow spread foundation excavations.

7.2.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly shored and maintained in accordance with applicable OSHA rules and regulations to maintain safety and maintain the stability of adjacent existing improvements.

7.2.3 All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping and shoring. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 7.18).

7.2.4 The existing site soils encountered during the field investigation near the ground surface are considered to have a "very low" (EI = 4) expansive potential and are classified as "non-expansive" in accordance with the 2016 California Building Code (CBC) Section 1803.5.3. The recommendations presented herein assume that the building foundations and slabs will derive support in these materials.

7.3 Hydroconsolidation

7.3.1 Hydroconsolidation is the tendency of unsaturated soil structure to collapse upon saturation resulting in the overall settlement of the effected soil and overlying foundations or improvements supported thereon. Potentially compressible soils underlying the site are typically removed and recompacted during remedial site grading. However, if compressible soil is left in-place, a potential for settlement due to hydroconsolidation of the soil exists.

7.3.2 The laboratory test results presented herein, indicate that the potential for hydroconsolidation for the soils located near Borings B1 and B6, between 10 and 14 feet in depth ranges from about 1.7 to 2.2 percent. Therefore, the potential for settlement due to hydroconsolidation is up to 1 inch in those areas, should those soils become saturated.

7.3.3 Minimal infiltration of surface runoff is anticipated in property paved and maintained parking areas. Provided proper drainage measures are designed and implemented, the potential for saturation of the soils and subsequent hydroconsolidation will be minimized. Maintaining proper site drainage is discussed in Section 7.21 of the referenced report.

7.4 Minimum Resistivity, pH, and Water-Soluble Sulfate

7.4.1 Potential of Hydrogen (pH) and resistivity testing, as well as chloride content testing, were performed on representative samples of on-site material to generally evaluate the corrosion potential to surface utilities. The tests were performed in accordance with California Test Method Nos. 643 and 422 and indicate that the soils are considered "moderately corrosive" with respect to corrosion of buried ferrous metals on site. The results are presented in Appendix B (Figure B9) and should be considered for design of underground structures.

7.4.2 Laboratory tests were performed on representative samples of the on-site materials to measure the percentage of water-soluble sulfate content. Results from the laboratory water-soluble sulfate tests are presented in Appendix B (Figure B9) and indicate that the on-site materials possess "not applicable" sulfate exposure to concrete structures as defined by 2016 CBC Section 1904 and ACI 318-11 Sections 4.2 and 4.3.

7.4.3 Geocon West, Inc. does not practice in the field of corrosion engineering and mitigation. If corrosion sensitive improvements are planned, it is recommended that a corrosion engineer be retained to evaluate corrosion test results and incorporate the necessary precautions to avoid premature corrosion of buried metal pipes and concrete structures in direct contact with the soils.

7.5 Grading

7.5.1 Grading is anticipated to include excavation of site soils for the proposed residential buildings, parking structure, foundations, and utility trenches, as well as placement of backfill for foundations, walls, and trenches.

7.5.2 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill encountered during exploration is suitable for re-use as an engineered fill, provided any encountered oversize material (greater than 6 inches) and any encountered deleterious debris are removed.

7.5.3 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer and geotechnical engineer in attendance. Special soil handling requirements can be discussed at that time.

7.5.4 Grading should commence with the removal of all existing vegetation and existing improvements from the area to be graded. Deleterious debris such as wood and root structures should be exported from the site and should not be mixed with the fill soils. Asphalt and concrete should not be mixed with the fill soils unless approved by the Geotechnical Engineer. All existing underground improvements planned for removal should be completely excavated and the resulting depressions properly backfilled in accordance with the procedures described herein. Once a clean excavation bottom has been established it must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.).

7.5.5 As a minimum, the upper 5 feet of existing soils within the footprint areas of the proposed residential buildings and parking structure should be excavated and properly compacted for foundation and slab support. The engineered fill blanket should extend at least 5 feet beyond the edge of foundations or for a distance equal to the depth of fill below the foundations, whichever is greater. Where the recommended grading cannot be performed, such as adjacent to property lines, alternate grading and foundation design recommendations may be required. Proposed foundations at or near existing grade should be underlain by at least 3 feet of newly compacted engineered fill. Foundations with an embedment greater than 2 feet will require deeper grading in order to maintain the required 3-foot-thick fill blanket beneath foundations. It is recommended that the grading contractor verify the depth of all building foundations prior to commencement of site grading activities in order to correctly determine the required excavation depth. Deeper fill or soft soils encountered during site grading operations should be excavated as necessary at the direction of the Geotechnical Engineer. The limits of existing fill and/or soft soil removal will be verified by the Geocon representative during site grading operations.

7.5.6 It is anticipated that stable excavations for the recommended grading associated with the proposed structures can be achieved with sloping measures. However, if excavations in close proximity to an adjacent property line and/or existing structure are required, special excavation measures such as slot-cutting may be necessary in order to maintain lateral support of offsite improvements. Excavation recommendations for *Temporary Excavations* and *Slot Cutting* are provided in Sections 7.18 and 7.19.

7.5.7 Excavated soil generally free of deleterious debris can be placed as fill and compacted in layers to the design finish grade elevations. Fill and backfill soil should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to optimum moisture content, and compacted to a dry density of at least 90 percent of the laboratory maximum dry density as determined by ASTM D 1557 (latest edition).

7.5.8. Where new paving is to be placed, it is recommended that all existing fill and soft alluvium be excavated and properly compacted for paving support. As a minimum, the upper 12 inches of soil should be scarified, moisture conditioned to optimum moisture content, and compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Paving recommendations are provided in *Preliminary Pavement Recommendations* section of this report (see Section 7.13).

7.5.9 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be tied to the proposed structure, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and proper compaction cannot be performed or is undesirable, foundations may derive support directly in the undisturbed alluvial soils found at or below a depth of 12 inches, and should be deepened as necessary to maintain a minimum 12-inch embedment into the recommended bearing materials. If the soils exposed in the excavation bottom are soft or loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved in writing by a Geocon representative

7.5.10 It is recommended that flexible utility connections be utilized for all rigid utilities to minimize or prevent damage to utilities from minor differential soil movements. Utility trenches should be properly backfilled in accordance with the requirements of the Green Book (latest edition). The pipe should be bedded with clean sands (Sand Equivalent greater than 30) to a depth of at least 1 foot over the pipe, and the bedding material must be inspected and approved in writing by the Geotechnical Engineer (a representative of Geocon). The use of gravel is not acceptable unless used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of minimum 2-sack slurry as backfill is also acceptable as backfill. Prior to placing any bedding materials or pipes, the excavation bottom must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon).

7.5.11 Although not anticipated for this project, all imported fill shall be observed, tested, and approved by Geocon West, Inc. prior to bringing soil to the site. Rocks larger than 6 inches in diameter shall not be used in the fill. If necessary, import soils used as structural fill should have an expansion index less than 20 and soil corrosivity properties that are equally or less detrimental to that of the existing onsite soils (see Figure B9).

7.5.12 All trench and foundation excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon), prior to placing bedding materials, fill, steel, gravel or concrete.

7.6 Earthwork Grading Factors

7.6.1 Shrinkage results when a volume of material removed at one density is compacted to a higher density. A shrinkage factor of between 5 and 10 percent should be anticipated when excavating and compacting the existing earth materials on the site to an average relative compaction of 92 percent.

7.6.2 If import soils will be utilized in the building pad, the soils must be placed uniformly and at equal thickness at the direction of the Geotechnical Engineer (a representative of Geocon West, Inc.). Soils can be borrowed from non-building pad areas and later replaced with imported soils.

7.7 Conventional Foundation Design – Residential Buildings

7.7.1 Subsequent to the recommended grading, a conventional foundation system may be utilized for support of the proposed residential buildings provided foundations derive support in newly placed engineered fill. Foundations should be underlain by a minimum of 3 feet of newly placed engineered fill.

7.7.2 Continuous footings may be designed for an allowable bearing capacity of 2,200 pounds per square foot (psf), and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing materials.

7.7.3 Isolated spread foundations may be designed for an allowable bearing capacity of 2,500 psf, and should be a minimum of 24 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing materials.

7.7.4 The allowable soil bearing pressure above may be increased by 500 psf and 800 psf for each additional foot of foundation width and depth, respectively, up to maximum allowable bearing value of 3,300 psf should be utilized.

7.7.5 The allowable bearing pressures may be increased by one-third for transient loads due to wind or seismic forces.

7.7.6 Continuous footings should be reinforced with a minimum of four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. The reinforcement for isolated spread footings should be designed by the project structural engineer.

7.7.7 If depth increases are utilized for the exterior wall footings, this office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary. Additional grading should be performed as necessary in order to maintain the required 3-foot-thick engineered fill blanket beneath building foundations.

7.7.8 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.

7.7.9 No special subgrade presaturation is required prior to placement of concrete. However, the foundation subgrade should be sprinkled as necessary to maintain a moist condition at the time of concrete placement.

7.7.10 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.

7.7.11 This office should be provided a copy of the final construction plans so that the foundation recommendations presented herein could be properly reviewed and revised if necessary.

7.8 Conventional Foundation Design – Parking Structure

7.8.1 Subsequent to the recommended grading, a conventional foundation system may be utilized for support of the proposed residential structures provided foundations derive support in newly placed engineered fill. Foundations should be underlain by a minimum of 3 feet of newly placed engineered fill.

7.8.2 Continuous footings may be designed for an allowable bearing capacity of 3,000 psf, and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing materials.

7.8.3 Isolated spread foundations may be designed for an allowable bearing capacity of 3,500 psf, and should be a minimum of 24 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing materials.

7.8.4 The allowable soil bearing pressure above may be increased by 500 psf and 800 psf for each additional foot of foundation width and depth, respectively, up to maximum allowable bearing value of 4,500 psf should be utilized.

7.8.5 The allowable bearing pressures may be increased by one-third for transient loads due to wind or seismic forces.

7.8.6 Continuous footings should be reinforced with a minimum of four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. The reinforcement for isolated spread footings should be designed by the project structural engineer.

7.8.7 If depth increases are utilized for the exterior wall footings, this office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary. Additional grading should be performed as necessary in order to maintain the required 3-foot-thick engineered fill blanket beneath building foundations.

7.8.8 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.

7.8.9 No special subgrade presaturation is required prior to placement of concrete. However, the foundation subgrade should be sprinkled as necessary to maintain a moist condition at the time of concrete placement.

7.8.10 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.

7.8.11 This office should be provided a copy of the final construction plans so that the foundation recommendations presented herein could be properly reviewed and revised if necessary.

7.9 Conventional Foundation Settlement

7.9.1 The maximum expected total settlement for the residential buildings supported on a conventional foundation system with a maximum allowable bearing pressure of 3,300 psf is estimated to be less than 1 inch and occur below the heaviest loaded structural element. Settlement of the foundation system is expected to occur on initial application of loading. Differential settlement is expected to be less than ½ inch over a distance of 20 feet.

7.9.2 The maximum expected total settlement for the parking structure supported on a conventional foundation system with a maximum allowable bearing pressure of 4,500 psf deriving support in the recommended bearing material is estimated to be less than 1½ inches and occur below the heaviest loaded structural element. Settlement of the foundation system is expected to occur on initial application of loading. Differential settlement is expected to be less than ¾ inch over a distance of 20 feet.

7.9.3 It is recommended that a seismic separation or flexible connection be utilized where adjacent structures abut. The design of the connection is at the discretion of the project structural engineer.

7.9.4 If side by side construction is planned for the residential structure and parking structure it is recommended that the parking structure be constructed prior to the adjacent residential structure in order to allow the majority of the static settlement to occur. This will help to minimize differential settlements between the two structures. The utilization of a lesser bearing value would further reduce the anticipated settlements and could be evaluated further once the design becomes more finalized.

7.9.5 Once the design and foundation loading configurations for the proposed structures proceeds to a more finalized plan, the estimated settlements presented in this report should be reviewed and revised, if necessary. If the final foundation loading configurations are greater than the assumed loading conditions, the potential for settlement should be reevaluated by this office.

7.10 Miscellaneous Foundations

7.10.1 Foundations for small outlying structures, such as block walls up to 6 feet in height, planter walls or trash enclosures, which will not be structurally supported by the proposed building, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and compaction cannot be performed, such as adjacent to property lines, foundations may derive support in the undisturbed alluvial soils found at or below a depth of 12 inches, and should be deepened as necessary to maintain a minimum 12-inch embedment into the recommended bearing materials.

7.10.2 If the soils exposed in the excavation bottom are soft, compaction of the soft soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative. Miscellaneous foundations may be designed for a bearing value of 1,500 psf, and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade and 12 inches into the recommended bearing material. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces.

7.10.3 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated.

7.11 Lateral Design

7.11.1 Resistance to lateral loading may be provided by friction acting at the base of foundations, slabs and by passive earth pressure. An allowable coefficient of friction of 0.40 may be used with the dead load forces in the undisturbed alluvial soils or newly placed engineered fill.

7.11.2 Passive earth pressure for the sides of foundations and slabs poured against undisturbed alluvial soils may be computed as an equivalent fluid having a density of 270 pounds per cubic foot (pcf) with a maximum earth pressure of 2,700 psf. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third.

7.12 Concrete Slabs-on-Grade

7.12.1 Concrete slabs-on-grade subject to vehicle loading should be designed in accordance with the recommendations in the *Preliminary Pavement Recommendations* section of this report (Section 7.13).

7.12.2 The project structural engineer may determine and design the necessary slab thickness and reinforcing for this structure. Unless specifically evaluated and designed by a qualified structural engineer, the slab-on-grade in the residential building should be a minimum of 4 inches of concrete reinforced with No. 4 steel reinforcing bars placed 16 inches on center in both horizontal directions and positioned vertically near the slab midpoint. The concrete slab-on-grade may bear directly on the newly placed engineered fill. Any disturbed soils should be properly compacted for slab support.

7.12.3 Slabs-on-grade at the ground surface that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder placed directly beneath the slab. The vapor retarder and acceptable permeance should be specified by the project architect or developer based on the type of floor covering that will be installed. The vapor retarder design should be consistent with the guidelines presented in Section 9.3 of the American Concrete Institute's (ACI) *Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials* (ACI 302.2R-06) and should be installed in general conformance with ASTM E 1643 (latest edition) and the manufacturer's recommendations. A minimum thickness of 15 mils extruded polyolefin plastic is recommended; vapor retarders which contain recycled content or woven materials are not recommended. The vapor retarder should have a permeance of less than 0.01 perms demonstrated by testing before and after mandatory conditioning. The vapor retarder should be installed in direct contact with the concrete slab with proper perimeter seal. If the California Green Building Code requirements apply to this project, the vapor retarder should be underlain by 4 inches of clean aggregate. It is important that the vapor retarder be puncture resistant since it will be in direct contact with angular gravel. As an alternative to the clean aggregate suggested in the California Green Building Code, it is our opinion that the concrete slab-on-grade may be underlain by a vapor retarder over 4 inches of clean sand (sand equivalent greater than 30), since the sand will serve a capillary break and will minimize the potential for punctures and damage to the vapor barrier.

7.12.4 For seismic design purposes, a coefficient of friction of 0.40 may be utilized between concrete slabs and subgrade soils without a moisture barrier, and 0.15 for slabs underlain by a moisture barrier.

7.12.5 Exterior slabs, not subject to traffic loads, should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. Prior to construction of slabs, the upper 12 inches of subgrade should be moistened to optimum moisture content and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Crack control joints should be spaced at intervals not greater than 10 feet and should be constructed using saw-cuts or other methods as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. The project structural engineer should design construction joints as necessary.

7.12.6 The recommendations of this report are intended to reduce the potential for cracking of slabs due to settlement. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to minor soil movement and/or concrete shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

7.13 Preliminary Pavement Recommendations

7.13.1 Where new paving is to be placed, it is recommended that all existing fill and soft or unsuitable soils be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all soft or unsuitable soils in the area of new paving is not required, however, paving constructed over existing unsuitable soils may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper 12 inches of soil should be scarified and recompacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).

7.13.2 The following pavement sections are based on an assumed R-Value of 35. Once site grading activities are complete, it is recommended that laboratory testing confirm the properties of the soils serving as paving subgrade prior to placing pavement.

7.13.3 The Traffic Indices listed below are estimates. Geocon does not practice in the field of traffic engineering. The actual Traffic Index for each area should be determined by the project civil engineer. If pavement sections for Traffic Indices other than those listed below are required, Geocon should be contacted to provide additional recommendations. Pavement thicknesses were determined following procedures outlined in the *California Highway Design Manual* (Caltrans). It is anticipated that the majority of traffic will consist of automobile and large truck traffic.

PRELIMINARY PAVEMENT DESIGN SECTIONS

Location	Estimated Traffic Index (TI)	Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)
Automobile Parking	3.5	3	4
Driveways	5	3	5
Trash Truck & Fire Lanes	7	4	8

7.13.4 Asphalt concrete should conform to Section 203-6 of the "*Standard Specifications for Public Works Construction"* (Green Book). Class 2 aggregate base materials should conform to Section 26-1.02A of the "*Standard Specifications of the State of California, Department of Transportation"* (Caltrans). The use of Crushed Miscellaneous Base (CMB) in place of Class 2 aggregate base is acceptable. Crushed Miscellaneous Base should conform to Section 200-2.4 of the "*Standard Specifications for Public Works Construction"* (Green Book).

7.13.5 Unless specifically designed and evaluated by the project structural engineer, where concrete paving will be utilized for support of vehicles, we recommend that the concrete be a minimum of 6 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions. Concrete paving supporting vehicular traffic should be underlain by a minimum of 4 inches of aggregate base and a properly compacted subgrade. The subgrade and base material should be compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).

7.13.6 The performance of pavements is highly dependent upon providing positive surface drainage away from the edge of pavements. Ponding of water on or adjacent to the pavement will likely result in saturation of the subgrade materials and subsequent cracking, subsidence and pavement distress. If planters are planned adjacent to paving, it is recommended that the perimeter curb be extended at least 12 inches below the bottom of the aggregate base to minimize the introduction of water beneath the paving.

7.14 Retaining Wall Design

7.14.1 The recommendations presented below are generally applicable to the design of rigid concrete or masonry retaining walls having a maximum height of 6 feet. In the event that walls significantly higher than 6 feet are planned, Geocon should be contacted for additional recommendations.

7.14.2 Retaining wall foundations may be designed in accordance with the recommendations provided in the *Conventional Foundation Design* sections of this report (see Sections 7.7 through 7.9).

7.14.3 Retaining walls with a level backfill surface that are not restrained at the top should be designed utilizing a triangular distribution of pressure (active pressure). Restrained walls are those that are not allowed to rotate more than 0.001H (where H equals the height of the retaining portion of the wall in feet) at the top of the wall. Where walls are restrained from movement at the top, walls may be designed utilizing a triangular distribution of pressure (at-rest pressure). The table below presents recommended pressures to be used in retaining wall design, assuming that proper drainage will be maintained. Calculations of the recommended retaining wall pressures are provided as Figure 5.

RETAINING WALL WITH LEVEL BACKFILL SURFACE

HEIGHT OF RETAINING WALL (Feet)	ACTIVE PRESSURE EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot)	AT-REST PRESSURE EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot)
Up to 6	39	59

7.14.4 The wall pressures provided above assume that the retaining wall will be properly drained preventing the buildup of hydrostatic pressure. If retaining wall drainage is not implemented, the equivalent fluid pressure to be used in design of undrained walls is 90 pcf. The value includes hydrostatic pressures plus buoyant lateral earth pressures.

7.14.5 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures and should be designed for each condition as the project progresses.

7.14.6 It is recommended that line-load surcharges from adjacent wall footings, use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.20\times\left(\frac{z}{H}\right)}{\left[0.16+\left(\frac{z}{H}\right)^2\right]^2}\times\frac{Q_L}{H}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.28\times\left(\frac{x}{H}\right)^2\times\left(\frac{z}{H}\right)}{\left[\left(\frac{x}{H}\right)^2+\left(\frac{z}{H}\right)^2\right]^2}\times\frac{Q_L}{H}$$

where x is the distance from the face of the excavation to the vertical line-load, H is the distance from the bottom of the footing to the bottom of excavation, z is the depth at which the horizontal pressure is desired, QL is the vertical line-load and σH is the horizontal pressure at depth z.

7.14.7 It is recommended that vertical point-loads, from construction equipment outriggers or adjacent building columns use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.28\times\left(\frac{z}{H}\right)^2}{\left[0.16+\left(\frac{z}{H}\right)^2\right]^3}\times\frac{Q_P}{H^2}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.77\times\left(\frac{x}{H}\right)^2\times\left(\frac{z}{H}\right)^2}{\left[\left(\frac{x}{H}\right)^2+\left(\frac{z}{H}\right)^2\right]^3}\times\frac{Q_P}{H^2}$$

then

$$\sigma'_H(z) = \sigma_H(z)cos^2(1.1\theta)$$

where x is the distance from the face of the excavation to the vertical point-load, H is distance from the outrigger/bottom of column footing to the bottom of excavation, z is the depth at which the horizontal pressure is desired, Q_P is the vertical point-load, σ is the vertical pressure at depth z, Θ is the angle between a line perpendicular to the bulkhead and a line from the point-load to half the pile spacing at the bulkhead, and σ_H is the horizontal pressure at depth z.

7.14.8 In addition to the recommended earth pressure, the upper ten feet of the retaining wall adjacent to the street or driveway areas should be designed to resist a uniform lateral pressure of 100 psf, acting as a result of an assumed 300 psf surcharge behind the wall due to normal street traffic. If the traffic is kept back at least ten feet from the wall, the traffic surcharge may be neglected.

7.15 Retaining Wall Drainage

7.15.1 Retaining walls should be provided with a drainage system extended at least two-thirds the height of the wall. At the base of the drain system, a subdrain covered with a minimum of 12 inches of gravel should be installed, and a compacted fill blanket or other seal placed at the surface (see Figure 6). The clean bottom and subdrain pipe, behind a retaining wall, should be observed by the Geotechnical Engineer (a representative of Geocon), prior to placement of gravel or compacting backfill.

7.15.2 As an alternative, a plastic drainage composite such as Miradrain or equivalent may be installed in continuous, 4-foot wide columns along the entire back face of the wall, at 8 feet on center. The top of these drainage composite columns should terminate approximately 18 inches below the ground surface, where either hardscape or a minimum of 18 inches of relatively cohesive material should be placed as a cap (see Figure 7). These vertical columns of drainage material would then be connected at the bottom of the wall to a collection panel or a 1-cubic-foot rock pocket drained by a 4-inch subdrain pipe.

7.15.3 Subdrainage pipes at the base of the retaining wall drainage system should outlet to an acceptable location via controlled drainage structures.

7.15.4 Moisture affecting below grade walls is one of the most common post-construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.16 Elevator Pit Design

7.16.1 The elevator pit slab and retaining wall should be designed by the project structural engineer. As a minimum the slab-on-grade for the elevator pit bottom should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. The elevator slab and retaining wall footings may derive support in either newly placed engineered fill or the alluvial soils found at or below a depth of 5 feet if exposed in the elevator pit excavation bottom. Elevator pit walls may be designed in accordance with the recommendations in the *Conventional Foundation Design* and *Retaining Wall Design* section of this report (see Sections 7.7 through 7.9, and 7.14).

7.16.2 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent foundations and should be designed for each condition as the project progresses.

7.16.3 If retaining wall drainage is to be provided, the drainage system should be designed in accordance with the *Retaining Wall Drainage* section of this report (see Section 7.15).

7.16.4 It is suggested that the exterior walls and slab be waterproofed to prevent excessive moisture inside of the elevator pit. Waterproofing design and installation is not the responsibility of the geotechnical engineer.

7.17 Elevator Piston

7.17.1 If a plunger-type elevator piston is installed for this project, a deep drilled excavation will be required. It is important to verify that the drilled excavation is not situated immediately adjacent to a foundation, or the drilled excavation could compromise the existing foundation support, especially if the drilling is performed subsequent to the foundation construction.

7.17.2 Casing will be required since caving is expected in the drilled excavation and the contractor should be prepared to use casing and should have it readily available at the commencement of drilling activities. Continuous observation of the drilling and installation of the elevator piston by the Geotechnical Engineer (a representative of Geocon West, Inc.) is required.

7.17.3 The annular space between the piston casing and drilled excavation wall should be filled with a minimum of 1½-sack slurry pumped from the bottom up. As an alternative, pea gravel may be utilized. The use of soil to backfill the annular space is not acceptable.

7.18 Temporary Excavations

7.18.1 Excavations on the order of 5 feet in height may be required for excavation and construction of the proposed foundations. The excavations are expected to expose artificial fill and alluvial soils, which may be subject to caving where loose and granular soils are exposed. Vertical excavations up to 5 feet in height may be attempted where not surcharged by adjacent traffic or structures.

7.18.2 Vertical excavations greater than 5 feet or where surcharged by existing structures or traffic loads will require sloping or slot-cutting measures to provide a stable excavation. Where sufficient space is available, temporary unsurcharged embankments could be sloped back at a uniform 1:1 slope gradient or flatter up to a maximum height of 7 feet. A uniform slope does not have a vertical portion.

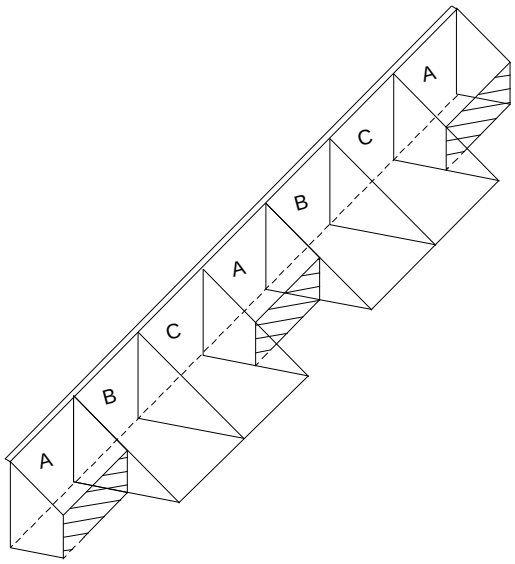
7.18.3 Performing continuous vertical excavations along property lines or adjacent to an existing structure could remove support from the property and/or structure which is not acceptable. Excavations in close proximity to an adjacent property may require special excavation measures, such as slot-cutting. Recommendations for slot-cutting are provided in the following sections.

7.18.4 Where sloped embankments are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. Geocon personnel should inspect the soils exposed in the cut slopes during excavation so that modifications of the slopes can be made if variations in the soil conditions occur. All excavations should be stabilized within 30 days of initial excavation.

7.19 Slot Cutting

7.19.1 The slot-cutting method employs the earth as a buttress and allows the earth excavation to proceed in phases. Where slot-cutting is used for foundation construction, the proposed construction techniques should be discussed with the structural engineer so that appropriate modifications can be made to the foundation design; such as additional reinforcing or details for doweling.

7.19.2 It is recommended that the initial temporary excavation along the property line be sloped back at a uniform 1:1 (H:V) slope gradient or flatter for excavation of the existing soils to the necessary depth. The temporary excavation should not extend below the surcharge area of any adjacent foundations. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation. The temporary slope may then be excavated using the slot-cutting (see illustration below).



7.19.3 Alternate "A" slots of 5½ feet in width may be worked. The remaining earth buttresses ("B" and "C" slots) should also be 5½ feet in width. The wall, foundation, or backfill should be completed in the "A" slots to a point where support of the offsite property and/or any existing structures is restored before the "B" slots are excavated. After completing the wall, foundation, or backfill in the "B" slots, finally the "C" slots may be excavated. Slot-cutting is not recommended for vertical excavations greater than 5 feet in height. The slot-cut calculation should be revised as needed for each surcharge condition as the project progresses. A slot-cut calculation is provided on the following page.

Slot Cut Calculation

Input:

Height of Slots	(H)	5.0	feet
Unit Weight of Soils	(γ)	120.0	pcf
Friction Angle of Soils	(ϕ)	33.0	degrees
Cohesion of Soils	(c)	50.0	psf
Factor of Safety	(FS)	1.50	
Factor of Safety = Resistance Force/Driving Force			
Coefficient of Lateral Earth Pressure At-Rest	K_o	0.46	

Surcharge Pressure:

Line Load	(q_L)	0.0	plf
Distance Away from Edge of Excavation	(X)	0.0	feet

Design Equations

$b = H/(\tan \alpha)$

$A = 0.5*H*b$

$W = 0.5*H*b*\gamma$ *(per lineal foot of slot width)*

$F_1 = d*W*(\sin \alpha)*(\cos \alpha)$

$F_2 = d*L$

$R_1 = d*[W*(\cos^2 \alpha)*(\tan \phi)+(c*b)]$

$R_2 = 2*\Delta F$

$\Delta F = A*[1/3*\gamma*H*K_o*(\tan \phi)+c]$

FS = Resistance Force/Driving Force

FS = $(R_1+R_2)/(F_1+F_2)$

Failure Angle (α) degrees	Base Width of Failure Wedge (b) feet	Area of Failure Wedge (A) feet^2	Weight of Failure Wedge (W) lbs/lineal foot	**Driving Force** Wedge +Surcharge per lineal foot of Slot Width	**Resisting Force** Failure Wedge per lineal foot of Slot Width	**Resisting Force** Side Resistance Force (ΔF) lbs	Allowable Width of Slots* (d) feet
45	5.0	13	1500.0	750.0	737.1	1364.3	7.0
46	4.8	12	1448.5	723.8	695.4	1317.5	6.7
47	4.7	12	1398.8	697.7	655.6	1272.2	6.5
48	4.5	11	1350.6	671.6	617.8	1228.4	6.3
49	4.3	11	1303.9	645.6	581.8	1186.0	6.1
50	4.2	10	1258.6	619.8	547.5	1144.8	6.0
51	4.0	10	1214.7	594.1	514.9	1104.8	5.9
52	3.9	10	1171.9	568.6	483.8	1065.9	5.8
53	3.8	9	1130.3	543.3	454.2	1028.1	5.7
54	3.6	9	1089.8	518.2	426.2	991.2	5.6
55	3.5	9	1050.3	493.5	399.4	955.3	5.6
56	3.4	8	1011.8	469.0	374.1	920.2	5.6
57	3.2	8	974.1	444.9	350.0	886.0	5.6
58	3.1	8	937.3	421.2	327.1	852.5	5.6
59	3.0	8	901.3	397.9	305.5	819.7	5.6
60	2.9	7	866.0	375.0	284.9	787.7	5.7
61	2.8	7	831.5	352.6	265.5	756.2	5.7
62	2.7	7	797.6	330.6	247.1	725.4	5.8
63	2.5	6	764.3	309.2	229.7	695.1	5.9
64	2.4	6	731.6	288.3	213.2	665.4	6.1
65	2.3	6	699.5	267.9	197.7	636.2	6.2
66	2.2	6	667.8	248.2	183.1	607.4	6.4
67	2.1	5	636.7	229.0	169.2	579.1	6.6
68	2.0	5	606.0	210.5	156.2	551.2	6.9
69	1.9	5	575.8	192.6	144.0	523.7	7.2
70	1.8	5	546.0	175.5	132.5	496.6	7.6

*Width of Slots to achieve a minimum of 1.5 Factor of Safety, with a Maximum Allowable Slot Width of 8 feet.

Critical Slot Width with Factor of Safety equal or exceeding 1.5:

d_{allow} = 5.6 feet

7.20 Stormwater Infiltration

7.20.1 During the June 12, 2017 site exploration, boring B6 was excavated and utilized to perform percolation testing. The boring was advanced to the depth listed in the table below. A slotted casing was placed in the boring, and the annular space between the casing and excavation was filled with filter pack. The boring was then filled with water to pre-saturate the soils. On June 13, 2017, the casing was refilled with water and percolation test readings were performed after repeated flooding of the cased excavation. Based on the test results, the average infiltration rate (adjusted percolation rate) for the earth materials encountered is listed in the following table. Additional correction factors may be required and should be applied by the engineer in responsible charge of the design of the stormwater infiltration system and based on applicable guidelines. Percolation test data sheet is included herein as Figure 8.

Boring	Infiltration Depth (ft.)	Average Infiltration Rate (in / hour)
B6	10-25	0.48

7.20.2 Based on the results of the subsequent laboratory testing, the upper 14 feet of existing site soils may be subject to hydroconsolidation when saturated. Therefore, it is recommended that infiltration of storm water occur below a depth of 15 feet to minimize saturation of the soils supporting the proposed structures. In addition, it is suggested that additional infiltration and laboratory testing be performed in stormwater infiltration is proposed at a location other than near where the above test was performed.

7.20.3 Provided that infiltration occurs below a depth of 15 feet, it is our opinion that the soil encountered at the depths and location as listed in the table above are suitable for infiltration of stormwater and will not create a perched groundwater condition, will not affect soil structure interaction of existing or proposed foundations due to expansive soils, will not saturate soils supported by existing or proposed retaining walls, and will not increase the potential for liquefaction. Resulting settlements are anticipated to be less than ¼ inch, if any.

7.20.4 Where infiltration systems will be utilized, it is recommended that a minimum 10-foot horizontal and vertical setback be maintained from existing or proposed foundations. The boundary of the zone of saturation may be assumed to project downward from the discharge of the infiltration facility at a gradient of 1:1. Additional setbacks may be required by the governing jurisdiction and should be incorporated into the stormwater infiltration system design as necessary.

7.20.5 Subsequent to the placement of the infiltration system, it is acceptable to backfill the resulting void space between the excavation sidewalls and the infiltration system with minimum two-sack slurry provided the slurry is not placed in the infiltration zone. It is recommended that gravel, approved by the project civil engineer, be utilized adjacent to the infiltration zone so communication of water to the soil is not hindered.

7.20.6 Due to the preliminary nature of the project at this time, the type of stormwater infiltration system and location of the stormwater infiltration systems has not yet been determined. The design drawings should be reviewed and approved by the Geotechnical Engineer. The installation of the stormwater infiltration system should be observed and approved by the Geotechnical Engineer (a representative of Geocon).

7.21 Surface Drainage

7.21.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.

7.21.2 All site drainage should be collected and controlled in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2016 CBC 1804.4 or other applicable standards. In addition, drainage should not be allowed to flow uncontrolled over any descending slope. Discharge from downspouts, roof drains and scuppers are not recommended onto unprotected soils within 5 feet of the building perimeter. Planters which are located adjacent to foundations should be sealed to prevent moisture intrusion into the soils providing foundation support. Landscape irrigation is not recommended within 5 feet of the building perimeter footings except when enclosed in protected planters.

7.21.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

7.21.4 Landscaping planters immediately adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Either a subdrain, which collects excess irrigation water and transmits it to drainage structures, or an impervious above-grade planter boxes should be used. In addition, where landscaping is planned adjacent to the pavement, it is recommended that consideration be given to providing a cutoff wall along the edge of the pavement that extends at least 12 inches below the base material.

7.22 Plan Review

7.22.1 Grading and foundation plans should be reviewed by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to finalization to verify that the plans have been prepared in substantial conformance with the recommendations of this report and to provide additional analyses or recommendations.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon West, Inc.

2. This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

4. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

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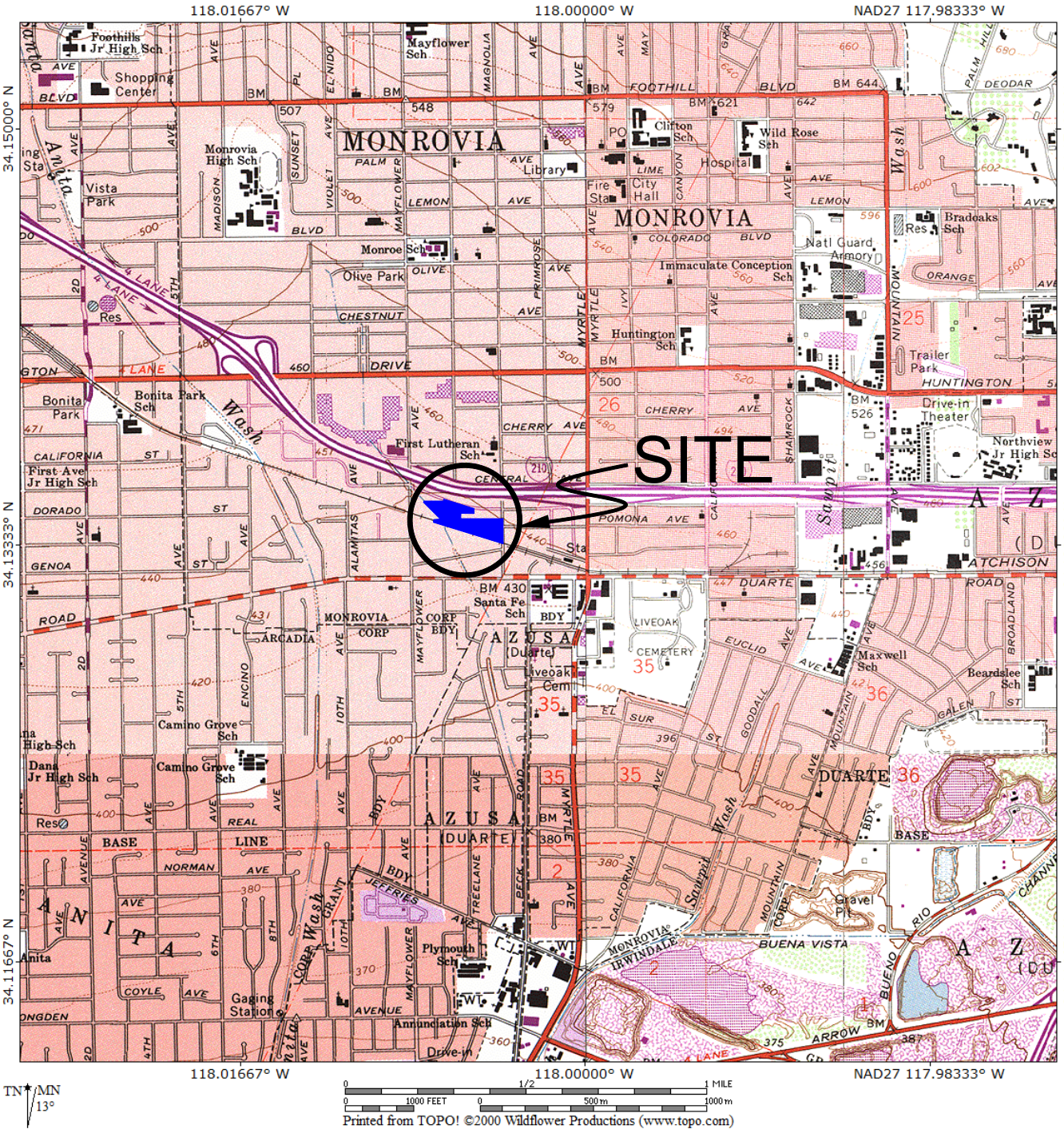
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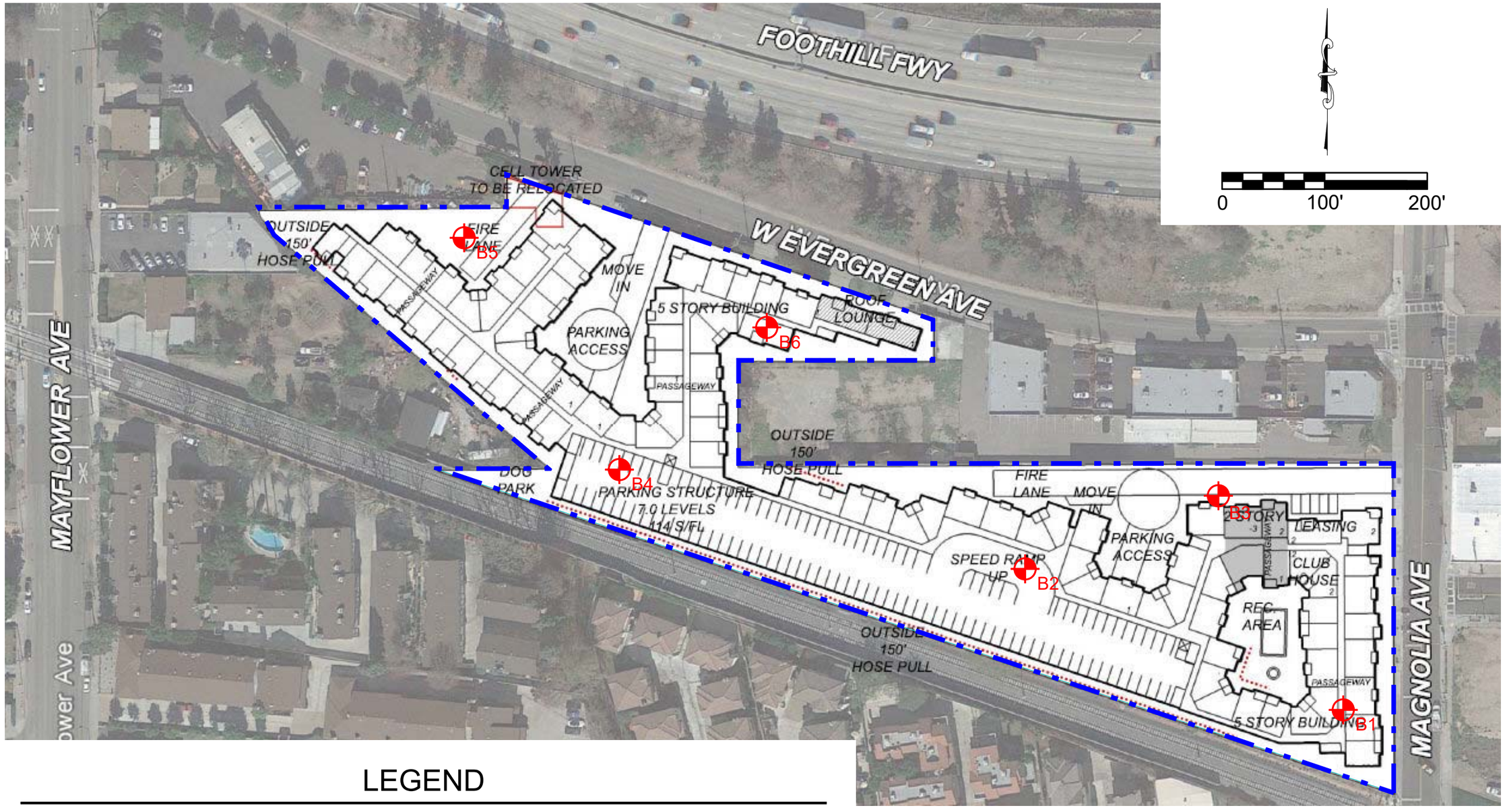
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VICINITY MAP

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

DRAFTED BY: SJB	CHECKED BY: SFK

JULY 2017	PROJECT NO. A9621-06-01	FIG. 1



LEGEND

B6 — Boring Location & Number

Approximate Limits of Proposed Development

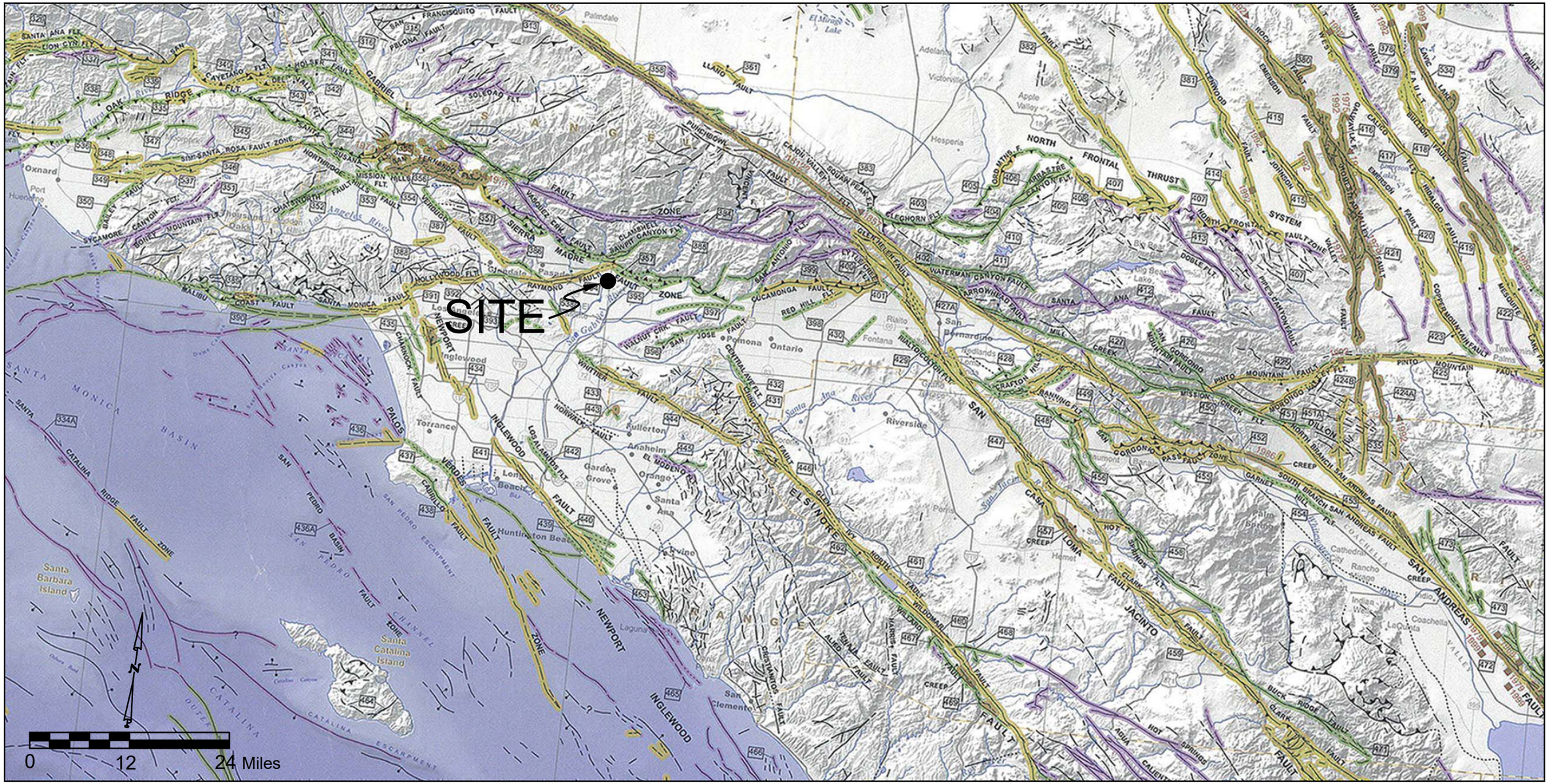
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SITE PLAN

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. 2



Geologic Time Scale			Years Before Present (Approx.)	Fault Symbol	Frequency of Movement	Description: On Land	Description: Offshore
Quaternary	Late Quaternary	Historic	200			Displacement during histoic time (e.g. San Andreas fault 1906). Includes areas of known fault creep	
		Holocene	11,700			Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
	Early Quaternary	Pleistocene	700,000			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
			1,600,000			Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary			4.5 billion (Age of Earth)			Faults without recognized Quaternary displacement or showing evidence of no displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.

*Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in the map were established using the pervious 1.6 Ma criterion

Reference: Jennings, C.W. and Bryant, W. A., 2010, Fault Activity Map of California, California Geological Survey Geologic Data Map No. 6.

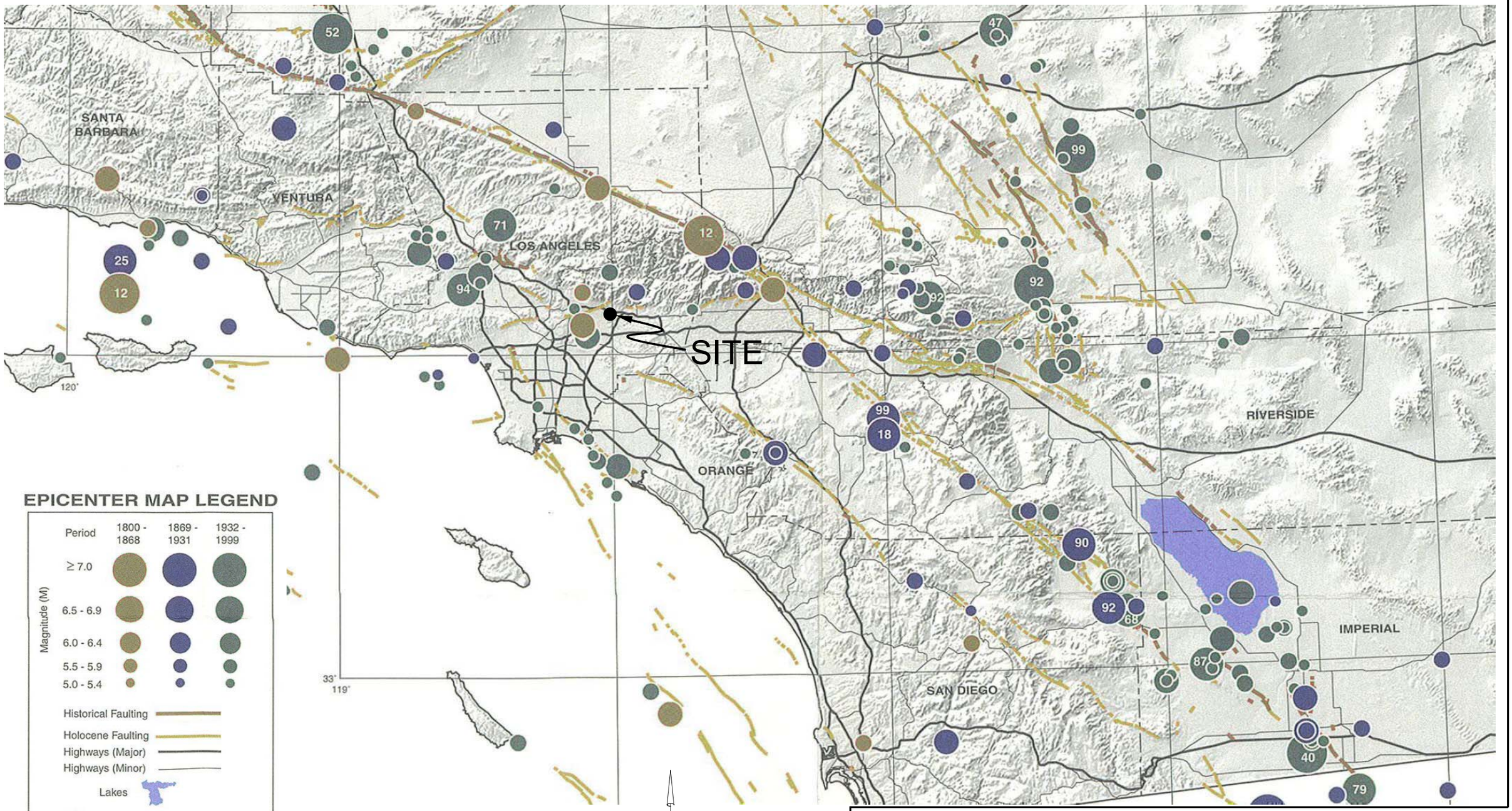
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REGIONAL FAULT MAP

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017 | PROJECT NO. A9621-06-01 | FIG. 3



EPICENTER MAP LEGEND

Period	1800 - 1868	1869 - 1931	1932 - 1999
≥ 7.0			
6.5 - 6.9			
6.0 - 6.4			
5.5 - 5.9			
5.0 - 5.4			

Magnitude (M)

Historical Faulting

Holocene Faulting

Highways (Major)

Highways (Minor)

Lakes

65 Last two digits of M ≥ 6.5 earthquake year

LATITUDE: 33.960794
LONGTITUDE: -118.249424

0 20 40 Miles

Reference: Toppozada, T., Branum, D., Petersen, M., Hallstrom, C., Cramer, C., and Reichle, M., 2000, Epicenters and Areas Damaged by M>5 California Earthquakes, 1800 - 1999, California Geological Survey, Map Sheet 49.

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REGIONAL SEISMICITY MAP

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

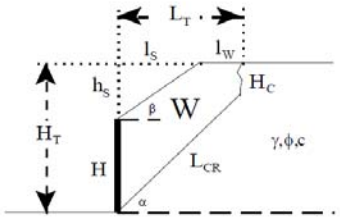
JULY 2017 | PROJECT NO. A9621-06-01 | FIG. 4

GEOCON

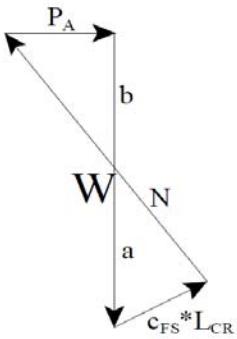
Project Name: 1625 S. Magnolia Ave.
Project No.: A9621-06-01
Description:

Retaining Wall Design with Transitioned Backfill
(Vector Analysis)

Input:		
Retaining Wall Height	(H)	6.00 feet
Slope Angle of Backfill	(b)	0.0 degrees
Height of Slope above Wall	(h_s)	0.0 feet
Horizontal Length of Slope	(l_s)	0.0 feet
Total Height (Wall + Slope)	(H_T)	6.0 feet
Unit Weight of Retained Soils	(g)	120.0 pcf
Friction Angle of Retained Soils	(f)	33.0 degrees
Cohesion of Retained Soils	(c)	50.0 psf
Factor of Safety	(FS)	1.50
Factored Parameters:	(f_{FS})	23.4 degrees
	(c_{FS})	33.3 psf



Failure Angle (a) degrees	Height of Tension Crack (H_C) feet	Area of Wedge (A) $feet^2$	Weight of Wedge (W) lbs/lineal foot	Length of Failure Plane (L_{CR}) feet	a lbs/lineal foot	b lbs/lineal foot	Active Pressure (P_A) lbs/lineal foot
45	1.0	18	2102.4	7.1	590.2	1512.2	598.4
46	1.0	17	2033.0	7.0	558.5	1474.6	613.5
47	0.9	16	1965.4	6.9	529.5	1436.0	627.1
48	0.9	16	1899.6	6.8	502.9	1396.6	639.2
49	0.9	15	1835.5	6.8	478.6	1356.8	649.8
50	0.9	15	1772.9	6.7	456.2	1316.7	659.1
51	0.9	14	1712.0	6.6	435.6	1276.4	667.0
52	0.9	14	1652.5	6.5	416.5	1236.0	673.6
53	0.9	13	1594.4	6.4	398.9	1195.5	678.9
54	0.9	13	1537.7	6.4	382.5	1155.2	682.9
55	0.8	12	1482.2	6.3	367.2	1115.0	685.7
56	0.8	12	1428.0	6.2	353.0	1074.9	687.2
57	0.8	11	1374.8	6.1	339.8	1035.0	687.4
58	0.8	11	1322.8	6.1	327.4	995.4	686.4
59	0.9	11	1271.8	6.0	315.8	956.0	684.2
60	0.9	10	1221.7	5.9	304.9	916.9	680.7
61	0.9	10	1172.6	5.9	294.6	878.0	675.9
62	0.9	9	1124.3	5.8	284.9	839.4	669.9
63	0.9	9	1076.8	5.7	275.8	801.1	662.5
64	0.9	9	1030.1	5.7	267.1	763.0	653.8
65	0.9	8	984.1	5.6	258.9	725.2	643.7
66	0.9	8	938.8	5.6	251.0	687.7	632.2
67	0.9	7	894.1	5.5	243.6	650.5	619.2
68	1.0	7	849.9	5.4	236.4	613.5	604.8
69	1.0	7	806.3	5.4	229.5	576.8	588.8
70	1.0	6	763.2	5.3	222.9	540.3	571.2



Design Equations (Vector Analysis):
$a = c_{FS}*L_{CR}*\sin(90+f_{FS})/\sin(a-f_{FS})$
$b = W-a$
$P_A = b*\tan(a-f_{FS})$
$EFP = 2*P_A/H^2$

Maximum Active Pressure Resultant

$P_{A,\ max}$ 687.4 lbs/lineal foot

Equivalent Fluid Pressure (per lineal foot of wall)

$EFP = 2*P_A/H^2$

EFP	38.2 pcf	58.8 pcf
Design Wall for an Equivalent Fluid Pressure:	**39 pcf**	**59 pcf**

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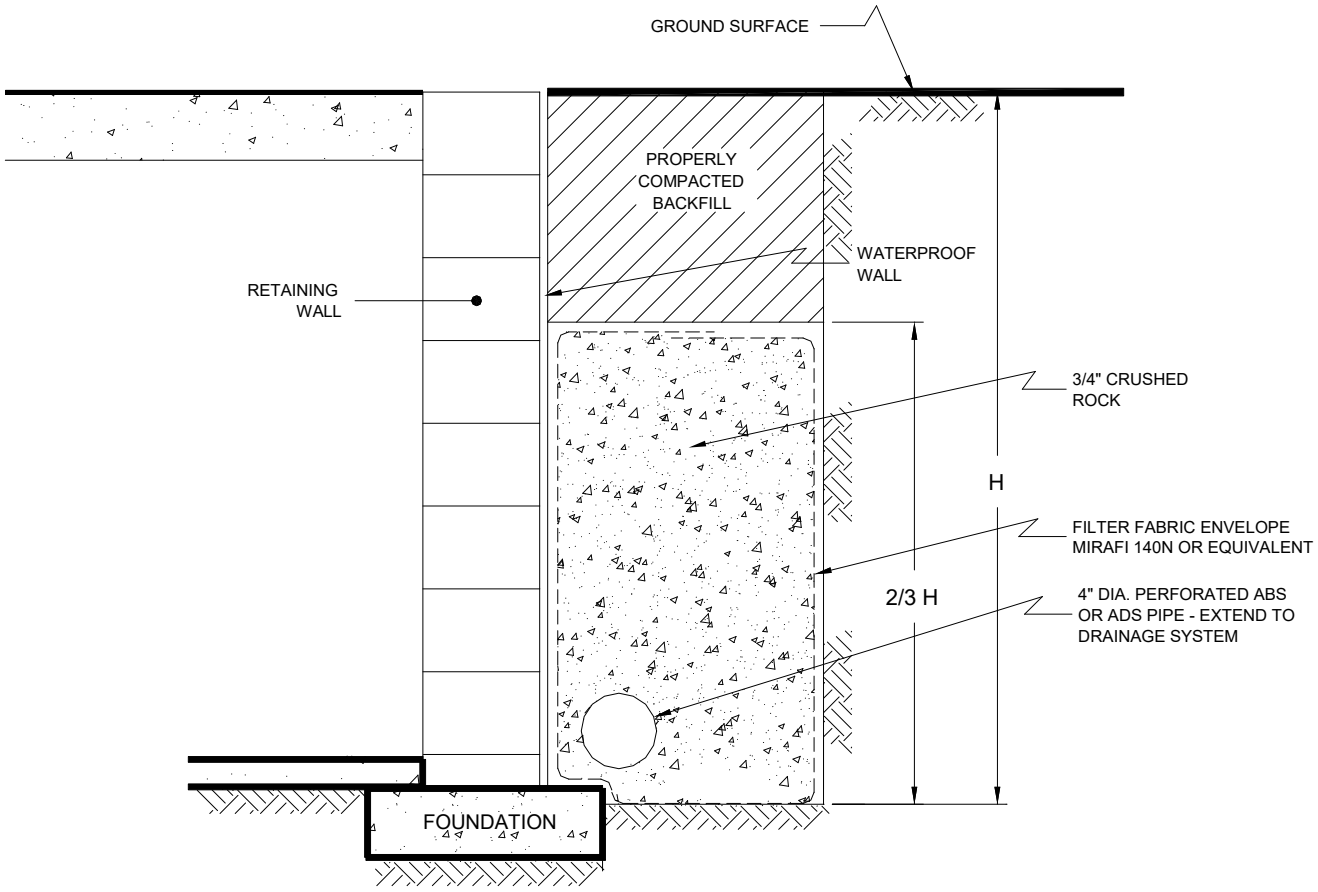
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RETAINING WALL PRESSURE CALCULATION

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. 5



NO SCALE

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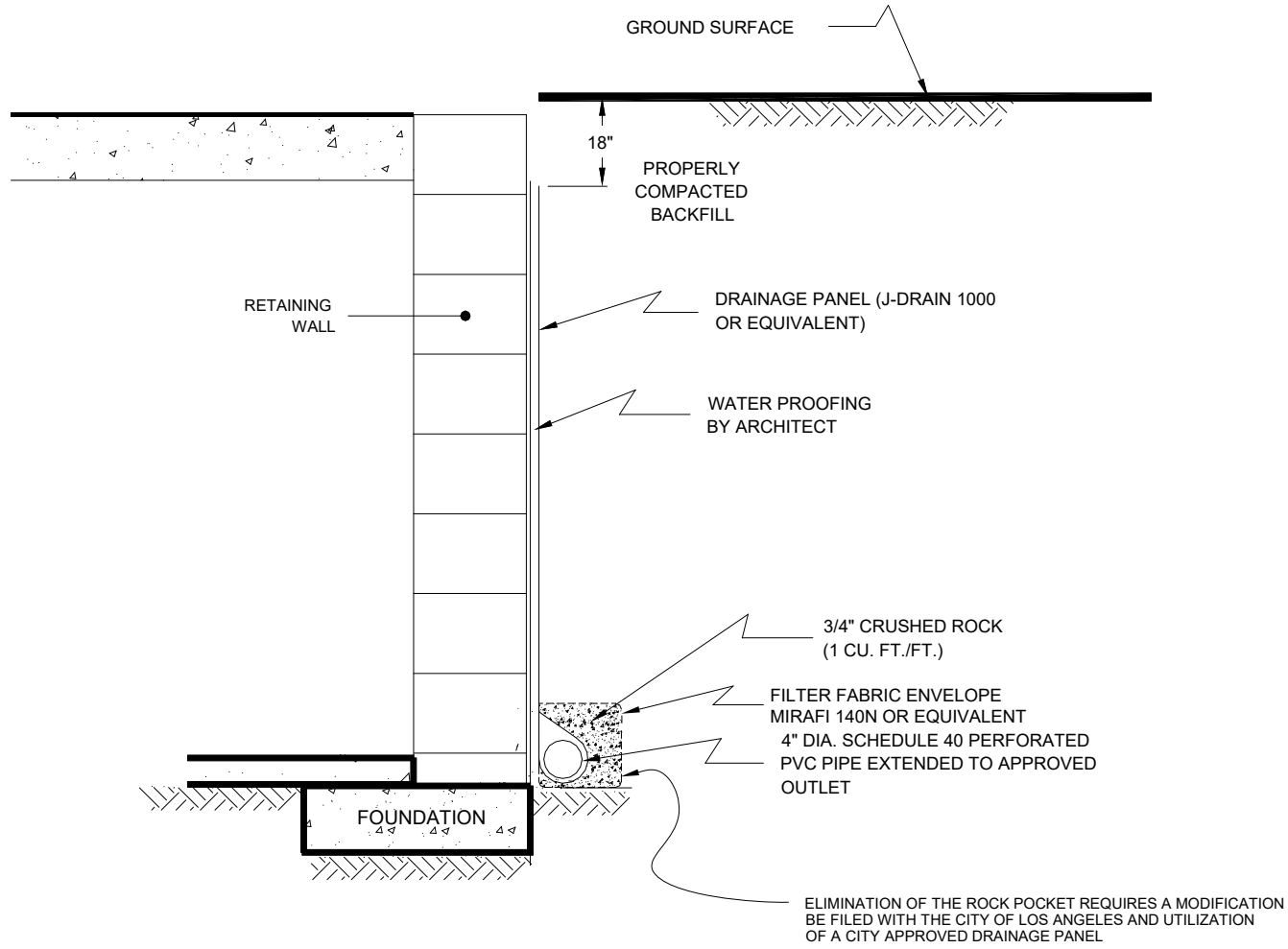
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RETAINING WALL DRAIN DETAIL

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. 6



NO SCALE

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RETAINING WALL DRAIN DETAIL

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. 7

PERCOLATION TEST RESULTS

Boring B6

Project No:	A9621-06-01	Boring Diameter, DIA:	8	inches
Project Name:	1625 Magnolia Ave.	Boring Depth:	25.5	feet
Testing Date:	6/13/2017	Boring Depth:	306	inches
Tested By:	MA	Height of Pipe above Ground:	0.0	feet

Reading Number	Initial Water Depth (ft)	Final Water Depth (ft)	Adjusted Initial Water Depth (ft)	Adjusted Final Water Depth (ft)	Water Drop (ft)	Water Drop (in)	ΔT (min)	Percolation Rate (in/hour)
1	10.00	10.98	10.00	10.98	0.98	11.76	30.00	23.52
2	10.00	10.92	10.00	10.92	0.92	11.04	30.00	22.08
3	10.00	10.86	10.00	10.86	0.86	10.32	30.00	20.64
		Average Readings:	10.00	10.92		Preadjusted Perc Rate*		22.08

* Based only on Stabilized Readings

Initial Water Depth, d_1 =	186	inches
Final Water Depth, d_2 =	174.96	inches
Water Level Drop, Δd =	11.04	inches
Boring Diameter, DIA =	8	inches

$$R_f = \left(\frac{2d_1 - \Delta d}{DIA}\right) + 1$$

Reduction Factor, R_f = 46.12

Infiltration Rate = 0.48 inches/hour

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APPENDIX A

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APPENDIX A

FIELD INVESTIGATION

The site was explored on June 12, 2017, by excavating six 8-inch diameter borings to depths of approximately 25½ feet below the existing ground surface utilizing a truck-mounted hollow-stem auger drilling machine. Representative and relatively undisturbed samples were obtained by driving a 3 inch, O. D., California Modified Sampler into the "undisturbed" soil mass with blows from a 140-pound auto-hammer falling 30 inches. The California Modified Sampler was equipped with 1-inch high by 2 3/8-inch diameter brass sampler rings to facilitate soil removal and testing. Bulk samples were also obtained.

The soil conditions encountered in the borings were visually examined, classified and logged in general accordance with the Unified Soil Classification System (USCS). Logs of the borings are presented on Figures A1 through A6. The logs depict the soil and geologic conditions encountered and the depth at which samples were obtained. The locations of the borings are shown on Figure 2.

PROJECT NO. A9621-06-01

BORING 1

ELEV. (MSL.) -- DATE COMPLETED **6/12/17**

EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**ASPHALT: 2" BASE: 4"**			
					ARTIFICIAL FILL Silty Sand, loose, moist, light yellowish brown, fine-grained, trace medium- to coarse-grained, trace gravel (to 2").			
2	BULK 2-5'				**ALLUVIUM** Silty Sand, loose, moist, yellowish brown, fine-grained, trace medium- to coarse-grained, trace gravel (to 2").			
4	B1@4'					13	116.8	4.9
6								
8	B1@8'					17	115.5	8.6
10					- medium dense, increase in silt content			
12	B1@12'			SM		24	110.2	4.5
14					- increase in medium- to coarse-grained			
16	B1@16'					40	118.1	4.8
18					- very dense, slightly porous, increase in gravel content			
20	B1@20'					50 (5")	111.3	2.7
22								
24					- no recovery			
	B1@25'					50 (3")	--	--
					Total depth of boring: 25.5 feet Fill to 1 foot. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

A9621-06-01 BORING LOGS.GPJ

Figure A1,
Log of Boring 1, Page 1 of 1

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A9621-06-01

BORING 2

ELEV. (MSL.) - - DATE COMPLETED **6/12/17**

EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**ASPHALT: 2" BASE: 6"**			
					ARTIFICIAL FILL			
2	BULK 2-5'				Silty Sand, medium dense, moist, dark brown to grayish brown, abundant gravel (to 2").			
					ALLUVIUM			
4	B2@4'				Silty Sand, loose, moist, brown, fine-grained, trace fine gravel (to 1.5").	17	108.3	12.8
6								
					- medium dense, slightly moist, increase in silt content, decrease in gravel content			
8	B2@8'					19	139.3	11.3
10				SM				
					- loose			
12	B2@12'					15	109.7	12.1
14								
					- trace medium- to fine-grained, slightly porous			
16	B2@16'					21	122.5	10.6
18								
					- increase in fine- to medium-grained			
20	B2@20'					26	118.8	6.9
					Sand, poorly graded, dense, slightly moist, fine- to medium-grained, trace coarse-grained, trace fine gravel (to 2").			
22				SP				
24					- increase in gravel content			
	B2@25'					63	126.8	2.6
					Total depth of boring: 25.5 feet Fill to 2 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

A9621-06-01 BORING LOGS.GPJ

Figure A2,
Log of Boring 2, Page 1 of 1

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◪ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. A9621-06-01

BORING 3

ELEV. (MSL.) - - DATE COMPLETED **6/12/17**

EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0			**ASPHALT: 5" BASE: 3"**			
			ARTIFICIAL FILL			
2			Silty Sand, loose, moist, dark grayish brown, fine-grained, trace medium- to coarse-grained, abundant gravel (to 1.5"), trace roots (to 0.5").			
			ALLUVIUM			
4	B3@4'		Silty Sand, loose, moist, dark brown, fine-grained, trace medium- to coarse-grained, trace gravel (to 1.5"), trace roots (to 0.5"). - no roots	15	115.9	6.6
6						
			- slightly moist, brown			
8	B3@8'			18	114.2	10.6
10		SM				
			- loose			
12	B3@12'			14	118.4	8.3
14						
16	B3@16'			16	121.4	8.6
18						
		ML	Silt, firm, moist, light brown, trace fine-grained sand.			
20	B3@20'	SW	Sand, well-graded, medium dense, slightly moist, light gray, abundant gravel (to 2.5").	21	113.4	7.4
22			Sand, poorly graded, medium dense, slightly moist, light gray, fine- to medium-grained, trace coarse-grained, trace fine gravel (to 2.5").			
24		SP				
	B3@25'				117.2	3.1
			Total depth of boring: 25.5 feet Fill to 1.5 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

A9621-06-01 BORING LOGS.GPJ

Figure A3,
Log of Boring 3, Page 1 of 1

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. A9621-06-01

BORING 4

ELEV. (MSL.) -- DATE COMPLETED **6/12/17**

EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**ASPHALT: 4.5" BASE: NONE**			
2					**ARTIFICIAL FILL** Silty Sand, loose, moist, dark brown, fine-grained, trace medium-grained, abundant gravel (to 1").			
4	B4@4'				**ALLUVIUM** Silty Sand, loose, moist, dark brown, fine-grained, trace medium- to coarse-grained, trace gravel (to 2").	15	120.2	11.1
6								
8	B4@8'				- no coarse-grained	14	101.2	18.9
10								
12	B4@12'			SM		14	112.3	6.7
14								
16	B4@16'				- increase in medium-grained, some coarse-grained	13	110.5	11.2
18								
20	B4@20'				- medium dense, reddish brown, increase in gravel content	23	124.6	8.4
22								
24					- sand lenses (to 2"), slightly moist, light yellowish brown			
	B4@25'					--	118.4	11.5
					Total depth of boring: 25.5 feet Fill to 2.5 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

A9621-06-01 BORING LOGS.GPJ

Figure A4,
Log of Boring 4, Page 1 of 1

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. A9621-06-01

BORING 5

ELEV. (MSL.) -- DATE COMPLETED **6/12/17**

EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**ASPHALT: 1" BASE: NONE**			
					ARTIFICIAL FILL			
2	BULK 2-5'				Silty Sand, loose, moist, dark brown, fine-grained, trace medium- to coarse-grained, some gravel (to 1").			
					ALLUVIUM			
4	B5@4'				Silty Sand, loose, moist, light brown, fine-grained, trace medium- to coarse-grained.	42	117.6	5.8
6				SM				
					- slightly moist			
8	B5@8'					32	117.4	2.5
10					Sand, poorly graded, medium dense, slightly moist, fine-grained, some medium-grained, trace coarse-grained.			
12	B5@12'					32	116.0	1.0
14								
					- some coarse-grained			
16	B5@16'					34	113.7	1.8
18				SP				
					- trace fine gravel (to 1")			
20	B5@20'					48	115.6	1.9
22								
24					- trace silt, trace medium-grained, no coarse-grained, no gravel			
	B5@25'						121.5	3.1
					Total depth of boring: 25.5 feet Fill to 1 foot. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

A9621-06-01 BORING LOGS.GPJ

Figure A5,
Log of Boring 5, Page 1 of 1

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◪ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. A9621-06-01

BORING 6

ELEV. (MSL.) -- DATE COMPLETED **6/12/17**

EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0			**ARTIFICIAL FILL** Sandy Silt, firm, moist, light brown, fine-grained, trace medium- to coarse-grained.			
2	BULK 2-5'		**ALLUVIUM** Sandy Silt, firm, slightly moist, light brown, trace medium- to coarse-grained.			
4	B6@4'			14	102.0	12.4
6						
8	B6@8'	ML		20	115.0	7.3
10						
12	B6@12'			15	115.5	6.2
14						
16	B6@16'		Silty Sand, dense, slightly moist, light yellowish brown, fine-grained, trace medium- to coarse-grained, trace fine gravel (to 2").	62	122.8	4.4
18						
20	B6@20'	SM	- medium dense	50	124.8	3.3
22						
24						
	B6@25'			51	114.9	9.4
			Total depth of boring: 25.5 feet Fill to 1 foot. No groundwater encountered. Percolation testing performed. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by			

A9621-06-01 BORING LOGS.GPJ

Figure A6,
Log of Boring 6, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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PROJECT NO. A9621-06-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING 6** ELEV. (MSL.) - - DATE COMPLETED **6/12/17** EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
					auto-hammer.			

Figure A6,
Log of Boring 6, Page 2 of 2

A9621-06-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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APPENDIX B

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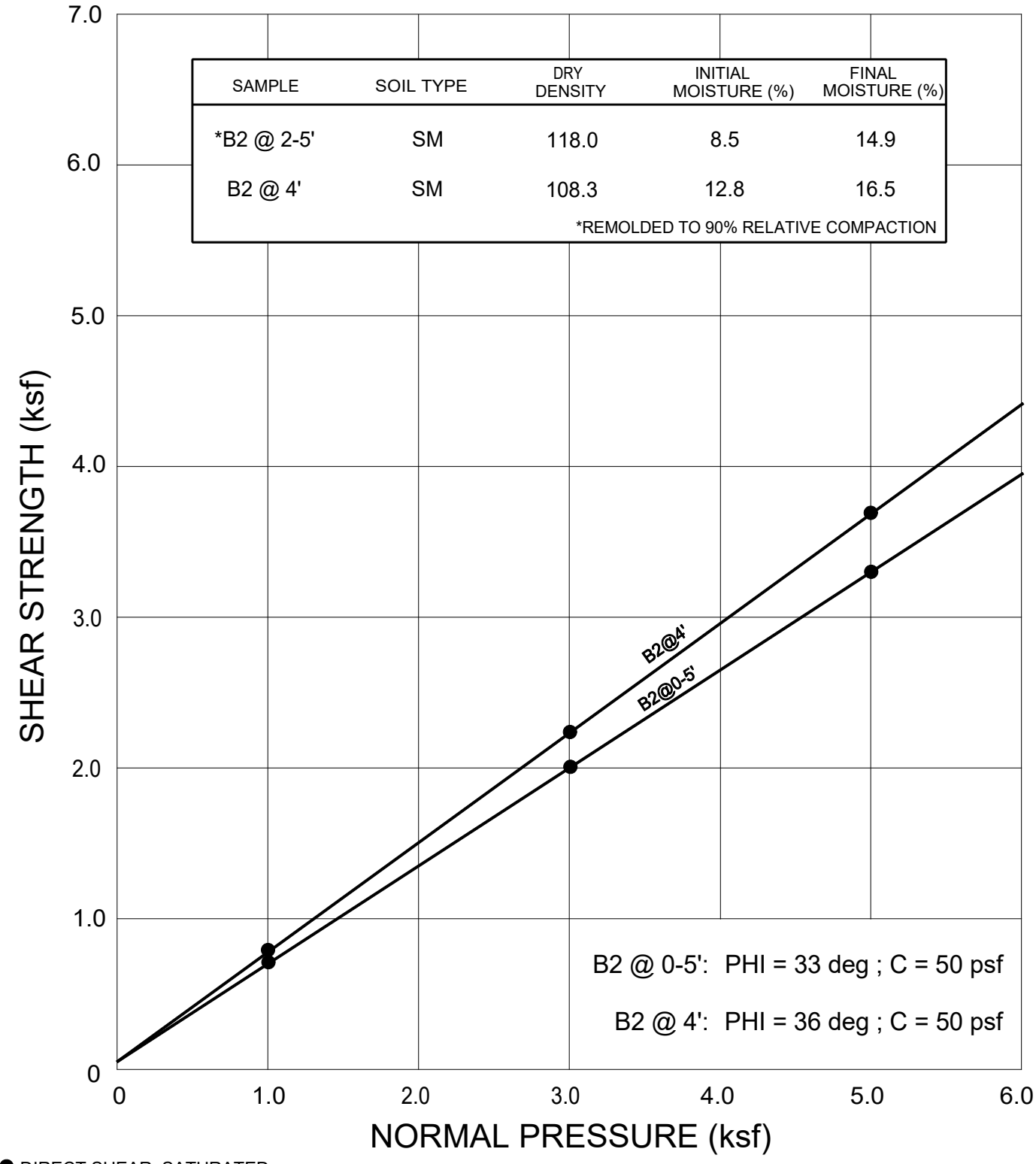
APPENDIX B

LABORATORY TESTING

Laboratory tests were performed in accordance with generally accepted test methods of the "American Society for Testing and Materials (ASTM)", or other suggested procedures. Selected samples were tested for direct shear strength, consolidation, compaction, expansion characteristics, corrosivity, and in-place dry density and moisture content. The results of the laboratory tests are summarized in Figures B1 through B9. The in-place dry density and moisture content of the samples tested are presented on the boring logs, Appendix A.

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
*B2 @ 2-5'	SM	118.0	8.5	14.9
B2 @ 4'	SM	108.3	12.8	16.5

*REMOLDED TO 90% RELATIVE COMPACTION



● DIRECT SHEAR, SATURATED

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3303 N. SAN FERNANDO BLVD. - SUITE 100 - BURBANK, CA 91504
PHONE (818) 841-8388 - FAX (818) 841-1704

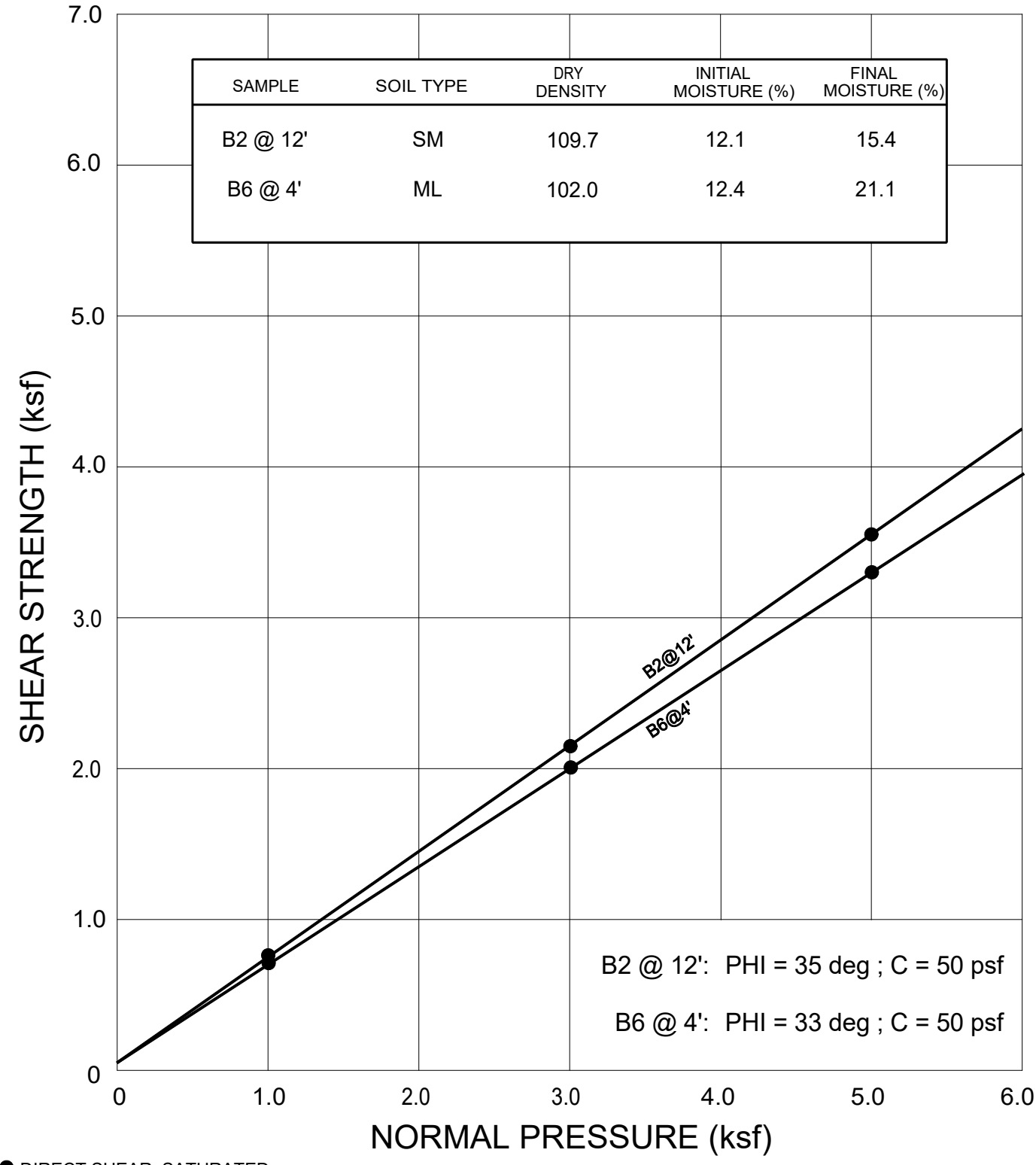
DRAFTED BY: AG | CHECKED BY: JTA

DIRECT SHEAR TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017 | PROJECT NO. A9621-06-01 | FIG. B1

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
B2 @ 12'	SM	109.7	12.1	15.4
B6 @ 4'	ML	102.0	12.4	21.1



● DIRECT SHEAR, SATURATED

GEOCON WEST, INC.

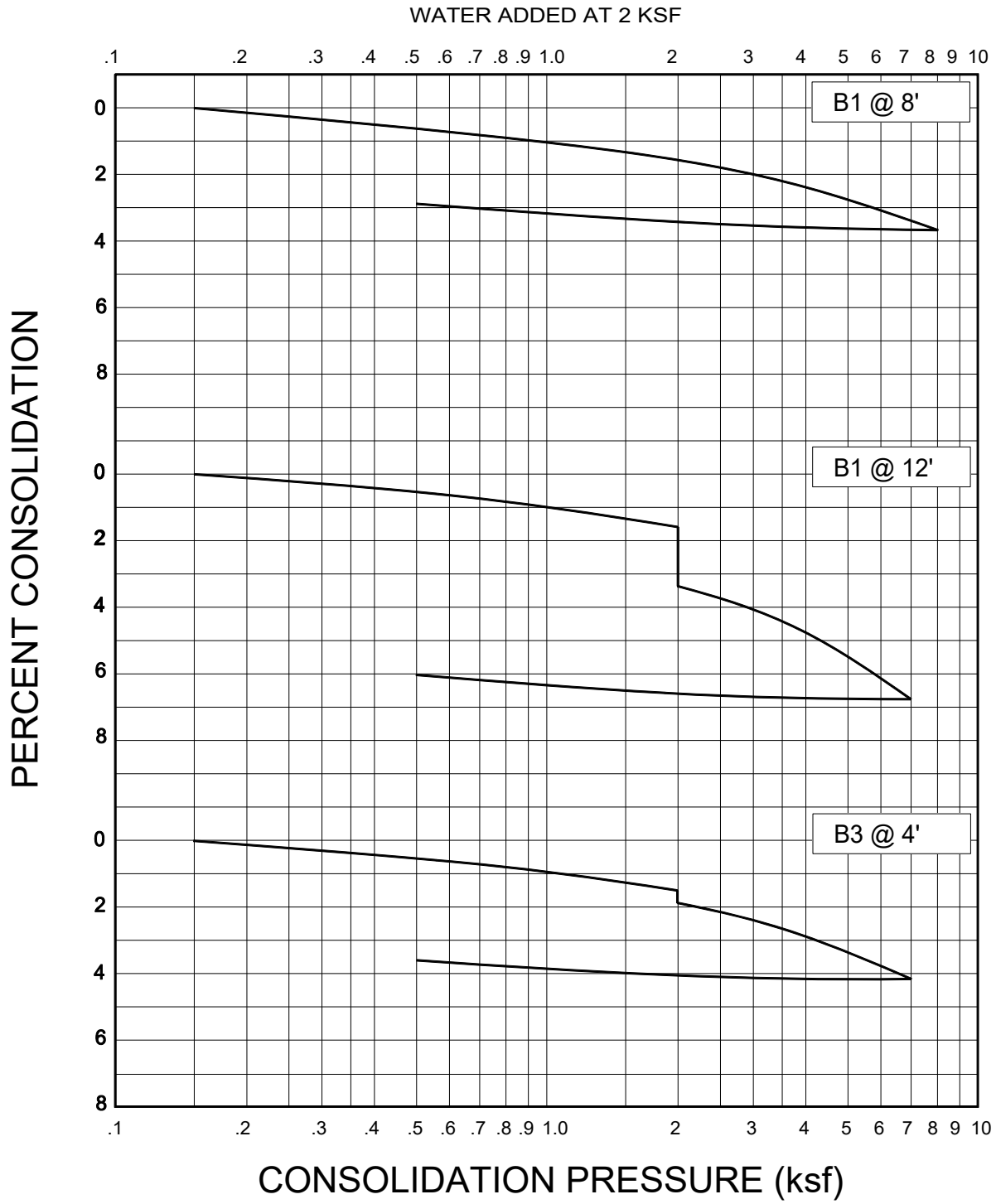
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DIRECT SHEAR TEST RESULTS

TRAMMELL CROW RESIDENTIAL
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MONROVIA, CALIFORNIA

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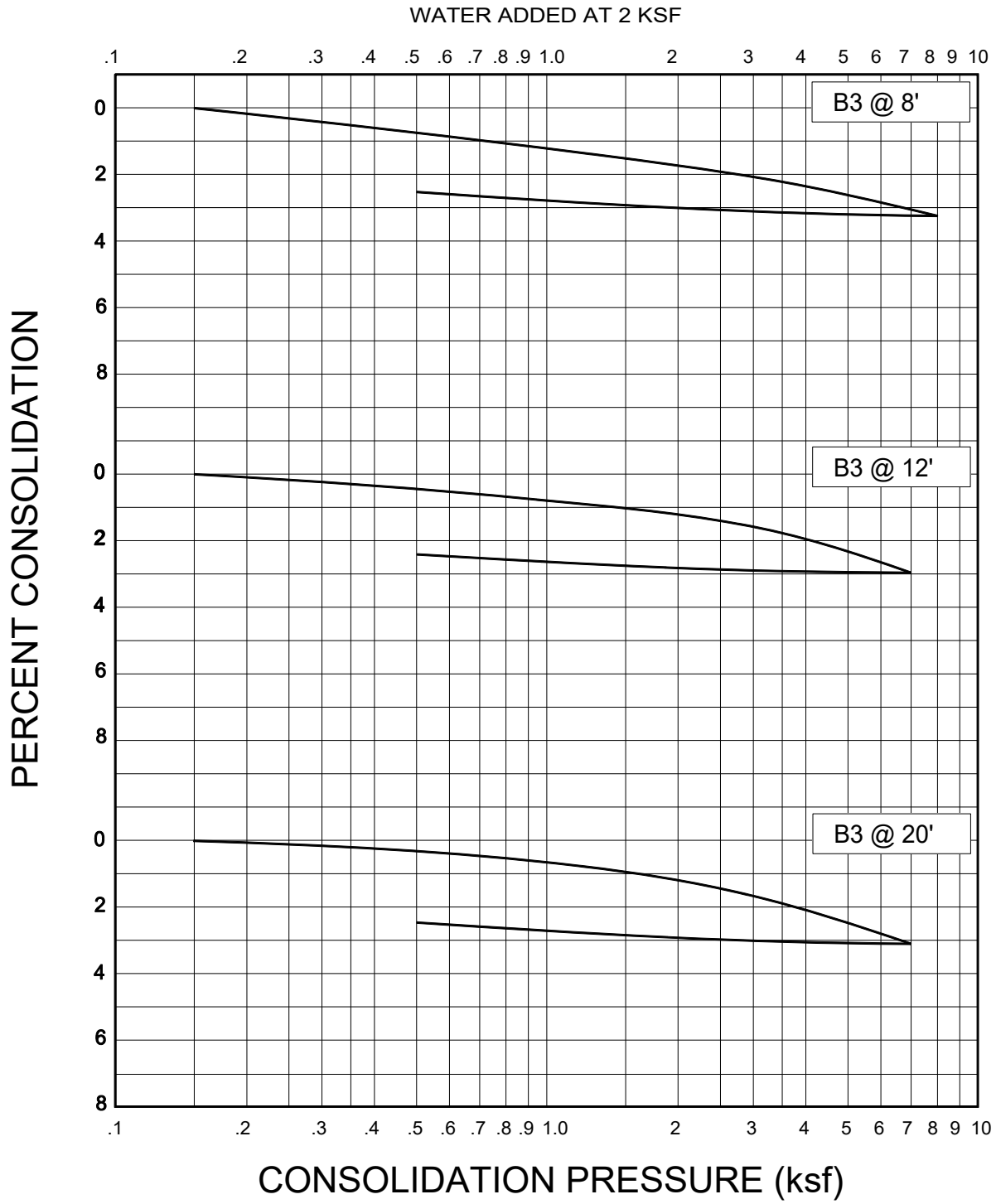
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CONSOLIDATION TEST RESULTS

TRAMMELL CROW RESIDENTIAL
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MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. B3



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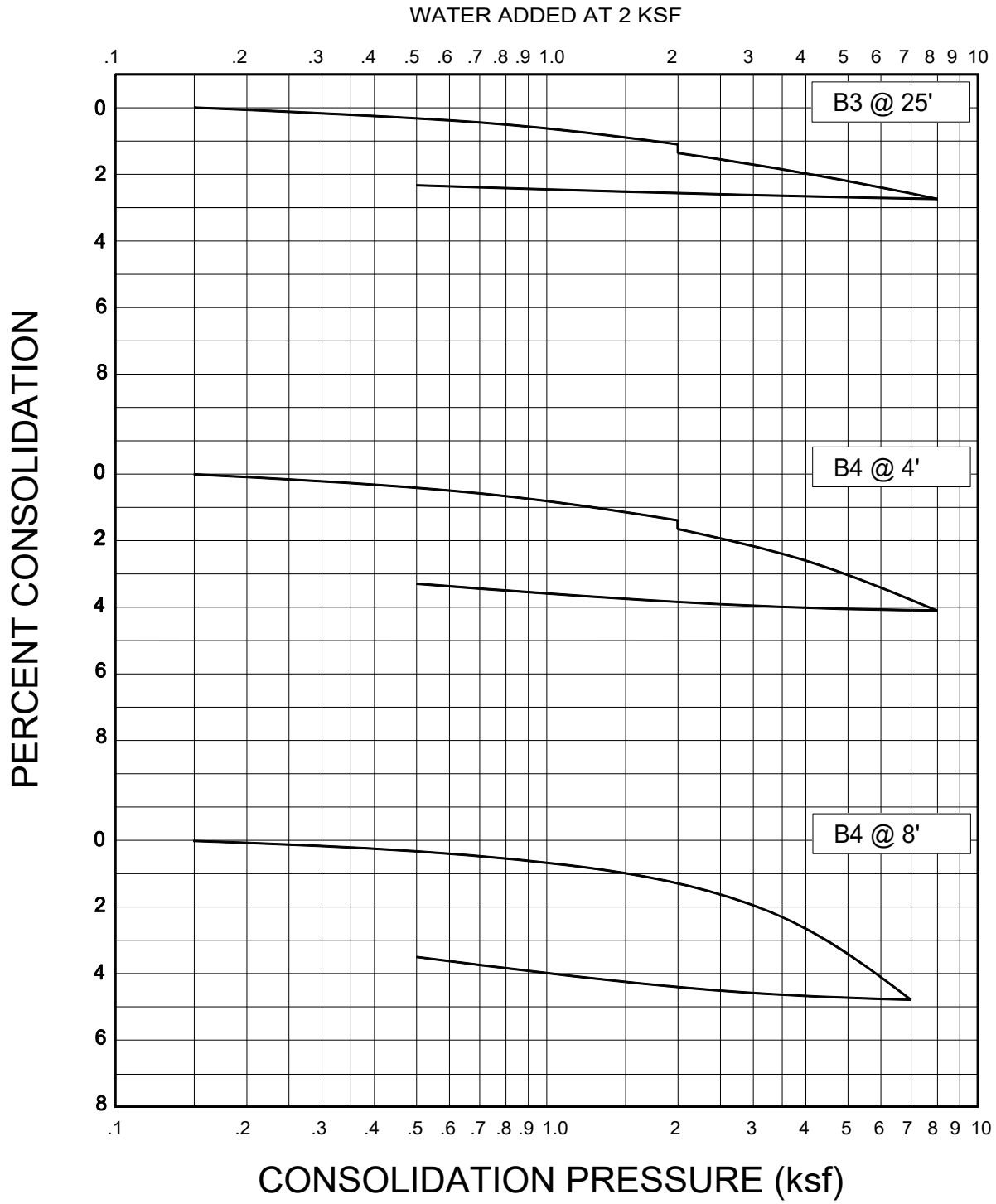
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CONSOLIDATION TEST RESULTS

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JULY 2017	PROJECT NO. A9621-06-01	FIG. B4



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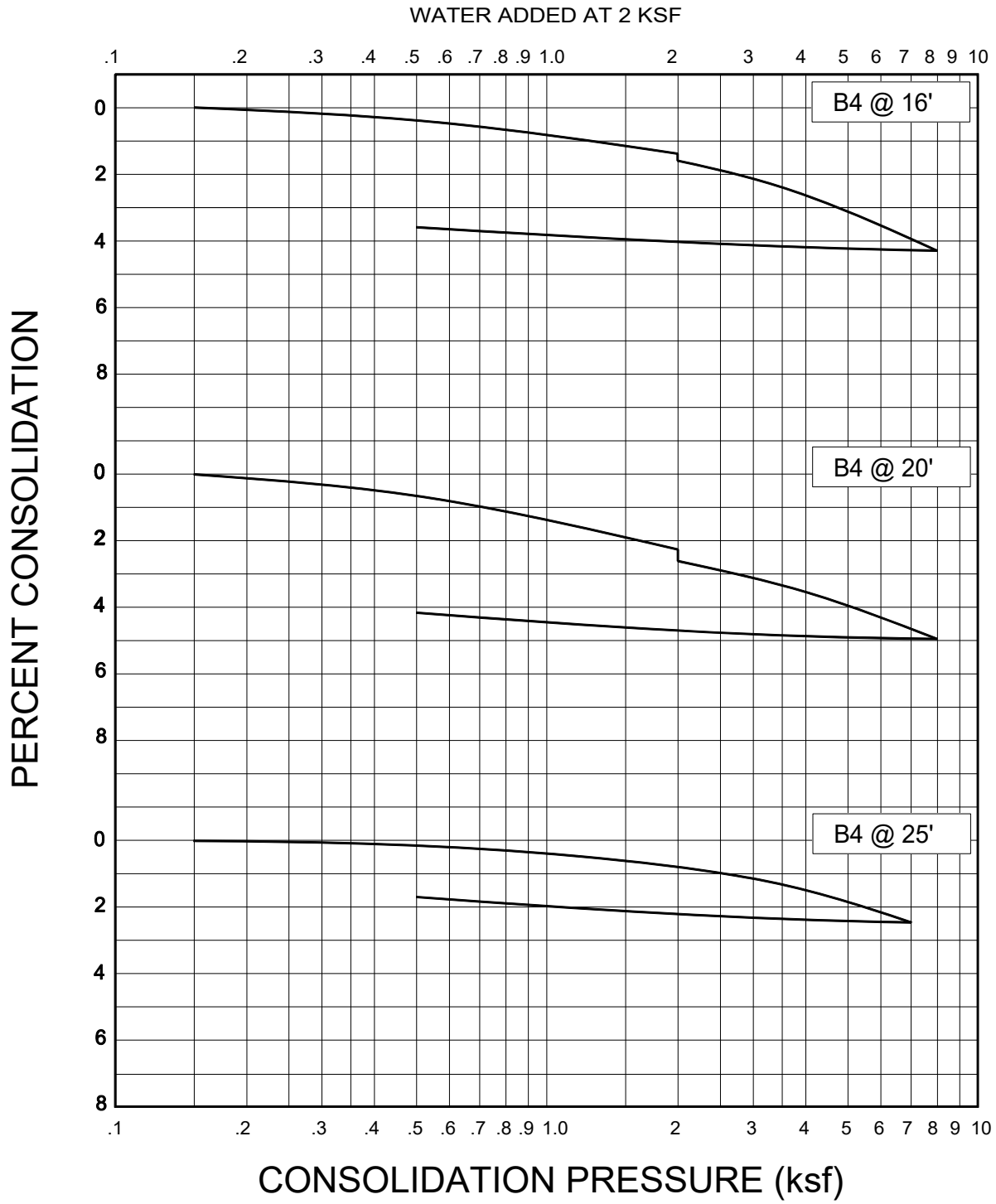
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CONSOLIDATION TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. B5



GEOCON WEST, INC.

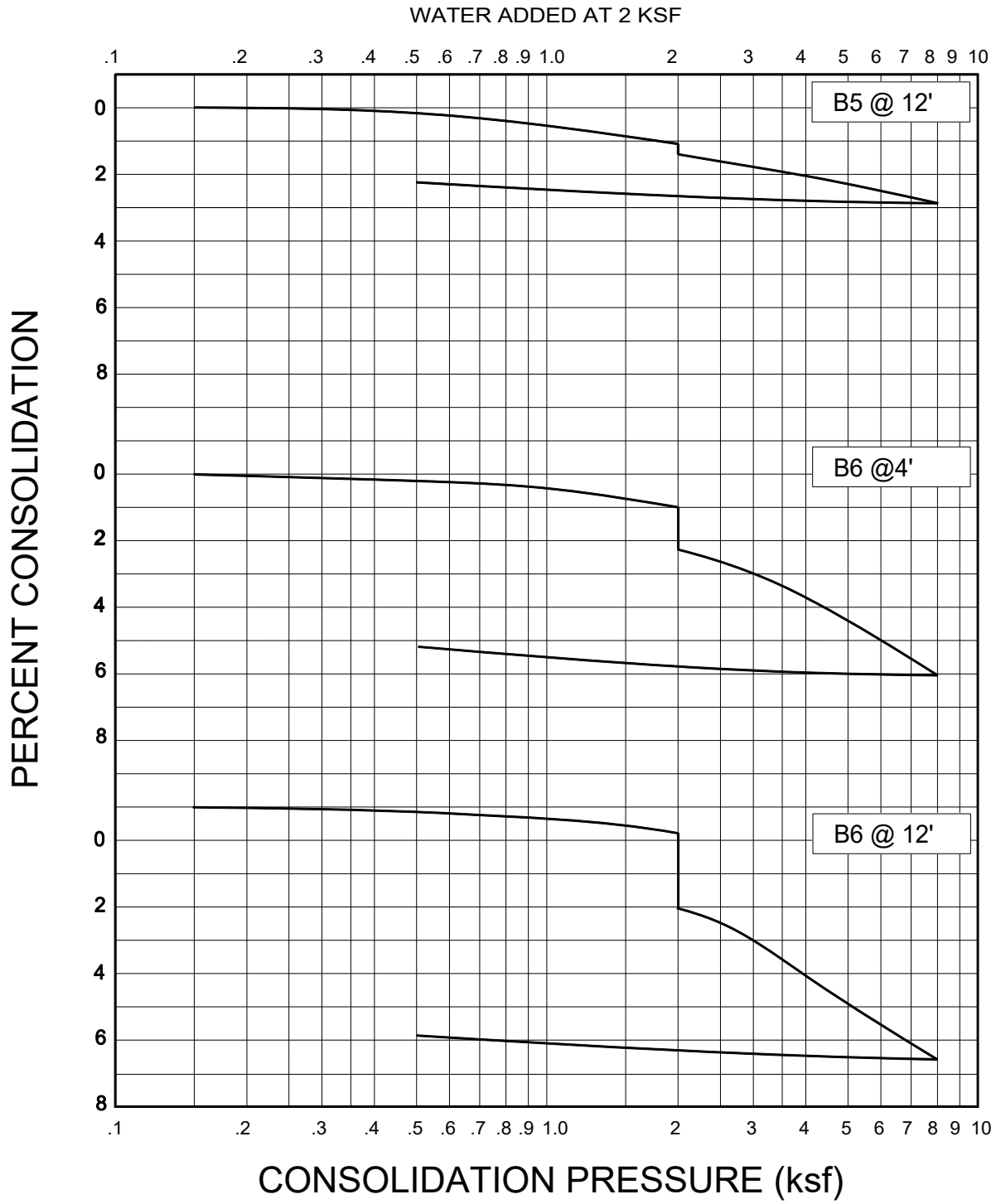
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CONSOLIDATION TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. B6



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CONSOLIDATION TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

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JULY 2017	PROJECT NO. A9621-06-01	FIG. B7

SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-11

SAMPLE NO.	MOISTURE CONTENT(%)		DRY DENSITY (PCF)	EXPANSION INDEX	*UBC CLASSIFICATION	**CBC CLASSIFICATION
	BEFORE	AFTER				
B2 @ 2-5'	7.4	13.1	120.1	4	Very Low	Non-Expansive

* Reference: 1997 Uniform Building Code, Table 18-I-B.

** Reference: 2016 California Building Code, Section 1803.5.3

SUMMARY OF LABORATORY MAXIMUM DENSITY AND AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-12

SAMPLE NO.	SOIL DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
B2 @ 2-5'	Dark Brown, Silty Sand	131.5	8.5

GEOCON WEST, INC.

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LABORATORY TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017 | PROJECT NO. A9621-06-01 | FIG. B8

SUMMARY OF LABORATORY POTENTIAL OF HYDROGEN (pH) AND RESISTIVITY TEST RESULTS CALIFORNIA TEST NO. 643

SAMPLE NO.	pH	RESISTIVITY (OHM CENTIMETERS)
B2 @ 2-5'	7.5	4,800 (Moderately Corrosive)

SUMMARY OF LABORATORY CHLORIDE CONTENT TEST RESULTS EPA NO. 325.3

SAMPLE NO.	CHLORIDE ION CONTENT (%)
B2 @ 2-5'	0.005

SUMMARY OF LABORATORY WATER SOLUBLE SULFATE TEST RESULTS CALIFORNIA TEST NO. 417

SAMPLE NO.	WATER SOLUBLE SULFATE (% SO_4)	SULFATE EXPOSURE *
B2 @ 2-5'	< 0.001	Not Applicable (S0)

* Reference: 2016 California Building Code, Section 1904.3 and ACI 318-11 Section 4.3.

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DRAFTED BY: AG | CHECKED BY: JTA

CORROSIVITY TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017 | PROJECT NO. A9621-06-01 | FIG. B9

APPENDIX G
HAZARDS AND HAZARDOUS WASTE INVESTIGATION REPORTS

APPENDIX G
HAZARDS AND HAZARDOUS WASTE INVESTIGATION REPORTS

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APPENDIX G1
PHASE I ENVIRONMENTAL SITE ASSESSMENT

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PHASE I ENVIRONMENTAL SITE ASSESSMENT

SOUTHWEST CORNER OF
SOUTH MAGNOLIA & WEST EVERGREEN AVENUES
MONROVIA, CALIFORNIA 91016

[APNs: 8507-006-016 (340 W. Evergreen Ave.), 8507-006-022 (418 W. Evergreen Ave.), 8507-006-024 (No Current Address), 8507-006-041 (1621 & 1625 S. Magnolia Ave.), 8507-006-042 (1641 & 1671 S. Magnolia Ave.), 8507-006-043 (404 & 410 W. Evergreen Ave.), 8507-006-044 (1541 S. Dale Dr.)]

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Project Number: 698-19

July 7, 2017

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1.0 INTRODUCTION

This report presents the results of a Phase I Environmental Site Assessment (ESA) conducted by FREY Environmental, Inc. (FREY) for seven parcels located on the southwest block of the intersection of West Evergreen and South Magnolia Avenues, with the following assessor's parcel numbers (APNs): 8507-006-016 (340 W. Evergreen Ave.), 8507-006-022 (418 W. Evergreen Ave.), 8507-006-024 (no current address), 8507-006-041 (1621 & 1625 S. Magnolia Ave.), 8507-006-042 (1641 & 1671 S. Magnolia Ave.), 8507-006-043 (404 & 410 W. Evergreen Ave.), and 8507-006-044 (1541 S. Dale Dr.), in Monrovia, California (hereafter referred to as "the Site"). A Site location map, Site Vicinity sketch, and Site sketch are presented as Figures 1, 2, and 3, respectively.

2.0 OBJECTIVE

The objective of the scope of work described below was to assess past and present land use practices, Site operations and conditions, and identify the potential presence of hazardous substances in the soil vapor, and groundwater beneath the Site to the extent feasible, pursuant to the processes described in the American Society for Testing and Materials (ASTM) guidelines (ASTM, 2013).

3.0 TERMINOLOGY

For the purposes of discussion, the following terms are used in this report:

- Site refers to the property depicted in Figures 1, 2, and 3 and described in Section 6.1;

- Immediate Site Vicinity refers to the properties immediately adjacent to the Site that share a common boundary with the Site;

- Recognized Environmental Conditions (RECs) as defined in ASTM E1527-13 is the presence or likely presence of any hazardous substances or petroleum products in, on, or at a property: (1) due to release to the environment; (2) under conditions indicative of a release to the environment; or (3) under conditions that pose a material threat of a future release to the environment. *De minimis* conditions are not RECs.

- Controlled Recognized Environmental Condition (CREC) as defined in ASTM E1527-13 is a REC resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls.

- Historical Recognized Environmental Condition (HREC) as defined in ASTM E1527-13 is a past release of any hazardous substance or petroleum product that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls.

- Vapor Encroachment Condition (VEC) as defined in ASTM E2600-10 is the presence or likely presence of vapor phase chemical(s) of concern (COC) in the subsurface of the target property as identified during the vapor encroachment screening process (ASTM, 2010).

- Area of Concern (AOC) as defined in ASTM E2600-10, for potential contaminated facilities with non-petroleum hydrocarbon COCs is equal to 1,760 feet around the Site and 528 feet around the Site for facilities with petroleum hydrocarbon COCs (ASTM, 2010).

- The term "hazardous" is used here in general accordance with its definition in Title 22, Division 4, Chapter 30, California Code of Regulations (CCR). The terms "material" and "waste" are used interchangeably, and no legal distinction is implied between the two terms as used herein.

4.0 SCOPE OF WORK

The scope of work designed to provide the information needed to meet the objectives of the investigation was as follows:

- Inspect the Site;
- Conduct a Site vicinity reconnaissance in order to compile a current list of companies and/or businesses that may utilize potentially hazardous materials in the Immediate Site Vicinity;
- Photograph the Site and the properties which bound the Site;
- Interview personnel familiar with the history of the Site, if available;
- Review files at City of Monrovia Department of Building and Safety (CDBS);
- Review files maintained by the Los Angeles County Department of Public Works (LADPW);
- Review files maintained by the South Coast Air Quality Management District (SCAQMD);
- Review the California State Water Resources Control Board's (SWRCB) GeoTracker and Department of Toxic Substance Control (DTSC) EnviroStor databases for any available files;
- Review Sanborn maps, historical aerial photographs, topographic maps, phone directories, environmental lien and activity use limitation (AUL) reports, and a government agency database report specifically prepared for the Site by Environmental Data Resources Inc. (EDR), and;
- Prepare a report summarizing the findings of the information presented above.

The results of the Site inspection and record review, as described above, were evaluated and interpreted in the context of existing Site conditions and the hydrogeological setting. The scope of work did not include the sampling of soil vapor, groundwater, lead paint, asbestos, or air.

5.0 PHYSICAL SETTING

5.1 REGIONAL GEOLOGY AND HYDROGEOLOGY

The following is taken from a report prepared by Partner Engineering and Science, Inc.(Partner) titled *Phase II Environmental Site Assessment Industrial Complex, 1625/1625B, 1631 South Magnolia Avenue and 410 West Evergreen Avenue, Monrovia, California*, dated July 22, 2011 (Partner, 2011).

Based on a review of the United States Geological Survey (USGS) Mount Wilson Quadrangle topographic map, the subject property is situated approximately 440 feet above mean sea level (amsl), and the local topography slopes gently to the south-southwest.

The Site is located in the eastern San Gabriel Valley within the Main San Gabriel Hydrogeologic-Basin. The basin is bounded by the San Gabriel Mountains to the north, the San Jose Hills and subsurface bedrock high to the east; the Puente, Repetto and Merced hills to the south and west; and the Raymond Fault to the northwest.

Local geology is characterized by Recent alluvium and Pleistocene older alluvium consisting of poorly consolidated continental sediments. These sediments consist of interbedded sand, silt, and clay in variable proportions with lenses of gravel. They were deposited in large part by coalescing alluvial fans emanating from canyons exiting the southern San Gabriel Mountains north of the site. In the site vicinity, older alluvium occurs at grade to a depth of approximately 700 feet, and comprises a more youthful portion of the alluvial fan, which has accumulated at the mouth of Monrovia Canyon.

The dominant structural feature in the vicinity of the site is the Sierra Madre fault zone. Elements of this fault zone occur approximately 1.0 mile northeast of the subject site and include the Duarte and Sierra Madre faults.

Based on borings advanced during previous investigations at the Site, the underlying subsurface consists predominantly of sand with silt from the ground surface to 30 feet bgs (Partner, 2011).

Hydrogeologically, the Site is located in the eastern San Gabriel Valley within the Main San Gabriel Hydrogeologic Basin. The San Gabriel and the Rio Hondo rivers, and their tributaries flow from the San Gabriel Valley. The rivers have their headwaters in the San Gabriel Mountains and have a common exit from the southern portion of the valley at Whittier Narrows between the Merced and Puente hills. The Site is approximately 3 miles west of the San Gabriel River.

Percolation of direct rainfall and run-off water from the mountains is the major source of natural recharge of the San Gabriel Hydrogeologic Basin. Imported water and return flow from applied water also supply recharge water to the basin. The alluvial deposits, which contain the major aquifer in the basin, attain a maximum thickness of greater than 4,000 feet. The average thickness of water-bearing deposits in the center of the basin is 900 to 1,000 feet. The alluvium is underlain by Miocene Puente and Topanga formations that yield limited quantities of water. The elevation of the groundwater ranges from 100 feet to greater than 500 feet amsl.

Regionally, groundwater flows from the perimeter of the basin in a southerly direction toward Whittier Narrows, where it exits the basin. Locally, the groundwater flow is towards the west.

5.2 GROUNDWATER SUPPLY WELLS WITHIN THE SITE VICINITY AND DEPTH TO GROUNDWATER

Based on information from the Hydrogeologic Records Division of the LACDPW, there are eight (8) groundwater monitoring wells in the Site Vicinity. The nearest two are located approximately 1,600 feet southwest of the Site and are labeled #4197 and #4197b. The most recent depth to groundwater data measurements reported for wells #4197 and #4197b are 200 feet (in 2004) and 203 feet (in 2003), respectively (LACDPW, 2017).

Groundwater was not encountered below the Site at the maximum depth explored (30 feet bgs) during the Phase II investigation conducted by Partner (Partner, 2011).

6.0 FIELD INVESTIGATION

6.1 SITE INSPECTION

FREY conducted a Site inspection on June 9, 2017. The inspection included examination of the Site and Site buildings for past or present use, storage, handling, and disposal of potentially hazardous substances, and possible future releases of such substances. Photographs of the Site are included in Appendix A. Figure 3 presents a Site sketch showing the locations of the areas discussed.

Site Buildings

The Site includes five buildings including four commercial buildings and one residential building.

1625 South Magnolia – Vioski, Inc.

The Vioski, Inc. building included offices and work stations for the manufacturing of wood chairs, sofas, and furniture upholstery. The building included storage for furniture padding and fabric. Minor asphalt staining and Underground Service Alert (USA) markings were observed outside the building. No RECs were observed at this address.

1621 South Magnolia Avenue – Sierra Chevrolet Sales and Ram Commercial Truck

The Sierra Chevrolet building includes offices, a lounge area, a maintenance garage, and a parking show/lot used for various Chevrolet car models and Dodge Ram trucks. Several household cleaning supplies were kept in a supply closet .

The Sierra Chevrolet maintenance garage located on the western portion of the building. The maintenance garage contained four service bays included electric lifts for servicing automobiles. Four mobile self-evacuating oil drains were observed throughout the maintenance garage. An area along the west portion of the garage in between the middle two service bays contained various new and used oil storage containers. These containers included:

- Three 55-gallon drums of waste antifreeze (1) and used oil filters (2),
- One 55-gallon "lube cube" of new transmission fluid,
- Two approximately 150-gallon (size not posted) "lube cubes" of new 5W-30 motor oil, and
- One approximately 100-gallon (size not posted) "lube cube" of waste oil.

All drums and "lube cubes" appeared to be properly maintained, labeled, and contained and no leaks were observed. Three additional empty 55-gallon and three empty 30-gallon drums were preset just outside the maintenance garage as well as several car wash fluids and paint buckets. The garage areas were organized and relatively clean. The concrete floors of the service area were in very good condition with no stains or cracks observed (Appendix A).

The historical maintenance operations in the garage and service area at this address are considered a REC.

1641 & 1671 South Magnolia Avenue - Anderson Woodworks Fine Cabinets and Kitchen Remodeling & Sierra Auto Cars

The Anderson Woodworks Fine Cabinets and Kitchen Remodeling business is located in a small section of the building located in between the Sierra Auto Cars photography bay and maintenance bay. No one from the business was present at the time of the Site inspection, therefore a detailed description of this facility was not able to be made.

The Sierra Auto Cars area performs tests and checks on automobiles ready to be sent to dealerships. This address includes one small office building, a small auto maintenance shop with two car bays, a bay for photographing the automobiles, and a car wash station under a portable canopy. Several small jugs of automotive oil, transmission fluid, and antifreeze are kept in a cupboard in the auto maintenance shop. A small floor drain is located at the corner of the car wash area, which appeared free of staining or accumulated liquids.

RECs were observed at these addresses.

404 West Evergreen – California Theaming, Inc.

The California Theaming Inc. business is a two story industrial building included small offices and several areas/workshops used to create and manufacture small to large props, fixtures, and decorations used in various theme parks around Southern California. materials used in the creation of these props include paints, polyester and epoxy resins, fiberglass, glue adhesives, metals, and wood stains. Propane tanks used for forklifts and welding tanks for metal working were properly stored in a specific area.

Due to contracts with clients of California Theaming, Inc., no photographs were allowed inside the California Theaming building.

The chemicals historically used at the California Theaming facility are considered a REC.

340 West Evergreen Avenue - Residence

The one-story residence appeared to be vacant at the time of the Site inspection. No RECs were observed at the residence.

6.2 IMMEDIATE SITE VICINITY RECONNAISSANCE

The Site is bound to the north by West Evergreen Avenue, the 210 Freeway, an Evangelical Church, and commercial buildings; to the east by South Magnolia Avenue, commercial buildings, and a construction site; to the south by railroad tracks, followed by commercial businesses apartment buildings, and residences; and to the west by commercial businesses and Mayflower Street. Additional Site vicinity details are presented in the Site Vicinity Sketch presented as Figure 2.

With the exception of the railroad tracks bordering the southern side of the Site, RECs were not observed in the immediate Site vicinity. The railroad tracks could potentially be considered an REC given the potential for chemicals to have been sprayed on the tracks for weed and pest control, and possibly the use of chemicals to preserve the railroad ties. However, the relatively comprehensive subsurface investigative work conducted by Partner in 2011 demonstrated that no impacts to soil and soil gas were present along the railroad tracks (Partner, 2011).

6.3 PERSONNEL INTERVIEW

Mr. Paul Hoffman representing Sierra Auto Properties LLC, the Site owner, completed a transaction screen questionnaire as part of the Phase I ESA pertaining to potential environmental impairment at the Site from historical site use. A copy of the transaction screen questionnaire is included in Appendix B. The questionnaire responses are summarized below.

PERSONNEL INTERVIEW	
	DETAILS
Name	Peter Hoffmann
Business Title	Representative
Firm	Sierra Auto Properties, LLC
Telephone	N/A
Role/Relationship	Representative
Summary	Mr. Hoffmann noted the past presence of a septic tank and a septic system/leach field at two previous residences on Dale Avenue, which were removed when the residences were demolished. He also noted that several 55 gallon drums were used by California Theaming in 2011 which are no longer present, and a truck maintenance facility may have been located on the property located northwest of the Site (450 W. Evergreen Ave.). He also noted the past and current vehicle maintenance activities and oil storage at the Site.

The past and current vehicle maintenance activities and oil storage at the Site are an REC. If the 55 gallons drums used by California Theaming were for storage of hazardous wastes, they would be considered an REC. The presence of a truck maintenance facility on the property north of the Site is considered an REC.

7.0 REGULATORY AGENCY REVIEW

7.1 CITY OF MONROVIA BUILDING DEPARTMENT

FREY reviewed building permit records for the Site at the City of Monrovia Building Department (MBD) personnel on July 6, 2017.

Building permit record files were located for the following addresses associated with the Site:

- 340 W. Evergreen Avenue (earliest permit dated 2006)
- 410 W. Evergreen Avenue (earliest permit dated 2014)
- 418 W. Evergreen Avenue (earliest permit dated 1991)
- 1625 S. Magnolia Avenue (earliest permit dated 1954)
- 1631 S. Magnolia Avenue (earliest permit dated 1966)
- 1641 S. Magnolia Avenue (earliest permit dated 2000)
- 1671 S. Magnolia Avenue (earliest permit dated 2011)

Permit records were not found at the MBD for the other addresses associated with the Site.

With the exception of a 1967 listing for a business called "STD Research Co" located at 1631 S. Magnolia Avenue that reportedly used and stored acids, mercury and oil wastes, the permits in the files reviewed were primarily for routine building activities (plumbing, electrical, change of address, etc.), and did not indicate property use activities of environmental concern.

The information in the 1967 record discussed above is considered an REC for the 1631 S. Magnolia Avenue address. No other RECs were identified in the building permit records reviewed at the MBD.

7.2 COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS

FREY personnel reviewed files at the LACDPW for the Site addresses. No LACDPW files exist for the Site addresses (LACDPW, 2017b).

An LACDPW file existed for the removal of a 10,000-gallon gasoline UST and a 10,000-gallon diesel UST from the property located northwest of the Site, at 450 W. Evergreen Avenue (formerly "Johnson Tree Service" currently "Brkich Robert Construction") on August 3, 1987. The USTs and adjacent dispensers were located in the center of the property. According to a UST removal report prepared by Brown and Caldwell Consulting Engineers, dated August 11, 1987, soil samples collected from beneath the USTs did not contain detectable petroleum hydrocarbon constituents. The LACDPW subsequently issued a case closure letter, dated September 15, 1987. (LACDPW, 2017b).

7.3 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

FREY searched for the Site on the Facility Information Detail (FIND) website database maintained by the SCAQMD. The FIND database contains information about regulated facilities within the South Coast Air Basin. Information on the Site was included in the database (SCAQMD, 2017).

The Site address of 1625 S. Magnolia Avenue is listed in the FIND database under the company name Calcraft Co. The equipment listed under permit (issued in 1975 and active through 1990) is spray booth paint and solvent. No notices to comply or violations are reported. The company is listed as out of business.

7.4 STATE OF CALIFORNIA

FREY researched environmental cleanup sites and hazardous waste facilities using the DTSC Envirostor website and researched leaking underground storage tank (LUST) cleanup sites, RWQCB cleanup sites, land disposal sites, military sites, and Waste Discharge Requirement Program sites using the SWRCB Geotracker website. FREY reviewed information for the Site and the AOC to assess potential on-Site and off-Site sources of chemicals of concern in soil and groundwater beneath the Site.

7.4.1 DTSC EnviroStor Database

The DTSC EnviroStor database did not list any cases for the Site. According to the database there are three (3) voluntary cleanup sites within the AOC (DTSC, 2017).

Two of the facilities within the AOC, Metric Machining and So Cal Gas/Monrovia MGP, are located at 1622 South Magnolia Avenue (approximately 60 feet east of the Site). The Metric Machining facility case was for the cleanup of the southwest portion of the property for contaminants including TPH, arsenic, lead, and one polycyclic aromatic hydrocarbons (PAH). The So Cal Gas/Monrovia MGP facility case was for the cleanup of the northwest portion of the property for contaminants including TPH, PAHs, arsenic, lead, and VOCs. Contaminated soil was excavated and confirmation soil samples were collected prior to both facilities receiving cleanup certification in November of 2014 (DTSC, 2017).

The third facility within the AOC, The Parks at Monrovia Station Square I LLC, is located at 204 & 200 West Pomona Avenue and 1625 Primrose Avenue (approximately 500 feet east of the Site). This case was for the cleanup of various metals, and following numerous investigations and remedial soil excavation, the case received cleanup certification in December of 2015 (DTSC, 2017).

The two properties (three facility cases) are not considered RECs based on the oversight provided by the DTSC, remedial efforts conducted at each property and cleanup certification received by the DTSC.

7.4.2 SWRCB Geotracker Database

The Site is not listed on the SWRCB Geotracker database, and no facility listings of concern are listed within the AOC of the Site (SWRCB, 2017).

8.0 HISTORICAL INFORMATION REVIEW

EDR provided Sanborn maps, historical aerial photographs, historical topographic maps, historical city directory, an environmental lien search, a property tax map report, and radius map search report for the Site. The EDR information presented below has been attached in Appendices C and D.

8.1 SANBORN MAPS

According to the EDR Certified Sanborn Map Report, the Site is an unmapped property.

8.2 TOPOGRAPHIC MAPS

EDR provided historical topographic maps from 1894, 1896, 1900, 1928, 1933, 1939, 1953, 1966, 1972, 1988, 1994, 1995, and 2012.

No visible structures appeared on the Site in any of the maps except in the 1995 map. On the 1995 map, two large structures that appear similar to those currently existing are shown on parcel 8507-006-041 (1625 S. Magnolia Ave.).

Few to no structures are shown on properties bounding the Site on the topographic maps provided by EDR. Structures of concern are shown on the property just east of the Site across Magnolia Avenue in the 1928 (large circular structure), 1939 (large circular structure, two rectangular structures, and four smaller circular structures), and 1953 (two rectangular structures and four smaller circular structures labeled “oil Tanks”) maps. These structures are likely associated with the So Cal Gas/Monrovia MGP discussed above in Section 7.4.1 above, which received cleanup certification from the DTSC.

No RECs were noted on the topographic maps.

8.3 HISTORICAL AERIAL PHOTOGRAPHS

EDR provided aerial photographs from 1928, 1938, 1952, 1964, 1972, 1977, 1981, 1990, 1994, 2005, 2009, 2010, and 2012. The scale for the aerial photographs was 1inch equals 500 feet. A brief summary of information derived from the photos is as follows:

Site:

- In 1928 and 1938, the Site appears mainly used for agricultural purposes.
- In 1952, a residential structure appears on parcels 8507-006-016, 8507-006-022, and 8507-006-041 (northeast corner), and two or more residential structures appear on parcels 8507-006-043 (northern portion) and 8507-006-044 (one on north side and one located centrally).
- In 1964, the southwest portion of the Site appears vacant, and an additional smaller structure and two large buildings (that appear to be those currently existing) are visible on parcel 8507-006-041.
- In 1972, parcel 8507-006-042 is fully developed with a large rectangular building and parking lot. Parcel 8507-006-043 appears mainly vacant with one residential size structure remaining in north portion. Paved parking appears on the northern portion of parcel 8507-006-044, and a residential sized square structure appears on parcel 8507-006-024.
- In the 1977 photo, the smaller structure seen earlier on parcel 8507-006-043 has been replaced by a large industrial size building and paved parking on the northern half of the parcel.
- No other significant changes were observed in later photos.

Site Vicinity:

- Magnolia Avenue, the railroad (adjacent south), and Mayflower Avenue appear in the 1928 photo. The surrounding properties appear mainly agricultural with exception of the property to the west of the Site across Magnolia Avenue where a large round structure is visible. This is the location of the former So Cal Gas/Maonrovia MGP discussed earlier in Section 7.4.1.
- In 1952, two small, north-south trending, residential streets (Dale Drive and another unknown) appear north of the Site, and the majority of the properties north of the Site appear to be developed residentially. Additional industrial sized buildings appear southeast of the Site.
- In the 1964 photo, round structures loacted earlier at the MGP property are no longer visible, and the majority of surrounding properties appear to me a mix of residential and commercial.
- In the 1972 photo, one of the residential streets north of the Site is no longer present. Evergreen Avenue and the 210 Foothill Freeway are now visible, replacing residential properties north of the Site.

No additional RECs were noted on the historical aerial photos.

8.4 CITY DIRECTORY REVIEW

FREY reviewed an EDR City Directory Abstract for the years spanning 1920 through 2014 for the Site and Site vicinity properties. A summary of the information obtained for the Site is provided in the table below.

CITY DIRECTORY REVIEW: SITE PROPERTIES		
ADDRESS (APN)	**YEAR**	**LISTING**
340 W. Evergreen Ave. (8507-006-016)	1999-2010	Dial One/ Mon Arc/ Cornerstone Plumbing, SVG Underground, Ace Pelizon Electrical
418 W. Evergreen Ave. (8507-006-022)	1999	Private residential listing
1613 S. Magnolia Ave. (8507-006-041)	1985-1988	Sanchez Landscaping, Alvarez and Sons Gardening
1617 S. Magnolia Ave. (8507-006-041)	1950	Monrovia Sash and Door Manufacturing Co.
1625 S. Magnolia Ave. (8507-006-041)	1957-2014 1975-1960 2010-2014	Stone & Phillips Inc. Calcraft Co. Vioski Manufacturing LLC, Aeroenvironment Inc. (also listed at 1610 S. Magnolia Ave.)
1631 S. Magnolia Ave. (8507-006-042)	1965-1970 1980 1999	STD Research Group W B Engineering John's Installations
404 W. Evergreen Ave. (8507-006-043)	1980-1990 2010-2014	United Van Lines Crown Transfer & Storage California Theaming Co.
410 W. Evergreen Ave. (8507-006-043)	1999	(no listings)
1541 Dale Dr. (8507-006-044)	1950	Private residential listing

Several manufacturing companies are listed within the Site Vicinity. Metric Machining Corp. listed at 1622 South Magnolia Avenue is discussed in Section 7.4.1 above. Mesa Industries, a manufacturer of rubber parts, is listed at 1726 South Magnolia Avenue (approximately 150 feet southeast of the Site) from 1975 to 2014.

The listings of several other manufacturing companies included within the Site Vicinity in the EDR City Directory Abstract could potentially have impacted soil, soil vapor or groundwater beneath their facilities, but are not considered RECs with respect to the Site since based on the nature of the facilities and their distance from the Site.

No additional RECs with respect to the Site were identified from the City Directory review.

8.5 ENVIRONMENTAL LIENS

FREY reviewed the environmental lien and other activity and use limitations (AUL) search report for the Site prepared by EDR. No environmental liens or AULs were found in the environmental lien report.

8.6 PREVIOUS PHASE II ENVIRONMENTAL ASSESSMENT REPORT

FREY reviewed the report titled *Phase II Environmental Site Assessment Industrial Complex, 1625/1625B, 1631 South Magnolia Avenue and 410 West Evergreen Avenue, Monrovia, California* [(Partner, 2011) (Appendix E)]. Partner included a summary of a Phase I Environmental Site Assessment conducted by Partner in 2011. The following is the summary of potential RECs noted by Partner in their report. Note that 1625 South Magnolia Avenue as referenced in the Partner reports is currently addressed as 1621 South Magnolia Avenue, and 1631 South Magnolia Avenue as referenced in the Partner reports is currently addressed as 1641 and 1671 South Magnolia Avenue.

- 1625 South Magnolia Avenue was developed for industrial use from 1954 to the present. Historical operations included furniture manufacturing and upholstering, woodworking, structural manufacturing, and the development of scientific machinery (prototypes) from 1966 to 1976, the subject property was occupied by STD/Standard Research Company for the development of scientific machinery (prototypes). Building records indicated that STD Research Company utilized detergents and "common organic solvents" for cleaning purposes and mercury for operations. From 1973 to 1990, the subject property was occupied by Calcraft for structural manufacturing. Calcraft operated a spray booth and utilized solvents during this period of time. Based on the duration of industrial operation, the nature of industrial activities including spray painting operations and solvent usage; and the absence of subsurface investigations to account for these concerns, the historical industrial operations at the subject property was considered to constitute a REC.

- 1631 South Magnolia Avenue was developed for industrial use from 1965 to the present. Historical operations included sheet metal work and manufacturing, electronics operations, wood-working, and structural manufacturing. Calcraft occupied the subject property in 1972. Calcraft operated a spray booth and utilized solvents as part of day-to-day operations. Metric Machining Co. occupied the subject property in 1988 and operated as a metal machining company and fabricated metallic parts, utilizing oils, lubricants, cutting fluids, and solvents as part of day-to-day operations. Based on the duration of industrial operation, the nature of industrial activities including spray painting and metal manufacturing operations and solvent usage, and the absence of subsurface investigations to account for these concerns, the historical industrial use of the subject property was considered to constitute a REC.

- 410 West Evergreen Avenue was developed for industrial use as early as 1968 to present-day. Former operations on the subject property included sheet metal work. The absence of information regarding historical operations and regulatory agency records, and the absence of subsurface investigations to determine whether former operations have impacted the subject property constitute a REC.

- In addition to the environmental concern of the historical industrial operations, the adjacent railroad tracks also pose a concern. Railroad spurs represent environmental concerns due to the historical application of oils containing polychlorinated biphenyls (PCBs), herbicides, and arsenic for pest and weed control, as well as the potential presence of creosote on the rail ties, and the historical common practice of using coal cinders for track fill material.

Partner completed a subsequent Environmental Site Assessment at the subject property to determine the presence or absence of soil and/or soil-vapor contamination from the former and potentially "current" industrial use of the subject property. The scope of the investigation included the installation of 34 soil/soil gas borings.

Soil borings B1 through B15 were drilled at the parcel located at 1625/1625 B South Magnolia Avenue, borings B16 through B20 were drilled at the parcel located at 1631 South Magnolia Avenue, borings B21 through B25 were drilled at the parcel located at 410 West Evergreen Avenue, and borings B26 through B34 were drilled in the vicinity of the railroad track located along the southern Site boundary.

Borings B1, B6, B11, B12, and B16 were advanced to a terminal depth of 5 feet bgs. Borings B2 and B3 were advanced to a terminal depth of 30 feet bgs. Borings B4, B5, B7 through B10, B13 through B15, and B17 through B25 were advanced to a terminal depth of 20 feet bgs. Soil gas probes were screened at 5 feet bgs were constructed within soil borings B1 through B6, B8, B10 through B17, B19 through B22, B24, and B25 upon completion of soil sampling.

Twenty-one soil gas samples were analyzed for VOCs. Twenty-two soil samples were analyzed for VOCs and , total petroleum hydrocarbon chain speciation (TPH-cc). Nine soil samples were analyzed for semi-volatile organic compounds (SVOCs). Three soil samples were analyzed for PCBs. Twenty soil samples were analyzed for California Administrative Manual (CAM) 17 Metals. Three composite soil samples were analyzed for VOCs, TPH-cc, PCBs, organochlorine pesticides (OCPs), and CAM 17 Metals.

- Partner summarized and concluded the following based on the results of the Phase II Investigation. Trichlorofluoromethane was detected in one soil gas sample. No soil gas regulatory guidelines are currently established for the detected refrigerant. The VOC TBA was detected in one soil sample collected at a depth of 5 feet bgs. The 10-foot soil sample collected from the same boring had non-detectable concentrations of all VOCs including TBA, suggesting a very limited localized TBA impact and very limited vertical migration of

this contaminant. No soil regulatory guidelines are currently established for TBA and impacts to the deep groundwater are very unlikely. The OCP Endosulfan I was detected in one composite soil sample at concentrations below available regulatory guidelines.

- Metals were detected in soil samples, however concentrations were below applicable regulatory guidelines. No other elevated concentrations of target contaminants, other than the suspected very localized low concentration of the refrigerant trichlorofluoromethane were detected in soil gas or soil during this investigation.

- Given the findings of this investigation, Partner recommended no further investigation with respect to the industrial complex was warranted.

9.0 GOVERNMENT AGENCY LISTING FINDINGS

9.1 OIL AND GAS

FREY reviewed the EDR Summary Radius Map Report (Appendix F) and the California Division of Oil, Gas and Geothermal (CADOGG) Resources Well Finder Website for oil and gas wells in the vicinity of the Site. There are no oil/gas wells mapped within a 1-mile radius of the Site. (CADOGG, 2017).

Based on information from the LACDPW, the Site is not located in a methane zone or methane buffer zone (LACDPW, 2017b).

9.2 RADON

The EDR Radius Map Report (Appendix E) indicates the Site is located in an average radon exposure zone according to a generalized assessment of radon potential in the zip code area of 91016. Of twenty-two sites tested, none had detections of radon greater than four picocuries per liter (pCi/L). The USEPA lists Los Angeles County as Radon Zone Level 2, for areas where the indoor average radon level is greater than 2 pCi/L but less than 4 pCi/L (EDR, 2017). The USEPA has an action level of 4 pCi/L (EPA, 2002).

9.3 REGULATORY AGENCY DATABASE REVIEW

9.3.1 Site

The Site is listed as three facilities in agency databases summarized in the EDR Radius Map Report (Appendix D).

The Site is listed as the Sierra Auto Properties (1613 S. Magnolia Ave.) in the HAZNET database and is reported to have handled asbestos containing waste and other organic solids in 2015. The Site is also listed as Stone and Phillips (1625 S. Magnolia Ave.) in the HAZNET database and is reported to have handled unspecified oil-containing waste, off-specification, aged or surplus organics, and other organic solids in 2005. Calcraft Co. (additionally listed at 1625 S. Magnolia Ave.) is listed in the EMI database with SCAQMD listings from 1987, 1990, and 1995. No violations are reported.

9.3.2 Immediate Site Vicinity

Five (5) properties, which bound the Site or are located within 100 feet across travel routes, are listed in the EDR Radius Map report as potentially having used, stored, or released petroleum hydrocarbons or other COCs such as solvents (Appendix F).

Live Oak Carpet Cleaning, located at 1518 South Mayflower Avenue and adjacent to the Site on the west-northwest, is listed in the EDR Historic Cleaner database as a carpet and upholstery cleaner in 2006 through 2008. There are no reports of violations or open cases on this property.

Two facilities, located at 450 West Evergreen Avenue and adjacent to the Site on the northwest, are listed in databases searched by EDR. Jim's Auto Repair is listed in the EDR Historic Auto Station database as a general automotive repair shop in 1979. Johnson Tree Service is listed in various UST databases. Two UST tanks used for diesel and regular gasoline are reported to have been located at this property and may have been in use as recent as 1989. There are no reports of violations or open cases on this property.

So Cal Gas/Monrovia MGP, located at 1622 South Magnolia Avenue (approximately 60 feet east of the Site) and listed in the EnviroStor, VCP, EMI, and EDR MGP databases, is discussed in Section 7.4.1 above. There are currently no open cases on this property.

Strand automotive, located at 333 Genoa Street and 60 feet south of the Site across the railroad, is listed in the EDR Historic Auto Station database as general automotive repair shop in 1991, 1996, and 1997.

Two facilities, located at 335 Genoa Street and 60 feet south-southwest of the Site across the railroad, are listed in databases searched by EDR. A F B Engineering is listed in the EDR Historic Auto Station database as a general automotive repair shop in 1987 through 1993. Lieder

Development Inc. is listed in various databases related to hazardous waste handling, and is listed a small quantity generator of waste oil, mixed oil, unspecified aqueous solution, unspecified organic liquid mixtures, and other organic solids in 2005 and 2006. There are no reports of violations or open cases on this property.

9.3.3 Potential Areas of Concern

Three (3) additional addresses are listed in the Radius Map Report within the AOC of 528 feet of the Site as potentially having used or stored petroleum hydrocarbons (Appendix F). These facilities are listed in the following databases: EDR Historic Auto Station, SWEEPS UST, CA FID UST, UST, and Los Angeles Co. HMS. None of the facilities listed at the three addresses are listed as having any violations or open cases and are not considered RECs.

Eight (8) facilities, which may have used other COCs such as chlorinated VOCs or solvents, are listed on the Radius Map database within 1,760 feet of the Site. These facilities were listed in one or more of the following databases: RCRA-SQG, HAZNET, and EDR US Historic Cleaners. None of the eight facilities are listed as having any violations or open cases, and are not considered RECs.

10.0 DATA GAPS

No data gaps were noted during the preparation of this document.

11.0 CONCLUSIONS

FREY has performed a Phase I Environmental Site Assessment in general conformance with the scope and limitations of the ASTM guidelines for the Site. Any exceptions to, or deletions from, this practice are described in Section 4.0.

11.1 SITE HISTORY AND CURRENT STATUS

- The Site was used for agricultural purposes based on the 1928 and 1938 aerial photos, and appeared to be first developed with residential and industrial buildings in the early 1950s.
- Historical and current Site usage includes automotive service and sales, furniture manufacturing, theme park prop/decoration manufacturing and residential.

11.2 ON-SITE RECs

The following items were identified as on-Site RECs in this Phase I ESA:

- Historical auto maintenance operations
- Possible storage of hazardous materials in 55-gallon drums
- Railroad tracks south of the Site (possible use of chemicals for weed/pest control)
- Chemicals used at the California Theaming facility
- Chemicals used / stored at the 1631 S. Magnolia Avenue address

However, as discussed herein, the comprehensive Phase II ESA conducted by Partner in 2011 (Partner, 2011), adequately assessed these on-Site RECs. Since no significant change in the Site usage has occurred since 2011, these on-Site RECs do not appear to have impacted subsurface conditions beneath the Site, and no further assessment is warranted.

11.3 SURROUNDING PROPERTIES

- The property northwest of the Site, at 450 W. Evergreen Avenue, was identified as having former truck maintenance activities on it, which represent a REC. Based on a review of LACDPW files, the 450 W. Evergreen Avenue property previously had a 10,000 gallon gasoline UST and a 10,000 gallon diesel UST which were removed in August 1987. Soil samples collected from beneath the fuel USTs did not contain petroleum hydrocarbon constituents, and a case closure letter was issued by the LACDPW on September 15, 1987. As such, this identified off-Site REC does not appear to have impacted subsurface soils beneath the Site. Further assessment of this off-Site REC is not warranted.

- No other off-Site RECs were identified.

12.0 LIMITATIONS

The judgments described in this report are professional opinions based solely within the limits of the scope of work authorized, and pertain to conditions judged to be present or applicable at the time the work was performed. Future conditions may differ from those described herein, and this report is not intended for future evaluations of this Site unless an update is conducted by a consultant familiar with environmental assessments.

This report was compiled partially of information supplied to FREY Environmental, Inc. from outside sources, other information that is in the public domain and a visual inspection of the Site. FREY Environmental, Inc. makes no warranty as to the accuracy of statements made by others, which may be contained in this report, nor are any other warranties or guarantees, expressed or implied, included or intended by the report, except that it has been prepared in accordance with the current accepted practices and standards consistent with the level of care and skill exercised under similar circumstances by other professional consultants or firms performing similar services.

13.0 PROFESSIONAL STATEMENTS

We declare that, to the best of our professional knowledge and belief, we meet the definition of Environmental professional as defined in §312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the Site. We have developed and performed all the appropriate inquiries in conformance with ASTM E1527-13 which meets the standards and criteria set forth in 40 CFR 312.

Should you have any questions regarding this report, please contact us.

Sincerely,
FREY Environmental, Inc.

(ED RANDS FOR)
Joe Frey
Principal Certified
Engineering Geologist
CEG #1500

Ed Rands
Senior Project Engineer
PE #58183

REGISTERED PROFESSIONAL ENGINEER
EDWARD D. RANDS
C 58183
EXP 6/30/18
CIVIL
STATE OF CALIFORNIA

(ED RANDS FOR)
Deanna Hoppe
Senior Staff Geologist

REFERENCES

ASTM (American Society for Testing and Materials), 2010, Standard Guide for Vapor Encroachment Screening on Property Involved in Real Estate Transactions, Designation: E2600-10, June 1, 2010.

ASTM, 2013, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Designation: E1527-13, November 11, 2013

CADOGG (California Division of Oil, Gas & Geothermal Resources), 2017, CADOGG Well Finder website (http://maps.conservation.ca.gov/doggr/index.html) , database search on June 14, 2017.

DTSC (State of California Department of Toxic Substances Control Envirostor website), 2017, Site Vicinity Search on June 18, 2017.

EDR (Environmental Data Resources, Inc.), 2017, Property Tax Map Report, Certified Sanborn Map Report, Historical Topographic Map Report, Aerial Photo Decade Package, City Directory Abstract Report, Environmental Liens and AUL Report ,and Radius Map with Geocheck, June 2017.

EPA (Environmental Protection Agency), 2002, A Citizens Guide to Radon, 4th Edition, May 2002.

EPA (Environmental Protection Agency), 2005, All Appropriate Inquiries Final Rule, 40 CFR Part 312, dated November 1, 2005.

LACDPW (Los Angeles County Department of Public Works), 2017; dpw.lacounty.gov. Groundwater well search and methane zone search performed on June 13, 2017.

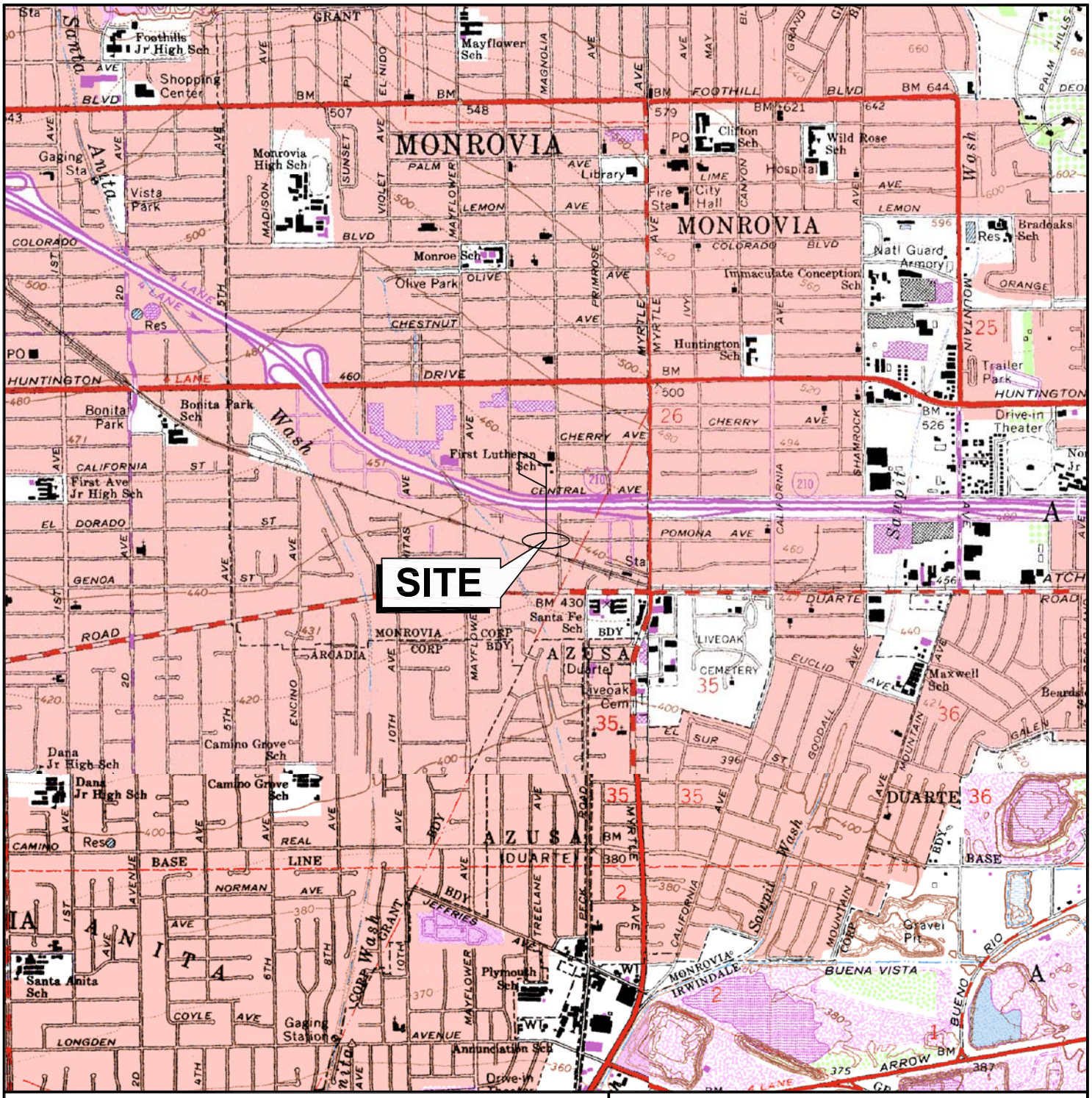
LACDPW, 2017b; File review at LACDPW on June 27, 2017.

Partner (Partner Engineering and Science, Inc.) Phase II Environmental Site Assessment Report, Industrial Complex, 1625/1625B, 1631 South Magnolia Avenue, and 410 West Evergreen Avenue, Monrovia, California 91016, dated July 22, 2011.

SCQAMD (South Coast Air Quality Management District), 2017, Facility Information Detail (FIND) website (http://www3.aqmd.gov/webappl/fim/prog/search.aspx) search for the Site address on June 20, 2017.

SWRCB (State of California Regional Water Quality Control GeoTracker website), 2017, Site Vicinity Search on June 15, 2017.

FIGURES



NOTE:

1. Base map from USGS 7.5 minute Mt. Wilson, Baldwin Park, Azusa, and El Monte (dated 1966; Rev. 1972 & 1981) California topographic quadrangle

0 1/2 1

APPROXIMATE SCALE IN MILES

SITE LOCATION MAP

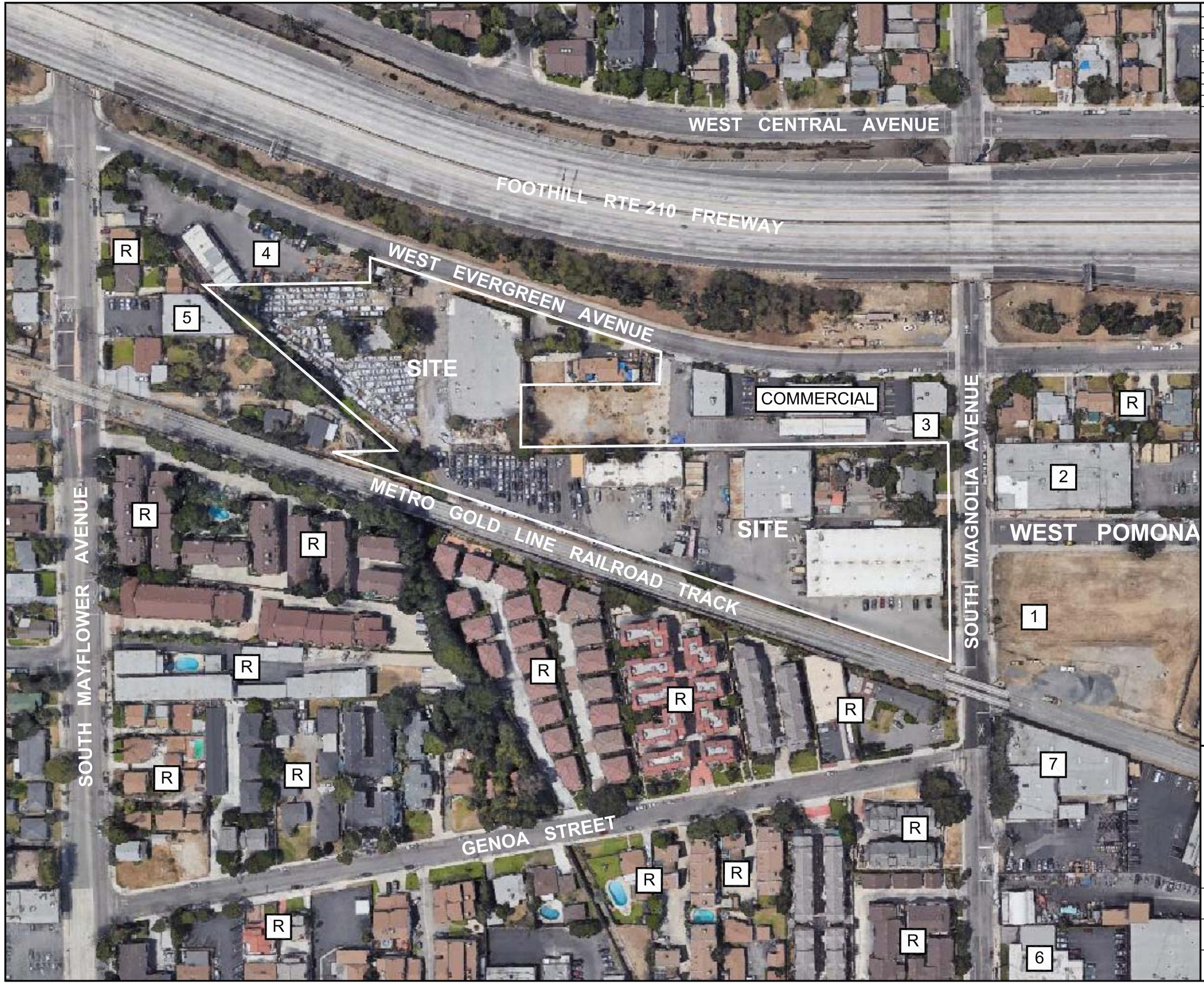
SOUTHWEST CORNER OF SOUTH MAGNOLIA & WEST EVERGREEN AVENUES
MONROVIA, CALIFORNIA

FREY ENVIRONMENTAL, INC.

CLIENT:	PROJECT No.:	DATE:
TCR	698-19	06/2017

FILE NAME: 698-19-SL.DWG

FIGURE 1



LOCATION	DESCRIPTION
1	NEW CONSTRUCTION SITE
2	GAMBLIT GAMING
3	ARABIC EVANGELICAL CHURCH
4	BRKICH CONSTRUCTION CORPORATION
5	NOVITA JEWELRY
6	VCA SANTA ANITA ANIMAL HOSPITAL
7	MESA INDUSTRIES
R	RESIDENTIAL

NOTES:

1. All locations and dimensions are approximate.
2. Site Sketch from Google Earth Aerial Photo.

0 140 280

APPROXIMATE SCALE IN FEET

SITE VICINITY SKETCH

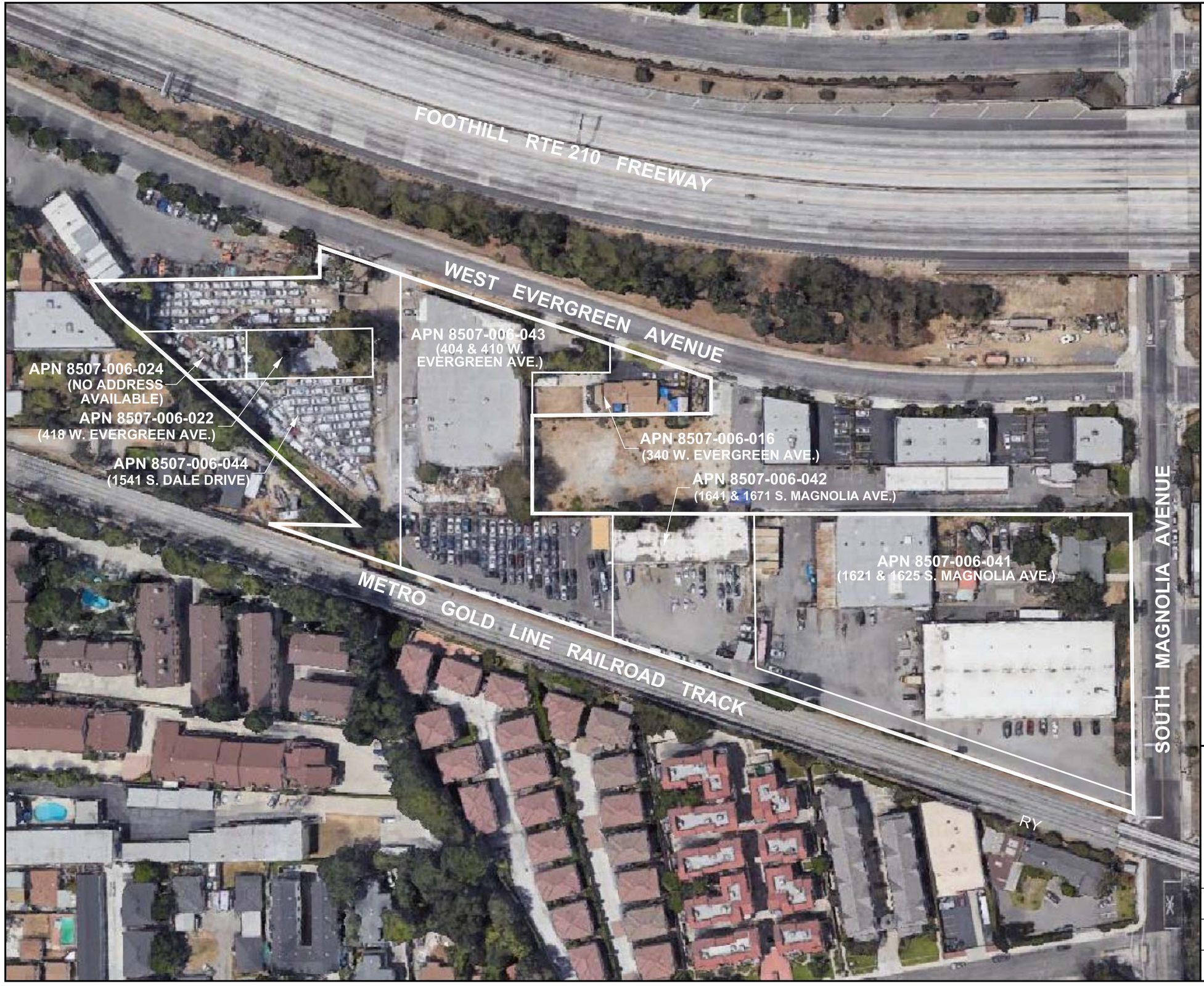
SOUTHWEST CORNER OF SOUTH MAGNOLIA & WEST EVERGREEN AVENUES
MONROVIA, CALIFORNIA

FREY ENVIRONMENTAL, INC.

CLIENT:	PROJECT No.:	DATE:
TCR	698-19	06/2017

FILE NAME: 698-19-VC.DWG

FIGURE 2



LEGEND

NOTES:

1. All locations and dimensions are approximate.
2. Site Sketch from Google Earth Aerial Photo.

0 100 200

APPROXIMATE SCALE IN FEET

SITE SKETCH

SOUTHWEST CORNER OF SOUTH MAGNOLIA & WEST EVERGREEN AVENUES
MONROVIA, CALIFORNIA

FREY ENVIRONMENTAL, INC.

CLIENT:	PROJECT No.:	DATE:
TCR	698-19	06/2017

FILE NAME: 698-19-ST.DWG

FIGURE 3

APPENDIX A

SITE PHOTOGRAPHS

SITE PHOTOGRAPHS



View of 1625 South Magnolia address taken from the corner of South Magnolia and the train tracks



Train tracks to the south of the Site facing northwest

SITE PHOTOGRAPHS



Train tracks to the south of the Site facing southeast



View of the front of 1625 South Magnolia – Vioski, Inc.

SITE PHOTOGRAPHS



Underground Service Alert Markings in front of 1625 South Magnolia



View inside Vioski, Inc. showing fabric used to upholster furniture

SITE PHOTOGRAPHS



View inside Vioski, Inc. of furniture padding and storage



View inside Vioski, Inc. of finished furniture, wood chair “templates”, and storage

SITE PHOTOGRAPHS



View looking west-northwest toward 1621 South Magnolia and Sierra Chevrolet



View looking north toward 1621A South Magnolia and Sierra Chevrolet Parking

SITE PHOTOGRAPHS



The entrance of 1621A South Magnolia



Offices and lobby of 1621 South Magnolia

SITE PHOTOGRAPHS



Cleaning supplies in a supply closet of 1621B South Magnolia



View facing northeast showing the parking area for Sierra Chevrolet and South Magnolia

SITE PHOTOGRAPHS

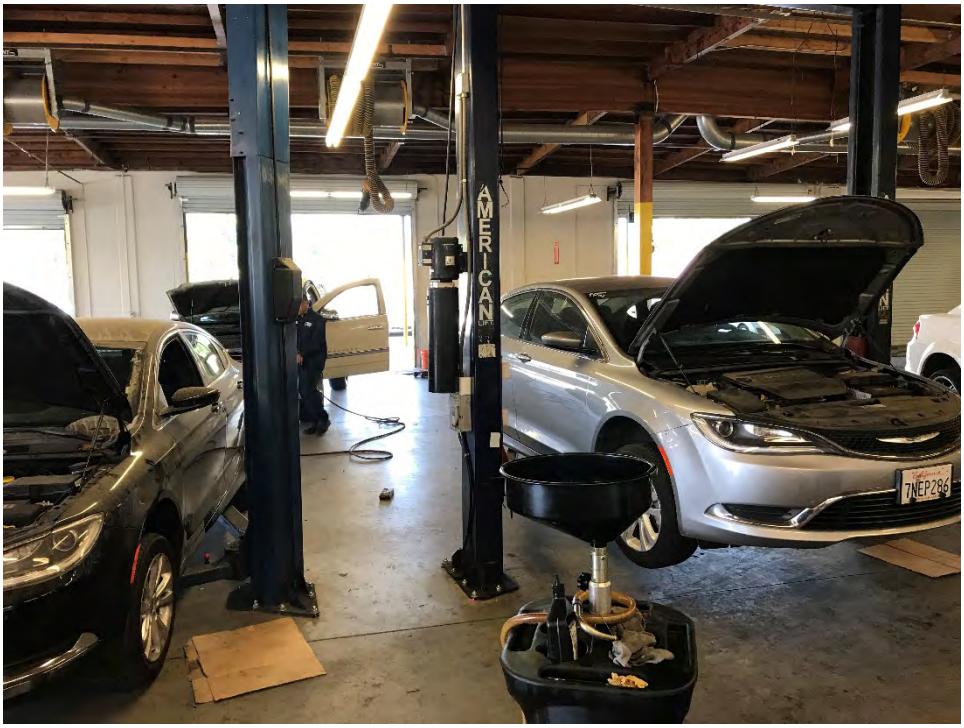


Outside view of the Sierra Chevrolet automotive maintenance building



Inside view of the Sierra Chevrolet automotive maintenance building

SITE PHOTOGRAPHS



View inside the automotive maintenance building showing electric car hoists and portable oil drain



Emergency wash station and floor drain in the automotive maintenance building

SITE PHOTOGRAPHS



Inside view of the Sierra Chevrolet automotive maintenance building facing south



New and used oil, antifreeze, and used oil filter storage containers

SITE PHOTOGRAPHS



Close up view of new motor oil storage container



Slight floor staining near the red waste antifreeze drum, blue used oil filter drum, and black waste oil container

SITE PHOTOGRAPHS



View of the automotive maintenance building from outside facing northeast with a USA marking



Empty 30-gallon and 55-gallon drums outside of the automotive maintenance building

SITE PHOTOGRAPHS



Open-top 55-gallon drums used for trash and paint buckets outside of the automotive maintenance building



View of 1671 South Magnolia facing northwest

SITE PHOTOGRAPHS



View of 1671 South Magnolia facing west



View of 1671 South Magnolia Auto testing garage

SITE PHOTOGRAPHS



View inside the 1671 South Magnolia Auto testing garage



Storage cabinet containing small containers of oil, transmission fluid, and antifreeze inside the auto testing garage

SITE PHOTOGRAPHS



View of Anderson Woodworks at 1641 South Magnolia facing north



Area for photographing automobiles at 1671 South Magnolia

SITE PHOTOGRAPHS



Car wash area under a canopy east of 1671 South Magnolia Ave



Floor drain in the car wash area of 1671 South Magnolia Avenue

SITE PHOTOGRAPHS



View of the driveway facing southeast toward south Magnolia Avenue



View of Dale Street facing north toward Evergreen Avenue with 404 West Evergreen on the right

SITE PHOTOGRAPHS



Old paint cans in the storage yard of California Theaming, Inc.



The back of California Theaming, Inc. facing east

SITE PHOTOGRAPHS



Sierra Chevrolet storage parking area, formerly a residence located at 418 West Evergreen



A 55-gallon drum with pooled rainwater in the California Theaming, Inc. Storage Yard

SITE PHOTOGRAPHS



Front view of California Theaming, Inc. and storm drain grate



View of California Theaming, Inc. facing southeast on West Evergreen Avenue

SITE PHOTOGRAPHS



Residence located at 340 West Evergreen Avenue

APPENDIX B

TRANSACTION SCREEN QUESTIONNAIRE

TRANSACTION SCREEN QUESTIONNAIRE
FOR PHASE I ENVIRONMENTAL SITE ASSESSMENT

Site: #698-19
1625 -1641 S. Magnolia Ave.
340, 410 & 418 West Evergreen Ave.
1541 Dale Drive
Monrovia, California

Completed By: _____Peter Hoffman_____ Company: Sierra Auto Properties LLC

General Site Questions:

How is storm water handled? For much of the property it flows into the drainage canal that borders the west end of the property. I'm not sure where the eastern properties drain.

Herbicide/Pesticide use (type, quantity, frequency)?: Don't know of any such use

---

Utilities: Septic or Sewer: both

There was a poorly functioning septic tank at the last house on Dale Ave. There was also another septic system and leach field at the other. Both were removed when the houses were demolished.

Water Supply Well or City Water: City

Electricity: SCE

Gas: Southern California Gas Company

Trash / Non-Haz Waste Disposal: Athens Services

Hazardous Waste: _____

Historical Chemical Use and Storage (type, used for, storage locations:

Don't know for California Theaming, Inc.

For 1621 S. Magnolia, new automobile oil storage. Same for 1631 S. Magnolia

The Phase I for our purchase of the property speculated that there may have been an open truck repair operation in the Northwest edge of the property (along the area where Bkrich Construction borders the property), but there were no details.

1a. Did you observe evidence or do you have any prior knowledge that the subject property is currently or has been previously used for an industrial use?	Yes XX	No	Unknown
1b. Did you observe evidence or do you have any prior knowledge that any adjoining properties is currently or has been previously used for an industrial use?	Yes XX	No	Unknown
2a. Did you observe evidence or do you have any knowledge that the subject property is currently or has previously been used for any of the following (circle all that apply): • gasoline station • motor repair facility Currently new car get ready (see also the note under historical chemical use) • dry cleaners • photo developing laboratory • junkyard or landfill • waste treatment, storage, disposal, processing or recycling facility	Yes XX	No	Unknown
2b. Did you observe evidence or do you have any knowledge that any adjoining property is currently or has previously been used for any of the following (circle all that apply): • gasoline station • motor repair facility – the possible truck repair facility may have been on the Bkrich property) • dry cleaners • photo developing laboratory • junkyard or landfill • waste treatment, storage, disposal, processing or recycling facility (across Magnolia there was a significant clean-up from a gas processing operation)	Yes xx	No	Unknown
3. Did you observe evidence or do you have any knowledge that there are currently or have been previously any damaged or discarded automotive or industrial batteries, pesticides, paints, or other chemicals in individual containers > 5 gallons (19 L) in volume or 50 gallons (190 L) in the aggregate, stored on or used at the subject property? See remarks on #4	YesXX	No	Unknown

below

4. Did you observe evidence or do you have any knowledge that there are currently or have been previously any industrial drums (typically 55 gal) or sacks of chemicals located on the subject property? Yes xx No Unknown

When we acquired the property, California Theaming was storing a number of 55 gal drums on the property adjacent to Brkich and behind the second house to the South. They removed all of that shortly thereafter. Haven't looked at their current storage area immediately south of their building. The Dealership operations currently have oil stored at the facility.

---

5. Did you observe evidence or do you have any prior knowledge that fill dirt has been brought onto the subject property that originated from a contaminated site or is of unknown origin? Yes No xx Unknown

---

6. Did you observe evidence or do you have any prior knowledge that there is currently or has been previously any pits, ponds, or lagoons located on the subject property in connection with waste treatment or waste disposal? Yes No XX Unknown

---

7. Did you observe evidence or do you have any prior knowledge that there is currently or has been previously any stained soil on the subject property? Yes NoXX Unknown

---

8. Did you observe evidence or do you have any prior knowledge that there is currently or has been previously any registered or unregistered storage tanks (above or underground) located on the subject property? Yes No xx Unknown

---

9. Did you observe evidence or do you have any prior knowledge that there is currently or has been previously any vent pipes, fill pipes, or access ways indicating a fill pipe protruding from the ground on Yes No xx Unknown

---

the subject property or adjacent to any structure on the subject property?

10. Is there currently evidence of leaks, spill, or staining by substances other than water, or foul odors, associated with flooring, drains, walls, ceilings, or exposed grounds on the subject property? Yes NoXX Unknown

11. If the subject property is served by a private well or non-public water system, is there evidence or do you have any knowledge that contaminants have been identified in the well or system, or that the well has been designated as contaminated by any government environmental / health agency? Yes NoXX Unknown

12. Do you have any knowledge of environmental liens or government notification relating to past or recurrent violations of environmental laws with respect to the subject property? Yes NoXX Unknown

13. Have you been informed of the current or past existence of hazardous substances or petroleum products with respect to the subject property? YesXX No Unknown

In connection with the current automotive operations and with current and past operations of California Theaming.

14. Do you have any knowledge of any environmental site assessment of the property or facility that indicated the presence of hazardous substances or petroleum products on, or contamination of, the subject property, or recommended further assessment of the subject property? YesXX No Unknown

Only to the extent mentioned in the Phase I and Phase II assessments incident to our purchase of the property, which you have a copy of.

15. Do you know of any past, threatened, or pending lawsuits or administrative proceedings concerning a release or threatened release of any hazardous

substance or petroleum products involving the subject property by any owner or occupant of the property?	Yes	NoXX	Unknown
16. Does the subject property discharge waste water (not including sanitary waste or storm water) onto or adjacent to the property and/or into a storm water system? Don't know what this question means, but much of the rainwater landing on the westerly portion of the property flows into the drainage canal that makes up part of the western border of the property.	Yes	NoXX	Unknown
17. Do you have any prior knowledge that any hazardous substances or petroleum products, unidentified waste materials, tires, automotive or industrial batteries, or any other waste materials have been drummed above grade, buried and/or burned on this property?	Yes	NoXX	Unknown
18. Is there a transformer, capacitor, or any hydraulic equipment for which there are any records indicating the presence of PCB's?	Yes	No	UnknownXX

Please provide details relating to any questions answered "yes" in the space provided. Attach additional sheets or informative documents if necessary:

The details have been provided below each question. Essentially all of the "Yes" answers are due to existing automotive operations, which do use oil and transmission fluids and for which we are not aware of any spills, and the operations of California Theaming, Inc. which does fiberglass fabrication, painting and other manufacturing operations in connection with its business of creating backdrops and sets for theme parks, like Disneyland. We don't have much information about their operation and are not aware of any issues (like spills or enforcement actions). None of the "Yes" answers relate to Vioski Manufacturing, which makes upholstered furniture. That is a manufacturing facility, but I have never seen any paint, glue or 55 gallon drums, so I am not aware of any

relevant activity or issues.

The undersigned represents, that to the best of his knowledge, the above statements and facts are true and correct and, to the best of his knowledge, no material facts have been suppressed or misstated.

Signature of party completing questionnaire	Peter Hoffman	6/20/'17 Date

APPENDIX C

HISTORICAL DATA PROVIDED BY EDR
(Property Tax Map Report, Sanborn Maps Report,
Historical Topo Map Report, Aerial Photo Decade Package,
City Directory Report, and Environmental Liens and AUL Report)

Alexan Monrovia
1625 S. Magnolia Avenue
Monrovia, CA 91016

Inquiry Number: 4958658.6
June 14, 2017

The EDR Property Tax Map Report

EDR® Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Property Tax Map Report

Environmental Data Resources, Inc.'s EDR Property Tax Map Report is designed to assist environmental professionals in evaluating potential environmental conditions on a target property by understanding property boundaries and other characteristics. The report includes a search of available property tax maps, which include information on boundaries for the target property and neighboring properties, addresses, parcel identification numbers, as well as other data typically used in property location and identification.

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

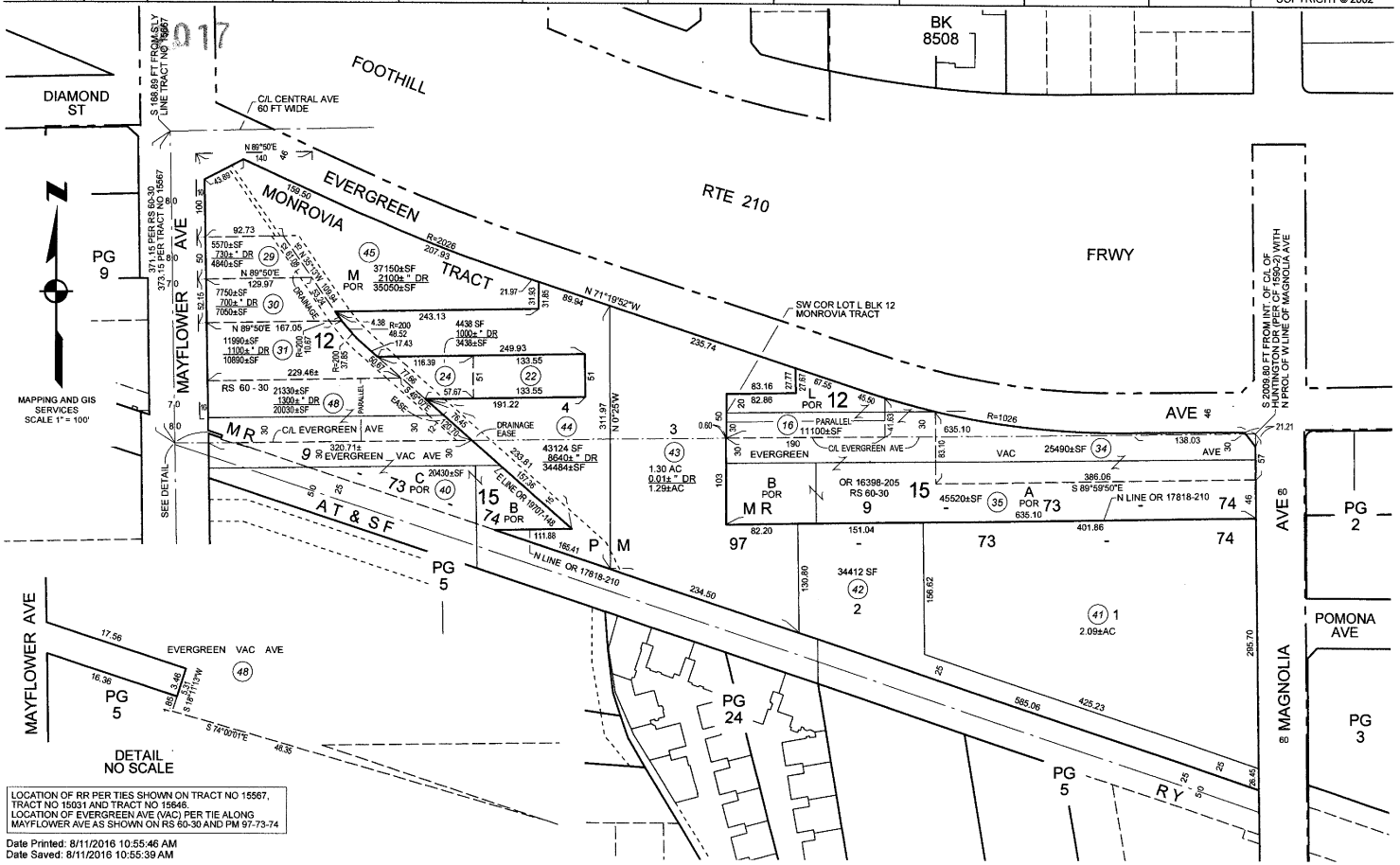
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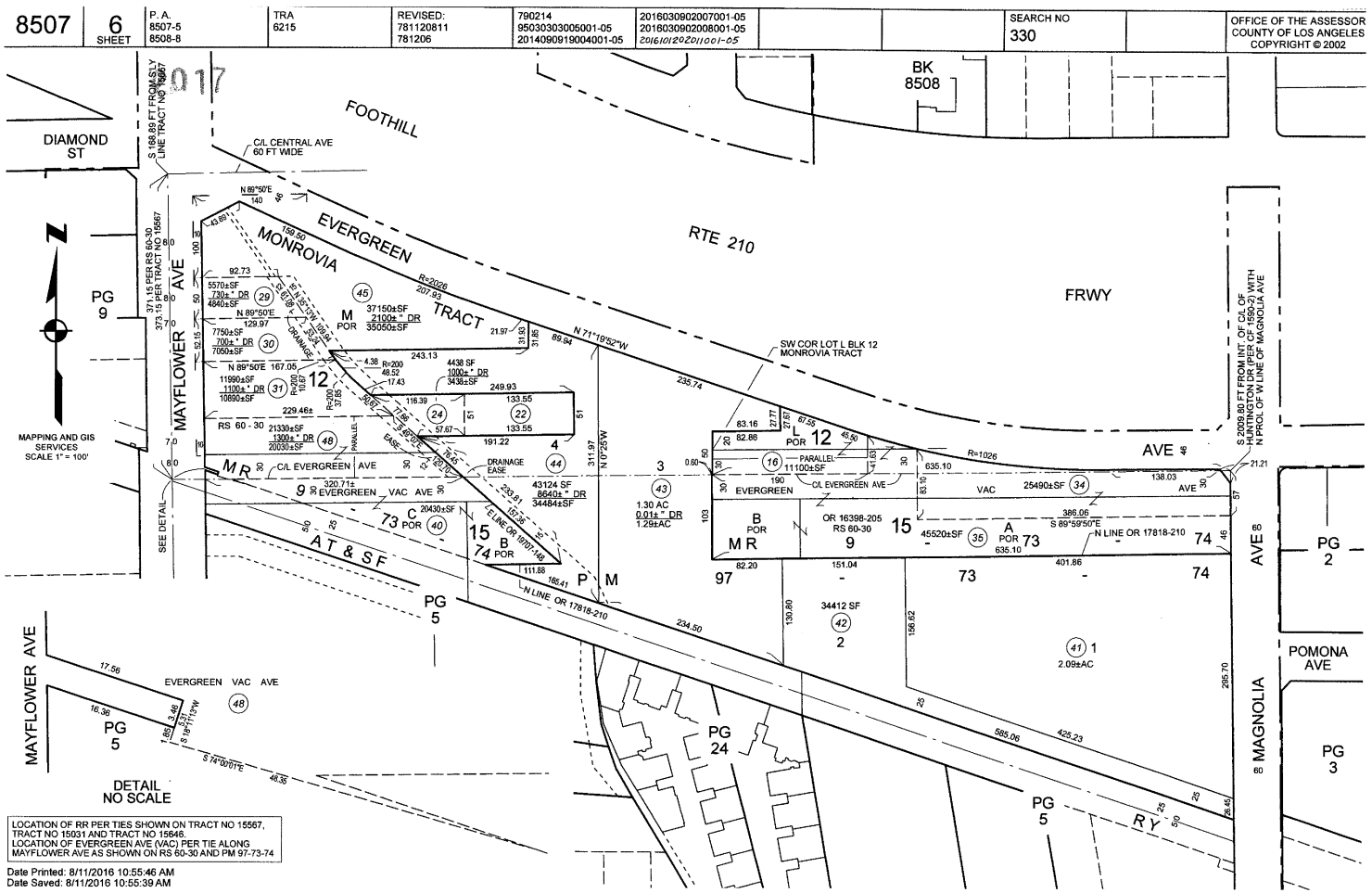
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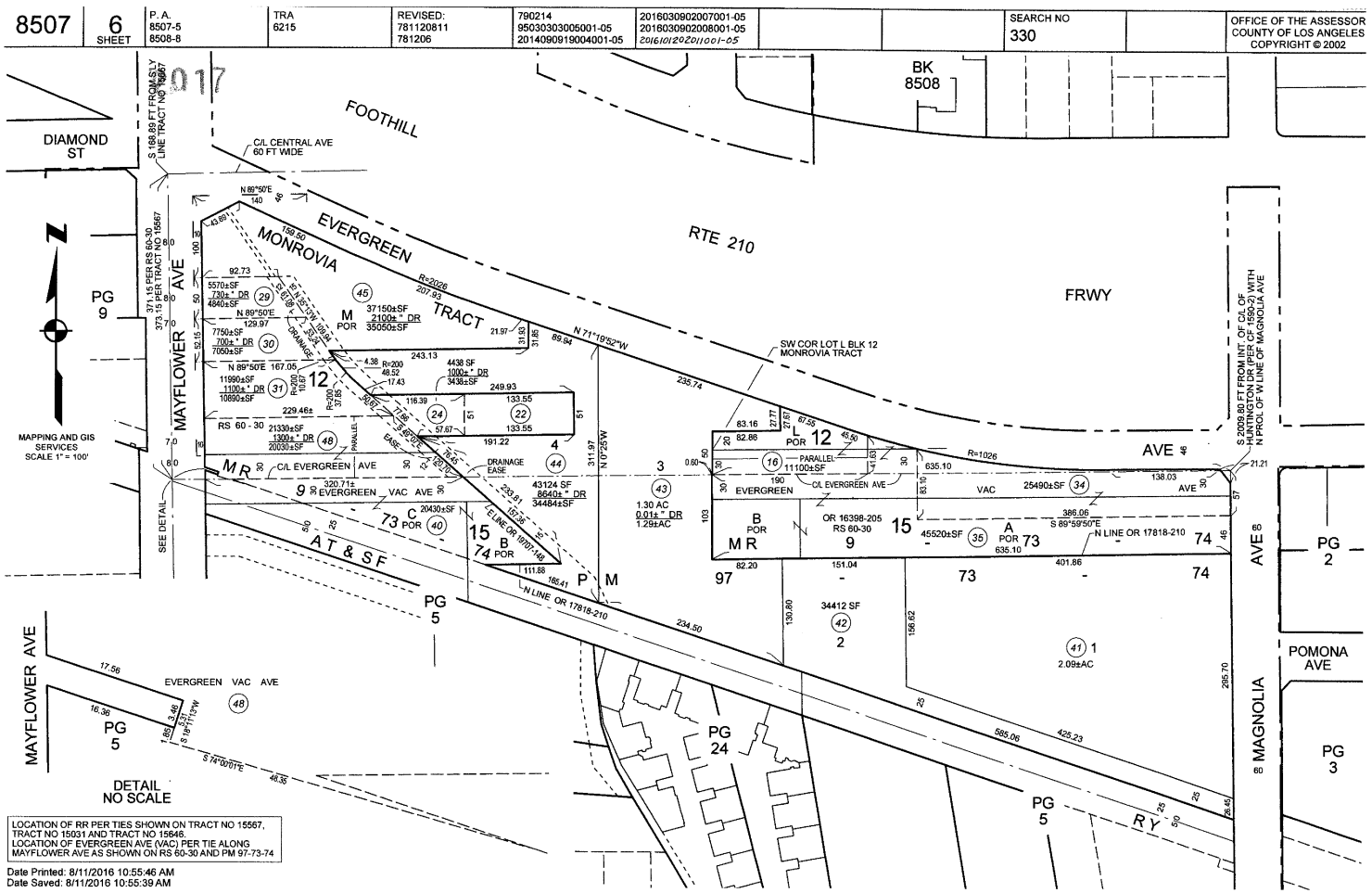
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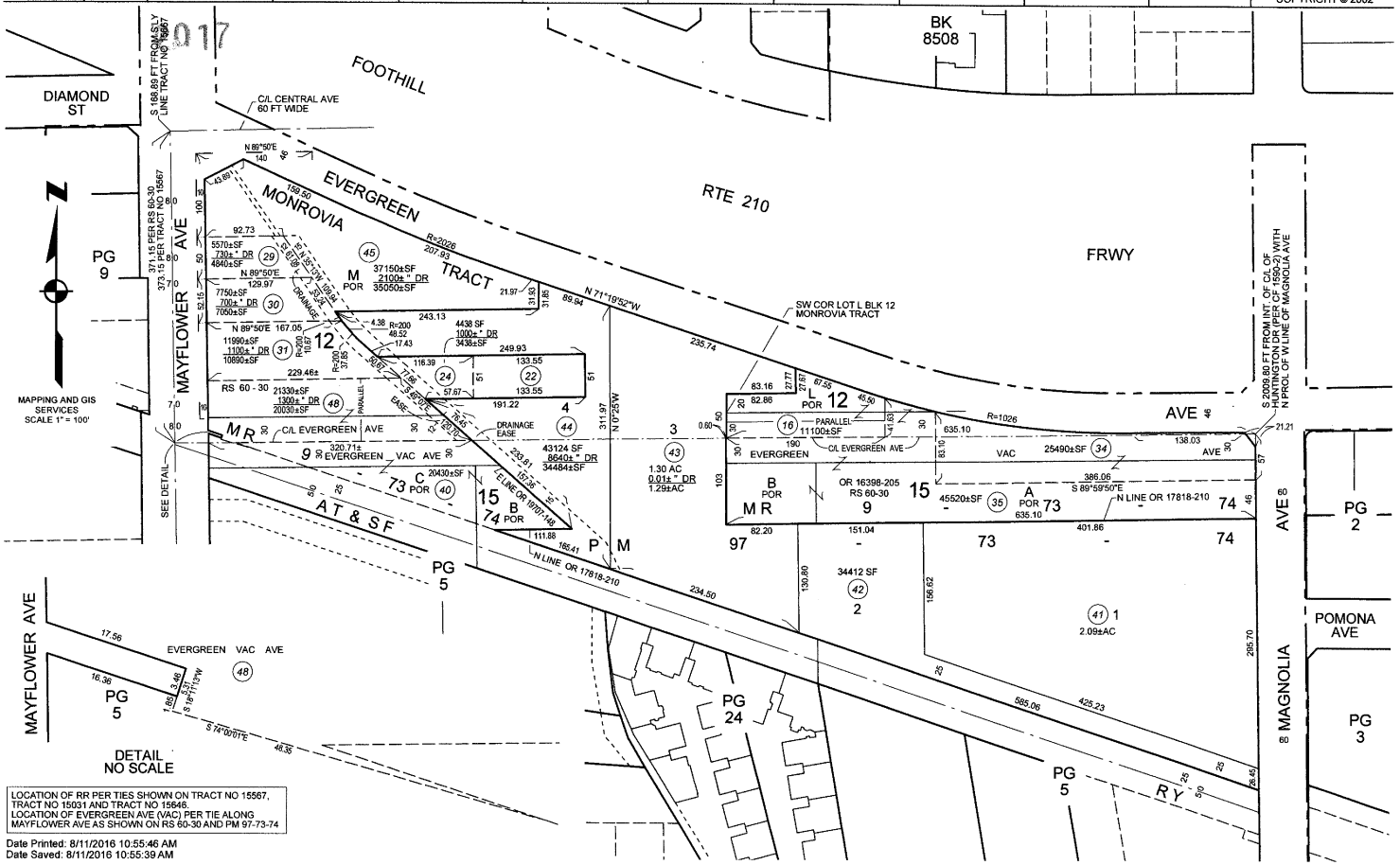
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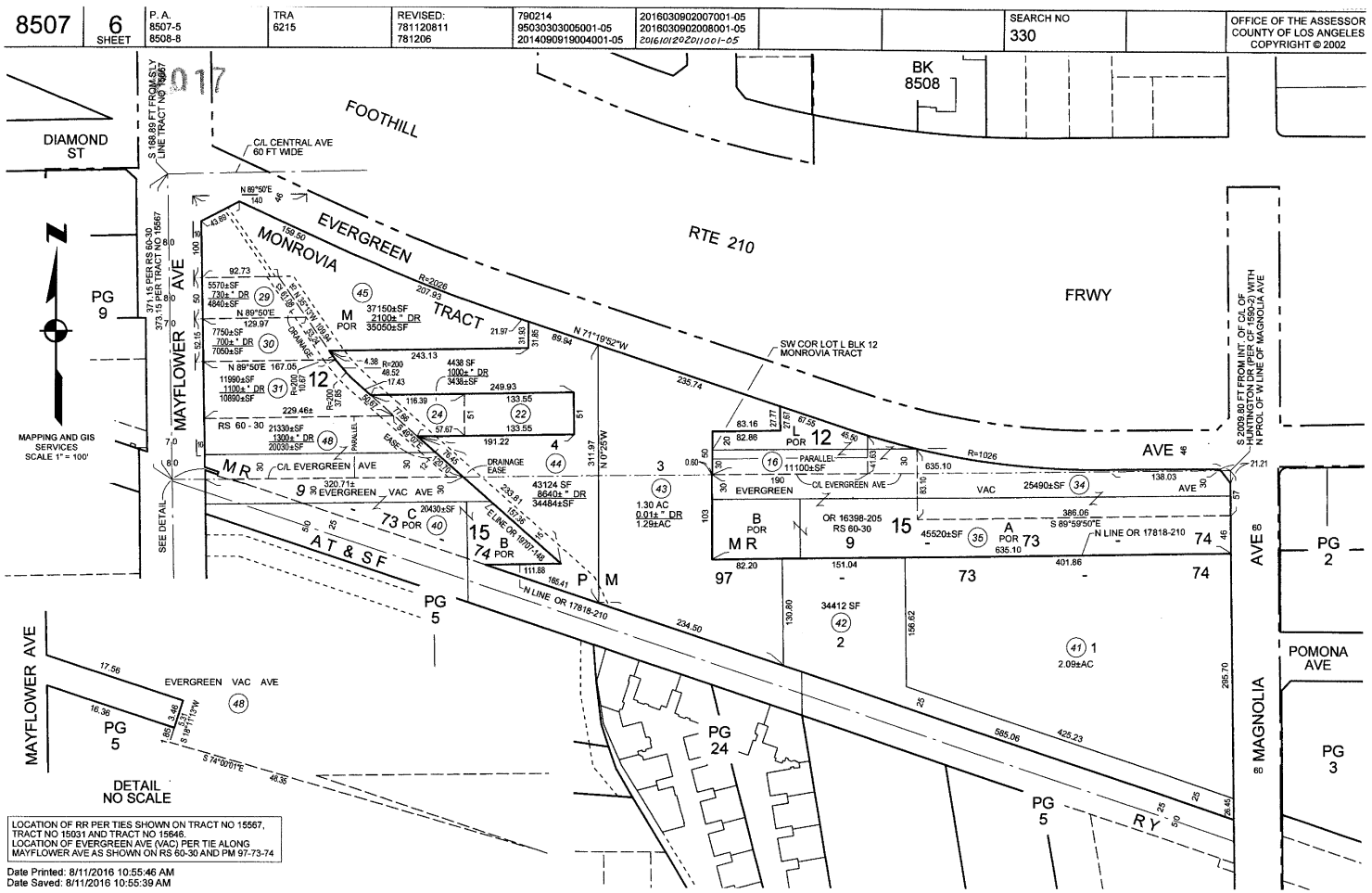



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BK
8508
FOOTHILL
DIAMOND ST
C/L CENTRAL AVE
60 FT WIDE
EVERGREEN
MONROVIA TRACT
RTE 210
FRWY
MAYFLOWER AVE
MAPPING AND GIS SERVICES
SCALE 1" = 100'
SEE DETAIL
C/L EVERGREEN AVE
EVERGREEN VAC AVE
SW COR LOT L BLK 12
MONROVIA TRACT
AT & SF
MAGNOLIA AVE
POMONA AVE
PG 9
PG 5
PG 24
PG 2
PG 3
DETAIL
NO SCALE
LOCATION OF RR PER TIES SHOWN ON TRACT NO 15567, TRACT NO 15931 AND TRACT NO 15646.
LOCATION OF EVERGREEN AVE (VAC) PER TIE ALONG MAYFLOWER AVE AS SHOWN ON RS 60-30 AND PM 97-73-74
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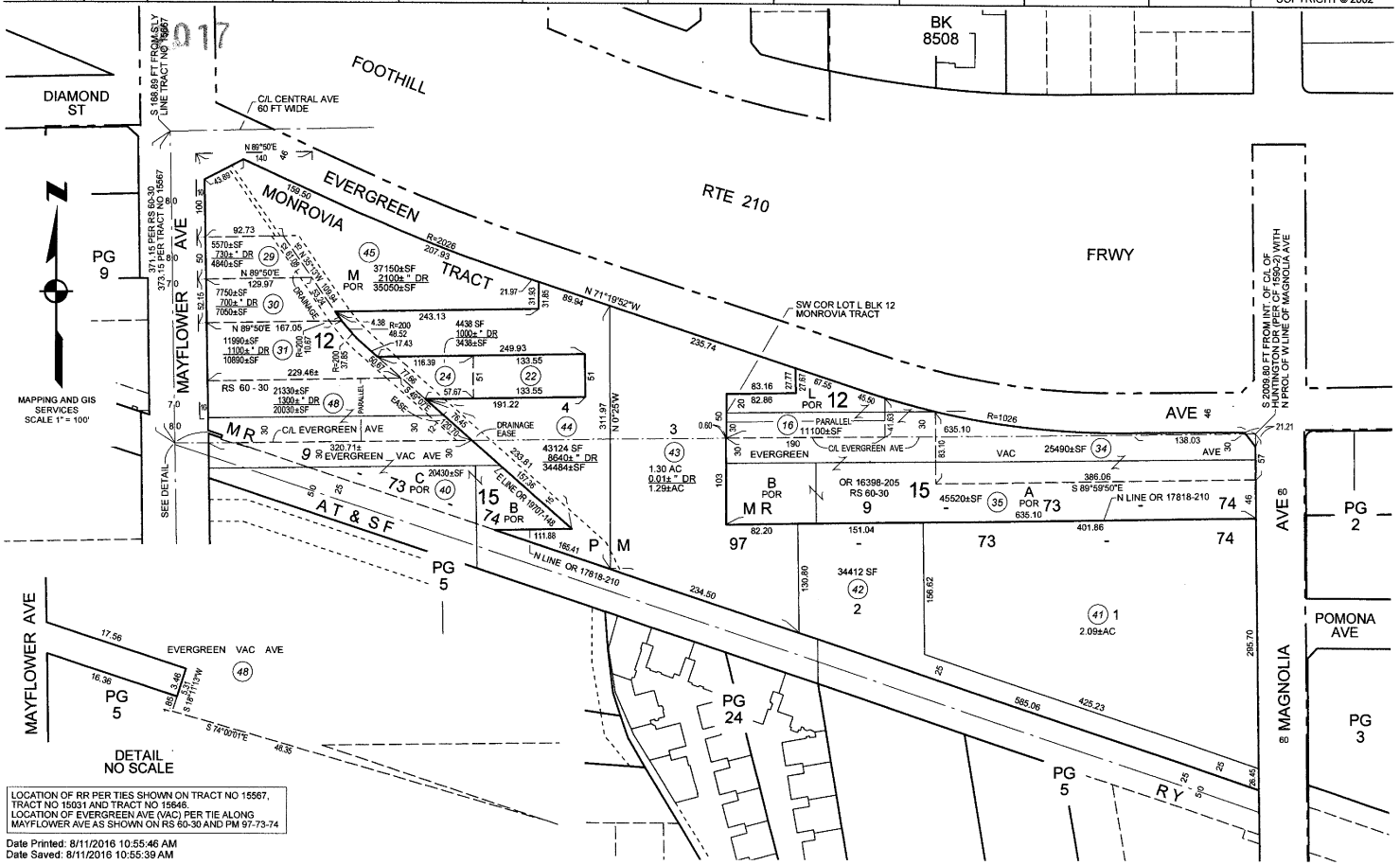

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FOOTHILL
DIAMOND ST
C/L CENTRAL AVE
60 FT WIDE
EVERGREEN
MONROVIA
TRACT
RTE 210
FRWY
MAYFLOWER AVE
MAPPING AND GIS SERVICES
SCALE 1" = 100'
SEE DETAIL
C/L EVERGREEN AVE
EVERGREEN VAC AVE
SW COR LOT L BLK 12
MONROVIA TRACT
AVE 46
MAGNOLIA AVE
POMONA AVE
A T & S F
PG 9
PG 5
PG 24
PG 2
PG 3
DETAIL
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LOCATION OF RR PER TIES SHOWN ON TRACT NO 15567, TRACT NO 15931 AND TRACT NO 15646.
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Alexan Monrovia
1625 S. Magnolia Avenue
Monrovia, CA 91016

Inquiry Number: 4958658.3
June 06, 2017

Certified Sanborn® Map Report

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

Certified Sanborn® Map Report

06/06/17

Site Name:

Alexan Monrovia
1625 S. Magnolia Avenue
Monrovia, CA 91016
EDR Inquiry # 4958658.3

Client Name:

Frey Environmental
2817-A Lafayette Avenue
Newport Beach, CA 92647
Contact: Ed Rands

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The Sanborn Library is continually enhanced with newly identified map archives. This report accesses all maps in the collection as of the day this report was generated.

Certified Sanborn Results:

Certification # E0F1-488F-A7ED

PO # 698-19

Project Alexan Monrovia

UNMAPPED PROPERTY

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Sanborn® Library search results

Certification #: E0F1-488F-A7ED

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- ☑ Library of Congress
- ☑ University Publications of America
- ☑ EDR Private Collection

The Sanborn Library LLC Since 1866™

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Alexan Monrovia
1625 S. Magnolia Avenue
Monrovia, CA 91016

Inquiry Number: 4958658.4
June 06, 2017

EDR Historical Topo Map Report

with QuadMatch™

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Historical Topo Map Report

06/06/17

Site Name:

Alexan Monrovia
1625 S. Magnolia Avenue
Monrovia, CA 91016
EDR Inquiry # 4958658.4

Client Name:

Frey Environmental
2817-A Lafayette Avenue
Newport Beach, CA 92647
Contact: Ed Rands

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Search Results:

P.O.# 698-19
Project: Alexan Monrovia

Coordinates:

Latitude:	34.134246 34° 8' 3" North
Longitude:	-118.005792 -118° 0' 21" West
UTM Zone:	Zone 11 North
UTM X Meters:	407261.88
UTM Y Meters:	3777497.85
Elevation:	437.53' above sea level

Maps Provided:

2012	1933
1995	1928
1994	1925
1988, 1991	1900, 1904
1972	1898
1966	1896, 1897
1953	1894
1939, 1941	

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Topo Sheet Key

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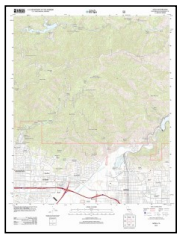
2012 Source Sheets



El Monte
2012
7.5-minute, 24000



Mount Wilson
2012
7.5-minute, 24000



Azusa
2012
7.5-minute, 24000



Baldwin Park
2012
7.5-minute, 24000

1995 Source Sheets



Azusa
1995
7.5-minute, 24000
Aerial Photo Revised 1994



Mount Wilson
1995
7.5-minute, 24000
Aerial Photo Revised 1994

1994 Source Sheets



El Monte
1994
7.5-minute, 24000
Aerial Photo Revised 1978

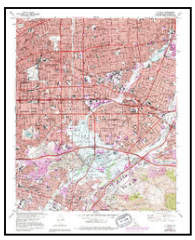


Mt. Wilson
1994
7.5-minute, 24000
Aerial Photo Revised 1986

1988, 1991 Source Sheets



Mt. Wilson
1988
7.5-minute, 24000
Aerial Photo Revised 1986

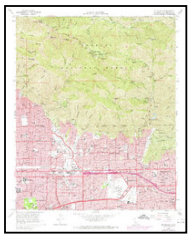


El Monte
1991
7.5-minute, 24000
Aerial Photo Revised 1978

Topo Sheet Key

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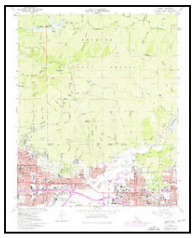
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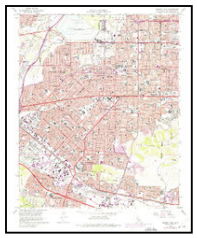
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Aerial Photo Revised 1972



El Monte
1972
7.5-minute, 24000
Aerial Photo Revised 1972

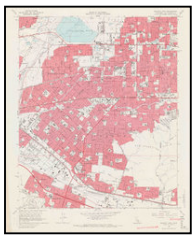


Azusa
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7.5-minute, 24000
Aerial Photo Revised 1972



Baldwin Park
1972
7.5-minute, 24000
Aerial Photo Revised 1972

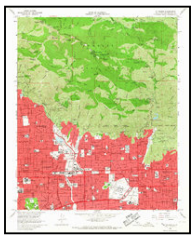
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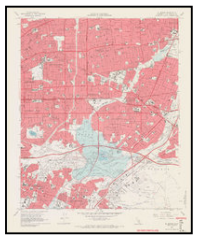
Baldwin Park
1966
7.5-minute, 24000
Aerial Photo Revised 1964



Azusa
1966
7.5-minute, 24000
Aerial Photo Revised 1964



Mt. Wilson
1966
7.5-minute, 24000
Aerial Photo Revised 1964



El Monte
1966
7.5-minute, 24000
Aerial Photo Revised 1964

1953 Source Sheets



Baldwin Park
1953
7.5-minute, 24000
Aerial Photo Revised 1952



Azusa
1953
7.5-minute, 24000
Aerial Photo Revised 1952



Mt. Wilson
1953
7.5-minute, 24000
Aerial Photo Revised 1952



El Monte
1953
7.5-minute, 24000
Aerial Photo Revised 1952

1939, 1941 Source Sheets



Azusa
1939
7.5-minute, 24000



Sierra Madre
1941
7.5-minute, 24000

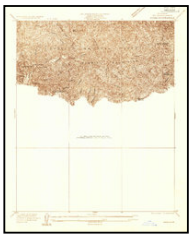
Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1933 Source Sheets



Sierra Madre
1933
7.5-minute, 24000



Azusa
1933
7.5-minute, 24000

1928 Source Sheets



Azusa
1928
7.5-minute, 24000



Sierra Madre
1928
7.5-minute, 24000

1925 Source Sheets

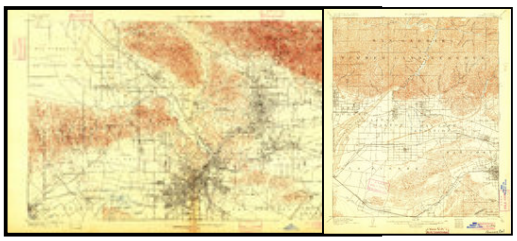


Azusa
1925
7.5-minute, 24000

1900, 1904 Source Sheets



Pasadena
1900
15-minute, 62500



Los Angeles
1900
15-minute, 62500

Pomona
1904
15-minute, 62500

Topo Sheet Key

This EDR Topo Map Report is based upon the following USGS topographic map sheets.

1898 Source Sheets



Pomona
1898
15-minute, 62500

1896, 1897 Source Sheets



Pasadena
1896
15-minute, 62500



Pomona
1897
15-minute, 62500

1894 Source Sheets



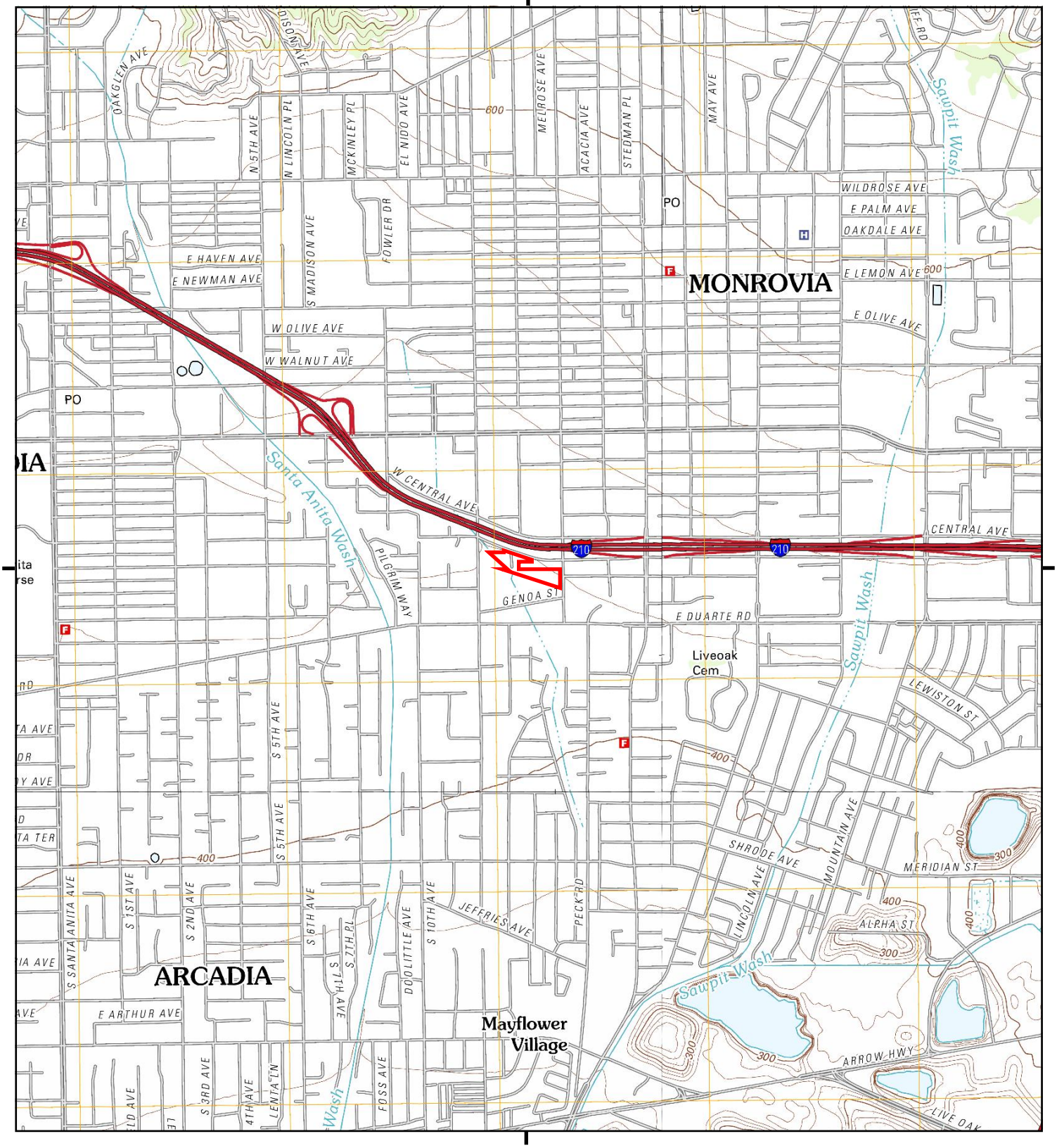
Pomona
1894
15-minute, 62500



Los Angeles
1894
15-minute, 62500

Historical Topo Map

2012



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NW N NE
W E
SW S SE

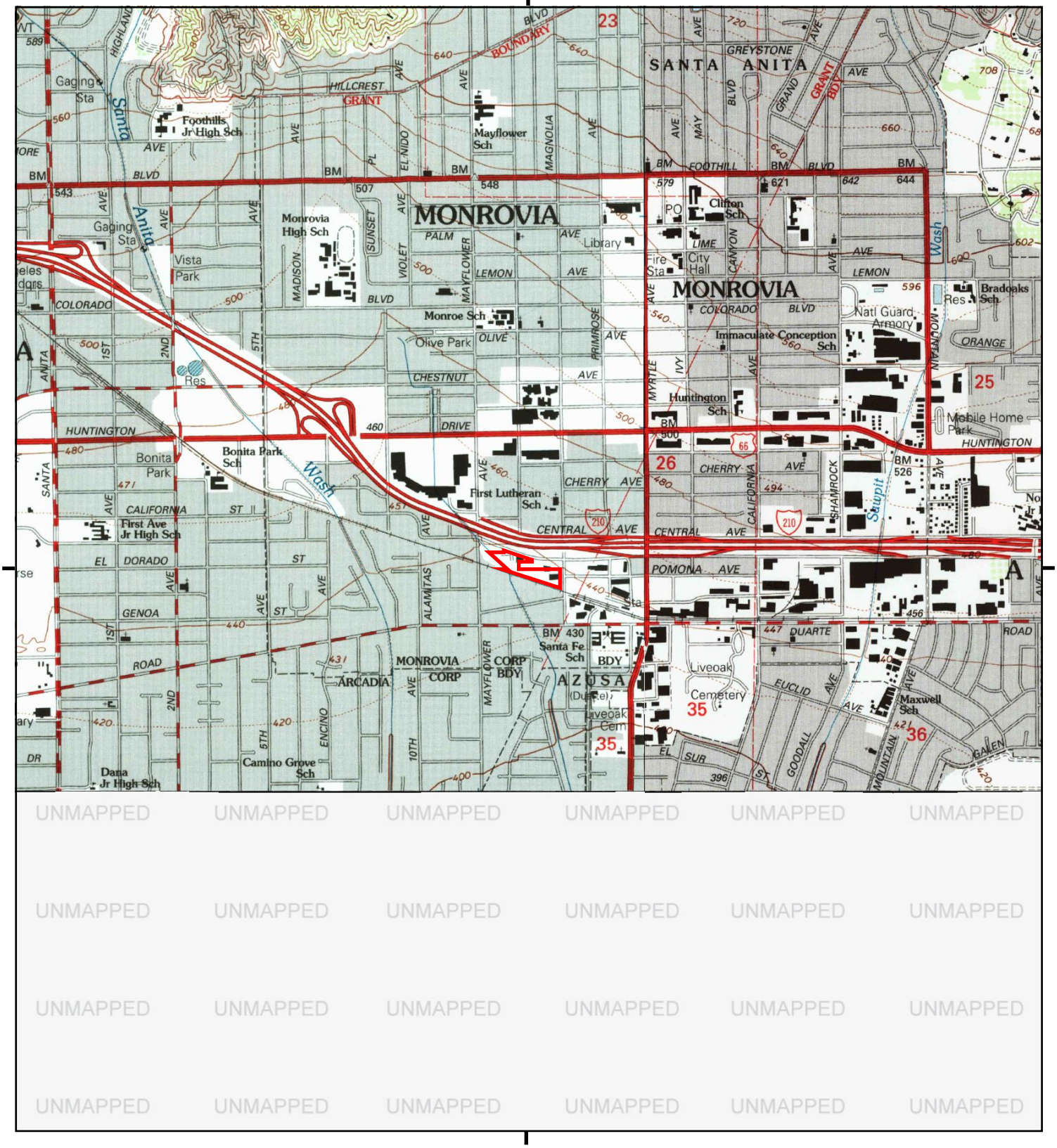
TP, Mount Wilson, 2012, 7.5-minute
NE, Azusa, 2012, 7.5-minute
SE, Baldwin Park, 2012, 7.5-minute
SW, El Monte, 2012, 7.5-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N

Historical Topo Map

1995



UNMAPPED

This report includes information from the following map sheet(s).

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W E
SW S SE

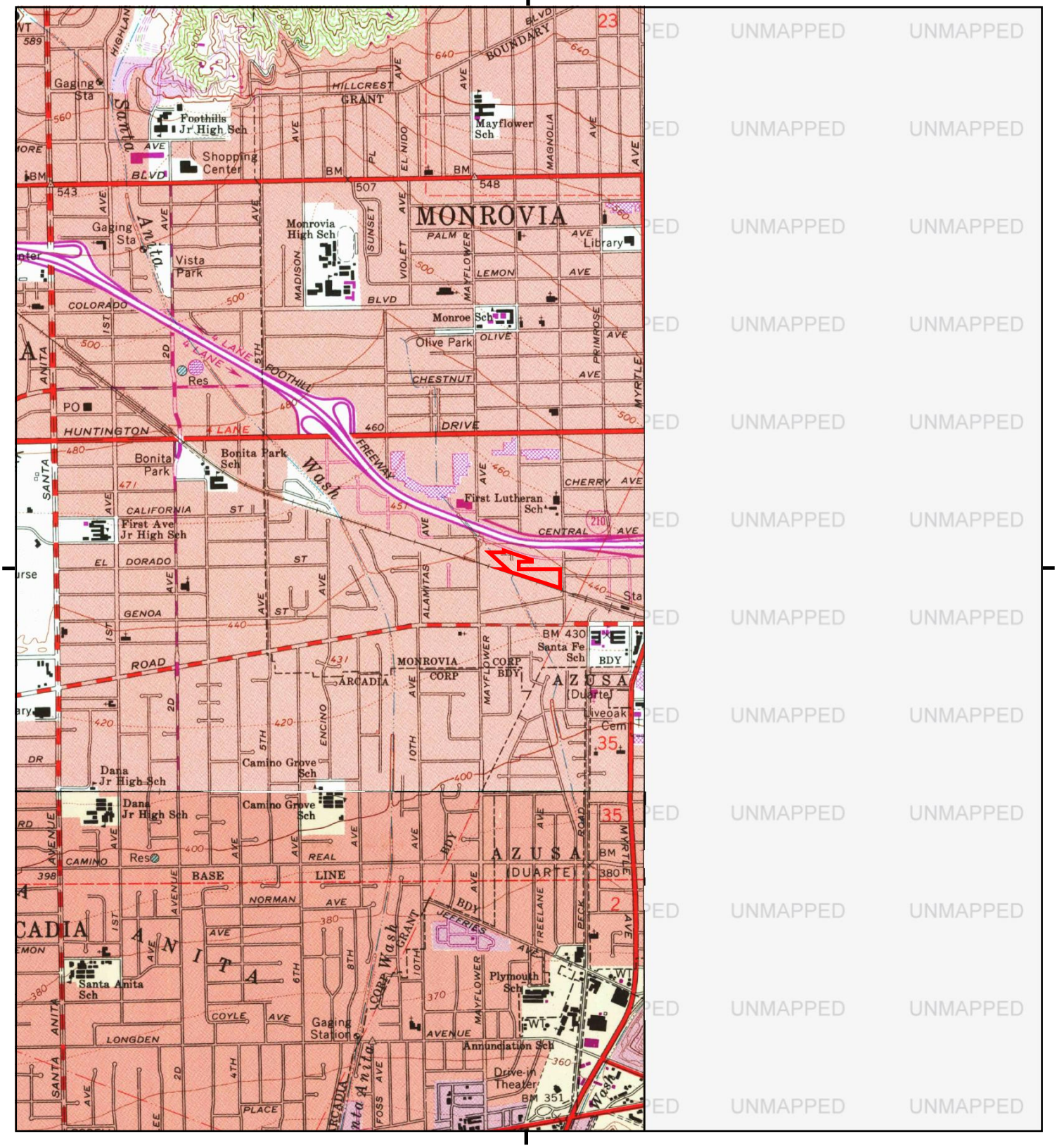
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NE, Azusa, 1995, 7.5-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N

Historical Topo Map

1994



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W E
SW S SE

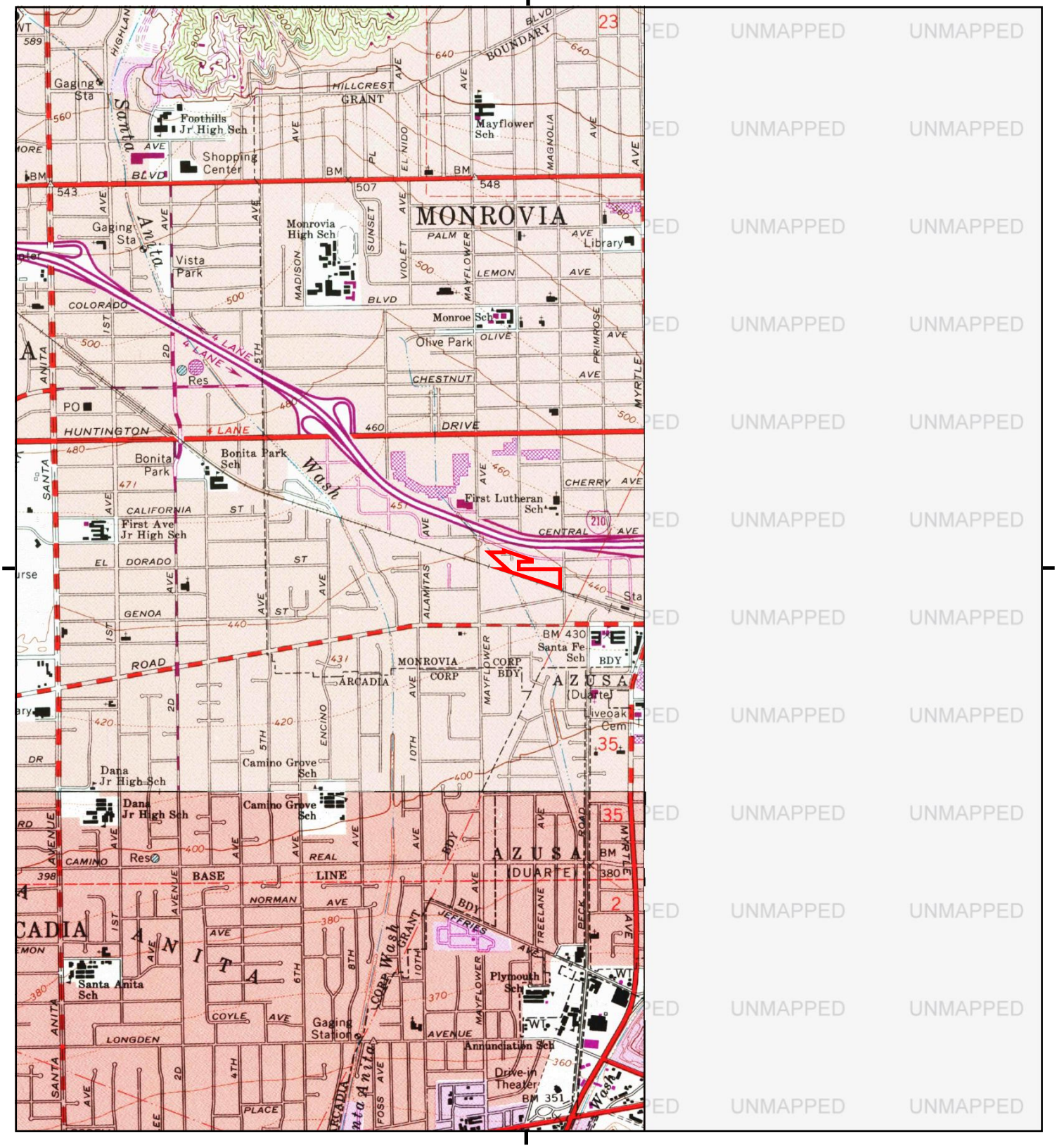
TP, Mt. Wilson, 1994, 7.5-minute
SW, El Monte, 1994, 7.5-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N

Historical Topo Map

1988, 1991



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

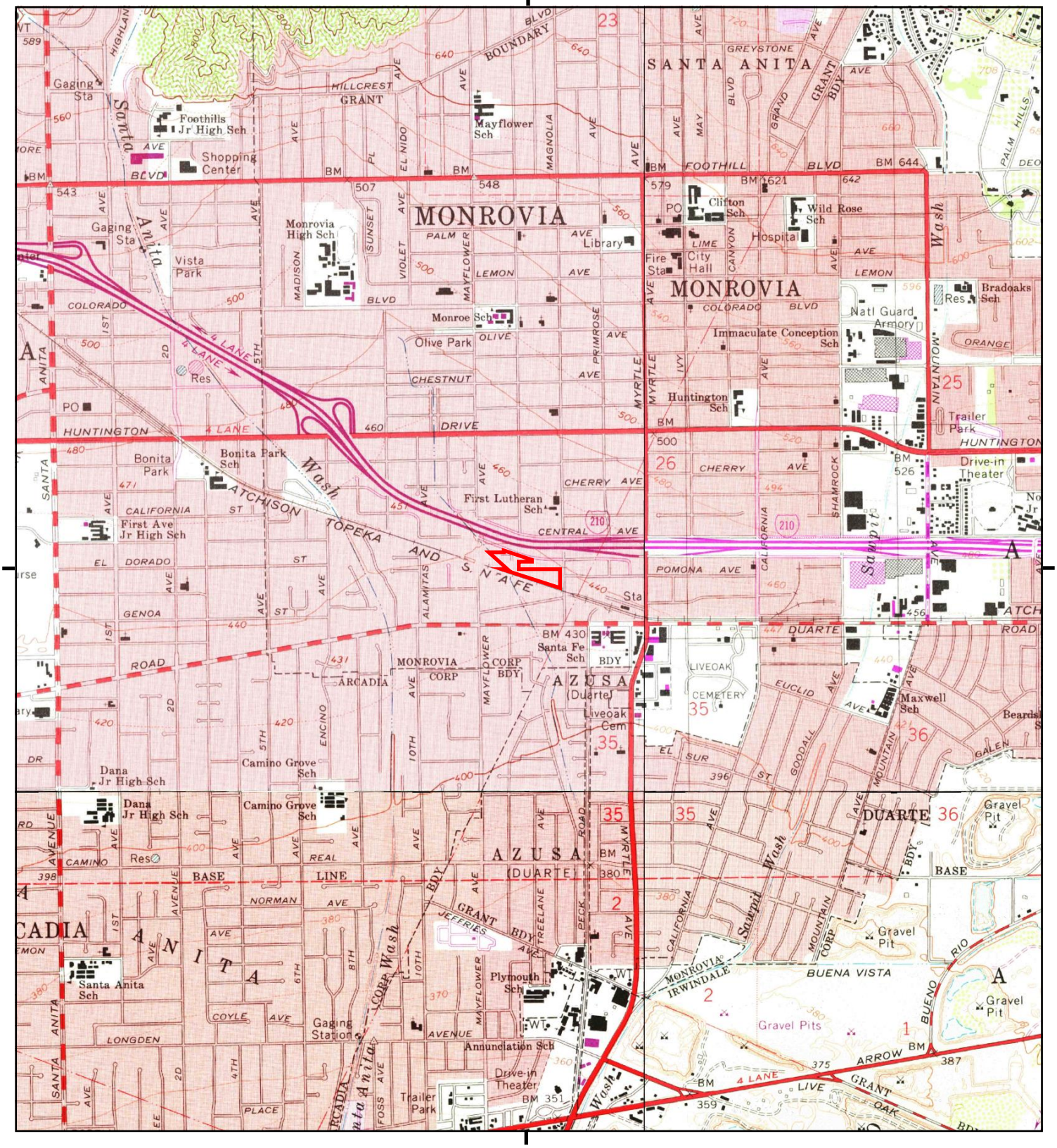
TP, Mt. Wilson, 1988, 7.5-minute
SW, El Monte, 1991, 7.5-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N

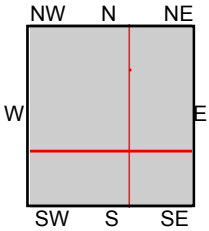
Historical Topo Map

1972



This report includes information from the following map sheet(s).

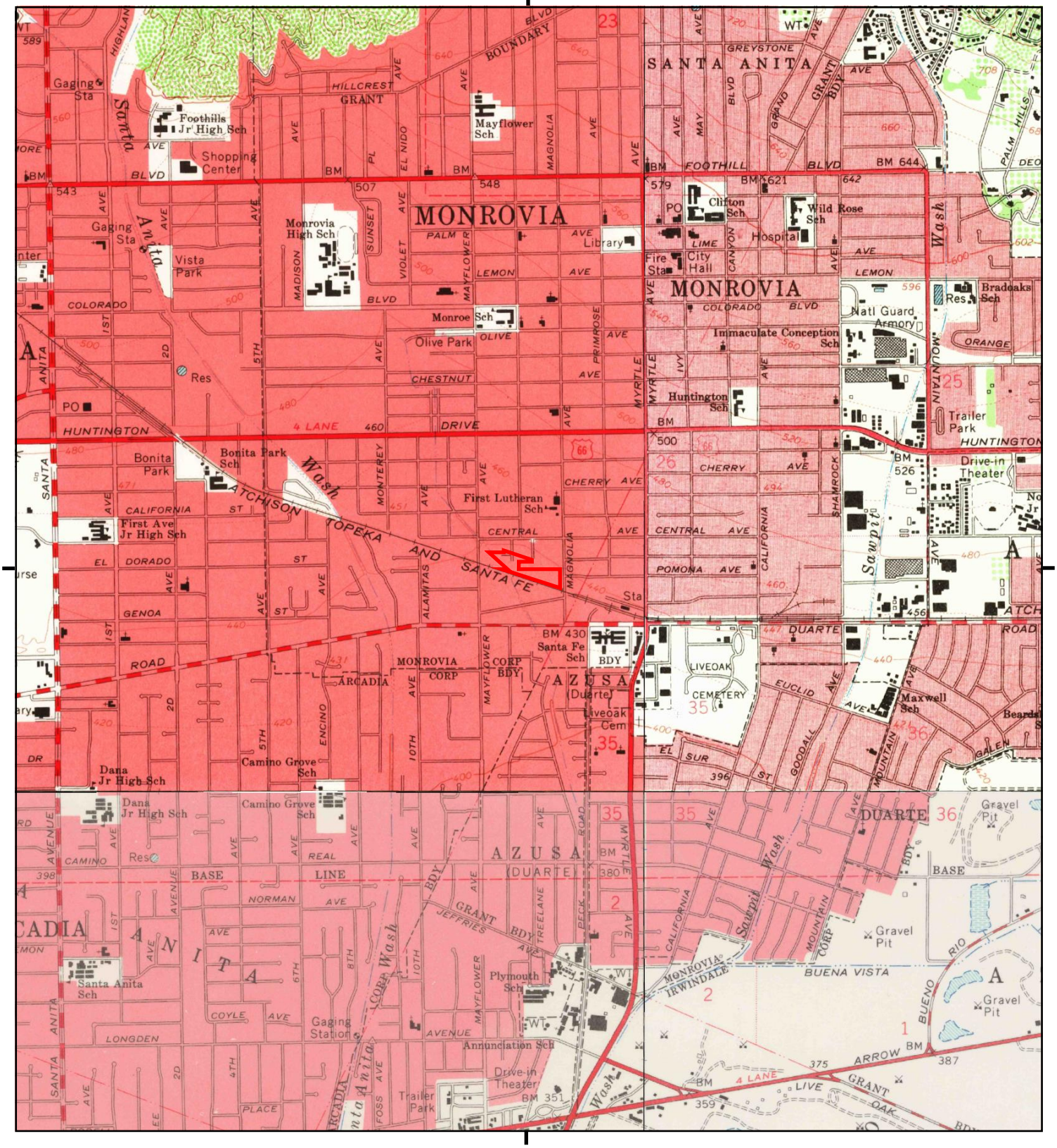
0 Miles 0.25 0.5 1 1.5



TP, Mt. Wilson, 1972, 7.5-minute
NE, Azusa, 1972, 7.5-minute
SE, Baldwin Park, 1972, 7.5-minute
SW, El Monte, 1972, 7.5-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N



This report includes information from the following map sheet(s).

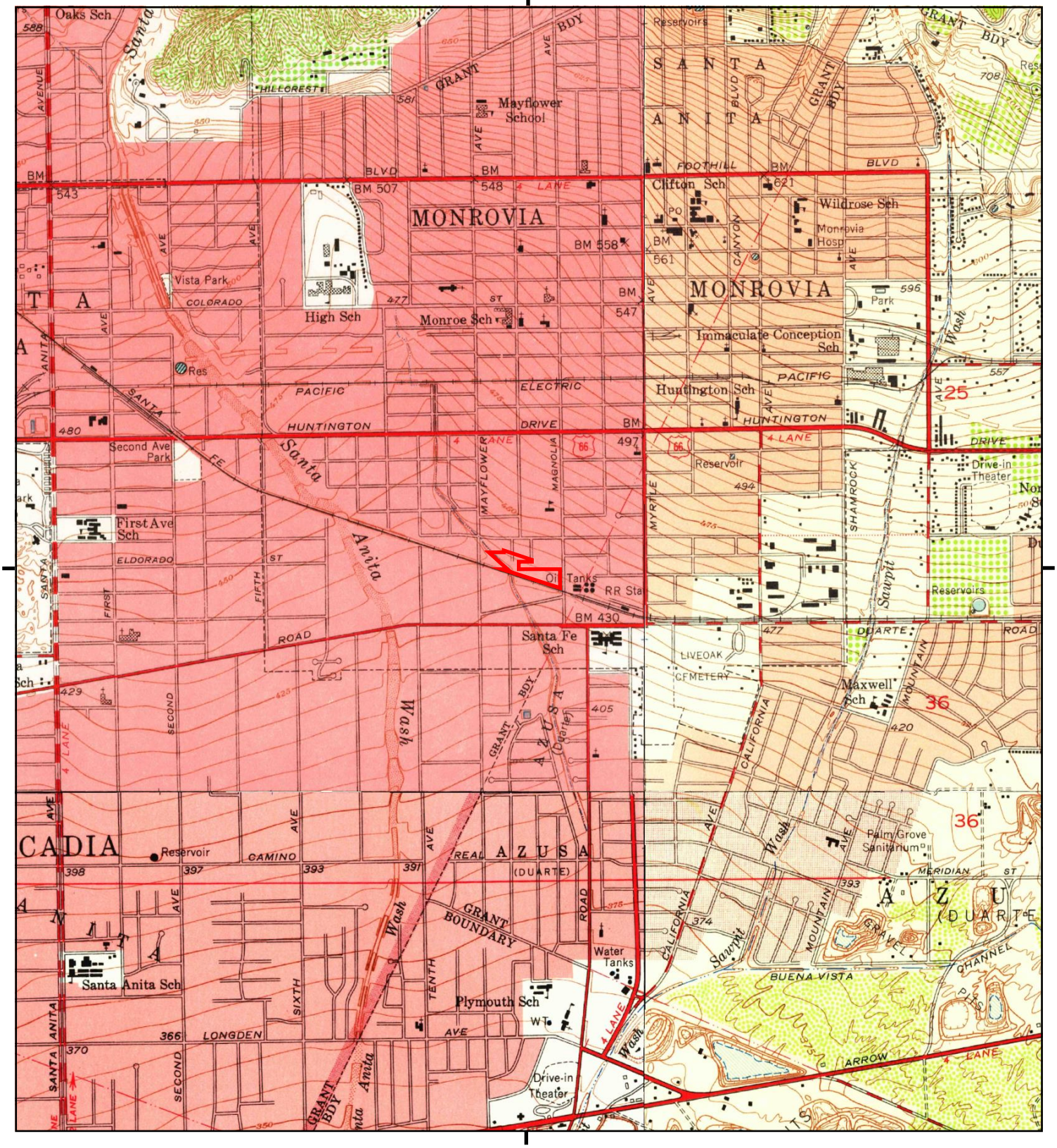
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Mt. Wilson, 1966, 7.5-minute
NE, Azusa, 1966, 7.5-minute
SE, Baldwin Park, 1966, 7.5-minute
SW, El Monte, 1966, 7.5-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

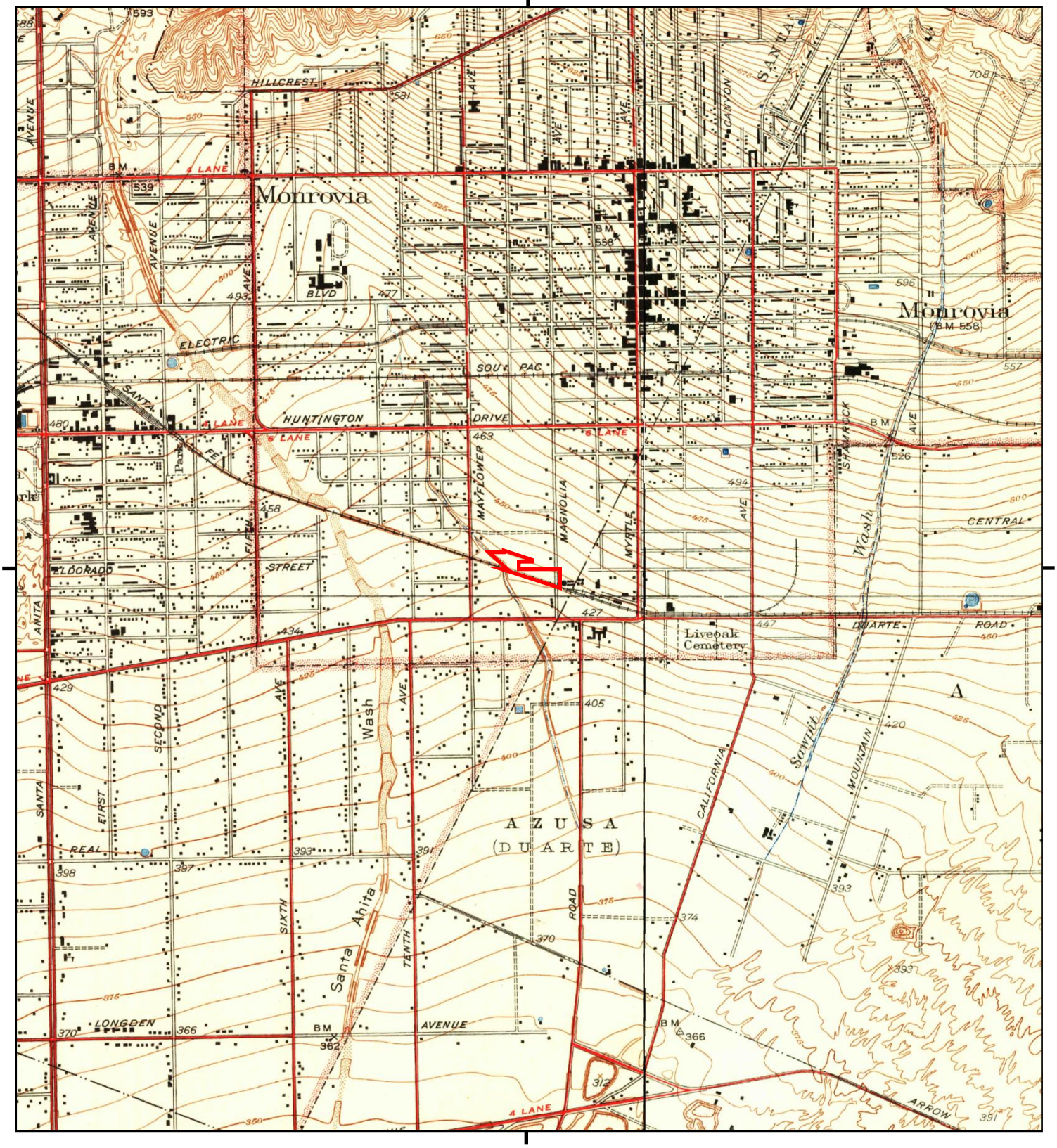
TP, Mt. Wilson, 1953, 7.5-minute
NE, Azusa, 1953, 7.5-minute
SE, Baldwin Park, 1953, 7.5-minute
SW, El Monte, 1953, 7.5-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N

Historical Topo Map

1939, 1941



This report includes information from the following map sheet(s).

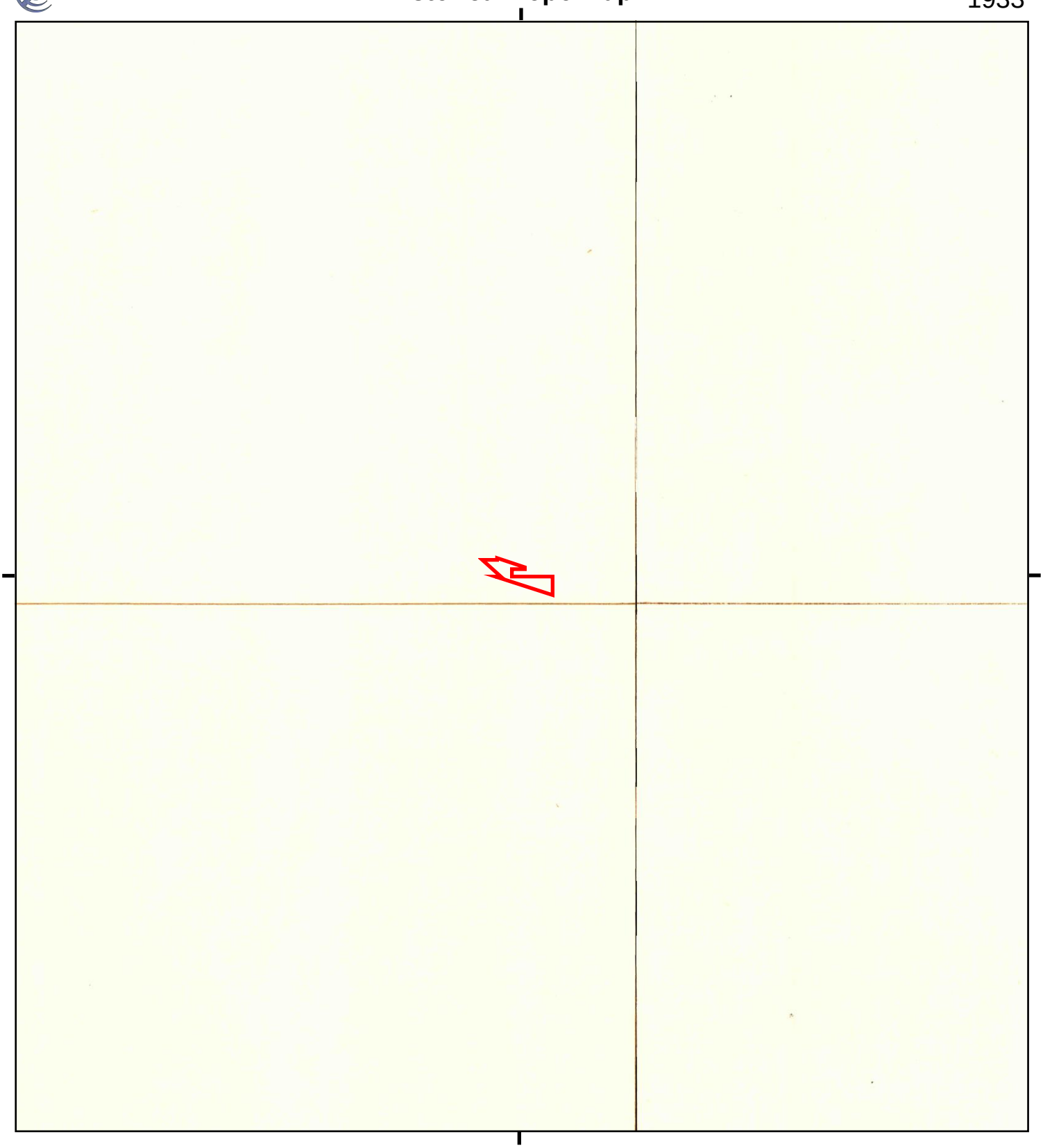
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sierra Madre, 1941, 7.5-minute
E, Azusa, 1939, 7.5-minute

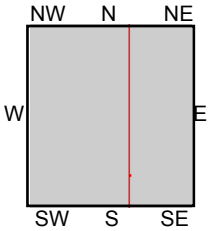
SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N



This report includes information from the following map sheet(s).

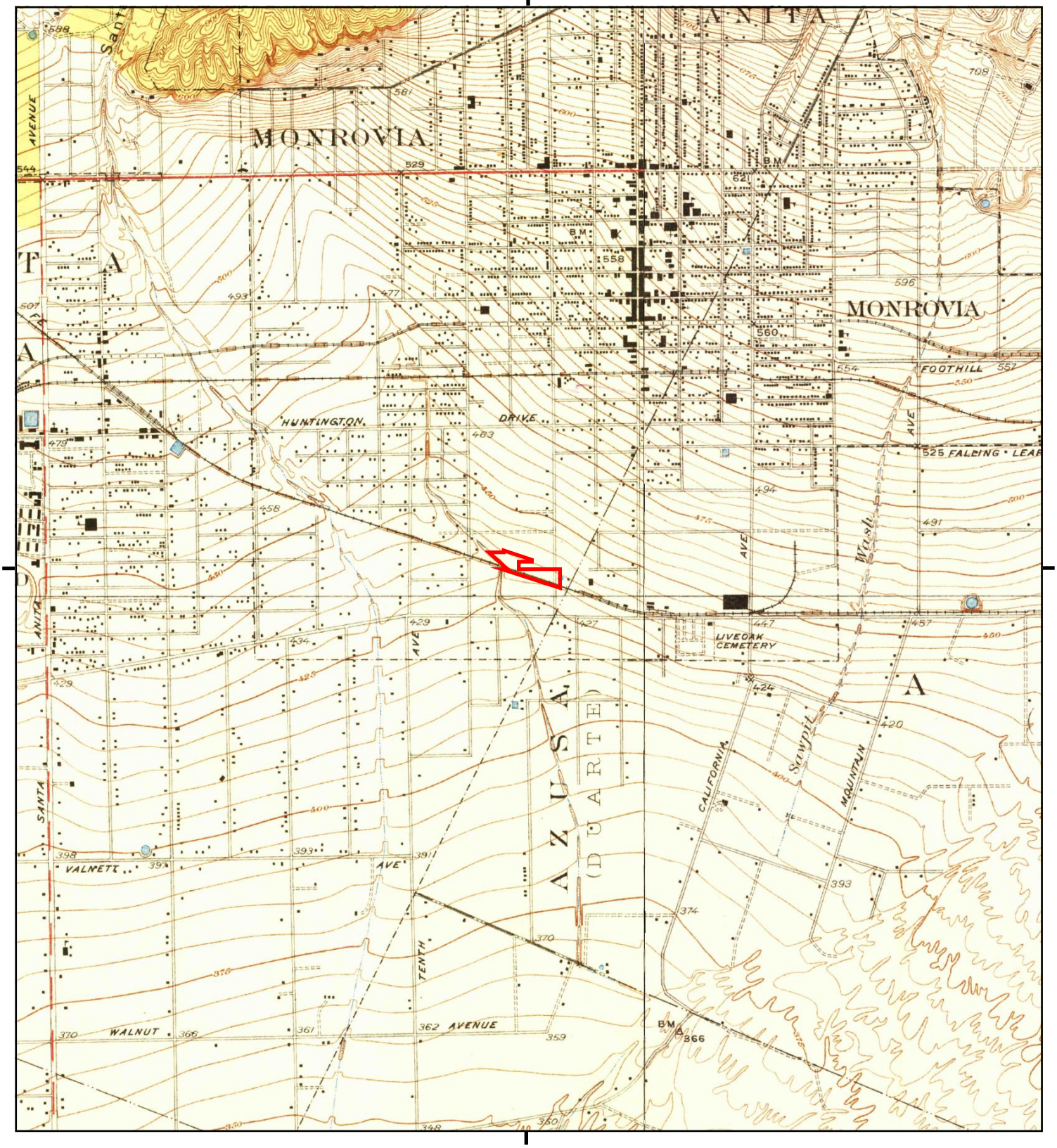
0 Miles 0.25 0.5 1 1.5



TP, Sierra Madre, 1933, 7.5-minute
E, Azusa, 1933, 7.5-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N



This report includes information from the following map sheet(s).

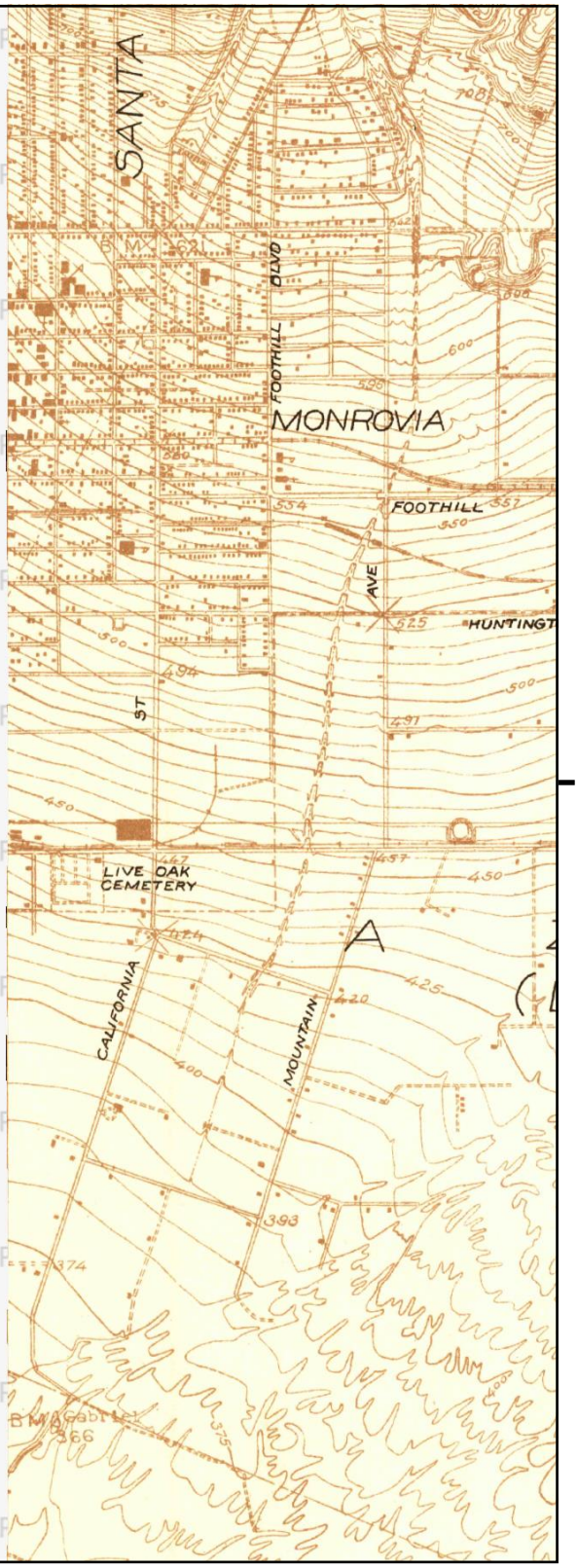
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Sierra Madre, 1928, 7.5-minute
E, Azusa, 1928, 7.5-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N



This report includes information from the following map sheet(s).

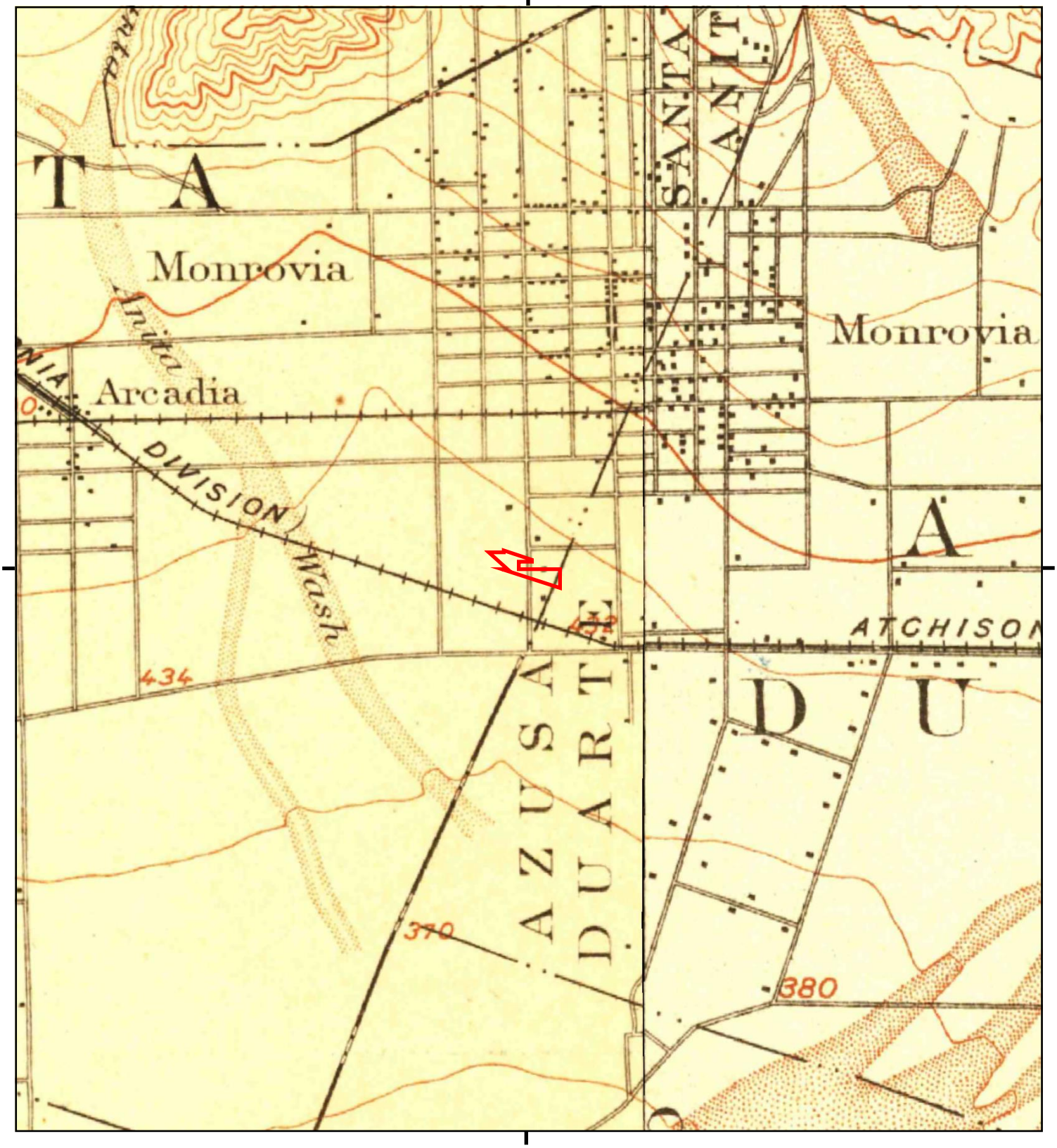
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

E, Azusa, 1925, 7.5-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N



This report includes information from the following map sheet(s).

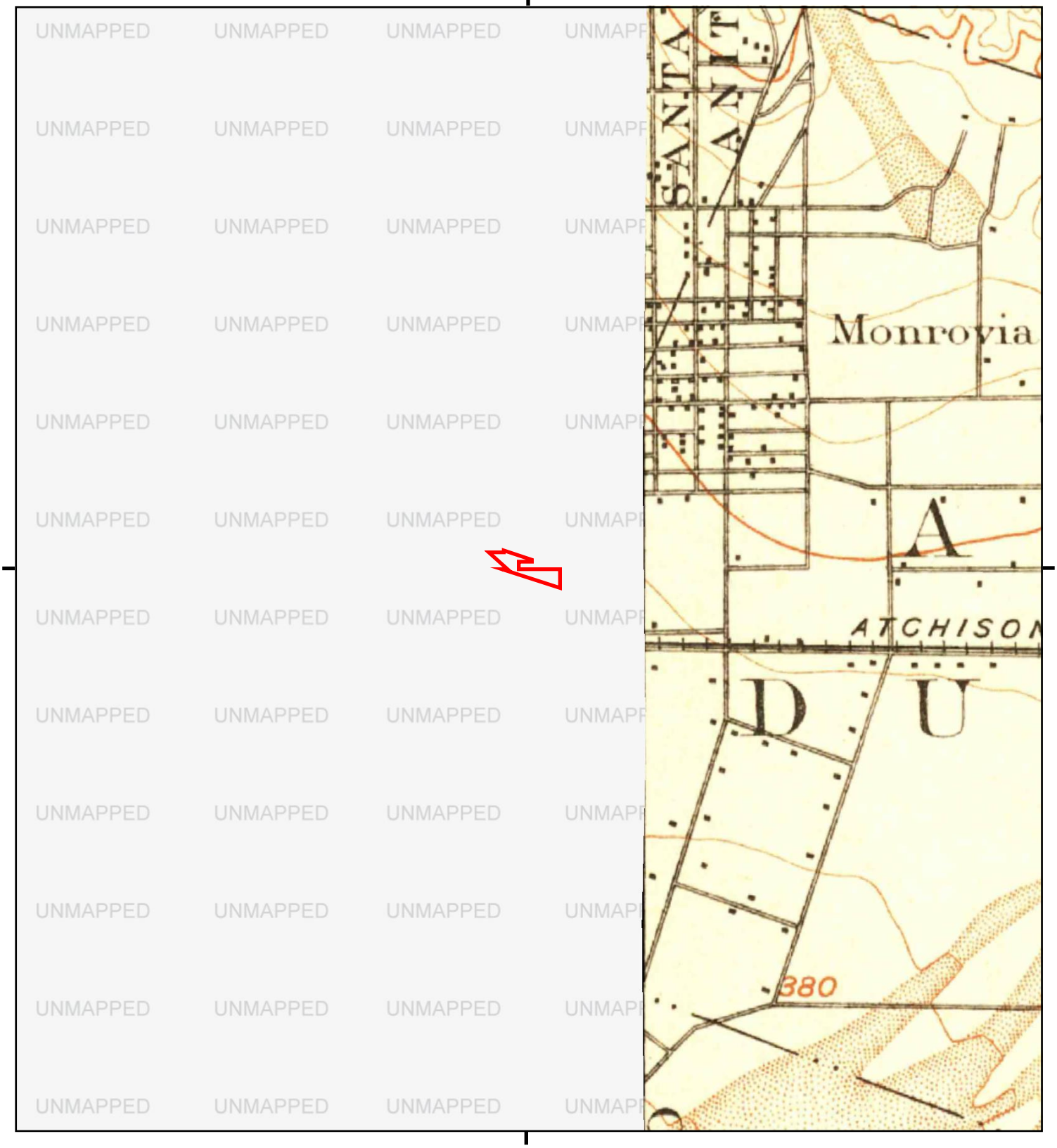
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pasadena, 1900, 15-minute
TP, Los Angeles, 1900, 15-minute
E, Pomona, 1904, 15-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N



This report includes information from the following map sheet(s).

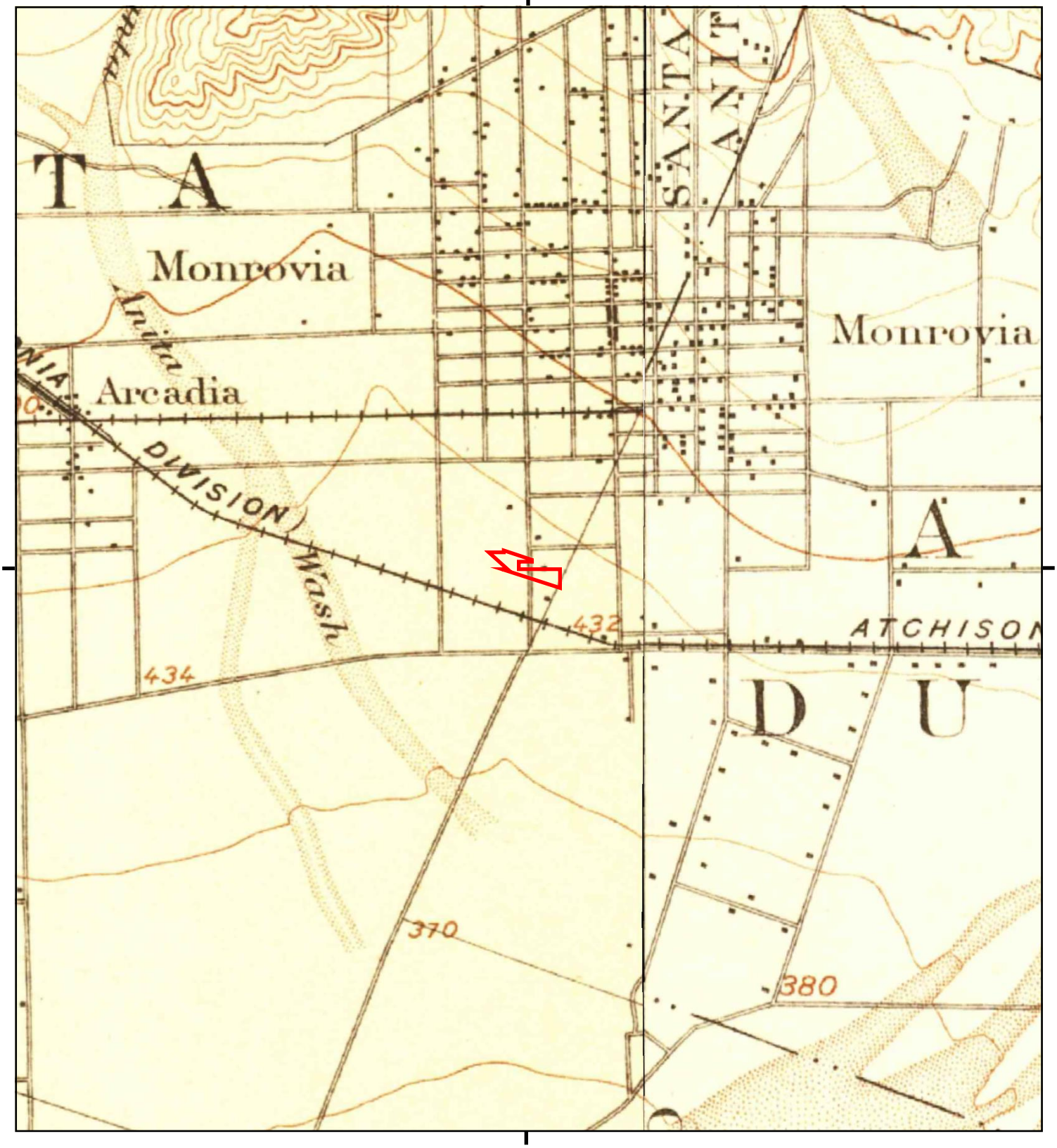
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

E, Pomona, 1898, 15-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N



This report includes information from the following map sheet(s).

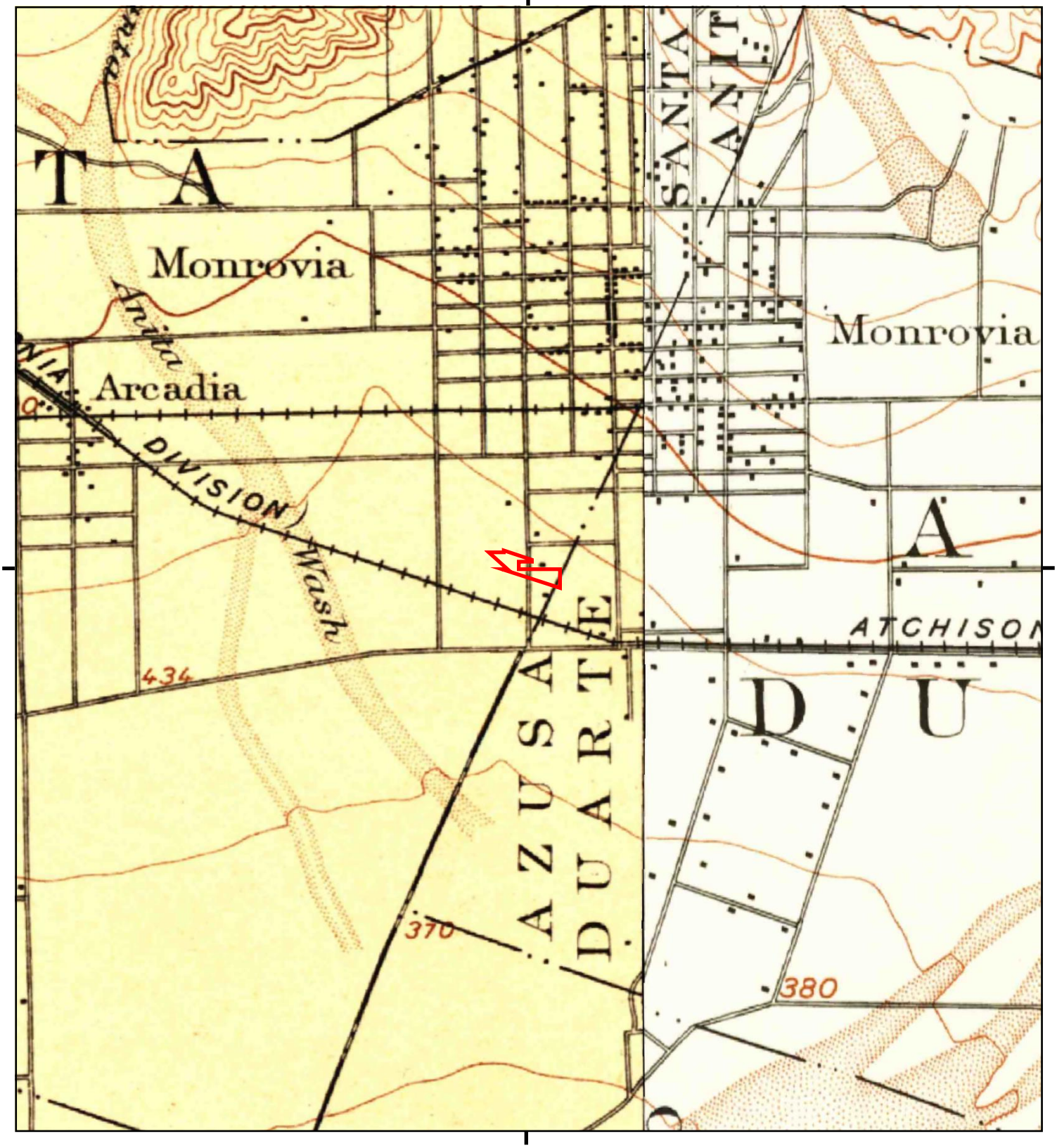
0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Pasadena, 1896, 15-minute
E, Pomona, 1897, 15-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N



This report includes information from the following map sheet(s).

0 Miles 0.25 0.5 1 1.5

NW N NE
W E
SW S SE

TP, Los Angeles, 1894, 15-minute
E, Pomona, 1894, 15-minute

SITE NAME: Alexan Monrovia
ADDRESS: 1625 S. Magnolia Avenue
Monrovia, CA 91016
CLIENT: Frey Environmental

N

Alexan Monrovia
1625 S. Magnolia Avenue
Monrovia, CA 91016

Inquiry Number: 4958658.12
June 07, 2017

The EDR Aerial Photo Decade Package

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

EDR Aerial Photo Decade Package

06/07/17

Site Name:

Alexan Monrovia
1625 S. Magnolia Avenue
Monrovia, CA 91016
EDR Inquiry # 4958658.12

Client Name:

Frey Environmental
2817-A Lafayette Avenue
Newport Beach, CA 92647
Contact: Ed Rands

Environmental Data Resources, Inc. (EDR) Aerial Photo Decade Package is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's professional researchers provide digitally reproduced historical aerial photographs, and when available, provide one photo per decade.

Search Results:

Year	Scale	Details	Source
2012	1"=500'	Flight Year: 2012	USDA/NAIP
2010	1"=500'	Flight Year: 2010	USDA/NAIP
2009	1"=500'	Flight Year: 2009	USDA/NAIP
2005	1"=500'	Flight Year: 2005	USDA/NAIP
2002	1"=500'	Flight Date: June 06, 2002	USDA
1994	1"=500'	Acquisition Date: May 31, 1994	USGS/DOQQ
1990	1"=500'	Flight Date: September 06, 1990	USDA
1989	1"=500'	Flight Date: August 22, 1989	USDA
1981	1"=500'	Flight Date: February 21, 1981	EDR Proprietary Brewster Pacific
1977	1"=500'	Flight Date: April 25, 1977	EDR Proprietary Brewster Pacific
1972	1"=500'	Flight Date: November 18, 1972	EDR Proprietary Brewster Pacific
1964	1"=500'	Flight Date: July 28, 1964	USGS
1952	1"=500'	Flight Date: August 03, 1952	USGS
1938	1"=500'	Flight Date: May 06, 1938	USDA
1928	1"=500'	Flight Date: January 01, 1928	USGS

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INQUIRY #: 4958658.12
YEAR: 2012
= 500'
N
EDR


INQUIRY #: 4958658.12
YEAR: 2010
= 500'
N
EDR


INQUIRY #: 4958658.12
YEAR: 2009
= 500'
N
EDR



INQUIRY #: 4958658.12

YEAR: 2005

= 500'

N

EDR



INQUIRY #: 4958658.12

YEAR: 2002

= 500'

N

EDR



INQUIRY #: 4958658.12

YEAR: 1994

= 500'

N

EDR



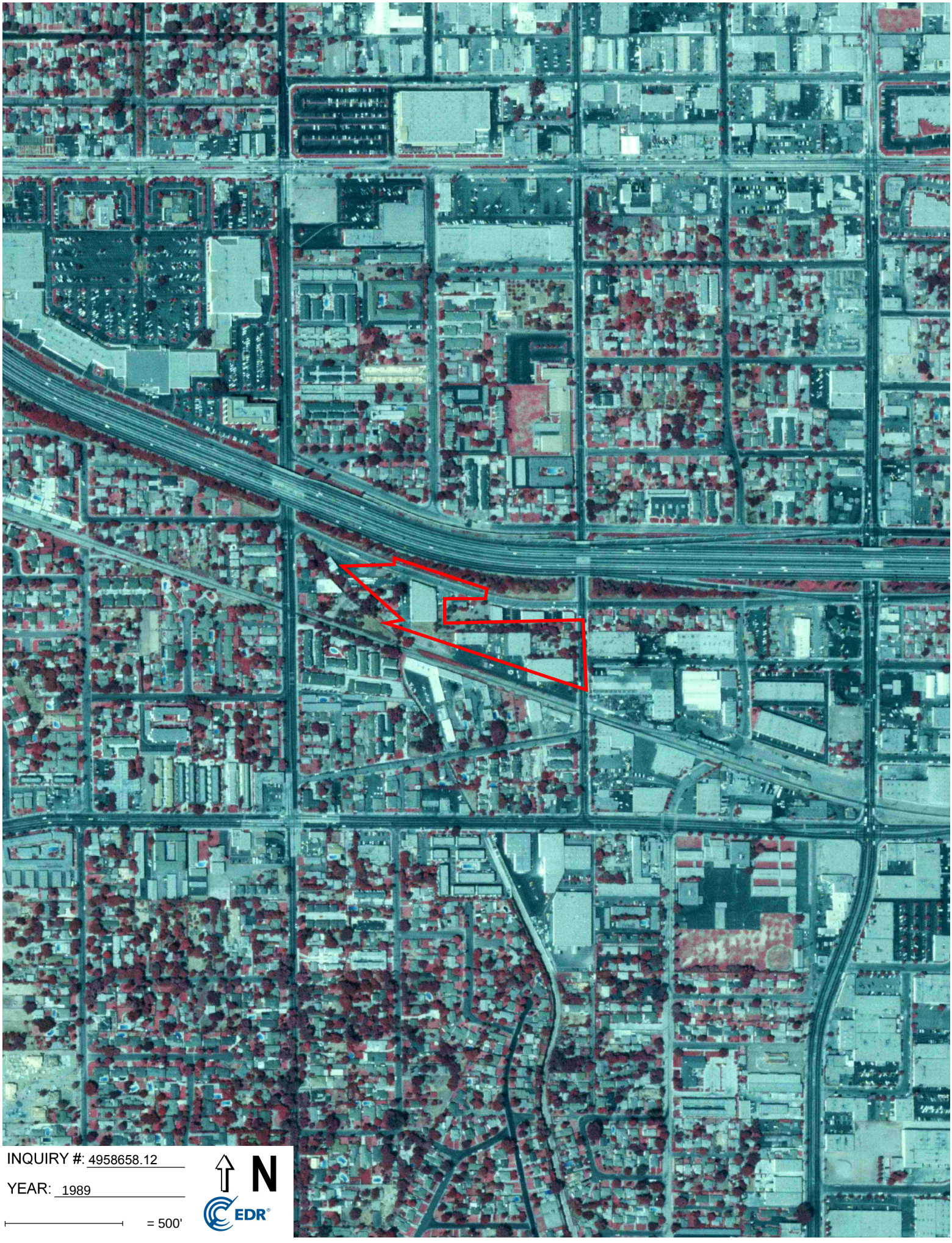
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YEAR: 1990

= 500'

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EDR



INQUIRY #: 4958658.12

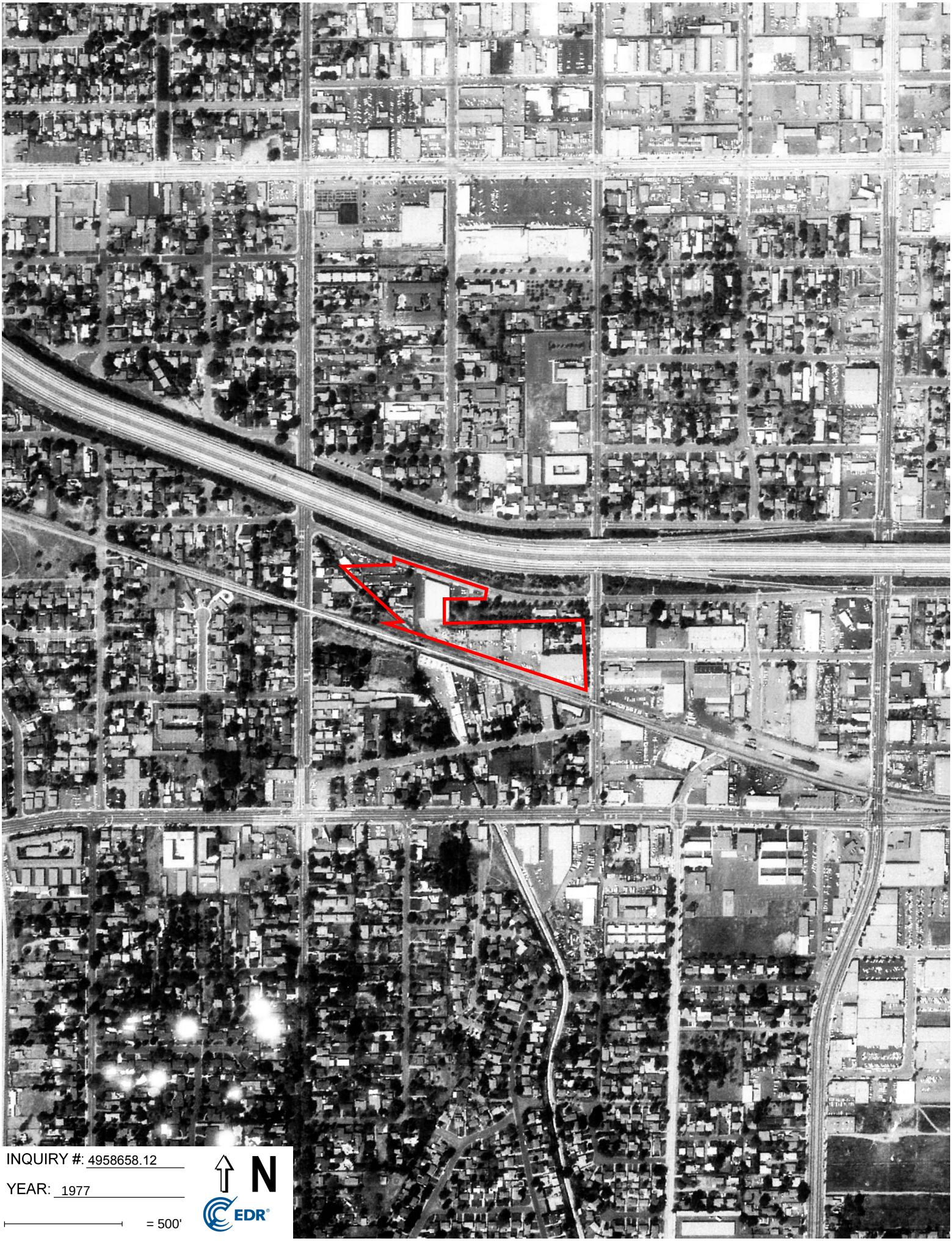
YEAR: 1989

= 500'

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EDR


INQUIRY #: 4958658.12
YEAR: 1981
= 500'
N
EDR


INQUIRY #: 4958658.12
YEAR: 1977
= 500'
N
EDR



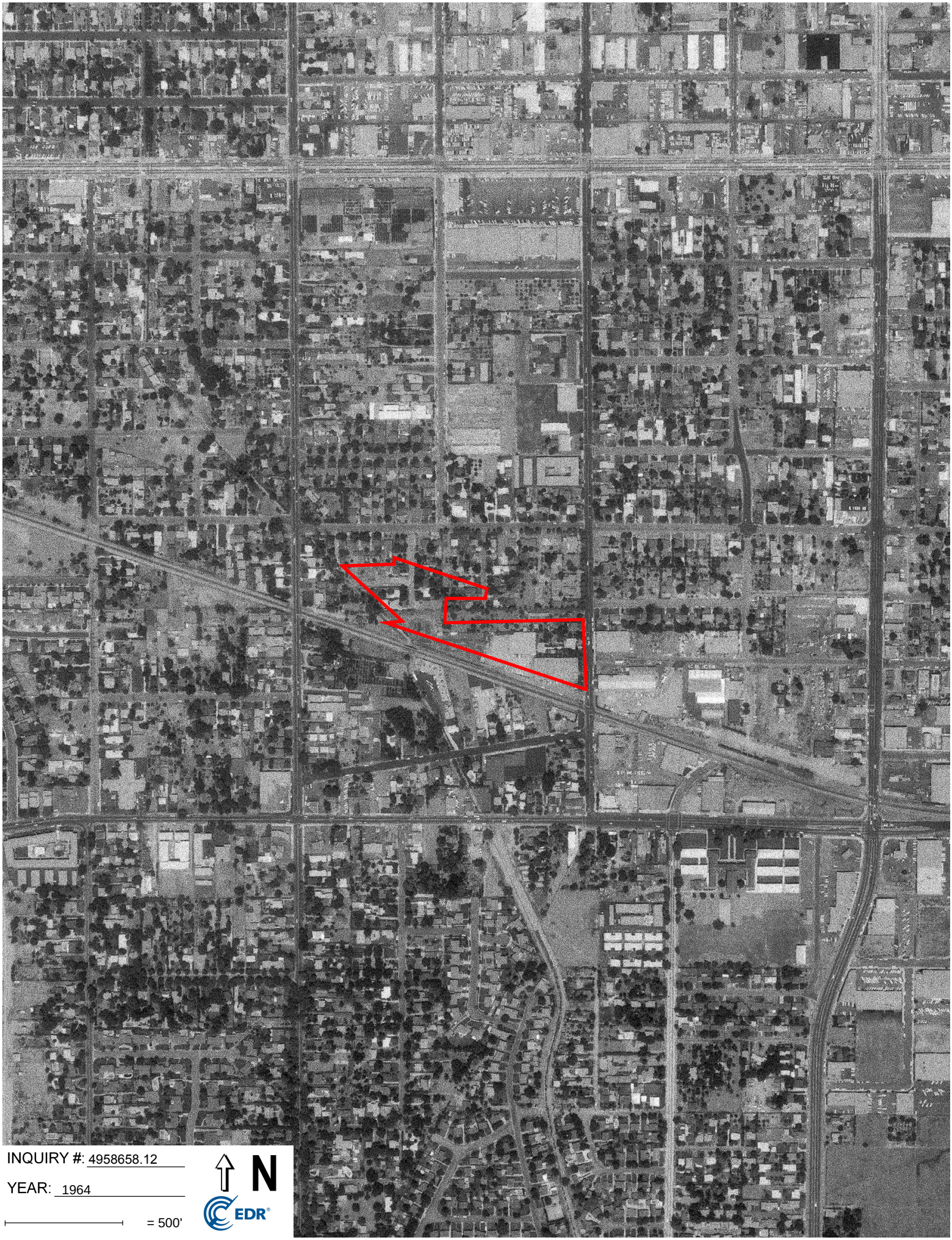
INQUIRY #: 4958658.12

YEAR: 1972

= 500'

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EDR



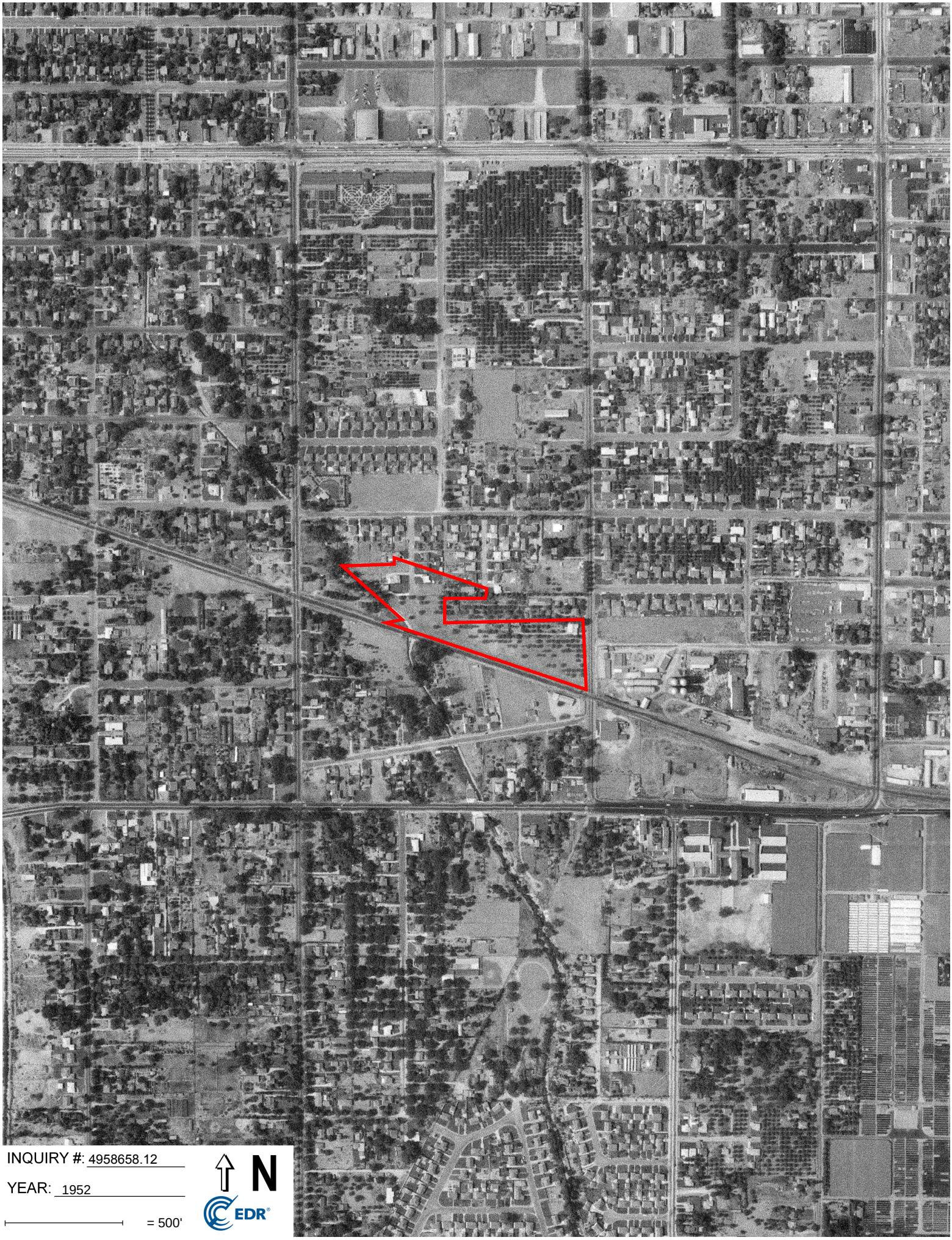
INQUIRY #: 4958658.12

YEAR: 1964

= 500'

N

EDR



INQUIRY #: 4958658.12

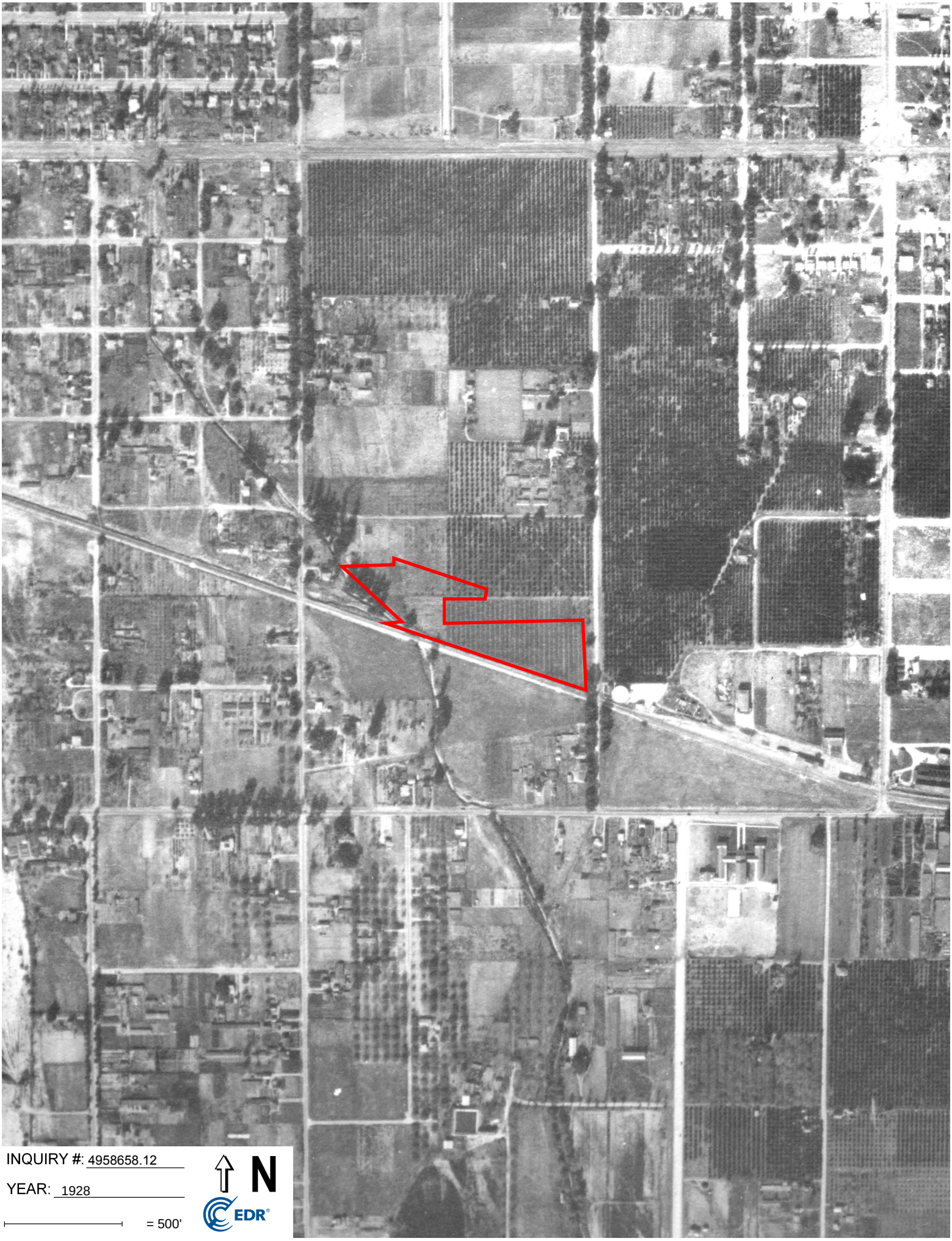
YEAR: 1952

= 500'

N

EDR


INQUIRY #: 4958658.12
YEAR: 1938
= 500'
N
EDR


INQUIRY #: 4958658.12
YEAR: 1928
= 500'
N
EDR

Alexan Monrovia
1625 S. Magnolia Avenue
Monrovia, CA 91016

Inquiry Number: 4958658.5
June 07, 2017

The EDR-City Directory Abstract

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

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Executive Summary

Findings

City Directory Images

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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EXECUTIVE SUMMARY

DESCRIPTION

Environmental Data Resources, Inc.'s (EDR) City Directory Abstract is a screening tool designed to assist environmental professionals in evaluating potential liability on a target property resulting from past activities. EDR's City Directory Abstract includes a search and abstract of available city directory data. For each address, the directory lists the name of the corresponding occupant at five year intervals.

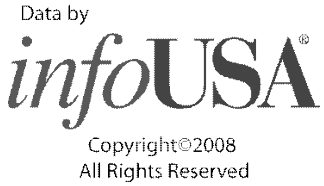
Business directories including city, cross reference and telephone directories were reviewed, if available, at approximately five year intervals for the years spanning 1920 through 2014. This report compiles information gathered in this review by geocoding the latitude and longitude of properties identified and gathering information about properties within 660 feet of the target property.

A summary of the information obtained is provided in the text of this report.

RECORD SOURCES

EDR's Digital Archive combines historical directory listings from sources such as Cole Information and Dun & Bradstreet. These standard sources of property information complement and enhance each other to provide a more comprehensive report.

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RESEARCH SUMMARY

The following research sources were consulted in the preparation of this report. An "X" indicates where information was identified in the source and provided in this report.

Year	Source	TP	Adjoining	Text Abstract	Source Image
2014	EDR Digital Archive	-	X	X	-
	EDR Digital Archive	X	X	X	-
2010	EDR Digital Archive	-	X	X	-
	EDR Digital Archive	X	X	X	-
2006	Haines Company	X	X	X	-
2004	Haines Company	-	-	-	-
2003	Haines & Company	-	-	-	-
2001	Haines Company, Inc.	-	-	-	-
2000	Haines	-	-	-	-
1999	Haines Company	X	X	X	-
1996	GTE	-	-	-	-
1995	Pacific Bell	X	X	X	-

EXECUTIVE SUMMARY

Year	Source	TP	Adjoining	Text Abstract	Source Image
1992	PACIFIC BELL WHITE PAGES	-	-	-	-
1991	Pacific Bell	-	-	-	-
1990	Pacific Bell	-	X	X	-
	Pacific Bell	X	X	X	-
1986	Pacific Bell	-	X	X	-
	Pacific Bell	X	X	X	-
1985	Pacific Bell	X	X	X	-
1981	Pacific Telephone	-	X	X	-
	Pacific Telephone	X	X	X	-
1980	Pacific Telephone	X	X	X	-
1976	Pacific Telephone	-	X	X	-
1975	Pacific Telephone	X	X	X	-
1972	R. L. Polk & Co.	-	-	-	-
1971	R. L. Polk & Co.	-	-	-	-
1970	Pacific Telephone	-	X	X	-
1969	Pacific Telephone	-	-	-	-
1967	R. L. Polk & Co.	-	-	-	-
1966	Pacific Telephone	X	X	X	-
1965	GTE	-	-	-	-
1964	Pacific Telephone	-	-	-	-
1963	Pacific Telephone	-	-	-	-
1962	Pacific Telephone	-	-	-	-
1961	R. L. Polk & Co.	-	-	-	-
1960	Pacific Telephone	X	X	X	-
1958	Pacific Telephone	-	X	X	-
1957	Pacific Telephone	X	X	X	-
1956	Pacific Telephone	-	X	X	-
1955	R. L. Polk & Co.	-	-	-	-
1954	R. L. Polk & Co.	-	-	-	-
1952	Los Angeles Directory Co.	-	-	-	-
1951	Los Angeles Directory Co.	-	-	-	-
1950	Pacific Telephone	-	X	X	-
	Pacific Telephone	X	X	X	-
1949	Los Angeles Directory Co.	-	-	-	-
1948	Associated Telephone Company, Ltd.	-	-	-	-
1947	Pacific Directory Co.	-	-	-	-
1946	Southern California Telephone Co	-	-	-	-
1945	R. L. Polk & Co.	-	-	-	-
1944	R. L. Polk & Co.	-	-	-	-
1942	Los Angeles Directory Co.	-	-	-	-
1940	Los Angeles Directory Co.	-	-	-	-
1939	Los Angeles Directory Co.	-	-	-	-

EXECUTIVE SUMMARY

Year	Source	TP	Adjoining	Text Abstract	Source Image
1938	Los Angeles Directory Company Publishers	-	-	-	-
1937	Los Angeles Directory Co.	-	X	X	-
1936	Los Angeles Directory Co.	-	-	-	-
1935	Los Angeles Directory Co.	-	-	-	-
1934	Los Angeles Directory Co.	-	-	-	-
1933	Los Angeles Directory Co.	-	X	X	-
1932	Los Angeles Directory Co.	-	-	-	-
1931	TRIBUNE-NEWS PUBLISHING CO.	-	-	-	-
1930	Los Angeles Directory Co.	-	-	-	-
1929	Los Angeles Directory Co.	-	X	X	-
1928	Los Angeles Directory Co.	-	-	-	-
1927	Los Angeles Directory Co.	-	-	-	-
1926	Los Angeles Directory Co.	-	-	-	-
1925	Los Angeles Directory Co.	-	-	-	-
1924	Los Angeles Directory Co.	-	X	X	-
1923	Los Angeles Directory Co.	-	-	-	-
1921	Los Angeles Directory Co.	-	-	-	-
1920	Los Angeles Directory Co.	-	-	-	-

EXECUTIVE SUMMARY

SELECTED ADDRESSES

The following addresses were selected by the client, for EDR to research. An "X" indicates where information was identified.

Address	*Type*	*Findings*
1631 S. Magnolia Avenue	Client Entered	X
340 W. Evergreen Avenue	Client Entered	X
404 W. Evergreen Avenue	Client Entered	X
410 W. Evergreen Avenue	Client Entered	X
418 W. Evergreen Avenue	Client Entered	X
1541 Dale Drive	Client Entered	X

FINDINGS

TARGET PROPERTY INFORMATION

ADDRESS

1625 S. Magnolia Avenue
Monrovia, CA 91016

FINDINGS DETAIL

Target Property research detail.

Dale Drive

1541 Dale Drive

Year	*Uses*	*Source*
1950	PURCELL J H R	Pacific Telephone

S Magnolia Ave

1625 S Magnolia Ave

Year	*Uses*	*Source*
2014	AEROENVIROMENT INC	EDR Digital Archive
	STONE & PHILLIPS INC	EDR Digital Archive
	VIOSKI	EDR Digital Archive
2010	AEROENVIROMENT INC	EDR Digital Archive
	STONE & PHILLIPS INC	EDR Digital Archive
	VIOSKI MFG LLC	EDR Digital Archive

S MAGNOLIA AVE

1625 S MAGNOLIA AVE

Year	*Uses*	*Source*
2006	STONE & PHILLIPS	Haines Company
1999	STONE & PHILLIPS	Haines Company
1995	STONE & PHILLIPS	Pacific Bell
	Stone Ping Ping	Pacific Bell
1985	STONE & PHILIPS	Pacific Bell
1980	CALCRAFT CO S MAGNOLIA AVE MONROVIA	Pacific Telephone
	STONE & PHILLIPS INC S MAGNOLIA AVE MONROVIA	Pacific Telephone
1975	CALCRAFT CO	Pacific Telephone
	STONE & PHILLIPS INC	Pacific Telephone

Year	Uses	Source
1966	STONE & PHILLIPS INC	Pacific Telephone
1960	STONE & PHILLIPS CO	Pacific Telephone
1957	STONE & PHILLIPS CO	Pacific Telephone

1631 S MAGNOLIA AVE

Year	Uses	Source
1999	JOHNS INSTALLATIONS	Haines Company
1980	W B ENGINEERING S MAGNOLIA AVE MONROVIA	Pacific Telephone
1975	STD RESEARCH CORP	Pacific Telephone
1966	STD RESEARCH CORP	Pacific Telephone

S. Magnolia Avenue

1631 S. Magnolia Avenue

Year	Uses	Source
1999	JOHNS INSTALLATIONS	Haines Company
1980	W B ENGINEERING S MAGNOLIA AVE MONROVIA	Pacific Telephone
1975	STD RESEARCH CORP	Pacific Telephone
1966	STD RESEARCH CORP	Pacific Telephone

W Evergreen Ave

340 W Evergreen Ave

Year	Uses	Source
2014	MONARC PLUMBING	EDR Digital Archive
2010	ACE PELIZON ELECTRICAL	EDR Digital Archive
	CORNERSTONE PLUMBING COMP	EDR Digital Archive
	MONARC PLUMBING	EDR Digital Archive
	SGV UNDERGROUND	EDR Digital Archive

W EVERGREEN AVE

340 W EVERGREEN AVE

Year	Uses	Source
2006	MILLER David	Haines Company
	MON ARC	Haines Company
	PLUMBING CO	Haines Company
1999	DIAL ONE MONARC PLUMBING CO MON ARC PLUMBING CO	Haines Company

FINDINGS

W Evergreen Ave

404 W Evergreen Ave

Year	Uses	Source
2014	CALIFORNIA THEAMING	EDR Digital Archive
2010	CALIFORNIA THEAMING	EDR Digital Archive

W. Evergreen Avenue

340 W. Evergreen Avenue

Year	Uses	Source
2006	MILLER David	Haines Company
	MON ARC	Haines Company
	PLUMBING CO	Haines Company
1999	DIAL ONE MONARC PLUMBING CO MON ARC PLUMBING CO	Haines Company

404 W. Evergreen Avenue

Year	Uses	Source
2006	CALIFORN	Haines Company
	THEAMING	Haines Company
1999	CA TREAMING	Haines Company
1990	CROWN TRANSFER & STORAGE MONROVIA	Pacific Bell
1986	CROWN TRANSFER & STORAGE MONROVIA	Pacific Bell
1985	CROWN TRANSFER & STORAGE	Pacific Bell
	UNITED VAN LINES CROWN TRANSFER & STORAGE	Pacific Bell
1981	CROWN TRANSFER & STORAGE MONICA	Pacific Telephone
1980	CROWN TRANSFER & STORAGE W EVERGREEN AVE MONROVIA	Pacific Telephone
	UNITED VAN LINES CROWN TRANSFER & STORAGE W EVERGREEN AVE MONROVIA	Pacific Telephone

410 W. Evergreen Avenue

Year	Uses	Source
1999	XXXX	Haines Company

418 W. Evergreen Avenue

Year	Uses	Source
1999	ROPER Del	Haines Company

FINDINGS

Year	Uses	Source
1985	ROPER DEL	Pacific Bell
1980	ROPER DEL W EVERGREEN AVE MONROVIA	Pacific Telephone
1975	ROPER DEL MONROVIA	Pacific Telephone

FINDINGS

ADJOINING PROPERTY DETAIL

The following Adjoining Property addresses were researched for this report. Detailed findings are provided for each address.

GENOA ST

311 GENOA ST

Year	Uses	Source
1999	LIU J	Haines Company

Genoa St

312 Genoa St

Year	Uses	Source
2014	US TIMES CARRIERS	EDR Digital Archive
	US TIMES CARRIERS	EDR Digital Archive
2010	US TIMES CARRIERS	EDR Digital Archive
	CHASE TENNIS CLUB	EDR Digital Archive
	US TIMES CARRIERS	EDR Digital Archive
	CHASE TENNIS CLUB	EDR Digital Archive

GENOA ST

312 GENOA ST

Year	Uses	Source
2006	E HSIEH Shu	Haines Company
	ERSKINE Chanelle	Haines Company
	C YANGPeng	Haines Company
	D DUC Kim	Haines Company
	A MCCOLLUM Terrence	Haines Company
1999	CHANG Eric	Haines Company
	KIM Jessica V	Haines Company

Genoa St

313 Genoa St

Year	Uses	Source
2014	LAM HUBERT	EDR Digital Archive
	LAM HUBERT	EDR Digital Archive
2010	LAM HUBERT	EDR Digital Archive

FINDINGS

Year	Uses	Source
2010	LAM HUBERT	EDR Digital Archive

GENOA ST

313 GENOA ST

Year	Uses	Source
2006	SHATTUCK Victoria	Haines Company
	SANBORN Donald	Haines Company
	OWENS Ryan	Haines Company
	LAM Elizabeth	Haines Company
	e DOANLap	Haines Company
	o CAMPUZANOMary	Haines Company
1999	VILLAMATER Joel	Haines Company
	BORJA Stephanie	Haines Company
	BLOMBERG Danl	Haines Company
1995	t Vlllamater Joel	Pacific Bell
	Chila Dominick	Pacific Bell
	Bra Steve A	Pacific Bell
	Bor Stephanie	Pacific Bell
	Blomberg Gerald	Pacific Bell
	Blomberg Dani	Pacific Bell
1985	OTTO WM P	Pacific Bell
1980	OTTO WM P GENOA ST MONROVIA	Pacific Telephone
1975	OTTO WM P	Pacific Telephone
1966	BROCHU MICHAEL D	Pacific Telephone

316 GENOA ST

Year	Uses	Source
2006	HUAChen	Haines Company
	XIAO LUng	Haines Company
	JEN Mel	Haines Company
	A MORTENSEN Carrie	Haines Company
	D YEH Hua Chen	Haines Company
	C WANGXlao Ung	Haines Company
	a GUERRERO Isidro	Haines Company
	B LIU Jen Mei	Haines Company
1999	HUANG Man Jing	Haines Company

FINDINGS

Genoa St

319 Genoa St

Year	Uses	Source
2014	TD FISHING	EDR Digital Archive
	TD FISHING	EDR Digital Archive

GENOA ST

319 GENOA ST

Year	Uses	Source
2006	BALLARDOJorge	Haines Company
	CHAMBERLAIN John	Haines Company
	DINO Emma	Haines Company
	JACKSON Dean	Haines Company
	MOLINA Rafael	Haines Company
	WALKER James	Haines Company
	WONG Yik	Haines Company
1999	PETERSON Dan	Haines Company
	WALKER James Frank	Haines Company
1995	Peckham Verne E Atty Cov	Pacific Bell
	Rodriguez Isidro	Pacific Bell
	S Tsel Max	Pacific Bell
	Peckham Robert C	Pacific Bell
	Peckham N M Doar	Pacific Bell
	Peckham Martin	Pacific Bell
	Schouten Cindy	Pacific Bell
1985	TACY B & R	Pacific Bell
1980	MILAM SUSAN L GENOA ST MONROVIA	Pacific Telephone
1975	MILA SUSAN L	Pacific Telephone

321 GENOA ST

Year	Uses	Source
2006	SANCHEZ Femando	Haines Company
	GUSA Svetko	Haines Company
1999	XXXX	Haines Company
1995	Ip Lal	Pacific Bell

FINDINGS

Genoa St

323 Genoa St

Year	Uses	Source
2010	CALIFORNIA SOIL SERVICE	EDR Digital Archive
	CALIFORNIA SOIL SERVICE	EDR Digital Archive

GENOA ST

323 GENOA ST

Year	Uses	Source
2006	YSASSI Rebecca	Haines Company
	E OUANO Diana	Haines Company
	D HERNANDEZMark	Haines Company
	C BROWN Walter	Haines Company
1999	PAN Chia Yu	Haines Company
	HUANG Kui	Haines Company
1995	Loo Richard Chee	Pacific Bell
1966	SIVERT HELEN JANE	Pacific Telephone

325 GENOA ST

Year	Uses	Source
2006	XIAO Yan	Haines Company
	BALUYUT Rowena	Haines Company
	C LIAU James	Haines Company
1999	XXXX	Haines Company
1995	tin Kuan	Pacific Bell
	Davison Cathie	Pacific Bell

327 GENOA ST

Year	Uses	Source
2006	LIU Fengchi	Haines Company
	A SUPaul	Haines Company
	B e ADAMS Eddeis	Haines Company
	C BECARES Mary	Haines Company
1999	BOESKIN Bryan	Haines Company
1995	Chen Yeeng	Pacific Bell
1966	BRYER A	Pacific Telephone
1960	RAMIREZ TONY	Pacific Telephone
1957	RAMIREZ TONY	Pacific Telephone

FINDINGS

Genoa St

329 Genoa St

Year	Uses	Source
2010	FRANKS CABINETS PLUS	EDR Digital Archive
	FRANKS CABINETS PLUS	EDR Digital Archive

GENOA ST

329 GENOA ST

Year	Uses	Source
2006	SOWELL Lorraine	Haines Company
	G TSIEN Gregory	Haines Company
	E CONTRERAS	Haines Company
	Francisco	Haines Company
	LEZAGA Sarah	Haines Company
	C MCARDLE Richard	Haines Company
	A MOSSBARGER Gloria	Haines Company
	D RABA Jeanette	Haines Company
1999	TSIEN Gregory	Haines Company
1995	Chio Kin Man	Pacific Bell
1975	MORNINGSTAR RAYMOND	Pacific Telephone
1966	CUELLAR ANDREW	Pacific Telephone
1957	PIEROTTI RITA	Pacific Telephone

330 GENOA ST

Year	Uses	Source
2006	B SHINOHARAMark	Haines Company
	E a LUCEY Eileen	Haines Company
	C IKEDAJunichi	Haines Company
	D HOUZE David	Haines Company
	F BRENNAN James	Haines Company
1999	WACHTLER Ronald	Haines Company
1995	Wack Robert	Pacific Bell
	Wachtler Ronald	Pacific Bell
	Gunner Greg	Pacific Bell
1985	WASHBURN GERALD & NANCY	Pacific Bell
	DRAGOO WM & SUSAN	Pacific Bell
	BREWER TERRY	Pacific Bell

FINDINGS

Year	Uses	Source
1985	CARLIN TIMOTHY & KAHTARINE MONROVIA	Pacific Bell
1980	PRIEST KLRT GENOA ST MONROVIA	Pacific Telephone
	MCCLEAN BILL GENOA ST MONROVIA	Pacific Telephone
	HYDER CARYLEE MRS GENOA ST MONROVIA	Pacific Telephone
	ADDISON PAUL GENOA ST MONROVIA	Pacific Telephone

Genoa St

331 Genoa St

Year	Uses	Source
2014	GREGORY AURORA M	EDR Digital Archive
	GREGORY AURORA M	EDR Digital Archive
2010	PERADS	EDR Digital Archive
	PERADS	EDR Digital Archive

GENOA ST

331 GENOA ST

Year	Uses	Source
2006	C MULLINSChas	Haines Company
	E AWAD Safla	Haines Company
	A CASTRO Roberto	Haines Company
	XIEGuoheng	Haines Company
	D XIAXIaoyu	Haines Company
	F LEE Mel Jien	Haines Company
	B LARSEN Valerie	Haines Company
1999	MULLINS Chas	Haines Company
	WONG Wilson	Haines Company
1985	FERNANDEZ ROBT	Pacific Bell
1980	COBRA AUTO COLLISION REPAIR SYSTEMS GENOA ST MONROVIA	Pacific Telephone
	KEENEY EDWARD M CO GENOA ST MONROVIA	Pacific Telephone
1975	COBRA AUTO COLLISION REPAIR SYSTEMS	Pacific Telephone
	FOOTHILL ROOFING CO	Pacific Telephone
	KEENEY EDWARD M CO	Pacific Telephone
	SIVERT J	Pacific Telephone
1966	FOOTHILL ROOFING CO	Pacific Telephone

Year	Uses	Source
1966	SIVERT EUGENE	Pacific Telephone
1957	HEBERT H L	Pacific Telephone

Genoa St

333 Genoa St

Year	Uses	Source
2014	B GRAPHIC	EDR Digital Archive
	B GRAPHIC	EDR Digital Archive
2010	B GRAPHIC	EDR Digital Archive
	B GRAPHIC	EDR Digital Archive
	LARGE LEONS HOT ROD GARAGE	EDR Digital Archive
	LARGE LEONS HOT ROD GARAGE	EDR Digital Archive

GENOA ST

333 GENOA ST

Year	Uses	Source
2006	LARGE LEONS	Haines Company
	GARAGE NATURES CARE	Haines Company
	ORDWAY Marion	Haines Company
	STOCKFORD LEON	Haines Company
	WICKERMAN W C	Haines Company
1999	GOSS A J	Haines Company
	LARGE LEONS GARAGE NATURES CARE	Haines Company
	STOCKFORD LEON	Haines Company
	WICKERMAN W G	Haines Company
1995	Natures Care	Pacific Bell
	Wickerman W C	Pacific Bell
1985	GOSS A J	Pacific Bell
	WRAYS WOOD WORKS	Pacific Bell
1980	GOSS A J GENOA ST MONROVIA	Pacific Telephone
1975	DAKO MFG CO	Pacific Telephone
	GOSS A J	Pacific Telephone
1966	BOETTCHER A H	Pacific Telephone

FINDINGS

Genoa St

334 Genoa St

Year	Uses	Source
2010	CHINESE AMERICAN EDUCATION	EDR Digital Archive
	CHINESE AMERICAN EDUCATION	EDR Digital Archive

GENOA ST

334 GENOA ST

Year	Uses	Source
2006	ROJAS Annette	Haines Company
	D COOPER Andrew	Haines Company
	DUNN Aj	Haines Company
	FOLGER Jo	Haines Company
	MEDINA Randy	Haines Company
	F MILLER Craig	Haines Company
1999	SALOMONE Michael	Haines Company
1995	Salomone Michael	Pacific Bell
1985	GORSUCH RICHARD	Pacific Bell
1980	COON G D GENOA ST MONROVIA	Pacific Telephone
	GORSUCH RICHARD R GENOA ST MONROVIA	Pacific Telephone
	HUGHES BOB GENOA ST MONROVIA	Pacific Telephone

Genoa St

335 Genoa St

Year	Uses	Source
2010	MONROVIA INSTRUMENTS INC	EDR Digital Archive
	R P ELECTRIC	EDR Digital Archive
	MONROVIA INSTRUMENTS INC	EDR Digital Archive
	R P ELECTRIC	EDR Digital Archive

GENOA ST

335 GENOA ST

Year	Uses	Source
2006	FENMORE DAVID	Haines Company
	LIEDER	Haines Company
	DEVELOPMENT MONROVIA	Haines Company

FINDINGS

Year	Uses	Source
2006	INSTRUMENTS INC REACTIVE MEDIA	Haines Company
	SEXTON GSSON	Haines Company
	WAYNES SIGNS	Haines Company
1999	ALL TEMP CORP LIEDER DEVELOPMENT	Haines Company
	SEXTON G & SON WLDG	Haines Company
	G WAYNES SIGNS	Haines Company
1995	Kurts Electric	Pacific Bell
	All Temp Insulation Co	Pacific Bell
	I All Temp Corp	Pacific Bell
	I Starr Toys	Pacific Bell
	Lieding Calvin A & Donna M	Pacific Bell
	Lieder Development	Pacific Bell
1985	VAUGHN ERIC MACHINE	Pacific Bell
	SUPER BELLAXLE CO	Pacific Bell
	SEXTON G & SON WELDING	Pacific Bell
	LIEDER DEVELOPMENT MON	Pacific Bell
	FRAVIR MACHINED PRODUCT	Pacific Bell
	PETZOLD PRECISION PRODUCTS	Pacific Bell
1980	SEXTON G & SON WELDING GENOA ST MONROVIA	Pacific Telephone
	SUPER BELL AXLE CO GENOA ST MONROVIA	Pacific Telephone
	PETZOLD PRECISION PRODUCTS GENOA ST MONROVIA	Pacific Telephone
	CORE MFG GENOA ST MONROVIA	Pacific Telephone
	FRAVIR MACHINED PRODUCT GENOA ST MONROVIA	Pacific Telephone
	LIEDER DEVELOPMENT GENOA ST MONROVIA	Pacific Telephone
1975	FRAVIR MACHINED PRODUCT	Pacific Telephone
	LEISURE TIME VEHICLE ENTERPRISES	Pacific Telephone
	LIEDER DEVELOPMENT	Pacific Telephone
	RUTHERFORD MACHINE WORKS	Pacific Telephone
1966	CALIFORNIA WAX & CHEMICAL CO	Pacific Telephone
	F G MC GAVOCK & ASSOCIATES	Pacific Telephone
	IRRIGATION ENGNRNG CORP	Pacific Telephone
	LEE MACH PRODUCTS	Pacific Telephone
	LINDSEY CABINET SHOP	Pacific Telephone
	LYNNS	Pacific Telephone
	STEINDL RAY MFG CO	Pacific Telephone

Year	Uses	Source
1960	IRRIGATION ENGINEERING CORP	Pacific Telephone
1957	VREUGDE L R	Pacific Telephone

Genoa St

340 Genoa St

Year	Uses	Source
2014	JESUS DEL RIO JR	EDR Digital Archive
	JESUS DEL RIO JR	EDR Digital Archive
2010	JESUS DEL RIO JR	EDR Digital Archive
	JESUS DEL RIO JR	EDR Digital Archive

GENOA ST

340 GENOA ST

Year	Uses	Source
2006	DELRIO Jesus Jr	Haines Company
1999	DELRIO Jesus Jr	Haines Company
1995	Alvarez Magdalena	Pacific Bell
1980	SHIELDS RAYMOND GENOA ST MONROVIA	Pacific Telephone
1975	SHIELDS RAYMOND	Pacific Telephone
1966	SHIELDS RAYMOND	Pacific Telephone
1960	SHIELDS RAYMONND	Pacific Telephone
1957	SHIELDS RAYMOND	Pacific Telephone

345 GENOA ST

Year	Uses	Source
1985	GOSS HERMAN F	Pacific Bell
1980	GOSS HERMANN F GENOA ST MONROVIA	Pacific Telephone
1975	GOSS HERMANN F	Pacific Telephone
1966	GOSS HERMANN F	Pacific Telephone
1960	GOSS HERMANN F	Pacific Telephone

Genoa St

346 Genoa St

Year	Uses	Source
2010	GENINO PAUL DDS	EDR Digital Archive
	GENINO PAUL DDS	EDR Digital Archive

FINDINGS

GENOA ST

346 GENOA ST

Year	Uses	Source
2006	GENINO Paul	Haines Company
1999	RONDOU Viola R	Haines Company
	RONDOU Richard C	Haines Company
1995	Rondou Richard C & Viola R	Pacific Bell
1985	RONDOU RICHARD C & VIOLA R MONROVIA	Pacific Bell
1980	RONDOU RICHARD C & VIOLA R GENOA ST MONROVIA	Pacific Telephone
1975	RONDOU VIOLA R MRS	Pacific Telephone
1966	RONDOU VIOLA R MRS	Pacific Telephone
1957	RONDOU VIOLA R MRS	Pacific Telephone

353 GENOA ST

Year	Uses	Source
1999	XXXX	Haines Company
	X MAYFLOWER AV S	Haines Company

329A GENOA ST

Year	Uses	Source
1985	A & P AUTO BODY	Pacific Bell

329B GENOA ST

Year	Uses	Source
1975	S & S CABINETS & FIXTURES	Pacific Telephone

329C GENOA ST

Year	Uses	Source
1985	MUNOZ MICHAEL	Pacific Bell
1980	TUBBS DONALD GENOA ST MONROVIA	Pacific Telephone

329D GENOA ST

Year	Uses	Source
1980	BLAIR PRINTING PRODUCTS GENOA ST MONROVIA	Pacific Telephone
1975	BLAIR PRINTING PRODUCTS	Pacific Telephone

FINDINGS

330A GENOA ST

Year	Uses	Source
1985	NEW VISION ENTERPRISES	Pacific Bell

331C GENOA ST

Year	Uses	Source
1985	BILLS GENERAL AUTO	Pacific Bell

333A GENOA ST

Year	Uses	Source
1980	ORDWAY MARIAN GENOA ST MONROVIA	Pacific Telephone

333C GENOA ST

Year	Uses	Source
1975	CROWN MAINTENANCE CO	Pacific Telephone

333D GENOA ST

Year	Uses	Source
1975	GOSS ENGINEERING	Pacific Telephone

335A GENOA ST

Year	Uses	Source
1980	RICHARD SALES CO GENOA ST MONROVIA	Pacific Telephone
1975	RICHARD SALES CO	Pacific Telephone

335C GENOA ST

Year	Uses	Source
1980	DUNKEL M C GENOA ST MONROVIA	Pacific Telephone

335D GENOA ST

Year	Uses	Source
1985	SPACE HARDWARE	Pacific Bell
1975	SPACE HARDWARE	Pacific Telephone

335G GENOA ST

Year	Uses	Source
1985	WAYNES SIGNS	Pacific Bell

318 1/4 GENOA ST

Year	Uses	Source
1966	DE GROOT MARTHA H ARCADIA	Pacific Telephone

FINDINGS

PECK RD

1725 PECK RD

Year	Uses	Source
1975	INNOVATED ELECTRONICS MONROVIA	Pacific Telephone
1970	TELEDYNE INC	Pacific Telephone
1966	TELEDYNE INC DIVISIONS OF TELEDYNE INC	Pacific Telephone

S ALTA VISTA AVE

1807 S ALTA VISTA AVE

Year	Uses	Source
1950	RAY WALTER C R	Pacific Telephone
	RAY WALTER C R	Pacific Telephone

1814 S ALTA VISTA AVE

Year	Uses	Source
1980	BELLC M S ALTA VISTA AVE MONROVIA	Pacific Telephone

1815 S ALTA VISTA AVE

Year	Uses	Source
1980	LOCICERO C S ALTA VISTA AVE MONROVIA	Pacific Telephone
1975	WEATHERLY JODIE	Pacific Telephone
1950	COSBEY H J R	Pacific Telephone
	COSBEY H J R	Pacific Telephone

1816 S ALTA VISTA AVE

Year	Uses	Source
1980	COLLINS FRANKIE L MRS S ALTA VISTA AVE MONROVIA	Pacific Telephone

1817 S ALTA VISTA AVE

Year	Uses	Source
1980	CLOHERTY JOHN S ALTA VISTA AVE MONROVIA	Pacific Telephone

1820 S ALTA VISTA AVE

Year	Uses	Source
1980	BISHOP CLAY S ALTA VISTA AVE MONROVIA	Pacific Telephone

FINDINGS

1825 S ALTA VISTA AVE

Year	Uses	Source
1950	KING JOS R R	Pacific Telephone
	KING JOS R R	Pacific Telephone

1826 S ALTA VISTA AVE

Year	Uses	Source
1950	SHUTE ROBT S R	Pacific Telephone
	SHUTE ROBT S R	Pacific Telephone

1828 S ALTA VISTA AVE

Year	Uses	Source
1985	BISHOP CLAY	Pacific Bell

1835 S ALTA VISTA AVE

Year	Uses	Source
1950	BAUSCH FORREST R	Pacific Telephone
	BAUSCH FORREST R	Pacific Telephone

1839 S ALTA VISTA AVE

Year	Uses	Source
1980	ZELLERS ARMIN S ALTA VISTA AVE MONROVIA	Pacific Telephone

1841 S ALTA VISTA AVE

Year	Uses	Source
1980	BAILLIE EDWARD S S ALTA VISTA AVE MONROVIA	Pacific Telephone

1850 S ALTA VISTA AVE

Year	Uses	Source
1980	LAWSON ROBT J S ALTA VISTA AVE MONROVIA	Pacific Telephone
1960	NELSON ROBT E MONROVIA	Pacific Telephone
1950	BOGLE C R R	Pacific Telephone
	BOGLE C R R	Pacific Telephone

1851 S ALTA VISTA AVE

Year	Uses	Source
1980	DAVIS CLYDE O S ALTA VISTA AVE MONROVIA	Pacific Telephone

FINDINGS

1857 S ALTA VISTA AVE

Year	Uses	Source
1980	STACKHOUSE MICHAEL R S ALTA VISTA AVE MONROVIA	Pacific Telephone

1860 S ALTA VISTA AVE

Year	Uses	Source
1950	GIBSON PHYLLIS R	Pacific Telephone
	GIBSON PHYLLIS R	Pacific Telephone

1862 S ALTA VISTA AVE

Year	Uses	Source
1980	NAPIER WM W S ALTA VISTA AVE MONROVIA	Pacific Telephone

1872 1/2 S ALTA VISTA AVE

Year	Uses	Source
1980	BRAUN MARY S ALTA VISTA AVE MONROVIA	Pacific Telephone

S MAGNOLIA AVE

1501 S MAGNOLIA AVE

Year	Uses	Source
1956	ALDERMAN FAY T	Pacific Telephone

1502 S MAGNOLIA AVE

Year	Uses	Source
1929	TODD Wilvert sten r	Los Angeles Directory Co.

1503 S MAGNOLIA AVE

Year	Uses	Source
1960	PICKENS E R	Pacific Telephone
1957	BERRY ROY F JR	Pacific Telephone

1505 S MAGNOLIA AVE

Year	Uses	Source
1960	LA CROIX MARCEL	Pacific Telephone
1957	LA CROIX MARCEL	Pacific Telephone

1508 S MAGNOLIA AVE

Year	Uses	Source
1976	May Timoted Caamal	Pacific Telephone

FINDINGS

Year	Uses	Source
1929	Blonde Robt A br mgr Daleys	Los Angeles Directory Co.

1510 S MAGNOLIA AVE

Year	Uses	Source
1957	GREEN FRED F	Pacific Telephone

1512 S MAGNOLIA AVE

Year	Uses	Source
1958	Brown Gus	Pacific Telephone

1515 S MAGNOLIA AVE

Year	Uses	Source
1929	De Haven Jay D Lettie x ray techn Cal Lutheran Hosp	Los Angeles Directory Co.

1517 S MAGNOLIA AVE

Year	Uses	Source
1960	IONESCU MARTHA	Pacific Telephone
1957	IONESCU MARTHA	Pacific Telephone
1950	WENG G FENCES	Pacific Telephone
	WENG G FENCES	Pacific Telephone

1521 S MAGNOLIA AVE

Year	Uses	Source
1924	ALISON Sadie E Mrs h	Los Angeles Directory Co.

1525 S MAGNOLIA AVE

Year	Uses	Source
1957	PATTERSON MORRIS	Pacific Telephone
	ETHETTON J W MRS	Pacific Telephone

1527 S MAGNOLIA AVE

Year	Uses	Source
1960	MATEJZEL ROBT ALAN	Pacific Telephone
1957	BAUCHAP ANDREW	Pacific Telephone

1528 S MAGNOLIA AVE

Year	Uses	Source
1960	BUCKHOLTZ WALTER	Pacific Telephone

FINDINGS

1529 S MAGNOLIA AVE

Year	Uses	Source
1960	CROSSETT ANDY	Pacific Telephone
1957	THOMPSON CHAS E	Pacific Telephone

1531 S MAGNOLIA AVE

Year	Uses	Source
1960	MC KINLEY LLOYD	Pacific Telephone

1533 S MAGNOLIA AVE

Year	Uses	Source
1960	TAYLOR HARRY C	Pacific Telephone
1957	TAYLOR HARRY C	Pacific Telephone

1535 S MAGNOLIA AVE

Year	Uses	Source
1960	BYERLY J R	Pacific Telephone
1957	BYERLY J R	Pacific Telephone

1601 S MAGNOLIA AVE

Year	Uses	Source
1999	XXXX	Haines Company

1603 S MAGNOLIA AVE

Year	Uses	Source
1999	XXXX	Haines Company
1985	GEER C J	Pacific Bell
1980	SURACE S S MAGNOLIA AVE MONROVIA	Pacific Telephone
1975	SURACE S	Pacific Telephone
1966	ADAMS PERRY	Pacific Telephone
1957	LITTLE ARROW JOE	Pacific Telephone
1950	STUCKY L W R	Pacific Telephone
	STUCKY L W R	Pacific Telephone

1605 S MAGNOLIA AVE

Year	Uses	Source
1924	Heiderich Walter J clk r	Los Angeles Directory Co.

FINDINGS

S Magnolia Ave

1607 S Magnolia Ave

Year	Uses	Source
2014	HOME BASE LAND DEVELOPERS LP	EDR Digital Archive
	HOME BASE LAND DEVELOPERS LP	EDR Digital Archive
2010	HOME BASE LAND DEVELOPERS LP	EDR Digital Archive
	HOME BASE LAND DEVELOPERS LP	EDR Digital Archive

S MAGNOLIA AVE

1607 S MAGNOLIA AVE

Year	Uses	Source
2006	LOWRYLandon	Haines Company
1999	LOWRY L	Haines Company
1995	FIELDS CLARA M	Pacific Bell
	Fields Clara M	Pacific Bell
1985	FIELDS CLARA M	Pacific Bell
1980	FIELDS CLARA M S MAGNOLIA AVE MONROVIA	Pacific Telephone
1975	FIELDS CLARA M	Pacific Telephone
1966	FIELDS CLARA M	Pacific Telephone
1957	FIELDS CLARA M R	Pacific Telephone
1950	FIELDS CLARA M R	Pacific Telephone
	FIELDS CLARA M R	Pacific Telephone

1608 S MAGNOLIA AVE

Year	Uses	Source
1966	WESTRN ARCTRONICS	Pacific Telephone

S Magnolia Ave

1610 S Magnolia Ave

Year	Uses	Source
2014	AEROVIRONMENT INC	EDR Digital Archive
	AEROVIRONMENT INC	EDR Digital Archive
2010	AEROVIRONMENT	EDR Digital Archive
	AEROVIRONMENT	EDR Digital Archive

S MAGNOLIA AVE

1610 S MAGNOLIA AVE

Year	Uses	Source
1999	XXXX	Haines Company
1995	International Bread & Croissants	Pacific Bell
1985	FERRAROS FINE JUICES	Pacific Bell
1980	FERRARO S FINE JUICES S MAGNOLIA AVE MONROVIA	Pacific Telephone

1611 S MAGNOLIA AVE

Year	Uses	Source
1999	C C A WOOD WORKS	Haines Company

1613 S MAGNOLIA AVE

Year	Uses	Source
1985	SARKISIAN MARTIN	Pacific Bell
	SANCHEZ LANDSCAPING & MAINTENANCE	Pacific Bell
	ALVAREZ & SONS GARDENING	Pacific Bell
1980	ALVAREZ & SONS GARDENING S MAGNOLIA AVE MONROVIA	Pacific Telephone

1617 S MAGNOLIA AVE

Year	Uses	Source
1950	MONROVIA SASH & DOOR MFG CO	Pacific Telephone
	MONROVIA SASH & DOOR MFG CO	Pacific Telephone

1622 S MAGNOLIA AVE

Year	Uses	Source
2006	METRIC MACHINING	Haines Company
	SPECFAST	Haines Company
1999	MASTER MACHINE PROD	Haines Company
	METRIC MACHINING	Haines Company
	SPECFAST	Haines Company
1995	SILENT SOUND	Pacific Bell
	MASTER MACHINE PRODUCTS CORP	Pacific Bell
	METRIC MACHINING	Pacific Bell
	Master Machine Products Corp	Pacific Bell
	Silent Sound	Pacific Bell
	Silent Tiger Systems alarm systems	Pacific Bell
	Specfast	Pacific Bell

FINDINGS

Year	Uses	Source
1985	MURWOOD INC	Pacific Bell
1980	ELECTRO MUSIC-CBS S MAGNOLIA AVE MONROVIA	Pacific Telephone
1975	ELECTRA MUSIC CBS	Pacific Telephone
1966	CAL CRAFT CO	Pacific Telephone
	CALCRAFT CO	Pacific Telephone
1960	CALCRAFT CO	Pacific Telephone
1957	CALCRAFT CO	Pacific Telephone
	CARMAC CO	Pacific Telephone
1924	Torrance Chas E slsmn Elliott & Horne Co r	Los Angeles Directory Co.

1630 S MAGNOLIA AVE

Year	Uses	Source
1950	BAKER H L R	Pacific Telephone
	BAKER H L R	Pacific Telephone

1632 S MAGNOLIA AVE

Year	Uses	Source
1958	Guerra Carmen	Pacific Telephone

1633 S MAGNOLIA AVE

Year	Uses	Source
2006	DC ENTERPRISES	Haines Company
1999	D D K	Haines Company

S Magnolia Ave

1635 S Magnolia Ave

Year	Uses	Source
2010	CLASSIC GARDEN	EDR Digital Archive
	CLASSIC GARDEN	EDR Digital Archive

S MAGNOLIA AVE

1635 S MAGNOLIA AVE

Year	Uses	Source
2006	THE LINEN DUCKTHE	Haines Company
	CLASSIC GARDEN	Haines Company
1999	LINEN DUCK THE	Haines Company
	CLASSIC GARDEN THE	Haines Company

Year	Uses	Source
1995	Linen Duck The	Pacific Bell
	LINEN DUCK THE	Pacific Bell
	i Classic Garden The	Pacific Bell
	CLASSIC GARDEN THE	Pacific Bell

S Magnolia Ave

1641 S Magnolia Ave

Year	Uses	Source
2014	CCA WOODWORKS INC	EDR Digital Archive
	CCA WOODWORKS INC	EDR Digital Archive
2010	CCA WOODWORKS INC	EDR Digital Archive
	CCA WOODWORKS INC	EDR Digital Archive

S MAGNOLIA AVE

1641 S MAGNOLIA AVE

Year	Uses	Source
2006	C C A WOODWORKS	Haines Company
1995	ANDERSEN WOODWORKS	Pacific Bell
	Andersen Woodworks	Pacific Bell
1985	HERLOC ELECTRONICS	Pacific Bell
1975	PASADENA PORTABLE DANCE FLOORS INC	Pacific Telephone

1653 S MAGNOLIA AVE

Year	Uses	Source
1999	XXXX	Haines Company
1995	Johns Installations	Pacific Bell
	JOHN S INSTALLATIONS	Pacific Bell
	JOHN S IN S URAN CE AGE N CY	Pacific Bell
1985	JOHNS INSTALLATIONS	Pacific Bell
1980	HERLOC ELECTRONICS S MAGNOLIA AVE MONROVIA	Pacific Telephone
1975	SPURLOCK ROBT J	Pacific Telephone
1966	THOMPSON FRANK WOODWORK	Pacific Telephone

1661 S MAGNOLIA AVE

Year	Uses	Source
1999	XXXX	Haines Company
1966	SMITH & WARNER SEATING CO	Pacific Telephone

FINDINGS

1665 S MAGNOLIA AVE

Year	Uses	Source
1966	PHILSON CO TIRE	Pacific Telephone

1669 S MAGNOLIA AVE

Year	Uses	Source
1999	XXXX	Haines Company
1975	WARNER SEATING CO	Pacific Telephone

1671 S MAGNOLIA AVE

Year	Uses	Source
1999	XXXX	Haines Company
1980	HERRIOTT RAY S MAGNOLIA AVE MONROVIA	Pacific Telephone
1975	HERRIOTT RAY	Pacific Telephone

S Magnolia Ave

1703 S Magnolia Ave

Year	Uses	Source
2014	COMTEC TEL INC	EDR Digital Archive
	COMTEC TEL INC	EDR Digital Archive
2010	COMTEC TEL INC	EDR Digital Archive
	COMTEC TEL INC	EDR Digital Archive

S MAGNOLIA AVE

1703 S MAGNOLIA AVE

Year	Uses	Source
2006	MISTERT SHIRT	Haines Company
1999	MISTER T SHIRT	Haines Company
1995	Mister T Shlrt	Pacific Bell
	MISTER T-SHLRT	Pacific Bell
1985	MISTER T SHIRT	Pacific Bell
1980	MARDELLE INDUSTRIAL PRODUCTS S MAGNOLIA AVE MONROVIA	Pacific Telephone
1975	MARDELLE INDUSTRIAL PRODUCTS	Pacific Telephone
1966	MARDELLE INDUSTRIAL PRODUCTS	Pacific Telephone
1960	MARDELLE INDUSTRIAL PRODUCTS	Pacific Telephone
1957	MARDELLE INDUSTRIAL PRODUCTS	Pacific Telephone

FINDINGS

S Magnolia Ave

1721 S Magnolia Ave

Year	Uses	Source
2010	CHOICE CONNECTION INC	EDR Digital Archive
	CHOICE CONNECTION INC	EDR Digital Archive

S MAGNOLIA AVE

1721 S MAGNOLIA AVE

Year	Uses	Source
2006	LEEAnn	Haines Company
	YEN Jean	Haines Company
1999	WEED Craig	Haines Company
1980	KIDD FLORA E S MAGNOLIA AVE MONROVIA	Pacific Telephone
1975	KIDD FLORA E	Pacific Telephone
1966	KIDD FLORA E	Pacific Telephone
1960	KIDD FLORA E	Pacific Telephone
1957	KIDD FLORA E R	Pacific Telephone
1950	KIDD FLORA E R	Pacific Telephone
	KIDD FLORA E R	Pacific Telephone

1722 S MAGNOLIA AVE

Year	Uses	Source
1924	r	Los Angeles Directory Co.

1725 S MAGNOLIA AVE

Year	Uses	Source
2006	WANG Shuozhe	Haines Company
1999	XXXX	Haines Company
1995	Lewis L	Pacific Bell
	LEWIS L	Pacific Bell
1980	EAKIN B J S MAGNOLIA AVE MONROVIA	Pacific Telephone
1960	BOYLE ANDREW B	Pacific Telephone
1958	Fleming Robt V	Pacific Telephone
1957	BOYLE ANDREW B	Pacific Telephone

FINDINGS

S Magnolia Ave

1726 S Magnolia Ave

Year	Uses	Source
2014	MESA INDUSTRIES INC	EDR Digital Archive
	MESA INDUSTRIES INC	EDR Digital Archive
2010	MESA INDUSTRIES INC	EDR Digital Archive
	MESA INDUSTRIES INC	EDR Digital Archive

S MAGNOLIA AVE

1726 S MAGNOLIA AVE

Year	Uses	Source
2006	AIRPLAYCO	Haines Company
	GUNITESUPPLY&	Haines Company
	EOP MESA RUBBER CO	Haines Company
1999	AIR PLACEMENTE EQP	Haines Company
	AIRPLACO INC	Haines Company
	MAGNOLIA AV S 91016 CONT GUNITE SUPPLY & EQP	Haines Company
	MESA INDUSTRIES INC	Haines Company
	MESA RUBBER CO	Haines Company
1995	MESA RUBBER CO	Pacific Bell
	AIR PLACEMENT EQUIPMENT CO	Pacific Bell
	AIRPLACO INC	Pacific Bell
	GUNITE SUPPLY & EQUIPMENT CO	Pacific Bell
	MESA INDUSTRIES INC	Pacific Bell
	Air Placement Equipment Co	Pacific Bell
	Airplaco Inc	Pacific Bell
	Airport Bus Of Valley No Charge To Calling Party	Pacific Bell
	Gunite Supply & Equipment Co	Pacific Bell
	Mesa Industries Inc	Pacific Bell
	Mesa Joan	Pacific Bell
	Mesa Rubber Co	Pacific Bell
	Mesa Verde Professional Building	Pacific Bell
1990	AIR PLACEMENT EQUIPMENT CO MONROVIA	Pacific Bell
	AIRPLACO INC MONROVIA	Pacific Bell
	GUNITE SUPPLY & EQUIPMENT CO MONROVIA	Pacific Bell

FINDINGS

Year	Uses	Source
1990	MESA INDUSTRIES INC MONROVIA	Pacific Bell
	MESA RUBBER CO MONROVIA	Pacific Bell
1986	AIR PLACEMENT EQUIPMENT CO MONROVIA	Pacific Bell
	GUNITE SUPPLY & EQUIPMENT CO MONROVIA	Pacific Bell
	MESA INDUSTRIES INC MONROVIA	Pacific Bell
1985	AIR PLACEMENT EQUIPMENT CO	Pacific Bell
	AIRPLACO INC	Pacific Bell
	GUNITE SUPPLY & EQUIPMENT CO	Pacific Bell
	MESA CONSTRUCTION EQUIPMENT GROUP	Pacific Bell
	MESA COUPLING CO	Pacific Bell
	MESA INDUSTRIES INC	Pacific Bell
	MESA RUBBER CO	Pacific Bell
1981	AIR PLACEMENT EQUIPMENT CO MONROVIA	Pacific Telephone
	MESA INDUSTRIES INC MONROVIA	Pacific Telephone
	INC MONROVIA	Pacific Telephone
1980	AIR PLACEMENT EQUIPMENT CO S MAGNOLIA AVE MONROVIA	Pacific Telephone
	AIRPLACO INC S MAGNOLIA AVE MONROVIA	Pacific Telephone
	GUNITE SUPPLY & EQUIPMENT CO S MAGNOLIA AVE MONROVIA	Pacific Telephone
	MESA INDUSTRIES INC S MAGNOLIA AVE MONROVIA	Pacific Telephone
	MESA RUBBER CO S MAGNOLIA AVE MONROVIA	Pacific Telephone
1976	Airplaco Inc	Pacific Telephone
1975	AIRPLACO INC	Pacific Telephone
	GUNITE SUPPLY & EQUIPMENT CO	Pacific Telephone
	MESA CONVEYOR CO	Pacific Telephone
	MESA INDUSTRIES INC	Pacific Telephone
	MESA RUBBER CO	Pacific Telephone
	MESA RUBBER & CONVEYOR CO	Pacific Telephone
	VAN STONE CONVEYOR CO INC	Pacific Telephone
1966	LIQUID PLANT FOOD CO	Pacific Telephone
1960	LIQUID PLANT FOOD CO	Pacific Telephone
1958	Collazos Carlos E	Pacific Telephone
1957	LIQUID PLANT FOOD CO	Pacific Telephone
1950	LIQUID PLANT FOOD CO	Pacific Telephone

Year	Uses	Source
1950	LIQUID PLANT FOOD CO	Pacific Telephone

1733 S MAGNOLIA AVE

Year	Uses	Source
1999	XXXX	Haines Company
1975	MYERS I A	Pacific Telephone
1966	MYERS I A	Pacific Telephone
1960	MYERS I A	Pacific Telephone
1957	MYERS I A	Pacific Telephone

1734 S MAGNOLIA AVE

Year	Uses	Source
1958	Carle Luis	Pacific Telephone
1933	KAPLAN Carrie M drsmkr	Los Angeles Directory Co.

S Magnolia Ave

1735 S Magnolia Ave

Year	Uses	Source
2010	BODEN DEVELOPMENT	EDR Digital Archive
	BODEN DEVELOPMENT	EDR Digital Archive

S MAGNOLIA AVE

1735 S MAGNOLIA AVE

Year	Uses	Source
1999	XXXX	Haines Company
1995	Olson Lorena	Pacific Bell
	RAYGOZA RICARDO	Pacific Bell
	OLSON LORENA	Pacific Bell
	Raygoza Ricardo	Pacific Bell
1980	JOEYS PET GROOMING S MAGNOLIA AVE MONROVIA	Pacific Telephone
1975	JOEYS PET GROOMING	Pacific Telephone
1966	JOEY PETS GROOMING	Pacific Telephone
	DEMPSEY MARY E	Pacific Telephone
1960	BRITTING GEO R JR	Pacific Telephone
1957	JENKINS JOHN	Pacific Telephone

1739 S MAGNOLIA AVE

Year	Uses	Source
1958	Martinez Carlos F	Pacific Telephone
	Ponce Oscar Frank	Pacific Telephone

1747 S MAGNOLIA AVE

Year	Uses	Source
1958	Jackson Worden	Pacific Telephone

1749 S MAGNOLIA AVE

Year	Uses	Source
1937	METCALF Emerald Mrs casewhr County Charities	Los Angeles Directory Co.

1776 S MAGNOLIA AVE

Year	Uses	Source
1976	Mesa Industries Inc	Pacific Telephone

W CENTRAL AVE

228 W CENTRAL AVE

Year	Uses	Source
1960	BRADLEY EDD	Pacific Telephone
1957	BRADLEY EDD	Pacific Telephone
1950	PANCOAST S LESLIE CABTS	Pacific Telephone
	PANCOAST S LESLIE CABTS	Pacific Telephone

232 W CENTRAL AVE

Year	Uses	Source
1960	DAVIS KEN TV MONROVIA	Pacific Telephone
1957	WOODRUFF ESSIE	Pacific Telephone
1950	DAVIS K W R	Pacific Telephone
	DAVIS K W R	Pacific Telephone

234 W CENTRAL AVE

Year	Uses	Source
1960	CARRERA ROMELIA O	Pacific Telephone

235 W CENTRAL AVE

Year	Uses	Source
1966	GUSTAFSON ERNEST W	Pacific Telephone
1960	GUSTAFSON ERNEST W	Pacific Telephone

Year	Uses	Source
1957	GUSTAFSON ERNEST W	Pacific Telephone
1950	EASLEY C G	Pacific Telephone
	EASLEY C G	Pacific Telephone

236 W CENTRAL AVE

Year	Uses	Source
1966	GRANDEL DOROTHY MRS	Pacific Telephone
1960	GRANDEL DOROTHY MRS	Pacific Telephone
	SAMS W N	Pacific Telephone
1957	GRANDEL DOROTHY MRS	Pacific Telephone
	SAMS W N	Pacific Telephone
1950	GRANDEL DOROTHY MRS	Pacific Telephone
	GRANDEL DOROTHY MRS	Pacific Telephone

237 W CENTRAL AVE

Year	Uses	Source
2006	MOSQUEDA	Haines Company
	Guadalupe	Haines Company
1960	TOTH DANL JR	Pacific Telephone
1957	JOHNSTON JOHN S R	Pacific Telephone

242 W CENTRAL AVE

Year	Uses	Source
1966	BARTON J A	Pacific Telephone
1960	BARTON J A	Pacific Telephone
1957	BARTON J A	Pacific Telephone

245 W CENTRAL AVE

Year	Uses	Source
1966	GRIMES RONNIE	Pacific Telephone
1957	ROBERTS LYNN D	Pacific Telephone
1950	EDWARDS KENNETH M	Pacific Telephone
	EDWARDS KENNETH M	Pacific Telephone

246 W CENTRAL AVE

Year	Uses	Source
1960	KEMP ROBT D MONROVIA	Pacific Telephone
1957	WEBSTER ARCHIE V	Pacific Telephone
1950	MORRELL G R R	Pacific Telephone
	MORRELL G R R	Pacific Telephone

FINDINGS

250 W CENTRAL AVE

Year	Uses	Source
1966	PENZER STEPHEN J	Pacific Telephone
	STANFIELD DEWEY	Pacific Telephone
	BEGIN PEGGY	Pacific Telephone
1960	JERNIGAN TOM	Pacific Telephone
1957	JERNIGAN TOM	Pacific Telephone
1950	LANG ANNA	Pacific Telephone
	LANG ANNA	Pacific Telephone

253 W CENTRAL AVE

Year	Uses	Source
1960	CHAVEZ RAY	Pacific Telephone
1957	NELSON PEGGY	Pacific Telephone
	WIGINTON JESSIE MRS	Pacific Telephone
1950	SMITH T W	Pacific Telephone
	SMITH T W	Pacific Telephone

260 W CENTRAL AVE

Year	Uses	Source
1960	MCCLAY ELMER A	Pacific Telephone
1950	MCCLAY ELMER A	Pacific Telephone
	MCCLAY ELMER A	Pacific Telephone

263 W CENTRAL AVE

Year	Uses	Source
1966	JOHNSON MARY C MRS	Pacific Telephone
1960	JOHNSON MARY C MRS	Pacific Telephone
1957	JOHNSON MARY C MRS	Pacific Telephone

266 W CENTRAL AVE

Year	Uses	Source
1966	WHITTON RUTH E MRS	Pacific Telephone
1960	WHITTON RUTH E MRS	Pacific Telephone
1957	SKELTON BILL	Pacific Telephone
1950	WHITTON HENRY M	Pacific Telephone
	WHITTON HENRY M	Pacific Telephone

275 W CENTRAL AVE

Year	Uses	Source
1966	WALKER CARTER T	Pacific Telephone

FINDINGS

Year	Uses	Source
1960	WALKER CARTER T	Pacific Telephone
1957	WALKER CARTER T	Pacific Telephone
1950	WALKER HAZEL H MRS	Pacific Telephone
	WALKER HAZEL H MRS	Pacific Telephone
	WHIDDEN SUSAN A	Pacific Telephone
	WHIDDEN SUSAN A	Pacific Telephone

276 W CENTRAL AVE

Year	Uses	Source
1966	POPE PERCY B	Pacific Telephone
1960	POPE PERCY B	Pacific Telephone
1957	POPE PERCY B	Pacific Telephone
1950	POPE PERCY B	Pacific Telephone
	POPE PERCY B	Pacific Telephone

301 W CENTRAL AVE

Year	Uses	Source
1966	BRYSON ROBT A ATTY	Pacific Telephone
	HERMES CO	Pacific Telephone
	MOLTHEN PAUL J DR CHLRPRCTR	Pacific Telephone
	MORGAN & BRYSON ATTYS	Pacific Telephone
	MORGAN PAUL H ATTY	Pacific Telephone
	SHAY RICHARD H ATTY	Pacific Telephone
	VIGNALE PASQUALE J	Pacific Telephone
1960	SAWYER HAROLD F	Pacific Telephone
1957	SAWYER HAROLD F	Pacific Telephone
1950	SAWYER HAROLD F	Pacific Telephone
	SAWYER HAROLD F	Pacific Telephone

302 W CENTRAL AVE

Year	Uses	Source
1966	STANICH NICHOLAS	Pacific Telephone
	PIERCE PATRICIA ANN	Pacific Telephone
	MURPHY MARGUERITE	Pacific Telephone
	KASHPUREFF V M	Pacific Telephone
	EDWARDS J E	Pacific Telephone
	DELANY FRANCES G	Pacific Telephone
	DELANY ELLA M	Pacific Telephone
	ADAMS IONE	Pacific Telephone

FINDINGS

Year	Uses	Source
1960	TIPTON RANDOLPH R	Pacific Telephone
	ADAMS IONE	Pacific Telephone
	DELANY ELLA M	Pacific Telephone
	DELANY FRANCES G	Pacific Telephone
	KRANZ CHRISTINE	Pacific Telephone
	MENDEZ FRANK	Pacific Telephone
	MURPHY MARGUERITE	Pacific Telephone
	STANICH NICHOLAS	Pacific Telephone

303 W CENTRAL AVE

Year	Uses	Source
1966	ANNE JEFFRESS BEAUTY SALON	Pacific Telephone
	JEFFRESS ANNE BEAUTY SALON	Pacific Telephone
1960	LUCAS J S	Pacific Telephone

307 W CENTRAL AVE

Year	Uses	Source
1966	WOLTERS VINCENT J	Pacific Telephone
1960	PERRITT CLARA I	Pacific Telephone
1957	PERRITT CLARA I	Pacific Telephone

310 W CENTRAL AVE

Year	Uses	Source
1966	WALLING GERTRUDE O	Pacific Telephone
1960	WALLING GERTRUDE O	Pacific Telephone
1957	WALLING GERTRUDE O	Pacific Telephone
1950	WALLING WILL H R	Pacific Telephone
	WALLING WILL H R	Pacific Telephone

312 W CENTRAL AVE

Year	Uses	Source
1960	ELDRIDGE FERN	Pacific Telephone
1957	HARPER NOAH L	Pacific Telephone
	ELDRIDGE FERN	Pacific Telephone

314 W CENTRAL AVE

Year	Uses	Source
1960	PRAEGER JULIUS W	Pacific Telephone
1957	PRAEGER JULIUS W	Pacific Telephone

FINDINGS

315 W CENTRAL AVE

Year	Uses	Source
2006	GONZALEZ Richard	Haines Company
1980	REYES LYDIA W CENTRAL AVE MONROVIA	Pacific Telephone
1975	BRICKER R N	Pacific Telephone
1966	DEHART JAS A MONROVIA	Pacific Telephone
1960	TRAPP ROY W	Pacific Telephone
1957	TRAPP ROY W R	Pacific Telephone
	GREENHILL J R	Pacific Telephone
1950	GREENHILL J R	Pacific Telephone
	GREENHILL J R	Pacific Telephone

316 W CENTRAL AVE

Year	Uses	Source
1950	REED RILEY MASON R	Pacific Telephone
	REED RILEY MASON R	Pacific Telephone

317 W CENTRAL AVE

Year	Uses	Source
2006	HERRERACarman	Haines Company
1985	ZIMMERMAN T	Pacific Bell
1980	SNYDER GEO M W CENTRAL AVE MONROVIA	Pacific Telephone
1975	SNYDER GEO M	Pacific Telephone
1966	SNYDER GEO W	Pacific Telephone
1950	MARQUARD RAY E JR R	Pacific Telephone
	MARQUARD RAY E JR R	Pacific Telephone

318 W CENTRAL AVE

Year	Uses	Source
1966	EASTMAN M L	Pacific Telephone
	JOHNS MARY C	Pacific Telephone
	LIPSCOMB ELEANOR L	Pacific Telephone
	MITCHELL JAS D	Pacific Telephone
	POWELL DIANA	Pacific Telephone
1960	RICE VERNON E DC	Pacific Telephone
	INNES ROBT E	Pacific Telephone
	EASTMAN M L	Pacific Telephone
	SARBACKER ELAINE S	Pacific Telephone
	WILLIS BERRY T	Pacific Telephone

Year	Uses	Source
1957	HAMILTON R L	Pacific Telephone

319 W CENTRAL AVE

Year	Uses	Source
1980	ROSS F K W CENTRAL AVE MONROVIA	Pacific Telephone
1975	ROSS F K	Pacific Telephone
1966	ROSS F K	Pacific Telephone
1960	ROSS F K	Pacific Telephone
1957	ROSS F K R	Pacific Telephone

320 W CENTRAL AVE

Year	Uses	Source
1957	O NEAL LESLIE D	Pacific Telephone

321 W CENTRAL AVE

Year	Uses	Source
1985	VAN LOON CAROLUS	Pacific Bell
1980	VAN LOON CAROLUS W CENTRAL AVE MONROVIA	Pacific Telephone
1960	ASSUSRED EMPLOYMENT AGCY	Pacific Telephone
	PRESCOTT R LYSLE	Pacific Telephone
1957	PRESCOTT R LYSLE	Pacific Telephone
1950	PRESCOTT R LYSLE RL EST	Pacific Telephone
	PRESCOTT R LYSLE RL EST	Pacific Telephone

323 W CENTRAL AVE

Year	Uses	Source
1966	WEAVER ROBT E	Pacific Telephone
1960	SLAUGHTER FRANK E	Pacific Telephone
1950	HAYES ROBT M MRS	Pacific Telephone
	HAYES ROBT M MRS	Pacific Telephone

W Central Ave

325 W Central Ave

Year	Uses	Source
2014	TECH PLUS COMPUTER INC	EDR Digital Archive
	TECH PLUS COMPUTER INC	EDR Digital Archive

FINDINGS

W CENTRAL AVE

326 W CENTRAL AVE

Year	Uses	Source
1957	SHERMAN A	Pacific Telephone

W Central Ave

327 W Central Ave

Year	Uses	Source
2010	CANDISE CHEUNG PERFORMANCE VOI	EDR Digital Archive
	CANDISE CHEUNG PERFORMANCE VOI	EDR Digital Archive

W CENTRAL AVE

328 W CENTRAL AVE

Year	Uses	Source
1966	LA FERA JOS	Pacific Telephone
	O BRIEN M A	Pacific Telephone
1960	MORAGO R L	Pacific Telephone
	MORAGO R L	Pacific Telephone
	SKED COLIN G	Pacific Telephone
	EIGABRNADT FRANK L	Pacific Telephone
	BAKER ZELLA A	Pacific Telephone
1957	MORAGO R L	Pacific Telephone

W Central Ave

329 W Central Ave

Year	Uses	Source
2010	HALILI - DEL ROSARIO INC	EDR Digital Archive
	HALILI - DEL ROSARIO INC	EDR Digital Archive

W CENTRAL AVE

329 W CENTRAL AVE

Year	Uses	Source
1985	RAMOS ESPERANZA	Pacific Bell
	RAMOS M	Pacific Bell
1975	TORRANCE MARGARET	Pacific Telephone

Year	Uses	Source
1966	OZENGHAR DENNIS D	Pacific Telephone
	BOGEAR RALPH A	Pacific Telephone
1960	REYNOLDS ROBT K	Pacific Telephone
	BOGEAR RALPH A	Pacific Telephone
1957	BOGEAR RALPH A	Pacific Telephone
1950	BOGEAR RALPH A	Pacific Telephone
	BOGEAR RALPH A	Pacific Telephone

330 W CENTRAL AVE

Year	Uses	Source
1966	DIAMOND CARPET & LINOLEUM INC	Pacific Telephone
1960	BELL JOSEPHINE	Pacific Telephone
1957	BELL JOSEPHINE	Pacific Telephone

W Central Ave

331 W Central Ave

Year	Uses	Source
2014	CHEWS WELLNESS	EDR Digital Archive
	CHEWS WELLNESS	EDR Digital Archive

W CENTRAL AVE

331 W CENTRAL AVE

Year	Uses	Source
1985	EVANS LORRIE	Pacific Bell
1980	SOTO WILLY W CENTRAL AVE MONROVIA	Pacific Telephone
	RAMOS CARMEN W CENTRAL AVE MONROVIA	Pacific Telephone
	RAMOS E W CENTRAL AVE MONROVIA	Pacific Telephone
1975	RAMOS JOSE M	Pacific Telephone
1966	MEYER ERNEST A	Pacific Telephone
1960	MEYER ERNEST A	Pacific Telephone
1957	MEYER ERNEST A	Pacific Telephone
1950	MENDENHALL GUY H R	Pacific Telephone
	MENDENHALL GUY H R	Pacific Telephone

FINDINGS

332 W CENTRAL AVE

Year	Uses	Source
1957	LONG J W JACK	Pacific Telephone
1950	LONG J W JACK	Pacific Telephone
	LONG J W JACK	Pacific Telephone

333 W CENTRAL AVE

Year	Uses	Source
2006	BRIGGS David	Haines Company
1985	IRWIN ORA K	Pacific Bell
1980	IRWIN ORA K W CENTRAL AVE MONROVIA	Pacific Telephone
1975	IRWIN ORA K	Pacific Telephone
1966	IRWIN ORA K	Pacific Telephone
1960	IRWIN ORA K	Pacific Telephone
1957	IRWIN AL L	Pacific Telephone

335 W CENTRAL AVE

Year	Uses	Source
1966	CHRISTOPHERSON L	Pacific Telephone
1960	CHRISTOPHERSON L	Pacific Telephone
1957	CHRISTOPHERSON L	Pacific Telephone
1950	CHRISTOPHERSON L	Pacific Telephone
	CHRISTOPHERSON L	Pacific Telephone

337 W CENTRAL AVE

Year	Uses	Source
1966	STEINER BOB	Pacific Telephone
1960	STEINER BOB	Pacific Telephone
1957	STEINER BOB	Pacific Telephone

340 W CENTRAL AVE

Year	Uses	Source
1980	INTERNAL MEDICINE SPECIALIST MEDICAL GROUP INC	Pacific Telephone
	ATON JACK A MD INC W CENTRAL AVE	Pacific Telephone
	BLUMIN DAVID H & RAINS RICHARD R MD W CENTRAL AVE BREA	Pacific Telephone
	BREA MEDICAL CENTER OUT-PATIENT X-RAY W CENTRAL AVE BREA	Pacific Telephone
	CENTRAL FAMILY PRACTICE MEDICAL GROUP W CENTRAL AVE BREA	Pacific Telephone

FINDINGS

Year	Uses	Source
1980	FOX WARREN H MD W CENTRAL AVE BREA	Pacific Telephone
	GORDON ROBT W MD W CENTRAL AVE BREA	Pacific Telephone
	HOFFMAN JOS O DO W CENTRAL AVE BREA	Pacific Telephone
	HOFFMAN JOS O DO W CENTRAL AVE BREA	Pacific Telephone
	INTERNAL MEDICINE SPECIALIST MEDICAL GROUP INC	Pacific Telephone
	MAIER GOTTLIEB MD W CENTRAL AVE BREA	Pacific Telephone
	MARINELLI DANTE E MD	Pacific Telephone
	PSYCHIATRIC MEDICAL GROUP INC W CENTRAL AVE BREA	Pacific Telephone
	RAINS RICHARD R & BLUMIN DAVID H MD W CENTRAL AVE BREA	Pacific Telephone
	RIEDEL CARL O MD W CENTRAL AVE BREA	Pacific Telephone
	SAN GABRIEL VALLEY SURGICAL MEDICAL GROUP INC W CENTRAL AVE BREA	Pacific Telephone
	BIO-PATH LABORATORIES OF BREA W CENTRAL AVE BREA	Pacific Telephone
	ANDERSON WILLIAM T MD INC W CENTRAL AVE BREA	Pacific Telephone
1975	BLUMIN DAVID H & RAINS RICHARD R MD BREA	Pacific Telephone
	RIEDEL CARL O MD	Pacific Telephone
1966	SHAW IVA C	Pacific Telephone
1960	THOMAS HARRY E REV	Pacific Telephone
	DUFF CARLOS L	Pacific Telephone
1957	THRALLS DON REV	Pacific Telephone
1950	STUDEBAKER B PAUL REV	Pacific Telephone
	STUDEBAKER B PAUL REV	Pacific Telephone

341 W CENTRAL AVE

Year	Uses	Source
2006	K BOSTROMTodd	Haines Company
	F BRETT MANCINI	Haines Company
	VEGA Glosria	Haines Company
	H e ELUISJohn	Haines Company
	B KUZICHEV Alfred	Haines Company
	LOPEZJorge	Haines Company

FINDINGS

Year	Uses	Source
2006	D MONTANEZ Carmen	Haines Company
	PATRIDGE Randal	Haines Company
	RODRIGUEZ Nicole	Haines Company
	SCHULT Susan	Haines Company
	J TOLAN Peter	Haines Company
	Esperanza	Haines Company
1995	Um Sally Jane	Pacific Bell
	Mendrala Alan	Pacific Bell
	i Delp F BPk	Pacific Bell
	i De Lozier RJ	Pacific Bell

343 W CENTRAL AVE

Year	Uses	Source
2006	BAYLESS Jason	Haines Company
	J CARTER Thomas	Haines Company
	ESPINO Yoty	Haines Company
	N HEGLE Paula	Haines Company
	B HUYing	Haines Company
	JONES RIchard	Haines Company
	M KANENOBUSadaki	Haines Company
	D MARTINEZ Ricardo	Haines Company
	A PATMON Philip	Haines Company
	H RIEHL Richard	Haines Company
	SCHWEIZER Michael	Haines Company
	SEIFFERT Cherrylyn	Haines Company
	STEWART	Haines Company
	Chrislopher	Haines Company
	G WALLACE Gregory	Haines Company
	I WITHAM Holly	Haines Company
1995	Espino Yoly	Pacific Bell
	Huynh Peulle	Pacific Bell
	Stewart Chris	Pacific Bell
1966	WINDER R B MRS	Pacific Telephone
1960	WINDER R B MRS	Pacific Telephone
1957	WINDER R B MRS	Pacific Telephone
1950	WINDER R B	Pacific Telephone
	WINDER R B	Pacific Telephone

FINDINGS

344 W CENTRAL AVE

Year	Uses	Source
1966	CANNINGS HARDWARE-LA HABRA	Pacific Telephone
1960	GOSMEYER L E	Pacific Telephone
1957	MALLETTE CHAS	Pacific Telephone

347 W CENTRAL AVE

Year	Uses	Source
1950	YEAGER DON W R	Pacific Telephone
	YEAGER DON W R	Pacific Telephone

348 W CENTRAL AVE

Year	Uses	Source
1966	TIMMONS A G	Pacific Telephone
1960	PRITCHARD A GEO	Pacific Telephone
1957	TIMMONS A G	Pacific Telephone
	PRITCHARD A GEO	Pacific Telephone
1950	PRITCHARD A GEO R	Pacific Telephone
	TIMMONS A G	Pacific Telephone
	TIMMONS A G	Pacific Telephone
	PRITCHARD A GEO R	Pacific Telephone

349 W CENTRAL AVE

Year	Uses	Source
1966	MARTIN A J	Pacific Telephone
1960	MARTIN A J	Pacific Telephone
1957	MARTIN A J	Pacific Telephone
	WILLIAMS EDNA M MRS	Pacific Telephone
1950	MARTIN A J	Pacific Telephone
	BROOK ARTHUR L R	Pacific Telephone
	BROOK ARTHUR L R	Pacific Telephone
	MARTIN A J	Pacific Telephone

350 W CENTRAL AVE

Year	Uses	Source
1966	BETHUNE I D	Pacific Telephone

351 W CENTRAL AVE

Year	Uses	Source
1960	FINCH ROBT	Pacific Telephone

FINDINGS

354 W CENTRAL AVE

Year	Uses	Source
1966	GATES HAROLD R	Pacific Telephone
1960	SWEITZER WESLEY COVINA	Pacific Telephone
1957	GATES HAROLD R LT	Pacific Telephone
	GATES MARY Q	Pacific Telephone
1950	QUICK V S	Pacific Telephone
	QUICK V S	Pacific Telephone

357 W CENTRAL AVE

Year	Uses	Source
1966	BURCHFIELD L E	Pacific Telephone
1960	BURCHFIELD L E	Pacific Telephone
1957	BURCHFIELD L E	Pacific Telephone

362 W CENTRAL AVE

Year	Uses	Source
1960	AMES LOUISE	Pacific Telephone
1957	AMES LOUISE	Pacific Telephone
1950	AMES LOUISE MRS	Pacific Telephone
	AMES LOUISE MRS	Pacific Telephone

363 W CENTRAL AVE

Year	Uses	Source
1966	HOUSER AUGUSTA M	Pacific Telephone
1960	HOUSER AUGUSTA M	Pacific Telephone
1957	HOUSER AUGUSTA M	Pacific Telephone
1950	HOUSER AUGUSTA M	Pacific Telephone
	HOUSER AUGUSTA M	Pacific Telephone

331A W CENTRAL AVE

Year	Uses	Source
1966	FRANK ARNOLD W	Pacific Telephone

304 ½ W CENTRAL AVE

Year	Uses	Source
1957	OGLESBY GREY R	Pacific Telephone

242 1/2 W CENTRAL AVE

Year	Uses	Source
1966	BLUEBERG JAN	Pacific Telephone

FINDINGS

263 1/2 W CENTRAL AVE

Year	Uses	Source
1957	DE CORMIER D R	Pacific Telephone
1950	HURLEY NORMA L	Pacific Telephone
	HURLEY NORMA L	Pacific Telephone

266 1/2 W CENTRAL AVE

Year	Uses	Source
1957	WHITTON RUTH E MRS	Pacific Telephone

340 1/2 W CENTRAL AVE

Year	Uses	Source
1960	UMANS JOS	Pacific Telephone
1957	UMANS JOS	Pacific Telephone

W EVERGREEN AVE

201 W EVERGREEN AVE

Year	Uses	Source
1960	SANDOVAL PORFIRIO	Pacific Telephone
1957	SANDOVAL PORFRIO	Pacific Telephone

202 W EVERGREEN AVE

Year	Uses	Source
2006	0 AVALOS Alvaro	Haines Company
1999	XXXX	Haines Company
1966	HAYES RUTH M	Pacific Telephone
1960	HUYCK GORDON E	Pacific Telephone
1957	HUYCK GORDON E	Pacific Telephone

205 W EVERGREEN AVE

Year	Uses	Source
1960	BONICA JACK	Pacific Telephone
1957	BONICA JACK	Pacific Telephone

206 W EVERGREEN AVE

Year	Uses	Source
2006	MEDINA Jose	Haines Company
1999	RIVAS Jose C	Haines Company
1966	MILIGAN LILLY V	Pacific Telephone
	BERNAT MARTHA MILIGAN	Pacific Telephone

FINDINGS

Year	Uses	Source
1960	BERNATH JOHN	Pacific Telephone
1957	ATHERTON ELIZABETH MRS	Pacific Telephone

209 W EVERGREEN AVE

Year	Uses	Source
1960	HUPP HARRY P	Pacific Telephone
1957	HUPP HARRY P R	Pacific Telephone

210 W EVERGREEN AVE

Year	Uses	Source
2006	BANUELOS Usa	Haines Company
1999	XXXX	Haines Company
1975	WOODRUFF JEFFREY	Pacific Telephone
1966	FLANAGAN JACK	Pacific Telephone
1960	GLIDEWELL ROY D	Pacific Telephone
1957	GLIDEWELL ROY D	Pacific Telephone

212 W EVERGREEN AVE

Year	Uses	Source
2006	GARCIAJose	Haines Company
1999	SOSA G E 00 B	Haines Company

213 W EVERGREEN AVE

Year	Uses	Source
1960	MARK JAS W	Pacific Telephone
1957	MARK JAS W	Pacific Telephone

216 W EVERGREEN AVE

Year	Uses	Source
2006	No Current Listing	Haines Company
1999	XXXX	Haines Company
1980	SARGENT JOHN W EVERGREEN AVE MONROVIA	Pacific Telephone
1975	SARGENT JOHN	Pacific Telephone
1966	SARGENT JOHN	Pacific Telephone
1960	SARGENT JOHN	Pacific Telephone
1957	SARGENT JOHN R	Pacific Telephone

217 W EVERGREEN AVE

Year	Uses	Source
1960	MANWARREN WM E	Pacific Telephone

Year	Uses	Source
1957	TUCCI MICHAEL	Pacific Telephone

220 W EVERGREEN AVE

Year	Uses	Source
1999	MCOWEN Maria 00 B	Haines Company
1975	MC COWN DARRELL	Pacific Telephone
1966	MCCOWN DARRELL E	Pacific Telephone
1960	HADLEY WM R E	Pacific Telephone
1957	POET CURTIS A JR	Pacific Telephone

221 W EVERGREEN AVE

Year	Uses	Source
1960	HILLIARD NEAL	Pacific Telephone
1957	PARKER ROBT S	Pacific Telephone

224 W EVERGREEN AVE

Year	Uses	Source
2006	HIGUERAJuan	Haines Company
1999	HIGUERA Juan J	Haines Company
1985	EUBANKS L D	Pacific Bell
1980	EUBANKS L D W EVERGREEN AVE MONROVIA	Pacific Telephone
1975	EUBANKS PHILIP R	Pacific Telephone
1966	EUBANKS PHILIP R	Pacific Telephone
1960	EUBANKS PHILIP R	Pacific Telephone
1957	EUBANKS PHILIP R	Pacific Telephone

225 W EVERGREEN AVE

Year	Uses	Source
1957	KONYS STEPHEN J	Pacific Telephone

227 W EVERGREEN AVE

Year	Uses	Source
1960	GEHR JAS A	Pacific Telephone
1957	GEHR JAS A	Pacific Telephone

228 W EVERGREEN AVE

Year	Uses	Source
2006	READY P J	Haines Company
1999	READY P J	Haines Company
1985	READY P J	Pacific Bell

FINDINGS

Year	Uses	Source
1980	READY P J W EVERGREEN AVE MONROVIA	Pacific Telephone
1966	RIENDEAU WM	Pacific Telephone
1960	RIENDEAU WM	Pacific Telephone
1957	STONEMAN JERRE D	Pacific Telephone

230 W EVERGREEN AVE

Year	Uses	Source
2006	SHAVER Betty	Haines Company
1999	XXXX	Haines Company
1985	SHAVER B M	Pacific Bell
1966	TELLEZ LEONARD M	Pacific Telephone
1960	TELLEZ LEONARD M	Pacific Telephone
1957	TELLEZ LEONARD M	Pacific Telephone

233 W EVERGREEN AVE

Year	Uses	Source
1960	DOBBINS STANLEY GEO	Pacific Telephone

234 W EVERGREEN AVE

Year	Uses	Source
1980	JONES FRED W EVERGREEN AVE MONROVIA	Pacific Telephone
1975	JONES FRED	Pacific Telephone
1966	JONES FRED	Pacific Telephone
1960	JONES FRED	Pacific Telephone
1957	ROBINSON GORDON R	Pacific Telephone

238 W EVERGREEN AVE

Year	Uses	Source
2006	CRAIG Richard	Haines Company
1960	SEMEYN LEONARD	Pacific Telephone
1957	SEMEYN LEONARD	Pacific Telephone

239 W EVERGREEN AVE

Year	Uses	Source
1960	CRONKHITE A R	Pacific Telephone
1957	CRONKHITE A R	Pacific Telephone

FINDINGS

W Evergreen Ave

302 W Evergreen Ave

Year	Uses	Source
2014	AMERICAN CONCRETE POLISHING CO	EDR Digital Archive
	AMERICAN CONCRETE POLISHING CO	EDR Digital Archive
2010	AMERICAN CONCRETE POLISHING CO	EDR Digital Archive
	MARIES CDS ONLINE AUCTIONS LLC	EDR Digital Archive
	SOFT TREND	EDR Digital Archive
	AMERICAN CONCRETE POLISHING CO	EDR Digital Archive
	SOFT TREND	EDR Digital Archive
	MARIES CDS ONLINE AUCTIONS LLC	EDR Digital Archive

W EVERGREEN AVE

302 W EVERGREEN AVE

Year	Uses	Source
2006	MICROULINEINC	Haines Company
1999	GRANITE & GLASS CREATIONS	Haines Company

W Evergreen Ave

310 W Evergreen Ave

Year	Uses	Source
2014	BL HALL INC	EDR Digital Archive
	BL HALL INC	EDR Digital Archive
2010	BL HALL INC	EDR Digital Archive
	BL HALL INC	EDR Digital Archive

W EVERGREEN AVE

310 W EVERGREEN AVE

Year	Uses	Source
2006	BLHALLINC	Haines Company
1999	XXXX	Haines Company

W Evergreen Ave

318 W Evergreen Ave

Year	Uses	Source
2014	BARBARA L HALL PE INC	EDR Digital Archive

Year	Uses	Source
2014	BARBARA L HALL PE INC	EDR Digital Archive

W EVERGREEN AVE

318 W EVERGREEN AVE

Year	Uses	Source
1999	RELIABLE CONSTRUCTION SERVICES	Haines Company

W Evergreen Ave

326 W Evergreen Ave

Year	Uses	Source
2014	MARANATHA CABINETS	EDR Digital Archive
	MARANATHA CABINETS	EDR Digital Archive
2010	MARANATHA CABINETS	EDR Digital Archive
	PASADENA TILE HOME IMPROVEMENT	EDR Digital Archive
	MARANATHA CABINETS	EDR Digital Archive
	PASADENA TILE HOME IMPROVEMENT	EDR Digital Archive

W EVERGREEN AVE

326 W EVERGREEN AVE

Year	Uses	Source
2006	CABINETS PASTILEHOME	Haines Company
	IMPROVEMENT	Haines Company
	MARANATH	Haines Company
1999	MARANATHA CABINETS	Haines Company

W POMONA AVE

204 W POMONA AVE

Year	Uses	Source
2006	MEE INDUSTRIES	Haines Company
1995	I American Meat Equipment Incorporated	Pacific Bell
1985	K-LATH DIVISION OF TREE ISLAND STEEL INC	Pacific Bell
1975	K-LATH CORP	Pacific Telephone

FINDINGS

220 W POMONA AVE

Year	Uses	Source
1980	NOLIN CO INC THE BATRIES W POMONA AVE MONROVIA	Pacific Telephone
1975	NOLIN CO INC THE BATRIES	Pacific Telephone
1966	NOLIN CO INC THE BATRIES	Pacific Telephone
1960	NOLES CO INC THE BATRIES	Pacific Telephone
	FOREST PRODUCTS CABNTS	Pacific Telephone
1957	NOLIN CO INC THE BATRIES	Pacific Telephone
	FOREST PRODUCTS CABTS	Pacific Telephone
1950	NOLIN CO INC THE BATRIES	Pacific Telephone
	FOREST PRODUCTS CABTS	Pacific Telephone
	BREITBECK B K R	Pacific Telephone
	NOLIN CO INC THE BATRIES	Pacific Telephone
	FOREST PRODUCTS CABTS	Pacific Telephone
	BREITBECK B K R	Pacific Telephone

265 W POMONA AVE

Year	Uses	Source
1980	LOLLER TRAVIS W POMONA AVE MONROVIA	Pacific Telephone

FINDINGS

TARGET PROPERTY: ADDRESS NOT IDENTIFIED IN RESEARCH SOURCE

The following Target Property addresses were researched for this report, and the addresses were not identified in the research source.

Address Researched	Address Not Identified in Research Source
1625 S. Magnolia Avenue	2004, 2003, 2001, 2000, 1996, 1992, 1991, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

ADJOINING PROPERTY: ADDRESSES NOT IDENTIFIED IN RESEARCH SOURCE

The following Adjoining Property addresses were researched for this report, and the addresses were not identified in research source.

Address Researched	Address Not Identified in Research Source
1501 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1502 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1503 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1505 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1508 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1510 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1512 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

FINDINGS

Address Researched	Address Not Identified in Research Source
1515 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1517 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1521 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1923, 1921, 1920
1525 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1527 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1528 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1529 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1531 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1533 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1535 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1601 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

FINDINGS

Address Researched	Address Not Identified in Research Source
1603 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1605 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1923, 1921, 1920
1607 S MAGNOLIA AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1607 S Magnolia Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1607 S Magnolia Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1608 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1610 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1610 S Magnolia Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1610 S Magnolia Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1611 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1613 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
1617 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1622 S MAGNOLIA AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1923, 1921, 1920
1630 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1632 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1633 S MAGNOLIA AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1635 S MAGNOLIA AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1635 S Magnolia Ave	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1635 S Magnolia Ave	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1641 S Magnolia Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1641 S Magnolia Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1641 S MAGNOLIA AVE	2014, 2010, 2004, 2003, 2001, 2000, 1999, 1996, 1992, 1991, 1990, 1986, 1981, 1980, 1976, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
1653 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1661 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1665 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1669 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1671 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1703 S MAGNOLIA AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1703 S Magnolia Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1703 S Magnolia Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1721 S Magnolia Ave	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1721 S Magnolia Ave	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1721 S MAGNOLIA AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
1722 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1923, 1921, 1920
1725 PECK RD	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1972, 1971, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1725 S MAGNOLIA AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1726 S MAGNOLIA AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1726 S Magnolia Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1726 S Magnolia Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1733 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1734 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1735 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1735 S Magnolia Ave	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1735 S Magnolia Ave	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
1739 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1747 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1749 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1776 S MAGNOLIA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1807 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1814 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1815 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1816 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1817 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1820 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1825 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
1826 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1828 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1835 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1839 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1841 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1850 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1851 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1857 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1860 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1862 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
1872 1/2 S ALTA VISTA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

FINDINGS

Address Researched	Address Not Identified in Research Source
201 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
202 W EVERGREEN AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
204 W POMONA AVE	2014, 2010, 2004, 2003, 2001, 2000, 1999, 1996, 1992, 1991, 1990, 1986, 1981, 1980, 1976, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
205 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
206 W EVERGREEN AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
209 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
210 W EVERGREEN AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
212 W EVERGREEN AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
213 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
216 W EVERGREEN AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
217 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

FINDINGS

Address Researched	Address Not Identified in Research Source
220 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
220 W POMONA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
221 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
224 W EVERGREEN AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
225 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
227 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
228 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
228 W EVERGREEN AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
230 W EVERGREEN AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
232 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
233 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
234 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
234 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
235 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
236 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
237 W CENTRAL AVE	2014, 2010, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
238 W EVERGREEN AVE	2014, 2010, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
239 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
242 1/2 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
242 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
245 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
246 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
250 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
253 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
260 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
263 1/2 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
263 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
265 W POMONA AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
266 1/2 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
266 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
275 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
276 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
301 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
302 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
302 W EVERGREEN AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
302 W Evergreen Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
302 W Evergreen Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
303 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
304 ½ W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
307 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
310 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
310 W EVERGREEN AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
310 W Evergreen Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
310 W Evergreen Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
311 GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
312 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
312 Genoa St	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
312 Genoa St	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
312 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
313 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
313 Genoa St	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
313 Genoa St	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
314 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
315 W CENTRAL AVE	2014, 2010, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
316 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
316 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
317 W CENTRAL AVE	2014, 2010, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
318 1/4 GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
318 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
318 W EVERGREEN AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
318 W Evergreen Ave	2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
318 W Evergreen Ave	2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
319 Genoa St	2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
319 Genoa St	2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
319 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
319 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
320 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
321 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
321 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
323 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
323 Genoa St	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
323 Genoa St	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
323 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
325 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
325 W Central Ave	2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
325 W Central Ave	2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
326 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
326 W EVERGREEN AVE	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
326 W Evergreen Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
326 W Evergreen Ave	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
327 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
327 W Central Ave	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
327 W Central Ave	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
328 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
329 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
329 Genoa St	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
329 Genoa St	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
329 W Central Ave	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
329 W Central Ave	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
329 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1980, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
329A GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
329B GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
329C GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
329D GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
330 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
330 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
330A GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
331 Genoa St	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
331 Genoa St	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

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Address Researched	Address Not Identified in Research Source
331 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
331 W Central Ave	2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
331 W Central Ave	2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
331 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
331A W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
331C GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
332 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
333 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
333 Genoa St	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
333 Genoa St	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
333 W CENTRAL AVE	2014, 2010, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

FINDINGS

Address Researched	Address Not Identified in Research Source
333A GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
333C GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
333D GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
334 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
334 Genoa St	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
334 Genoa St	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
335 Genoa St	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
335 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
335 Genoa St	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
335 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
335A GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

FINDINGS

Address Researched	Address Not Identified in Research Source
335C GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
335D GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1980, 1976, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
335G GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
337 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
340 1/2 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
340 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
340 Genoa St	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
340 Genoa St	2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
340 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
341 W CENTRAL AVE	2014, 2010, 2004, 2003, 2001, 2000, 1999, 1996, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
343 W CENTRAL AVE	2014, 2010, 2004, 2003, 2001, 2000, 1999, 1996, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

FINDINGS

Address Researched	Address Not Identified in Research Source
344 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
345 GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
346 GENOA ST	2014, 2010, 2004, 2003, 2001, 2000, 1996, 1992, 1991, 1990, 1986, 1981, 1976, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
346 Genoa St	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
346 Genoa St	2014, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
347 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
348 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
349 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
350 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
351 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
353 GENOA ST	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1960, 1958, 1957, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

FINDINGS

Address Researched	Address Not Identified in Research Source
354 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
357 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1950, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
362 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1966, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920
363 W CENTRAL AVE	2014, 2010, 2006, 2004, 2003, 2001, 2000, 1999, 1996, 1995, 1992, 1991, 1990, 1986, 1985, 1981, 1980, 1976, 1975, 1972, 1971, 1970, 1969, 1967, 1965, 1964, 1963, 1962, 1961, 1958, 1956, 1955, 1954, 1952, 1951, 1949, 1948, 1947, 1946, 1945, 1944, 1942, 1940, 1939, 1938, 1937, 1936, 1935, 1934, 1933, 1932, 1931, 1930, 1929, 1928, 1927, 1926, 1925, 1924, 1923, 1921, 1920

Alexan Monrovia
1625 S. Magnolia Avenue
Monrovia, CA 91016

Inquiry Number: 4958658.7
June 08, 2017

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- search for parcel information and/or legal description;
- search for ownership information;
- research official land title documents recorded at jurisdictional agencies such as recorders' offices, registries of deeds, county clerks' offices, etc.;
- access a copy of the deed;
- search for environmental encumbering instrument(s) associated with the deed;
- provide a copy of any environmental encumbrance(s) based upon a review of key words in the instrument(s) (title, parties involved, and description); and
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EDR Environmental Lien and AUL Search

TARGET PROPERTY INFORMATION

ADDRESS

1625 S. Magnolia Avenue
Alexan Monrovia
Monrovia, CA 91016

RESEARCH SOURCE

Source 1:

LA Recorder
Los Angeles, CA

PROPERTY INFORMATION

Deed 1:

Type of Deed:	deed
Title is vested in:	Sierra Auto Prop LLC
Title received from:	David R Miller
Deed Dated	10/26/2016
Deed Recorded:	1/4/2017
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	
Miscellaneous Comments:	
Legal Description:	See Exhibit
Legal Current Owner:	Sierra Auto Prop LLC
Parcel # / Property Identifier:	8507-006-016
Comments:	See Exhibit

Deed 2:

Type of Deed:	deed
Title is vested in:	Sierra Auto Prop LLC
Title received from:	Lass Properties LLC
Deed Dated	3/25/2011
Deed Recorded:	8/11/2011
Book:	NA
Page:	na
Volume:	na
Instrument:	na
Docket:	NA
Land Record Comments:	

EDR Environmental Lien and AUL Search

Miscellaneous Comments:

Legal Description: See Exhibit

Legal Current Owner: Sierra Auto Prop LLC

Parcel # / Property Identifier: 8507-006-022, 8507-006-024, 8507-006-041, 8507-006-042, 8507-006-043, 8507-006-044

Comments: See Exhibit

ENVIRONMENTAL LIEN

Environmental Lien: Found ☐ Not Found ☒

OTHER ACTIVITY AND USE LIMITATIONS (AULs)

AULs: Found ☐ Not Found ☒

Deed Exhibit 1

This page is part of your document - DO NOT DISCARD

20170007812

Recorded/Filed in Official Records
Recorder's Office, Los Angeles County,
California

01/04/17 AT 08:00AM

Pages:
0004

FEES:	38.00
TAXES:	660.00
OTHER:	0.00
PAID:	698.00

LEADSHEET

201701040140020

00013194734

008058332

SEQ:
11

DAR - Title Company (Hard Copy)

THIS FORM IS NOT TO BE DUPLICATED

T39

E460070

RECORDING REQUESTED BY:
Chicago Title Co.

AND WHEN RECORDED MAIL TO:
SIERRA AUTO CARS
ATTN: PETER HOFFMAN
1450 S. SHAMROCK AVE.
MONROVIA, CA 91016

01/04/2017
20170007812

2

THIS SPACE FOR RECORDER'S USE ONLY:

Title Order No.: 111614951 **Escrow No.:** 02-32771-051
AP#: 8507-006-016

GRANT DEED

3

THE UNDERSIGNED GRANTOR(S) DECLARE(S)
DOCUMENTARY TRANSFER TAX is $660.00
[X] computed on full value of property conveyed, or
[ ] computed on full value less value of liens or encumbrances remaining at time of sale.
[ ] Unincorporated area [X] City of MONROVIA **AND**

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

DAVID R. MILLER, an Unmarried Man

hereby GRANT(s) to:

SIERRA AUTO PROPERTIES, LLC, a California Limited Liability Company

the real property in the City of MONROVIA, County of Los Angeles, State of California, described as:
LEGAL DESCRIPTION ATTACHED HERETO AS EXHIBIT "A" AND MADE A PART HEREOF
Also Known as: 340 West Evergreen, Monrovia, CA 91016

David R. Miller

Dated October 26, 2016

DAVID R. MILLER

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF LOS ANGELES
On OCTOBER 27, 2016 before me, JANET F. CERSWELL A Notary Public personally appeared DAVID R. MILLER who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.
WITNESS my hand and official seal.

JANET F. CERSWELL
COMM. #2147651
Notary Public - California
San Bernardino County
My Comm. Expires Apr. 23, 2020

Signature

MAIL TAX STATEMENTS TO PARTY SHOWN BELOW; IF NO PARTY SHOWN, MAIL AS SHOWN ABOVE:

(Seal)

11C

EXHIBIT "A"

Legal Description

For APN/Parcel ID(s): 8507-006-016

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE CITY OF MONROVIA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA AND IS DESCRIBED AS FOLLOWS:

PARCEL 1:

THE SOUTHERLY 50 FEET OF THE WESTERLY 190 FEET OF THAT PORTION OF BLOCK 12 OF MONROVIA TRACT, IN THE CITY OF MONROVIA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 9 PAGES 73 AND 74 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

BEGINNING AT A POINT IN THE WEST LINE OF MAGNOLIA AVENUE, DISTANT THEREON 1650 FEET SOUTH FROM THE CENTER LINE OF HUNTINGTON DRIVE (FORMERLY FALLING LEAF AVENUE), THENCE WEST 634.50 FEET TO THE PROLONGATION NORTHERLY OF THE EAST LINE OF LOT "M", BLOCK 12 OF SAID TRACT; THENCE SOUTH ALONG PROLONGATION OF SAID EAST LINE OF LOT "M" TO THE NORTHEAST CORNER OF LOT "M"; THENCE SOUTH ALONG THE EAST LINE OF SAID LOT "M" AND THE PROLONGATION THEREOF SOUTHERLY 343.08 FEET, MORE OR LESS, TO THE CENTER LINE OF EVERGREEN AVENUE; THENCE EAST ALONG THE CENTER LINE OF EVERGREEN AVENUE AS VACATED, 634.50 FEET TO THE WEST LINE OF MAGNOLIA AVENUE; THENCE NORTH ALONG THE WEST LINE OF MAGNOLIA AVENUE TO THE POINT OF BEGINNING.

EXCEPT THEREFROM THAT PORTION CONVEYED TO THE STATE OF CALIFORNIA IN THE DEED RECORDED JANUARY 16, 1968 AS INSTRUMENT NO. 428, OFFICIAL RECORDS AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THAT PORTION OF BLOCK 12 OF SAID MONROVIA TRACT, LYING WITHIN THAT CERTAIN PARCEL OF LAND CONVEYED TO CHARLES R. SIMONS AND DOROTHY M. SIMONS, BY DEED RECORDED IN BOOK 51124, PAGE 296 OF OFFICIAL RECORDS IN THE OFFICE OF THE COUNTY RECORDER, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID PARCEL OF LAND; THENCE ALONG THE NORTHERLY LINE OF SAID PARCEL OF LAND, WESTERLY 26.81 FEET TO THE INTERSECTION THEREOF WITH A CURVE CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 1026.00 FEET; THENCE ALONG SAID CURVE SOUTHEASTERLY AN ARC DISTANCE OF 28.08 FEET TO A POINT IN THE EASTERLY LINE OF SAID PARCEL OF LAND, DISTANT ALONG SAID EASTERLY LINE, SOUTHERLY 8.35 FEET FROM THE POINT OF BEGINNING; THENCE ALONG SAID EASTERLY LINE NORTHERLY 8.37 FEET TO SAID POINT OF BEGINNING.

SAID LAND IS SHOWN AS PART OF PARCEL "L" ON RECORD OF SURVEYS RECORDED IN BOOK 60, PAGE 30, RECORD OF SURVEYS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL 2:

THAT PORTION OP THAT CERTAIN PARCEL OF LAND IN BLOCK 12 OF THE MONROVIA TRACT, IN THE CITY OF MONROVIA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 9 PAGES 73 AND 74 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF LOS ANGELES COUNTY, CONVEYED TO THE STATE OF

EXHIBIT "A"

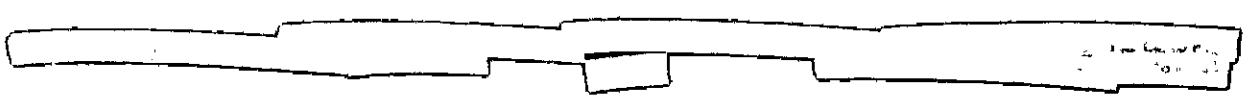
Legal Description

4

CALIFORNIA, BY DEED RECORDED IN BOOK D3000 PAGE 526, OF OFFICIAL RECORDS, IN SAID OFFICE, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE SOUTHERLY LINE OF SAID PARCEL OF LAND, DISTANT ALONG SAID SOUTHERLY LINE SOUTH 88° 53' 58" WEST 26.81 FEET FROM THE SOUTHEASTERLY CORNER OF SAID PARCEL OF LAND, SAID POINT BEING THE INTERSECTION OF SAID SOUTHERLY LINE WITH A CURVE CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 1026.00 FEET; THENCE NORTHWESTERLY ALONG SAID CURVE FROM A TANGENT WHICH BEARS NORTH 72° 58' 22" WEST THROUGH AN ANGLE OF 0° 58' 22" AN ARC DISTANCE OF 17.42 FEET; THENCE TANGENT TO SAID CURVE NORTH 72° 00' 00" WEST 67.55 FEET; THENCE SOUTH 1° 06' 56" EAST 27.67 FEET TO A POINT IN SAID SOUTHERLY LINE DISTANT ALONG SAID SOUTHERLY LINE SOUTH 88° 53' 58" WEST 80.33 FEET FROM THE POINT OF BEGINNING; THENCE ALONG SAID SOUTHERLY LINE NORTH 88° 53' 58" EAST 80.33 FEET TO SAID POINT OF BEGINNING.

EXCEPT FROM SAID PARCEL NO. 2, ALL MINERALS, OILS, GASES AND OTHER HYDROCARBONS BY WHATSOEVER NAME KNOWN THAT MAY BE WITHIN OR UNDER THE PARCEL OF LAND HEREINABOVE DESCRIBED, WITHOUT, HOWEVER, THE RIGHT TO DRILL, DIG OR MINE THROUGH THE SURFACE THEREOF, AS RESERVED BY THE STATE OF CALIFORNIA, BY DEED RECORDED JANUARY 16, 1968 AS INSTRUMENT NO. 762, OF OFFICIAL RECORDS.



Deed Exhibit 2

RECORDER MEMO: This COPY is NOT an OFFICIAL RECORD.

This page is part of your document - DO NOT DISCARD

20111079781

Pages: 0004

Recorded/Filed in Official Records
Recorder's Office, Los Angeles County, California

08/11/11 AT 08:00AM

FEES:	35.00
TAXES:	5,610.00
OTHER:	0.00
PAID:	5,645.00

LEADSHEET

201108110150002

00004516892

003443861

SEQ:
01

DAR - Title Company (Hard Copy)

THIS FORM IS NOT TO BE DUPLICATED

T01

RECORDER MEMO: This COPY is NOT an OFFICIAL RECORD.

RECORDER MEMO: This COPY is NOT an OFFICIAL RECORD.

2

RECORDING REQUESTED BY:
CHICAGO TITLE COMPANY

AND WHEN RECORDED MAIL TO:

Sierra Auto Properties, LLC
P.O.Box 60
Monrovia, Ca 91017

08/11/2011
20111079781

THIS SPACE FOR RECORDER'S USE ONLY

Title Order No. 116016261-H07 **Escrow No. 11-022961-JG**

GRANT DEED

48

THE UNDERSIGNED GRANTOR(S) DECLARE(S)
DOCUMENTARY TRANSFER TAX is $5,610.00
[X] computed on full value of property conveyed, or
[ ] computed on full value less value of liens or encumbrances remaining at time of sale.
[ ] Unincorporated area [X] City of MONROVIA **AND**

FOR A VALUABLE CONSIDERATION, receipt of which is hereby acknowledged,

LASS PROPERTIES, LLC, A CALIFORNIA LIMITED LIABILITY COMPANY

hereby GRANT(s) to:

SIERRA AUTO PROPERTIES , LLC, A CALIFORNIA LIMITED LIABILITY COMPANY

the real property in the City of MONROVIA, County of LOS ANGELES, State of California, described as:
LEGAL DESCRIPTION ATTACHED HERETO AS EXHIBIT "A" AND MADE A PART HEREOF
Also Known as: 1625 SOUTH MAGNOLIA AVENUE, MONROVIA, CA 91016
APN: 8507-006-041; 8507-006-042; 8507-006-043; 8507-006-022; 8507-006-044; & 8507-006-024

DATED March 25, 2011

STATE OF CALIFORNIA
COUNTY OF LOS ANGELES
On MARCH 31ST, 2011
before me, JUDY GOOLER,
A Notary Public in and for said State personally appeared
ANNETTE S. H. REYNOLDS, SHIRLEY SMITH BAKER & LYNNE E. MACK
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct
WITNESS my hand and official seal

JUDY GOOLER
COMM. # 1847510
NOTARY PUBLIC - CALIFORNIA
LOS ANGELES COUNTY
MY COMM EXP. MAY 3, 2013

Signature Judy Gooler (Seal)

MAIL TAX STATEMENTS TO PARTY SHOWN BELOW; IF NO PARTY SHOWN, MAIL AS DIRECTED ABOVE:

RECORDER MEMO: This COPY is NOT an OFFICIAL RECORD.

1A

RECORDER MEMO: This COPY is NOT an OFFICIAL RECORD.

SIGNATURE EXHIBIT

3

LASS PROPERTIES, LLC,
A CALIFORNIA LIMITED LIABILITY COMPANY

By: _____
ANNETTE S. H. REYNOLDS,
MANAGING MEMBER

By: _____
SHIRLEY SMITH BAKER,
MANAGING MEMBER

By: _____
LYNNE E. MACK,
MANAGING MEMBER

RECORDER MEMO: This COPY is NOT an OFFICIAL RECORD.

RECORDER MEMO: This COPY is NOT an OFFICIAL RECORD.

Order No: 116016261-H07

EXHIBIT "A"

4

LEGAL DESCRIPTION

PARCEL A:

THAT PORTION OF LOT "M" IN BLOCK 12 OF MONROVIA TRACT, IN THE CITY OF MONROVIA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 9, PAGES 73 AND 74 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT IN THE NORTH LINE OF SAID LOT "M" DISTANT SOUTH 89° 50' WEST THEREON 170.00 FEET FROM THE NORTHEAST CORNER OF SAID LOT "M"; THENCE SOUTH PARALLEL WITH THE EAST LINE OF SAID LOT "M", 241.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE SOUTH PARALLEL WITH SAID EAST LINE 51.00 FEET; THENCE PARALLEL WITH SAID NORTH LINE SOUTH 89° 50' WEST 191.22 FEET, MORE OR LESS, TO A POINT IN THE SOUTHWESTERLY LINE OF THE PARCEL OF LAND DESCRIBED IN DEED TO J. H. HENION AND WIFE, RECORDED AS INSTRUMENT NO. 12 ON MAY 19, 1948, IN SAID COUNTY RECORDER'S OFFICE; THENCE ALONG SAID SOUTHWESTERLY LINE NORTH 49° 07' WEST 77.66 FEET MORE OR LESS TO A LINE PARALLEL WITH THE NORTH LINE OF SAID LOT "M" WHICH PASSES THROUGH THE TRUE POINT OF BEGINNING; THENCE PARALLEL WITH SAID NORTH LINE NORTH 89° 50' EAST 249.94 FEET MORE OR LESS TO THE TRUE POINT OF BEGINNING.

PARCEL B:

PARCELS 1 TO 4 INCLUSIVE OF PARCEL MAP NO. 7763, IN THE CITY OF MONROVIA, COUNTY OF LOS ANGELES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 97 PAGES 73 AND 74 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

RECORDER MEMO: This COPY is NOT an OFFICIAL RECORD.

Alexan Monrovia
1625 S. Magnolia Avenue
Monrovia, CA 91016

Inquiry Number: 4958658.8
June 06, 2017

EDR Building Permit Report

Target Property and Adjoining Properties

Environmental Data Resources Inc

6 Armstrong Road
Shelton, CT 06484
800.352.0050
www.edrnet.com

EDR Building Permit Report: Search Documentation

6/06/17

Site Name:
Alexan Monrovia
1625 S. Magnolia
Monrovia, CA 91016

EDR Inquiry # 4958658.8

Client Name:
Frey Environmental
2817-A Lafayette Avenue
Newport Beach, CA 92647

Contact: Ed Rands

Search Documentation

DATA GAP

The complete collection of Building Permit data available to EDR has been searched, and as of 6/06/17, EDR does not have access to building permits in the city where your target property is located (Monrovia, CA).

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This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. NO WARRANTY EXPRESSED ORIMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THEMAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALLRISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OFERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL,INCIDENTAL CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLYLIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT. Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risklevels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providingany facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by anenvironmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to beconstrued as legal advice.

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EDR BUILDING PERMIT REPORT

About This Report

The EDR Building Permit Report provides a practical and efficient method to search building department records for indications of environmental conditions. Generated via a search of municipal building permit records gathered from more than 1,600 cities nationwide, this report will assist you in meeting the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13), or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

Building permit data can be used to identify current and/or former operations and structures/features of environmental concern. The data can provide information on a target property and adjoining properties such as the presence of underground storage tanks, pump islands, sumps, drywells, etc., as well as information regarding water, sewer, natural gas, electrical connection dates, and current/former septic tanks.

ASTM and EPA Requirements

ASTM E 1527-13 lists building department records as a "standard historical source," as detailed in § 8.3.4.7: "Building Department Records - The term building department records means those records of the local government in which the property is located indicating permission of the local government to construct, alter, or demolish improvements on the property." ASTM also states that "Uses in the area surrounding the property shall be identified in the report, but this task is required only to the extent that this information is revealed in the course of researching the property itself."

EPA's Standards and Practices for All Appropriate Inquires (AAI) states: "§312.24: Reviews of historical sources of information. (a) Historical documents and records must be reviewed for the purposes of achieving the objectives and performance factors of §312.20(e) and (f). Historical documents and records may include, but are not limited to, aerial photographs, fire insurance maps, building department records, chain of title documents, and land use records."

Methodology

EDR has developed the EDR Building Permit Report through our partnership with BuildFax, the nation's largest repository of building department records. BuildFax collects, updates, and manages building department records from local municipal governments. The database now includes 30 million permits, on more than 10 million properties across 1,600 cities in the United States.

The EDR Building Permit Report comprises local municipal building permit records, gathered directly from local jurisdictions, including both target property and adjoining properties. Years of coverage vary by municipality. Data reported includes (where available): date of permit, permit type, permit number, status, valuation, contractor company, contractor name, and description.

Incoming permit data is checked at seven stages in a regimented quality control process, from initial data source interview, to data preparation, through final auditing. To ensure the building department is accurate, each of the seven quality control stages contains, on average, 15 additional quality checks, resulting in a process of approximately 105 quality control "touch points."

For more information about the EDR Building Permit Report, please contact your EDR Account Executive at (800) 352-0050.

EDR® Environmental Data Resources Inc

BUILDFAX® PROPERTY HISTORY

APPENDIX D

EDR RADIUS MAP REPORT

Alexan Monrovia
1625 S. Magnolia Avenue
Monrovia, CA 91016

Inquiry Number: 4958658.2s
June 06, 2017

The EDR Radius Map™ Report with GeoCheck®

6 Armstrong Road, 4th floor
Shelton, CT 06484
Toll Free: 800.352.0050
www.edrnet.com

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Overview Map	2
Detail Map	3
Map Findings Summary	4
Map Findings	8
Orphan Summary	146
Government Records Searched/Data Currency Tracking	GR-1

GEOCHECK ADDENDUM

Physical Setting Source Addendum	A-1
Physical Setting Source Summary	A-2
Physical Setting Source Map	A-7
Physical Setting Source Map Findings	A-8
Physical Setting Source Records Searched	PSGR-1

Thank you for your business.
Please contact EDR at 1-800-352-0050
with any questions or comments.

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This Report contains certain information obtained from a variety of public and other sources reasonably available to Environmental Data Resources, Inc. It cannot be concluded from this Report that coverage information for the target and surrounding properties does not exist from other sources. **NO WARRANTY EXPRESSED OR IMPLIED, IS MADE WHATSOEVER IN CONNECTION WITH THIS REPORT. ENVIRONMENTAL DATA RESOURCES, INC. SPECIFICALLY DISCLAIMS THE MAKING OF ANY SUCH WARRANTIES, INCLUDING WITHOUT LIMITATION, MERCHANTABILITY OR FITNESS FOR A PARTICULAR USE OR PURPOSE. ALL RISK IS ASSUMED BY THE USER. IN NO EVENT SHALL ENVIRONMENTAL DATA RESOURCES, INC. BE LIABLE TO ANYONE, WHETHER ARISING OUT OF ERRORS OR OMISSIONS, NEGLIGENCE, ACCIDENT OR ANY OTHER CAUSE, FOR ANY LOSS OF DAMAGE, INCLUDING, WITHOUT LIMITATION, SPECIAL, INCIDENTAL, CONSEQUENTIAL, OR EXEMPLARY DAMAGES. ANY LIABILITY ON THE PART OF ENVIRONMENTAL DATA RESOURCES, INC. IS STRICTLY LIMITED TO A REFUND OF THE AMOUNT PAID FOR THIS REPORT.** Purchaser accepts this Report "AS IS". Any analyses, estimates, ratings, environmental risk levels or risk codes provided in this Report are provided for illustrative purposes only, and are not intended to provide, nor should they be interpreted as providing any facts regarding, or prediction or forecast of, any environmental risk for any property. Only a Phase I Environmental Site Assessment performed by an environmental professional can provide information regarding the environmental risk for any property. Additionally, the information provided in this Report is not to be construed as legal advice.

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EXECUTIVE SUMMARY

A search of available environmental records was conducted by Environmental Data Resources, Inc (EDR). The report was designed to assist parties seeking to meet the search requirements of EPA's Standards and Practices for All Appropriate Inquiries (40 CFR Part 312), the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) or custom requirements developed for the evaluation of environmental risk associated with a parcel of real estate.

TARGET PROPERTY INFORMATION

ADDRESS

1625 S. MAGNOLIA AVENUE
MONROVIA, CA 91016

COORDINATES

Latitude (North):	34.1342460 - 34° 8' 3.28''
Longitude (West):	118.0057920 - 118° 0' 20.85''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	407259.8
UTM Y (Meters):	3777303.0
Elevation:	438 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH TARGET PROPERTY

Target Property Map:	5636853 MOUNT WILSON, CA
Version Date:	2012
Northeast Map:	5630601 AZUSA, CA
Version Date:	2012
Southeast Map:	5619056 BALDWIN PARK, CA
Version Date:	2012
Southwest Map:	5630799 EL MONTE, CA
Version Date:	2012

AERIAL PHOTOGRAPHY IN THIS REPORT

Portions of Photo from:	20140515
Source:	USDA

MAPPED SITES SUMMARY

Target Property Address:
1625 S. MAGNOLIA AVENUE
MONROVIA, CA 91016

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
A1	STONE AND PHILLIPS	1625 S MAGNOLIA AVE	HAZNET		TP
A2	CALCRAFT CO	1625 SO. MAGNOLIA AV	EMI		TP
A3	STONE AND PHILLIPS	1625 S MAGNOLIA AV	HAZNET		TP
Reg	SAN GABRIEL VALLEY		AOCONCERN	Same	2043, 0.387, South
A4	SIERRA AUTO PROPERTI	1613 S MAGNOLIA AVE	HAZNET	Higher	1 ft.
A5	SO CAL GAS/MONROVIA	1622 SOUTH MAGNOLIA	ENVIROSTOR, VCP, EMI	Higher	56, 0.011, East
A6	SO CAL GAS/MONROVIA	1622 S MAGNOLIA AVE	EDR MGP	Higher	56, 0.011, East
B7	JOHNSON TREE SERVICE	450 W EVERGREEN AVE	SWEEPS UST, CA FID UST, LOS ANGELES CO. HMS	Higher	71, 0.013, WNW
B8	JOHNSON TREE SERVICE	450 W EVERGREEN	HIST UST	Higher	71, 0.013, WNW
B9	JIMS AUTO REPAIR	450 W EVERGREEN	EDR Hist Auto	Higher	71, 0.013, WNW
C10	STRAND AUTOMOTIVE	333 GENOA ST	EDR Hist Auto	Lower	79, 0.015, WSW
C11	LIEDER DEVELOPMENT I	335 GENOA ST	RCRA-SQG, FINDS, ECHO, HAZNET	Lower	83, 0.016, West
C12	A F B ENGINERRING	335 GENOA ST	EDR Hist Auto	Lower	83, 0.016, West
B13	LIVE OAK CARPET CLEA	1518 S MAYFLOWER AVE	EDR Hist Cleaner	Lower	136, 0.026, WNW
D14	MESA INDUSTRIES	1726 S MAGNOLIA AVE	HAZNET, WIP	Lower	225, 0.043, SE
15	KEENEY EDWARD M	331 GENOA ST	EDR Hist Auto	Lower	270, 0.051, SSW
D16	JACKS ARCO	301 W DUARTE RD	SWEEPS UST, CA FID UST	Lower	415, 0.079, South
D17	KAHABIDIAN JOHN	301 W DUERTE RD	EDR Hist Auto	Lower	415, 0.079, South
D18	STEVE'S SERVICE	301 W DUARTE RD	UST, LOS ANGELES CO. HMS	Lower	415, 0.079, South
E19	MONROVIA AUTOMOTIVE	309 W DUARTE RD	EDR Hist Auto	Lower	524, 0.099, South
E20	ALIEN GRAPHICS	270 W DUARTE RD UNIT	RCRA-SQG, FINDS, ECHO	Lower	563, 0.107, SSE
E21	GASKIN RAY SERVICE*	300 W DUARTE RD	EDR Hist Auto	Lower	572, 0.108, South
F22	MEE INDUSTRIES	204 W POMONA	RCRA-SQG, FINDS, ECHO	Higher	585, 0.111, East
23	MON-ARC CLEANERS	343 W DUARTE RD	EDR Hist Cleaner	Lower	656, 0.124, SSW
F24	UNOCAL #6024	1551 PRIMROSE	HIST CORTESE	Higher	683, 0.129, East
F25	METRIC MACHINING	1551 S PRIMROSE AVE	RCRA-SQG, FINDS, ECHO, WIP	Higher	683, 0.129, East
E26	RONCELLI PLASTICS, I	330 W DUARTE RD	WIP	Lower	685, 0.130, SSW
F27	THE PARKS AT MONROVI	204 & 200 WEST POMON	ENVIROSTOR, VCP	Higher	697, 0.132, East
F28	VALLEY GRAIN PRODUCT	1675 PRIMROSE AVE	WIP	Higher	744, 0.141, ESE
29	AVALON WESTERN INC	205 W DUARTE RD	RCRA-SQG, FINDS, ECHO	Lower	758, 0.144, SE
30	MDH INDUSTRIES INC	426 WEST DUARTE	RCRA-SQG, FINDS, ECHO	Lower	897, 0.170, SW
G31	MICHAEL AUTO BODY SH	450 W DUARTE RD	RCRA-SQG, FINDS, ECHO, EMI	Lower	990, 0.188, SW
G32	MONROVIA MOBIL	502 W DUARTE RD	SWEEPS UST, CA FID UST, LOS ANGELES CO. HMS	Lower	1026, 0.194, SW
G33	SIAM MINH MOBIL	502 W DUARTE RD	UST	Lower	1026, 0.194, SW
G34	PAYLESS GAS STATION	502 W DUARTE RD	HIST UST	Lower	1026, 0.194, SW
G35	SIAM MINH MOBIL STAT	502 DUARTE RD W	LUST, LOS ANGELES CO. HMS	Lower	1026, 0.194, SW
H36	NU-WAY INDUSTRIES	145 DUARTE RD W	LUST, SWEEPS UST, CA FID UST, HIST CORTESE, LOS...	Lower	1045, 0.198, SE
H37	ALLAN CO	145 W DUARTE RD	RCRA NonGen / NLR	Lower	1128, 0.214, ESE
H38	SAN MARINO DISPOSAL	145 W DUARTE RD	RCRA NonGen / NLR, FINDS, ECHO	Lower	1128, 0.214, ESE

MAPPED SITES SUMMARY

Target Property Address:
1625 S. MAGNOLIA AVENUE
MONROVIA, CA 91016

Click on Map ID to see full detail.

MAP ID	SITE NAME	ADDRESS	DATABASE ACRONYMS	RELATIVE ELEVATION	DIST (ft. & mi.) DIRECTION
H39	ALLAN CO	145 W DUARTE RD	SWF/LF, SWRCY, HIST UST, NPDES	Lower	1128, 0.214, ESE
H40	TIM WILLIAMS	123 W DUARTE RD	SWEEPS UST, CA FID UST, CHMIRS	Lower	1245, 0.236, ESE
H41	NU WAY CAR WASH	123 W DUARTE RD	UST	Lower	1245, 0.236, ESE
H42	NU-WAY CAR WASH	123 W DUARTE	LUST, HIST UST	Lower	1245, 0.236, ESE
I43	ABCO METAL FINISHING	1617-1621 SOUTH MYRT	ENVIROSTOR	Higher	1245, 0.236, ESE
I44	ABCO METAL FINISHING	1617-1621 S. MYRTLE	Notify 65	Higher	1245, 0.236, ESE
I45	PACIFIC ATLAS OIL	1601 S MYRTLE AVE	UST, LOS ANGELES CO. HMS	Higher	1246, 0.236, East
I46	PACIFIC ATLAS OIL (A	1601 MYRTLE AVE S	LUST, HIST CORTESE	Higher	1246, 0.236, East
I47	ABCO METAL FINISHING	1621 S MYRTLE AVE	SEMS-ARCHIVE, LIENS 2, RCRA NonGen / NLR, FINDS,...	Higher	1250, 0.237, ESE
J48	CHEVRON #202035 (FOR	1515 MYRTLE AVE S	LUST, HIST CORTESE	Higher	1256, 0.238, East
J49	CHEVRON STATION NO 2	1515 S MYRTLE AVE	RCRA-LQG, FINDS, ECHO	Higher	1256, 0.238, East
J50	MYRTLE AUTO CLINIC I	1515 S MYRTLE AVE	UST	Higher	1256, 0.238, East
H51	NU WAY CAR WASH	123 DUARTE RD W	LUST, HIST CORTESE	Lower	1266, 0.240, ESE
52	MOBIL #11-LAR	1419 MYRTLE S	LUST, HIST CORTESE	Higher	1368, 0.259, ENE
I53	UNOCAL #5937	1602 MYRTLE AVE S	LUST	Higher	1404, 0.266, East
I54	UNOCAL #5937	1602 MYRTLE	LUST, HIST CORTESE	Higher	1404, 0.266, East
K55	VIRGINIA HARDWOOD CO	116 RAILROAD	HIST UST, HIST CORTESE	Higher	1612, 0.305, ESE
K56	VIRGINIA HARDWOOD CO	116 RAILROAD AVE E	LUST, SWEEPS UST, LOS ANGELES CO. HMS	Higher	1612, 0.305, ESE
57	CITY OF MONROVIA	236 HUNTINGTON DR W	LUST, HIST CORTESE	Higher	2140, 0.405, NNE
58	STANLEY WORKS	200 RAILROAD AVE	LUST, HIST CORTESE, LOS ANGELES CO. HMS	Higher	2184, 0.414, East
L59	AREMAC	2004 S MYRTLE AV	SLIC, EMI, LOS ANGELES CO. HMS, WIP	Lower	2249, 0.426, SSE
L60	MERCURY RECOVERY SER	2021 S MYRTLE	HWP	Lower	2267, 0.429, SSE
M61	MONTEREY SHELL/ FORM	705 HUNTINGTON	HIST CORTESE	Higher	2470, 0.468, NW
M62	MONTEREY SHELL/ FORM	705 HUNTINGTON DR W	LUST, SLIC	Higher	2470, 0.468, NW
63	J P PAPER SHREDDERS	428 W CHESTNUT AVE	SWRCY	Higher	2508, 0.475, NNW
64	PRECISE SENSORS INC	235 W CHESTNUT AVE	SEMS-ARCHIVE, RCRA-SQG, ENVIROSTOR, FINDS, ECHO	Higher	2919, 0.553, North
65	SO CAL EDISON CO	W. CHESTNUT AND S. P	EDR MGP	Higher	2993, 0.567, NNE
N66	AVERY DENNISON	1620 CALIFORNIA AVE	RCRA-SQG, LUST, SWEEPS UST, HIST UST, CA FID UST,...	Higher	3132, 0.593, East
N67	AVERY	1616 S.CALIF. AVE.	Notify 65	Higher	3132, 0.593, East
68	METRO GOLD LINE FOOT	AT SIERRA MADRE VILL	ENVIROSTOR, VCP	Higher	3827, 0.725, NE
69	TROTTER APARTMENTS	827/829 W OLIVE AVE	RESPONSE, ENVIROSTOR, HIST Cal-Sites	Higher	4282, 0.811, NW
70	KENNEDY CO	1600 SOUTH SHAMROCK	HWP	Higher	4391, 0.832, East
71	PROPOSED SCHOOL ADDI	845 WEST COLORADO BO	ENVIROSTOR, SCH	Higher	4596, 0.870, NW

EXECUTIVE SUMMARY

TARGET PROPERTY SEARCH RESULTS

The target property was identified in the following records. For more information on this property see page 8 of the attached EDR Radius Map report:

Site	Database(s)	EPA ID
STONE AND PHILLIPS 1625 S MAGNOLIA AVE MONROVIA, CA 91016	HAZNET GEPAID: CAC002592778	N/A
CALCRAFT CO 1625 SO. MAGNOLIA AV MONROVIA, CA 91016	EMI Facility Id: 17590	N/A
STONE AND PHILLIPS 1625 S MAGNOLIA AV MONROVIA, CA 91016	HAZNET GEPAID: CAC001356664	N/A

DATABASES WITH NO MAPPED SITES

No mapped sites were found in EDR's search of available ("reasonably ascertainable ") government records either on the target property or within the search radius around the target property for the following databases:

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL ---------- National Priority List
Proposed NPL ---------- Proposed National Priority List Sites
NPL LIENS ---------- Federal Superfund Liens

Federal Delisted NPL site list

Delisted NPL ---------- National Priority List Deletions

Federal CERCLIS list

FEDERAL FACILITY ---------- Federal Facility Site Information listing
SEMS ---------- Superfund Enterprise Management System

Federal RCRA CORRACTS facilities list

CORRACTS ---------- Corrective Action Report

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF ---------- RCRA - Treatment, Storage and Disposal

EXECUTIVE SUMMARY

Federal RCRA generators list

RCRA-CESQG ---------- RCRA - Conditionally Exempt Small Quantity Generator

Federal institutional controls / engineering controls registries

LUCIS ---------- Land Use Control Information System
US ENG CONTROLS ---------- Engineering Controls Sites List
US INST CONTROL ---------- Sites with Institutional Controls

Federal ERNS list

ERNS ---------- Emergency Response Notification System

State and tribal leaking storage tank lists

INDIAN LUST ---------- Leaking Underground Storage Tanks on Indian Land

State and tribal registered storage tank lists

FEMA UST ---------- Underground Storage Tank Listing
AST ---------- Aboveground Petroleum Storage Tank Facilities
INDIAN UST ---------- Underground Storage Tanks on Indian Land

State and tribal voluntary cleanup sites

INDIAN VCP ---------- Voluntary Cleanup Priority Listing

State and tribal Brownfields sites

BROWNFIELDS ---------- Considered Brownfieds Sites Listing

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS ---------- A Listing of Brownfields Sites

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT ---------- Waste Management Unit Database
HAULERS ---------- Registered Waste Tire Haulers Listing
INDIAN ODI ---------- Report on the Status of Open Dumps on Indian Lands
DEBRIS REGION 9 ---------- Torres Martinez Reservation Illegal Dump Site Locations
ODI ---------- Open Dump Inventory
IHS OPEN DUMPS ---------- Open Dumps on Indian Land

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL ---------- Delisted National Clandestine Laboratory Register
SCH ---------- School Property Evaluation Program
CDL ---------- Clandestine Drug Labs
Toxic Pits ---------- Toxic Pits Cleanup Act Sites

US CDL ---------- National Clandestine Laboratory Register

Local Land Records

LIENS ---------- Environmental Liens Listing
LIENS 2 ---------- CERCLA Lien Information
DEED ---------- Deed Restriction Listing

Records of Emergency Release Reports

HMIRS ---------- Hazardous Materials Information Reporting System
CHMIRS ---------- California Hazardous Material Incident Report System
LDS ---------- Land Disposal Sites Listing
MCS ---------- Military Cleanup Sites Listing
SPILLS 90 ---------- SPILLS 90 data from FirstSearch

Other Ascertainable Records

FUDS ---------- Formerly Used Defense Sites
DOD ---------- Department of Defense Sites
SCRD DRYCLEANERS ---------- State Coalition for Remediation of Drycleaners Listing
US FIN ASSUR ---------- Financial Assurance Information
EPA WATCH LIST ---------- EPA WATCH LIST
2020 COR ACTION ---------- 2020 Corrective Action Program List
TSCA ---------- Toxic Substances Control Act
TRIS ---------- Toxic Chemical Release Inventory System
SSTS ---------- Section 7 Tracking Systems
ROD ---------- Records Of Decision
RMP ---------- Risk Management Plans
RAATS ---------- RCRA Administrative Action Tracking System
PRP ---------- Potentially Responsible Parties
PADS ---------- PCB Activity Database System
ICIS ---------- Integrated Compliance Information System
FTTS ---------- FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
MLTS ---------- Material Licensing Tracking System
COAL ASH DOE ---------- Steam-Electric Plant Operation Data
COAL ASH EPA ---------- Coal Combustion Residues Surface Impoundments List
PCB TRANSFORMER ---------- PCB Transformer Registration Database
RADINFO ---------- Radiation Information Database
HIST FTTS ---------- FIFRA/TSCA Tracking System Administrative Case Listing
DOT OPS ---------- Incident and Accident Data
CONSENT ---------- Superfund (CERCLA) Consent Decrees
INDIAN RESERV ---------- Indian Reservations
FUSRAP ---------- Formerly Utilized Sites Remedial Action Program
UMTRA ---------- Uranium Mill Tailings Sites
LEAD SMELTERS ---------- Lead Smelter Sites
US AIRS ---------- Aerometric Information Retrieval System Facility Subsystem
US MINES ---------- Mines Master Index File
ABANDONED MINES ---------- Abandoned Mines
FINDS ---------- Facility Index System/Facility Registry System
UXO ---------- Unexploded Ordnance Sites
DOCKET HWC ---------- Hazardous Waste Compliance Docket Listing
ECHO ---------- Enforcement & Compliance History Information
FUELS PROGRAM ---------- EPA Fuels Program Registered Listing

CA BOND EXP. PLAN - Bond Expenditure Plan
Cortese - "Cortese" Hazardous Waste & Substances Sites List
CUPA Listings - CUPA Resources List
DRYCLEANERS - Cleaner Facilities
ENF - Enforcement Action Listing
Financial Assurance - Financial Assurance Information Listing
ICE - ICE
LOS ANGELES CO. HMS - HMS: Street Number List
HWT - Registered Hazardous Waste Transporter Database
MINES - Mines Site Location Listing
MWMP - Medical Waste Management Program Listing
NPDES - NPDES Permits Listing
PEST LIC - Pesticide Regulation Licenses Listing
PROC - Certified Processors Database
LA Co. Site Mitigation - Site Mitigation List
UIC - UIC Listing
WASTEWATER PITS - Oil Wastewater Pits Listing
WDS - Waste Discharge System

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF - Recovered Government Archive Solid Waste Facilities List
RGA LUST - Recovered Government Archive Leaking Underground Storage Tank

SURROUNDING SITES: SEARCH RESULTS

Surrounding sites were identified in the following databases.

Elevations have been determined from the USGS Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified. Sites with an elevation equal to or higher than the target property have been differentiated below from sites with an elevation lower than the target property.
Page numbers and map identification numbers refer to the EDR Radius Map report where detailed data on individual sites can be reviewed.

Sites listed in ***bold italics*** are in multiple databases.

Unmappable (orphan) sites are not considered in the foregoing analysis.

STANDARD ENVIRONMENTAL RECORDS

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for

listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

A review of the SEMS-ARCHIVE list, as provided by EDR, and dated 02/07/2017 has revealed that there is 1 SEMS-ARCHIVE site within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ABCO METAL FINISHING	*1621 S MYRTLE AVE*	*ESE 1/8 - 1/4 (0.237 mi.)*	*I47*	*76*

Federal RCRA generators list

RCRA-LQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

A review of the RCRA-LQG list, as provided by EDR, and dated 12/12/2016 has revealed that there is 1 RCRA-LQG site within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
CHEVRON STATION NO 2	*1515 S MYRTLE AVE*	*E 1/8 - 1/4 (0.238 mi.)*	*J49*	*82*

RCRA-SQG: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

A review of the RCRA-SQG list, as provided by EDR, and dated 12/12/2016 has revealed that there are 7 RCRA-SQG sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MEE INDUSTRIES	*204 W POMONA*	*E 0 - 1/8 (0.111 mi.)*	*F22*	*35*
METRIC MACHINING	*1551 S PRIMROSE AVE*	*E 1/8 - 1/4 (0.129 mi.)*	*F25*	*37*
Lower Elevation	**Address**	**Direction / Distance**	**Map ID**	**Page**
LIEDER DEVELOPMENT I	*335 GENOA ST*	*W 0 - 1/8 (0.016 mi.)*	*C11*	*25*
ALIEN GRAPHICS	*270 W DUARTE RD UNIT*	*SSE 0 - 1/8 (0.107 mi.)*	*E20*	*33*
AVALON WESTERN INC	*205 W DUARTE RD*	*SE 1/8 - 1/4 (0.144 mi.)*	*29*	*43*
MDH INDUSTRIES INC	*426 WEST DUARTE*	*SW 1/8 - 1/4 (0.170 mi.)*	*30*	*45*
MICHAEL AUTO BODY SH	*450 W DUARTE RD*	*SW 1/8 - 1/4 (0.188 mi.)*	*G31*	*46*

State- and tribal - equivalent NPL

RESPONSE: Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

A review of the RESPONSE list, as provided by EDR, has revealed that there is 1 RESPONSE site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TROTTER APARTMENTS	***827/829 W OLIVE AVE***	***NW 1/2 - 1 (0.811 mi.)***	***69***	***133***
AWP Facility Id: 19000008				
Status: Certified				
Facility Id: 19000008				

State- and tribal - equivalent CERCLIS

ENVIROSTOR: The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

A review of the ENVIROSTOR list, as provided by EDR, and dated 01/30/2017 has revealed that there are 7 ENVIROSTOR sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SO CAL GAS/MONROVIA	***1622 SOUTH MAGNOLIA***	***E 0 - 1/8 (0.011 mi.)***	***A5***	***11***
Facility Id: 19490222				
Facility Id: 60000166				
Status: Certified				
THE PARKS AT MONROVI	***204 & 200 WEST POMON***	***E 1/8 - 1/4 (0.132 mi.)***	***F27***	***39***
Facility Id: 60002125				
Status: Certified				
ABCO METAL FINISHING	1617-1621 SOUTH MYRT	ESE 1/8 - 1/4 (0.236 mi.)	I43	70
Facility Id: 19340734				
Status: Refer: Other Agency				
PRECISE SENSORS INC	***235 W CHESTNUT AVE***	***N 1/2 - 1 (0.553 mi.)***	***64***	***108***
Facility Id: 19360519				
Status: Refer: Other Agency				
METRO GOLD LINE FOOT	***AT SIERRA MADRE VILL***	***NE 1/2 - 1 (0.725 mi.)***	***68***	***130***
Facility Id: 60001799				
Status: Inactive - Needs Evaluation				
TROTTER APARTMENTS	***827/829 W OLIVE AVE***	***NW 1/2 - 1 (0.811 mi.)***	***69***	***133***
Facility Id: 19000008				

Status: Certified

PROPOSED SCHOOL ADDI	***845 WEST COLORADO BO***	***NW 1/2 - 1 (0.870 mi.)***	***71***	***143***

Facility Id: 60000934
Status: No Further Action

State and tribal landfill and/or solid waste disposal site lists

SWF/LF: The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills in a particular state. The data come from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database.

A review of the SWF/LF list, as provided by EDR, has revealed that there is 1 SWF/LF site within approximately 0.5 miles of the target property.

Lower Elevation	Address	Direction / Distance	Map ID	Page
ALLAN CO	***145 W DUARTE RD***	***ESE 1/8 - 1/4 (0.214 mi.)***	***H39***	***61***

Database: LOS ANGELES CO. LF, Date of Government Version: 04/17/2017
Site ID: 1564
Status: Closed

State and tribal leaking storage tank lists

LUST: Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the LUST list, as provided by EDR, has revealed that there are 13 LUST sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PACIFIC ATLAS OIL (A	***1601 MYRTLE AVE S***	***E 1/8 - 1/4 (0.236 mi.)***	***I46***	***72***

Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: LUST, Date of Government Version: 03/13/2017
Status: Open - Site Assessment
Facility Id: R-25712
Status: Leak being confirmed
Global Id: T0603705521
Global ID: T0603705521

CHEVRON #202035 (FOR	***1515 MYRTLE AVE S***	***E 1/8 - 1/4 (0.238 mi.)***	***J48***	***79***

Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: LUST, Date of Government Version: 03/13/2017
Status: Completed - Case Closed
Facility Id: I-12220
Status: Case Closed
Global Id: T0603703938
Global ID: T0603703938

MOBIL #11-LAR	***1419 MYRTLE S***	***ENE 1/4 - 1/2 (0.259 mi.)***	***52***	***87***

Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: LUST, Date of Government Version: 03/13/2017

Status: Completed - Case Closed
Facility Id: I-09356
Status: Case Closed
Global Id: T0603703390
Global ID: T0603703390

UNOCAL #5937 | 1602 MYRTLE AVE S | E 1/4 - 1/2 (0.266 mi.) | I53 | 89
Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: LUST, Date of Government Version: 03/13/2017
Status: Completed - Case Closed
Facility Id: R-24779
Status: Leak being confirmed
Global Id: T0603793011
Global Id: T0603703791
Global ID: T0603793011

UNOCAL #5937 | ***1602 MYRTLE*** | ***E 1/4 - 1/2 (0.266 mi.)*** | ***I54*** | ***93***
Database: LUST REG 4, Date of Government Version: 09/07/2004
Facility Id: I-11381
Status: Case Closed
Global ID: T0603703791

VIRGINIA HARDWOOD CO | ***116 RAILROAD AVE E*** | ***ESE 1/4 - 1/2 (0.305 mi.)*** | ***K56*** | ***95***
Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: LUST, Date of Government Version: 03/13/2017
Status: Completed - Case Closed
Facility Id: R-11436
Status: Case Closed
Global Id: T0603705044
Global ID: T0603705044

CITY OF MONROVIA | ***236 HUNTINGTON DR W*** | ***NNE 1/4 - 1/2 (0.405 mi.)*** | ***57*** | ***97***
Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: LUST, Date of Government Version: 03/13/2017
Status: Completed - Case Closed
Facility Id: I-11110
Status: Case Closed
Global Id: T0603703741
Global ID: T0603703741

STANLEY WORKS | ***200 RAILROAD AVE*** | ***E 1/4 - 1/2 (0.414 mi.)*** | ***58*** | ***100***
Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: LUST, Date of Government Version: 03/13/2017
Status: Completed - Case Closed
Facility Id: R-15678
Status: Case Closed
Global Id: T0603705261
Global ID: T0603705261

MONTEREY SHELL/ FORM | ***705 HUNTINGTON DR W*** | ***NW 1/4 - 1/2 (0.468 mi.)*** | ***M62*** | ***104***
Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: LUST, Date of Government Version: 03/13/2017
Status: Completed - Case Closed
Facility Id: R-26399
Status: Remedial action (cleanup) Underway
Global Id: T0603705537
Global ID: T0603705537

Lower Elevation	Address	Direction / Distance	Map ID	Page

SIAM MINH MOBIL STAT | ***502 DUARTE RD W*** | ***SW 1/8 - 1/4 (0.194 mi.)*** | ***G35*** | ***52***
Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: LUST, Date of Government Version: 03/13/2017

Status: Completed - Case Closed
Facility Id: I-21467
Status: Case Closed
Global Id: T0603704476
Global ID: T0603704476

NU-WAY INDUSTRIES ***145 DUARTE RD W*** ***SE 1/8 - 1/4 (0.198 mi.)*** ***H36*** ***55***
Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: LUST, Date of Government Version: 03/13/2017
Status: Completed - Case Closed
Facility Id: R-11645
Status: Case Closed
Global Id: T0603705061
Global ID: T0603705061

NU-WAY CAR WASH ***123 W DUARTE*** ***ESE 1/8 - 1/4 (0.236 mi.)*** ***H42*** ***68***
Database: LUST REG 4, Date of Government Version: 09/07/2004
Facility Id: R-11775A
Global ID: T0603726338

NU WAY CAR WASH ***123 DUARTE RD W*** ***ESE 1/8 - 1/4 (0.240 mi.)*** ***H51*** ***84***
Database: LUST REG 4, Date of Government Version: 09/07/2004
Database: LUST, Date of Government Version: 03/13/2017
Status: Completed - Case Closed
Facility Id: R-11775
Status: Case Closed
Global Id: T0603705073
Global ID: T0603705073

SLIC: Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

A review of the SLIC list, as provided by EDR, has revealed that there are 2 SLIC sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
MONTEREY SHELL/ FORM	***705 HUNTINGTON DR W***	***NW 1/4 - 1/2 (0.468 mi.)***	***M62***	***104***

Database: SLIC, Date of Government Version: 03/13/2017
Facility Status: Completed - Case Closed
Global Id: T0603716779

Lower Elevation	Address	Direction / Distance	Map ID	Page
AREMAC	***2004 S MYRTLE AV***	***SSE 1/4 - 1/2 (0.426 mi.)***	***L59***	***102***

Database: SLIC, Date of Government Version: 03/13/2017
Facility Status: Open - Inactive
Global Id: SL603798691

EXECUTIVE SUMMARY

State and tribal registered storage tank lists

UST: The Underground Storage Tank database contains registered USTs. USTs are regulated under Subtitle I of the Resource Conservation and Recovery Act (RCRA). The data come from the State Water Resources Control Board's Hazardous Substance Storage Container Database.

A review of the UST list, as provided by EDR, has revealed that there are 5 UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
PACIFIC ATLAS OIL	***1601 S MYRTLE AVE***	***E 1/8 - 1/4 (0.236 mi.)***	***I45***	***72***
Database: UST, Date of Government Version: 03/12/2017 Facility Id: 25712				
MYRTLE AUTO CLINIC I	1515 S MYRTLE AVE	E 1/8 - 1/4 (0.238 mi.)	J50	84
Database: UST, Date of Government Version: 03/12/2017 Facility Id: LACoFA0018515 Facility Id: 12220				

Lower Elevation	Address	Direction / Distance	Map ID	Page
STEVE'S SERVICE	***301 W DUARTE RD***	***S 0 - 1/8 (0.079 mi.)***	***D18***	***32***
Database: UST, Date of Government Version: 03/12/2017 Facility Id: 11862				
SIAM MINH MOBIL	502 W DUARTE RD	SW 1/8 - 1/4 (0.194 mi.)	G33	51
Database: UST, Date of Government Version: 03/12/2017 Facility Id: 21467 Facility Id: LACoFA0037851				
NU WAY CAR WASH	123 W DUARTE RD	ESE 1/8 - 1/4 (0.236 mi.)	H41	68
Database: UST, Date of Government Version: 03/12/2017 Facility Id: 11775				

State and tribal voluntary cleanup sites

VCP: Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

A review of the VCP list, as provided by EDR, and dated 01/30/2017 has revealed that there are 2 VCP sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SO CAL GAS/MONROVIA	***1622 SOUTH MAGNOLIA***	***E 0 - 1/8 (0.011 mi.)***	***A5***	***11***
Status: Certified Facility Id: 19490222 Facility Id: 60000166				
THE PARKS AT MONROVI	***204 & 200 WEST POMON***	***E 1/8 - 1/4 (0.132 mi.)***	***F27***	***39***
Status: Certified Facility Id: 60002125				

ADDITIONAL ENVIRONMENTAL RECORDS

Local Lists of Landfill / Solid Waste Disposal Sites

SWRCY: A listing of recycling facilities in California.

A review of the SWRCY list, as provided by EDR, and dated 03/13/2017 has revealed that there are 2 SWRCY sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
J P PAPER SHREDDERS Cert Id: RC0067	428 W CHESTNUT AVE	NNW 1/4 - 1/2 (0.475 mi.)	63	107

Lower Elevation	Address	Direction / Distance	Map ID	Page
ALLAN CO Cert Id: RC4438	***145 W DUARTE RD***	***ESE 1/8 - 1/4 (0.214 mi.)***	***H39***	***61***

Local Lists of Hazardous waste / Contaminated Sites

AOCONCERN: San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

A review of the AOCONCERN list, as provided by EDR, and dated 03/30/2009 has revealed that there is 1 AOCONCERN site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SAN GABRIEL VALLEY		S 1/4 - 1/2 (0.387 mi.)	0	10

HIST Cal-Sites: Formerly known as ASPIS, this database contains both known and potential hazardous substance sites. The source is the California Department of Toxic Substance Control. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

A review of the HIST Cal-Sites list, as provided by EDR, and dated 08/08/2005 has revealed that there is 1 HIST Cal-Sites site within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
TROTTER APARTMENTS	***827/829 W OLIVE AVE***	***NW 1/2 - 1 (0.811 mi.)***	***69***	***133***

Local Lists of Registered Storage Tanks

SWEEPS UST: Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

A review of the SWEEPS UST list, as provided by EDR, and dated 06/01/1994 has revealed that there are

5 SWEEPS UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JOHNSON TREE SERVICE Status: A Tank Status: A Comp Number: 11903	***450 W EVERGREEN AVE***	***WNW 0 - 1/8 (0.013 mi.)***	***B7***	***23***

Lower Elevation	Address	Direction / Distance	Map ID	Page
JACKS ARCO Status: A Tank Status: A Comp Number: 11862	***301 W DUARTE RD***	***S 0 - 1/8 (0.079 mi.)***	***D16***	***30***
MONROVIA MOBIL Status: A Tank Status: A Comp Number: 12679	***502 W DUARTE RD***	***SW 1/8 - 1/4 (0.194 mi.)***	***G32***	***49***
NU-WAY INDUSTRIES Status: A Tank Status: A Comp Number: 11645	***145 DUARTE RD W***	***SE 1/8 - 1/4 (0.198 mi.)***	***H36***	***55***
TIM WILLIAMS Status: A Tank Status: A Comp Number: 11775	***123 W DUARTE RD***	***ESE 1/8 - 1/4 (0.236 mi.)***	***H40***	***65***

HIST UST: Historical UST Registered Database.

A review of the HIST UST list, as provided by EDR, and dated 10/15/1990 has revealed that there are 4 HIST UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JOHNSON TREE SERVICE Facility Id: 00000033906	450 W EVERGREEN	WNW 0 - 1/8 (0.013 mi.)	B8	24

Lower Elevation	Address	Direction / Distance	Map ID	Page
PAYLESS GAS STATION Facility Id: 00000055883	502 W DUARTE RD	SW 1/8 - 1/4 (0.194 mi.)	G34	51
ALLAN CO Facility Id: 00000020469	***145 W DUARTE RD***	***ESE 1/8 - 1/4 (0.214 mi.)***	***H39***	***61***
NU-WAY CAR WASH Facility Id: 00000034128	***123 W DUARTE***	***ESE 1/8 - 1/4 (0.236 mi.)***	***H42***	***68***

CA FID UST: The Facility Inventory Database contains active and inactive underground storage tank locations. The source is the State Water Resource Control Board.

A review of the CA FID UST list, as provided by EDR, and dated 10/31/1994 has revealed that there are 5 CA FID UST sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JOHNSON TREE SERVICE Facility Id: 19004638 Status: A	***450 W EVERGREEN AVE***	***WNW 0 - 1/8 (0.013 mi.)***	***B7***	***23***

Lower Elevation	Address	Direction / Distance	Map ID	Page
JACKS ARCO Facility Id: 19055015 Status: A	***301 W DUARTE RD***	***S 0 - 1/8 (0.079 mi.)***	***D16***	***30***
MONROVIA MOBIL Facility Id: 19016385 Status: A	***502 W DUARTE RD***	***SW 1/8 - 1/4 (0.194 mi.)***	***G32***	***49***
NU-WAY INDUSTRIES Facility Id: 19006866 Status: A	***145 DUARTE RD W***	***SE 1/8 - 1/4 (0.198 mi.)***	***H36***	***55***
TIM WILLIAMS Facility Id: 19008283 Status: A	***123 W DUARTE RD***	***ESE 1/8 - 1/4 (0.236 mi.)***	***H40***	***65***

Other Ascertainable Records

RCRA NonGen / NLR: RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

A review of the RCRA NonGen / NLR list, as provided by EDR, and dated 12/12/2016 has revealed that there are 3 RCRA NonGen / NLR sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ABCO METAL FINISHING	***1621 S MYRTLE AVE***	***ESE 1/8 - 1/4 (0.237 mi.)***	***I47***	***76***

Lower Elevation	Address	Direction / Distance	Map ID	Page
ALLAN CO	145 W DUARTE RD	ESE 1/8 - 1/4 (0.214 mi.)	H37	58
SAN MARINO DISPOSAL	***145 W DUARTE RD***	***ESE 1/8 - 1/4 (0.214 mi.)***	***H38***	***59***

EXECUTIVE SUMMARY

HAZNET: The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000-1,000,000 annually, representing approximately 350,000-500,000 shipments. Data from non-California manifests & continuation sheets are not included at the present time. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, & disposal method. The source is the Department of Toxic Substance Control is the agency. This database begins with calendar year 1993.

A review of the HAZNET list, as provided by EDR, and dated 12/31/2015 has revealed that there is 1 HAZNET site within approximately 0.001 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SIERRA AUTO PROPERTI GEPAID: CAC002817783	1613 S MAGNOLIA AVE	0 - 1/8 (0.000 mi.)	A4	11

HIST CORTESE: The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

A review of the HIST CORTESE list, as provided by EDR, and dated 04/01/2001 has revealed that there are 11 HIST CORTESE sites within approximately 0.5 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
UNOCAL #6024 Reg Id: 2906	1551 PRIMROSE	E 1/8 - 1/4 (0.129 mi.)	F24	36
PACIFIC ATLAS OIL (A Reg Id: R-25712	***1601 MYRTLE AVE S***	***E 1/8 - 1/4 (0.236 mi.)***	***I46***	***72***
CHEVRON #202035 (FOR Reg Id: I-12220	***1515 MYRTLE AVE S***	***E 1/8 - 1/4 (0.238 mi.)***	***J48***	***79***
MOBIL #11-LAR Reg Id: I-09356	***1419 MYRTLE S***	***ENE 1/4 - 1/2 (0.259 mi.)***	***52***	***87***
UNOCAL #5937 Reg Id: I-11381	***1602 MYRTLE***	***E 1/4 - 1/2 (0.266 mi.)***	***I54***	***93***
VIRGINIA HARDWOOD CO Reg Id: R-11436	***116 RAILROAD***	***ESE 1/4 - 1/2 (0.305 mi.)***	***K55***	***94***
CITY OF MONROVIA Reg Id: I-11110	***236 HUNTINGTON DR W***	***NNE 1/4 - 1/2 (0.405 mi.)***	***57***	***97***
STANLEY WORKS Reg Id: R-15678	***200 RAILROAD AVE***	***E 1/4 - 1/2 (0.414 mi.)***	***58***	***100***
MONTEREY SHELL/ FORM Reg Id: R-26399	705 HUNTINGTON	NW 1/4 - 1/2 (0.468 mi.)	M61	104

Lower Elevation	Address	Direction / Distance	Map ID	Page
NU-WAY INDUSTRIES Reg Id: R-11645	***145 DUARTE RD W***	***SE 1/8 - 1/4 (0.198 mi.)***	***H36***	***55***
NU WAY CAR WASH Reg Id: R-11775	***123 DUARTE RD W***	***ESE 1/8 - 1/4 (0.240 mi.)***	***H51***	***84***

HWP: Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

A review of the HWP list, as provided by EDR, and dated 11/21/2016 has revealed that there are 2 HWP sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
KENNEDY CO EPA Id: CAD000062729 Cleanup Status: CLOSED	1600 SOUTH SHAMROCK	E 1/2 - 1 (0.832 mi.)	70	142

Lower Elevation	Address	Direction / Distance	Map ID	Page
MERCURY RECOVERY SER EPA Id: CAL000043715 Cleanup Status: CLOSED	2021 S MYRTLE	SSE 1/4 - 1/2 (0.429 mi.)	L60	103

Notify 65: Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

A review of the Notify 65 list, as provided by EDR, and dated 12/16/2016 has revealed that there are 3 Notify 65 sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
ABCO METAL FINISHING	1617-1621 S. MYRTLE	ESE 1/8 - 1/4 (0.236 mi.)	I44	72
AVERY DENNISON	***1620 CALIFORNIA AVE***	***E 1/2 - 1 (0.593 mi.)***	***N66***	***112***
AVERY	1616 S.CALIF. AVE.	E 1/2 - 1 (0.593 mi.)	N67	130

WIP: Well Investigation Program case in the San Gabriel and San Fernando Valley area.

A review of the WIP list, as provided by EDR, and dated 07/03/2009 has revealed that there are 4 WIP sites within approximately 0.25 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
METRIC MACHINING	***1551 S PRIMROSE AVE***	***E 1/8 - 1/4 (0.129 mi.)***	***F25***	***37***
VALLEY GRAIN PRODUCT Facility Status: Historical	1675 PRIMROSE AVE	ESE 1/8 - 1/4 (0.141 mi.)	F28	43

Lower Elevation	Address	Direction / Distance	Map ID	Page
MESA INDUSTRIES	***1726 S MAGNOLIA AVE***	***SE 0 - 1/8 (0.043 mi.)***	***D14***	***29***
RONCELLI PLASTICS, I Facility Status: Historical	330 W DUARTE RD	SSW 1/8 - 1/4 (0.130 mi.)	E26	38

EXECUTIVE SUMMARY

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

A review of the EDR MGP list, as provided by EDR, has revealed that there are 2 EDR MGP sites within approximately 1 mile of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
SO CAL GAS/MONROVIA	1622 S MAGNOLIA AVE	E 0 - 1/8 (0.011 mi.)	A6	22
SO CAL EDISON CO	W. CHESTNUT AND S. P	NNE 1/2 - 1 (0.567 mi.)	65	111

EDR Hist Auto: EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Auto list, as provided by EDR, has revealed that there are 7 EDR Hist Auto sites within approximately 0.125 miles of the target property.

Equal/Higher Elevation	Address	Direction / Distance	Map ID	Page
JIMS AUTO REPAIR	450 W EVERGREEN	WNW 0 - 1/8 (0.013 mi.)	B9	25

Lower Elevation	Address	Direction / Distance	Map ID	Page
STRAND AUTOMOTIVE	333 GENOA ST	WSW 0 - 1/8 (0.015 mi.)	C10	25
A F B ENGINERRING	335 GENOA ST	W 0 - 1/8 (0.016 mi.)	C12	28
KEENEY EDWARD M	331 GENOA ST	SSW 0 - 1/8 (0.051 mi.)	15	29
KAHABIDIAN JOHN	301 W DUERTE RD	S 0 - 1/8 (0.079 mi.)	D17	31
MONROVIA AUTOMOTIVE	309 W DUARTE RD	S 0 - 1/8 (0.099 mi.)	E19	32
GASKIN RAY SERVICE*	300 W DUARTE RD	S 0 - 1/8 (0.108 mi.)	E21	34

EDR Hist Cleaner: EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical

Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

A review of the EDR Hist Cleaner list, as provided by EDR, has revealed that there are 2 EDR Hist Cleaner sites within approximately 0.125 miles of the target property.

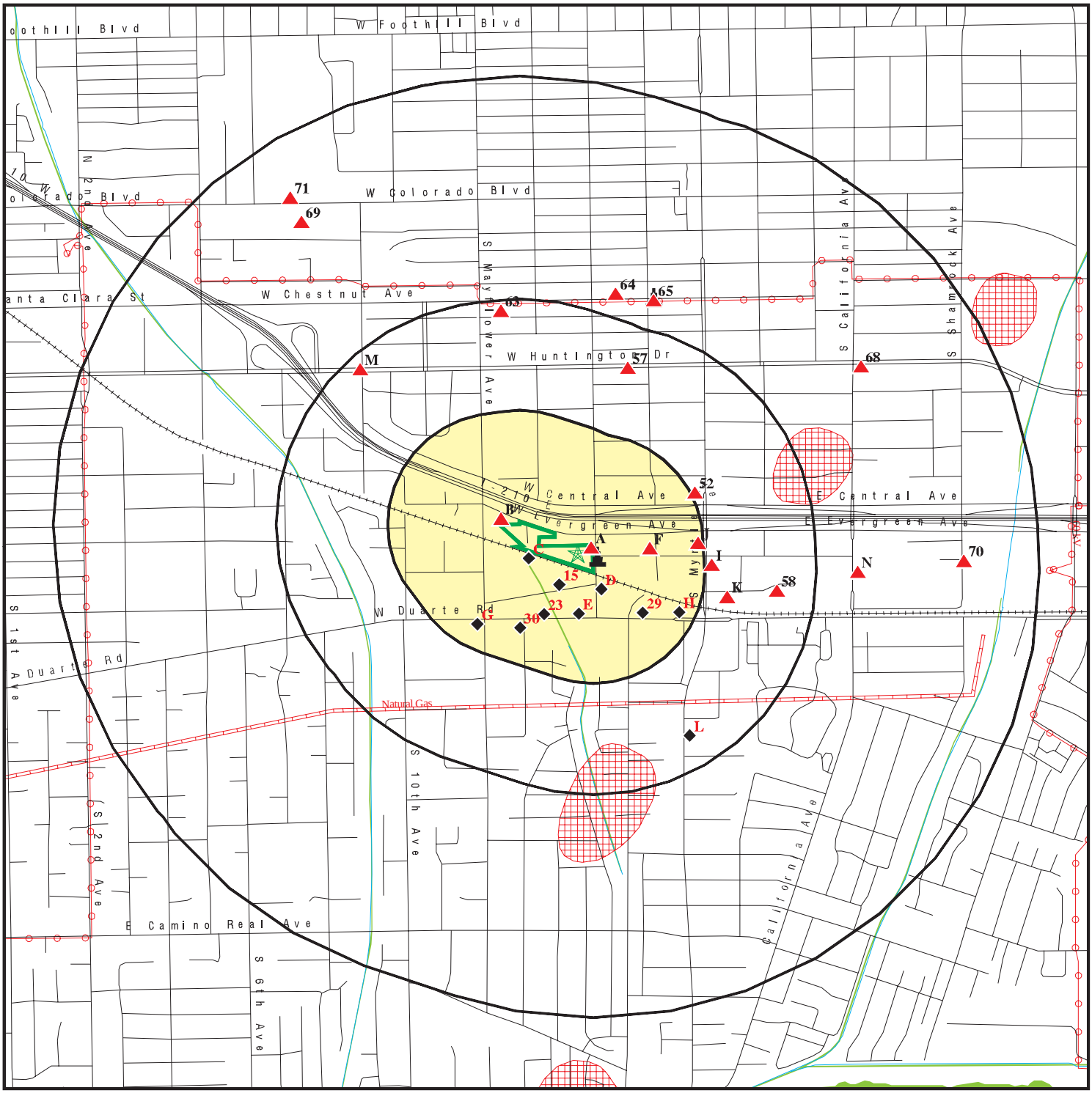
Lower Elevation	Address	Direction / Distance	Map ID	Page
LIVE OAK CARPET CLEA	1518 S MAYFLOWER AVE	WNW 0 - 1/8 (0.026 mi.)	B13	29
MON-ARC CLEANERS	343 W DUARTE RD	SSW 0 - 1/8 (0.124 mi.)	23	36

EXECUTIVE SUMMARY

Due to poor or inadequate address information, the following sites were not mapped. Count: 3 records.

Site Name	Database(s)
SHELL	LUST
MONROVIA REDEVELOPMENT AGENCY	HAZNET
EL MONTE PIT	ODI

OVERVIEW MAP - 4958658.2S



0 1/4 1/2 1 Miles

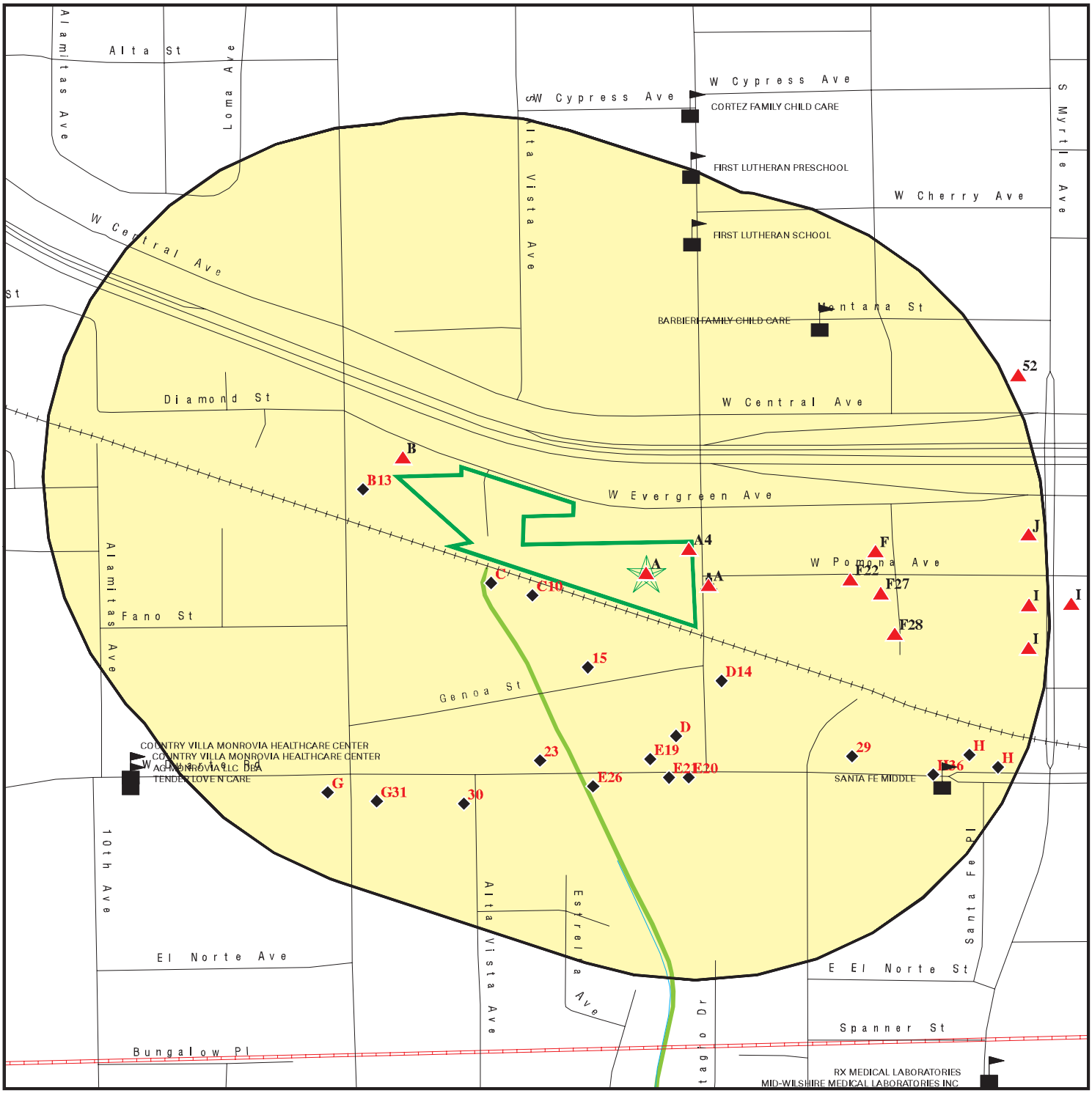
- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Power transmission lines
- Pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Alexan Monrovia	CLIENT: Frey Environmental
ADDRESS: 1625 S. Magnolia Avenue Monrovia CA 91016	CONTACT: Ed Rands
LAT/LONG: 34.134246 / 118.005792	INQUIRY #: 4958658.2s DATE: June 06, 2017 11:47 pm

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DETAIL MAP - 4958658.2S



0 1/16 1/8 1/4 Miles

- Target Property
- Sites at elevations higher than or equal to the target property
- Sites at elevations lower than the target property
- Manufactured Gas Plants
- Sensitive Receptors
- National Priority List Sites
- Dept. Defense Sites
- Indian Reservations BIA
- Pipelines
- 100-year flood zone
- 500-year flood zone
- National Wetland Inventory
- State Wetlands
- Areas of Concern

This report includes Interactive Map Layers to display and/or hide map information. The legend includes only those icons for the default map view.

SITE NAME: Alexan Monrovia	CLIENT: Frey Environmental
ADDRESS: 1625 S. Magnolia Avenue Monrovia CA 91016	CONTACT: Ed Rands
LAT/LONG: 34.134246 / 118.005792	INQUIRY #: 4958658.2s DATE: June 06, 2017 11:49 pm

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MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
STANDARD ENVIRONMENTAL RECORDS								
Federal NPL site list								
NPL	1.000		0	0	0	0	NR	0
Proposed NPL	1.000		0	0	0	0	NR	0
NPL LIENS	0.001		0	NR	NR	NR	NR	0
Federal Delisted NPL site list								
Delisted NPL	1.000		0	0	0	0	NR	0
Federal CERCLIS list								
FEDERAL FACILITY	0.500		0	0	0	NR	NR	0
SEMS	0.500		0	0	0	NR	NR	0
Federal CERCLIS NFRAP site list								
SEMS-ARCHIVE	0.500		0	1	0	NR	NR	1
Federal RCRA CORRACTS facilities list								
CORRACTS	1.000		0	0	0	0	NR	0
Federal RCRA non-CORRACTS TSD facilities list								
RCRA-TSDF	0.500		0	0	0	NR	NR	0
Federal RCRA generators list								
RCRA-LQG	0.250		0	1	NR	NR	NR	1
RCRA-SQG	0.250		3	4	NR	NR	NR	7
RCRA-CESQG	0.250		0	0	NR	NR	NR	0
Federal institutional controls / engineering controls registries								
LUCIS	0.500		0	0	0	NR	NR	0
US ENG CONTROLS	0.500		0	0	0	NR	NR	0
US INST CONTROL	0.500		0	0	0	NR	NR	0
Federal ERNS list								
ERNS	0.001		0	NR	NR	NR	NR	0
State- and tribal - equivalent NPL								
RESPONSE	1.000		0	0	0	1	NR	1
State- and tribal - equivalent CERCLIS								
ENVIROSTOR	1.000		1	2	0	4	NR	7
State and tribal landfill and/or solid waste disposal site lists								
SWF/LF	0.500		0	1	0	NR	NR	1
State and tribal leaking storage tank lists								
LUST	0.500		0	6	7	NR	NR	13

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
INDIAN LUST	0.500		0	0	0	NR	NR	0
SLIC	0.500		0	0	2	NR	NR	2
State and tribal registered storage tank lists								
FEMA UST	0.250		0	0	NR	NR	NR	0
UST	0.250		1	4	NR	NR	NR	5
AST	0.250		0	0	NR	NR	NR	0
INDIAN UST	0.250		0	0	NR	NR	NR	0
State and tribal voluntary cleanup sites								
INDIAN VCP	0.500		0	0	0	NR	NR	0
VCP	0.500		1	1	0	NR	NR	2
State and tribal Brownfields sites								
BROWNFIELDS	0.500		0	0	0	NR	NR	0
ADDITIONAL ENVIRONMENTAL RECORDS								
Local Brownfield lists								
US BROWNFIELDS	0.500		0	0	0	NR	NR	0
Local Lists of Landfill / Solid Waste Disposal Sites								
WMUDS/SWAT	0.500		0	0	0	NR	NR	0
SWRCY	0.500		0	1	1	NR	NR	2
HAULERS	0.001		0	NR	NR	NR	NR	0
INDIAN ODI	0.500		0	0	0	NR	NR	0
DEBRIS REGION 9	0.500		0	0	0	NR	NR	0
ODI	0.500		0	0	0	NR	NR	0
IHS OPEN DUMPS	0.500		0	0	0	NR	NR	0
Local Lists of Hazardous waste / Contaminated Sites								
AOCONCERN	1.000		0	0	1	0	NR	1
US HIST CDL	0.001		0	NR	NR	NR	NR	0
HIST Cal-Sites	1.000		0	0	0	1	NR	1
SCH	0.250		0	0	NR	NR	NR	0
CDL	0.001		0	NR	NR	NR	NR	0
Toxic Pits	1.000		0	0	0	0	NR	0
US CDL	0.001		0	NR	NR	NR	NR	0
Local Lists of Registered Storage Tanks								
SWEEPS UST	0.250		2	3	NR	NR	NR	5
HIST UST	0.250		1	3	NR	NR	NR	4
CA FID UST	0.250		2	3	NR	NR	NR	5
Local Land Records								
LIENS	0.001		0	NR	NR	NR	NR	0
LIENS 2	0.001		0	NR	NR	NR	NR	0
DEED	0.500		0	0	0	NR	NR	0

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
Records of Emergency Release Reports								
HMIRS	0.001		0	NR	NR	NR	NR	0
CHMIRS	0.001		0	NR	NR	NR	NR	0
LDS	0.001		0	NR	NR	NR	NR	0
MCS	0.001		0	NR	NR	NR	NR	0
SPILLS 90	0.001		0	NR	NR	NR	NR	0
Other Ascertainable Records								
RCRA NonGen / NLR	0.250		0	3	NR	NR	NR	3
FUDS	1.000		0	0	0	0	NR	0
DOD	1.000		0	0	0	0	NR	0
SCRD DRYCLEANERS	0.500		0	0	0	NR	NR	0
US FIN ASSUR	0.001		0	NR	NR	NR	NR	0
EPA WATCH LIST	0.001		0	NR	NR	NR	NR	0
2020 COR ACTION	0.250		0	0	NR	NR	NR	0
TSCA	0.001		0	NR	NR	NR	NR	0
TRIS	0.001		0	NR	NR	NR	NR	0
SSTS	0.001		0	NR	NR	NR	NR	0
ROD	1.000		0	0	0	0	NR	0
RMP	0.001		0	NR	NR	NR	NR	0
RAATS	0.001		0	NR	NR	NR	NR	0
PRP	0.001		0	NR	NR	NR	NR	0
PADS	0.001		0	NR	NR	NR	NR	0
ICIS	0.001		0	NR	NR	NR	NR	0
FTTS	0.001		0	NR	NR	NR	NR	0
MLTS	0.001		0	NR	NR	NR	NR	0
COAL ASH DOE	0.001		0	NR	NR	NR	NR	0
COAL ASH EPA	0.500		0	0	0	NR	NR	0
PCB TRANSFORMER	0.001		0	NR	NR	NR	NR	0
RADINFO	0.001		0	NR	NR	NR	NR	0
HIST FTTS	0.001		0	NR	NR	NR	NR	0
DOT OPS	0.001		0	NR	NR	NR	NR	0
CONSENT	1.000		0	0	0	0	NR	0
INDIAN RESERV	0.001		0	NR	NR	NR	NR	0
FUSRAP	1.000		0	0	0	0	NR	0
UMTRA	0.500		0	0	0	NR	NR	0
LEAD SMELTERS	0.001		0	NR	NR	NR	NR	0
US AIRS	0.001		0	NR	NR	NR	NR	0
US MINES	0.250		0	0	NR	NR	NR	0
ABANDONED MINES	0.001		0	NR	NR	NR	NR	0
FINDS	0.001		0	NR	NR	NR	NR	0
UXO	1.000		0	0	0	0	NR	0
DOCKET HWC	0.001		0	NR	NR	NR	NR	0
ECHO	0.001		0	NR	NR	NR	NR	0
FUELS PROGRAM	0.250		0	0	NR	NR	NR	0
CA BOND EXP. PLAN	1.000		0	0	0	0	NR	0
Cortese	0.500		0	0	0	NR	NR	0
CUPA Listings	0.250		0	0	NR	NR	NR	0
DRYCLEANERS	0.250		0	0	NR	NR	NR	0
EMI	0.001	1	0	NR	NR	NR	NR	1

MAP FINDINGS SUMMARY

Database	Search Distance (Miles)	Target Property	< 1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	> 1	Total Plotted
ENF	0.001		0	NR	NR	NR	NR	0
Financial Assurance	0.001		0	NR	NR	NR	NR	0
HAZNET	0.001	2	1	NR	NR	NR	NR	3
ICE	0.001		0	NR	NR	NR	NR	0
HIST CORTESE	0.500		0	5	6	NR	NR	11
LOS ANGELES CO. HMS	0.001		0	NR	NR	NR	NR	0
HWP	1.000		0	0	1	1	NR	2
HWT	0.250		0	0	NR	NR	NR	0
MINES	0.001		0	NR	NR	NR	NR	0
MWMP	0.250		0	0	NR	NR	NR	0
NPDES	0.001		0	NR	NR	NR	NR	0
PEST LIC	0.001		0	NR	NR	NR	NR	0
PROC	0.500		0	0	0	NR	NR	0
Notify 65	1.000		0	1	0	2	NR	3
LA Co. Site Mitigation	0.001		0	NR	NR	NR	NR	0
UIC	0.001		0	NR	NR	NR	NR	0
WASTEWATER PITS	0.500		0	0	0	NR	NR	0
WDS	0.001		0	NR	NR	NR	NR	0
WIP	0.250		1	3	NR	NR	NR	4
EDR HIGH RISK HISTORICAL RECORDS								
EDR Exclusive Records								
EDR MGP	1.000		1	0	0	1	NR	2
EDR Hist Auto	0.125		7	NR	NR	NR	NR	7
EDR Hist Cleaner	0.125		2	NR	NR	NR	NR	2
EDR RECOVERED GOVERNMENT ARCHIVES								
Exclusive Recovered Govt. Archives								
RGA LF	0.001		0	NR	NR	NR	NR	0
RGA LUST	0.001		0	NR	NR	NR	NR	0
- Totals --		3	23	42	18	10	0	96

NOTES:

TP = Target Property

NR = Not Requested at this Search Distance

Sites may be listed in more than one database

A1
Target
Property

STONE AND PHILLIPS
1625 S MAGNOLIA AVE
MONROVIA, CA 91016

HAZNET **S112946961**
N/A

Site 1 of 6 in cluster A

Actual:
438 ft.

HAZNET:

envid:	S112946961
Year:	2005
GEPAID:	CAC002592778
Contact:	LARRY MACK
Telephone:	6263594571
Mailing Name:	Not reported
Mailing Address:	1625 S MAGNOLIA AVE
Mailing City,St,Zip:	MONROVIA, CA 910164509
Gen County:	Not reported
TSD EPA ID:	NVT330010000
TSD County:	Not reported
Waste Category:	Unspecified oil-containing waste
Disposal Method:	Disposal, Land Fill
Tons:	0.22
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Los Angeles

envid:	S112946961
Year:	2005
GEPAID:	CAC002592778
Contact:	LARRY MACK
Telephone:	6263594571
Mailing Name:	Not reported
Mailing Address:	1625 S MAGNOLIA AVE
Mailing City,St,Zip:	MONROVIA, CA 910164509
Gen County:	Not reported
TSD EPA ID:	NVT330010000
TSD County:	Not reported
Waste Category:	Other organic solids
Disposal Method:	Disposal, Land Fill
Tons:	0.06
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Los Angeles

envid:	S112946961
Year:	2005
GEPAID:	CAC002592778
Contact:	LARRY MACK
Telephone:	6263594571
Mailing Name:	Not reported
Mailing Address:	1625 S MAGNOLIA AVE
Mailing City,St,Zip:	MONROVIA, CA 910164509
Gen County:	Not reported
TSD EPA ID:	NVT330010000
TSD County:	Not reported
Waste Category:	Off-specification, aged or surplus organics
Disposal Method:	Disposal, Land Fill
Tons:	0.68
Cat Decode:	Not reported
Method Decode:	Not reported

STONE AND PHILLIPS (Continued) **S112946961**

Facility County: Los Angeles

A2 **CALCRAFT CO** **EMI** **S106827739**
Target **1625 SO. MAGNOLIA AV.** **N/A**
Property **MONROVIA, CA 91016**

Site 2 of 6 in cluster A

Actual:
438 ft.

EMI:

Year:	1987
County Code:	19
Air Basin:	SC
Facility ID:	17590
Air District Name:	SC
SIC Code:	2511
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	1990
County Code:	19
Air Basin:	SC
Facility ID:	17590
Air District Name:	SC
SIC Code:	2
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	1993
County Code:	19
Air Basin:	SC
Facility ID:	17590
Air District Name:	SC
SIC Code:	2
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0

CALCRAFT CO (Continued) **S106827739**

Part. Matter 10 Micrometers and Smllr Tons/Yr:0

Year:	1995
County Code:	19
Air Basin:	SC
Facility ID:	17590
Air District Name:	SC
SIC Code:	2
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

A3
Target Property
Actual: 438 ft.

STONE AND PHILLIPS **HAZNET** **S112884842**
1625 S MAGNOLIA AV **N/A**
MONROVIA, CA 91016

Site 3 of 6 in cluster A

HAZNET:

envid:	S112884842
Year:	1998
GEPAID:	CAC001356664
Contact:	STONE AND PHILLIPS
Telephone:	6263594571
Mailing Name:	Not reported
Mailing Address:	1625 S MAGNOLIA AV
Mailing City,St,Zip:	MONROVIA, CA 910160000
Gen County:	Not reported
TSD EPA ID:	CAD000088252
TSD County:	Not reported
Waste Category:	Other organic solids
Disposal Method:	Transfer Station
Tons:	.0500
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Los Angeles

Areas of Concern South 1/4-1/2 2043 ft.

SAN GABRIEL VALLEY **AOCONCERN** **CCA0000001**
N/A

LOS ANGELES (County), CA

AOCONCERN:
area where VOC contamination is at or above the MCL as designated by region 9 EPA office

A4 **SIERRA AUTO PROPERTIES - 1613 MAGNOLIA** **HAZNET** **S118920856**
1613 S MAGNOLIA AVE **N/A**
< 1/8 **MONROVIA, CA 91016**
1 ft.

Site 4 of 6 in cluster A

Relative:
Higher

Actual:
442 ft.

HAZNET:

envid:	S118920856
Year:	2015
GEPAID:	CAC002817783
Contact:	DAVID BOWER
Telephone:	6263585555
Mailing Name:	Not reported
Mailing Address:	1450 S SHAMROCK AVE # 60
Mailing City,St,Zip:	MONROVIA, CA 910164267
Gen County:	Los Angeles
TSD EPA ID:	AZC950823111
TSD County:	99
Waste Category:	Asbestos containing waste
Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	0.23
Cat Decode:	Asbestos containing waste
Method Decode:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Facility County:	Los Angeles

envid:	S118920856
Year:	2015
GEPAID:	CAC002817783
Contact:	DAVID BOWER
Telephone:	6263585555
Mailing Name:	Not reported
Mailing Address:	1450 S SHAMROCK AVE # 60
Mailing City,St,Zip:	MONROVIA, CA 910164267
Gen County:	Los Angeles
TSD EPA ID:	NVT330010000
TSD County:	99
Waste Category:	Other organic solids
Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	0.05
Cat Decode:	Other organic solids
Method Decode:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Facility County:	Los Angeles

A5 **SO CAL GAS/MONROVIA MGP** **ENVIROSTOR** **S106836061**
East **1622 SOUTH MAGNOLIA AVENUE** **VCP** **N/A**
< 1/8 **MONROVIA, CA 91016** **EMI**
0.011 mi.
56 ft.

Site 5 of 6 in cluster A

Relative:
Higher

Actual:
440 ft.

ENVIROSTOR:

Facility ID:	19490222
Status:	Certified
Status Date:	11/03/2014
Site Code:	300333
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup

SO CAL GAS/MONROVIA MGP (Continued) **S106836061**

Acres:	0.6
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Cleanup Chatsworth
Assembly:	41
Senate:	25
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.13374
Longitude:	-118.0040
APN:	8507-003-054, 8507003917
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	* HALOGENATED ORGANIC COMPOUNDS * HYDROCARBON SOLVENTS * ORGANIC LIQUIDS WITH METALS * ORGANIC SOLIDS WITH HALOGENS * OTHER ORGANIC SOLIDS * CONTAMINATED SOIL * OFF-SPECIFICATION, AGED, OR SURPLUS ORGANICS Asbestos Containing Materials (ACM * UNSPECIFIED OIL CONTAINING WASTE * UNSPECIFIED SOLVENT MIXTURES * WASTE OIL & MIXED OIL * ORGANIC LIQUIDS (NONSOLVENTS) WITH HALOGENS * UNSPECIFIED ORGANIC LIQUID MIXTURE * SULFUR SLUDGE Arsenic Lead Cyanide (free Polynuclear aromatic hydrocarbons (PAHs
Confirmed COC:	NONE SPECIFIED
Potential Description:	OTH, SOIL
Alias Name:	MONROVIA - ADJACENT TO METRIC MACHINING
Alias Type:	Alternate Name
Alias Name:	MONROVIA MANUFACTURED GAS PLANT
Alias Type:	Alternate Name
Alias Name:	MONROVIA TOWNE GAS PLANT
Alias Type:	Alternate Name
Alias Name:	SOUTEHRN CALIFORNIA GAS - MONROVIA MGP
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS - MONROVIA MGP
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS COMPANY
Alias Type:	Alternate Name
Alias Name:	8507-003-054
Alias Type:	APN
Alias Name:	8507003917
Alias Type:	APN
Alias Name:	110033615684
Alias Type:	EPA (FRS #)
Alias Name:	300333
Alias Type:	Project Code (Site Code)
Alias Name:	19490222
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Workplan
Completed Date:	03/04/2003
Comments:	DTSC approved RAW on 3/4/03. Proposed remedial activities include the

SO CAL GAS/MONROVIA MGP (Continued) **S106836061**

removal of approximately 3,864 cubic yards of soil. Previously identified chemicals of potential concern include PAHs and BTX. Removal activities are anticipated to last approximately 40 days. DTSC placed the special Initial Study, Negaive Declaration, and De Minimis Impact for public review. There were two written comments received. DTSC provided a response to the two comments. The comments were not substantial and did not result in any changes to the CEQA documents. DTSC approved the CEQA on 3/4/03.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 12/31/2002
Comments: DTSC approved Site Characterization activities in December 2002. Contaminants of concern included PAHs & BTEX.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/05/1993
Comments: The Department completed review of the PEA on January 4, 1993. The levels of the contaminants at the site were above the regulatory limit. Therefore, the Department recommended further investigation or assessment of the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 07/14/1992
Comments: The Dept received a notice of intent to initiate a PEA for the site. The reports indicate that the site appears to be used as part of an industrial operation. The gas production at the site began in 1905 and ended in 1910. The site approximately .06 acres in size.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 09/27/2005
Comments: The Department of Toxic Substances Control (DTSC) has reviewed the PROPOSED SUPPLEMENTAL SITE INVESTIGATION, FORMER MONROVIA MANUFACTURED GAS PLANT SITE, 1622 SOUTH MAGNOLIA STREET, MONROVIA, CALIFORNIA, SEPTEMBER 6, 2005. DTSC approves the proposed Supplemental Sampling. However; DTSC may require additional sampling based on visual observations in the field.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 03/15/2007
Comments: Supplemental Site Investigation Report was reviewed by DTSC. Based on the results of Additional off-site step out sampling additional removal action is necessary in the areas as described in DTSCs comments.A Supplemental Removal Action Workplan should be submitted to DTSC for review & comment prior to any removal activities.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

SO CAL GAS/MONROVIA MGP (Continued) **S106836061**

Completed Document Type: Removal Action Workplan
Completed Date: 08/07/2008
Comments: Addendum RAW was approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 11/05/2008
Comments: Field work was completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 05/15/2009
Comments: The results of the post remediation soil gas sampling did not indicate the presence of either naphthalene or benzene. Any potential MGP-related compounds (i.e., xylenes and toluene) were detected in soil gas at levels well below residential screening concentrations.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 09/14/2011
Comments: Report was approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 03/20/2003
Comments: Field work was completed on March 19th and 20th, 2003.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 10/20/2008
Comments: Workplan submitted

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 09/15/2010
Comments: Time Critical Removal Action letter report approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Initial Study/ Neg. Declaration
Completed Date: 03/04/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 06/30/2014
Comments: Site certification letter was sent.

Future Area Name: Not reported
Future Sub Area Name: Not reported

SO CAL GAS/MONROVIA MGP (Continued) **S106836061**

Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Facility ID: 60000166
Status: Certified
Status Date: 11/03/2014
Site Code: 301306
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 2.2
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Javier Hinojosa
Division Branch: Cleanup Chatsworth
Assembly: 41
Senate: 25
Special Program: CLRRA Liability Immunity (AB 389)
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.13362
Longitude: -118.0044
APN: 8507-003-054, 8507003917
Past Use: MACHINE SHOP, MANUFACTURING - METAL
Potential COC: Arsenic Polynuclear aromatic hydrocarbons (PAHs TPH-MOTOR OIL
Confirmed COC: Polynuclear aromatic hydrocarbons (PAHs Arsenic TPH-MOTOR OIL
Potential Description: SOIL
Alias Name: METRIC MACHINING - ADJACENT TO MONROVIA
Alias Type: Alternate Name
Alias Name: 8507-003-054
Alias Type: APN
Alias Name: 8507003917
Alias Type: APN
Alias Name: 110033610616
Alias Type: EPA (FRS #)
Alias Name: 301276
Alias Type: Project Code (Site Code)
Alias Name: 301306
Alias Type: Project Code (Site Code)
Alias Name: 60000166
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: California Land Reuse and Revitalization Agreement
Completed Date: 11/21/2006
Comments: AB389 agreement was finalized and signed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

SO CAL GAS/MONROVIA MGP (Continued) **S106836061**

Completed Document Type: Certification
Completed Date: 06/30/2014
Comments: Remedial Action Certification complete.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/17/2006
Comments: Voluntary Cleanup agreement signed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 02/08/2008
Comments: PEA Workplan was approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement Termination Notification
Completed Date: 12/26/2006
Comments: VCA was terminated for the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/11/2010
Comments: Report approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: AB 389 Response Plan
Completed Date: 02/11/2010
Comments: Response Plan approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 03/07/2012
Comments: Revised RACR letter, no further action required for site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 10/25/2005
Comments: Additional investigation is necessary based on a site reconnaissance, review of historical information and environmental databases, and interviews with Metric representatives.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 12/05/2005
Comments: Phase 2 ESA submitted

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report

SO CAL GAS/MONROVIA MGP (Continued) **S106836061**

Completed Date:	06/24/2014
Comments:	Evaluation of potential Off-site concerns completed for Redevelopment agency.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

VCP:

Facility ID:	19490222
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	0.6
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Cleanup Chatsworth
Site Code:	300333
Assembly:	41
Senate:	25
Special Programs Code:	Voluntary Cleanup Program
Status:	Certified
Status Date:	11/03/2014
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	34.13374 / -118.0040
APN:	8507-003-054, 8507003917
Past Use:	MANUFACTURED GAS PLANT
Potential COC:	10002, 10009, 10061, 10063, 10064, 10097, 10100, 40001, 10196, 10198, 10199, 20010, 20017, 20027, 30001, 30013, 30160, 30019
Confirmed COC:	NONE SPECIFIED
Potential Description:	OTH, SOIL
Alias Name:	MONROVIA - ADJACENT TO METRIC MACHINING
Alias Type:	Alternate Name
Alias Name:	MONROVIA MANUFACTURED GAS PLANT
Alias Type:	Alternate Name
Alias Name:	MONROVIA TOWNE GAS PLANT
Alias Type:	Alternate Name
Alias Name:	SOUTEHRN CALIFORNIA GAS - MONROVIA MGP
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS - MONROVIA MGP
Alias Type:	Alternate Name
Alias Name:	SOUTHERN CALIFORNIA GAS COMPANY
Alias Type:	Alternate Name
Alias Name:	8507-003-054

SO CAL GAS/MONROVIA MGP (Continued) **S106836061**

Alias Type: APN
Alias Name: 8507003917
Alias Type: APN
Alias Name: 110033615684
Alias Type: EPA (FRS #)
Alias Name: 300333
Alias Type: Project Code (Site Code)
Alias Name: 19490222
Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 03/04/2003
Comments: DTSC approved RAW on 3/4/03. Proposed remedial activities include the removal of approximately 3,864 cubic yards of soil. Previously identified chemicals of potential concern include PAHs and BTX. Removal activities are anticipated to last approximately 40 days. DTSC placed the special Initial Study, Negaive Declaration, and De Minimis Impact for public review. There were two written comments received. DTSC provided a response to the two comments. The comments were not substantial and did not result in any changes to the CEQA documents. DTSC approved the CEQA on 3/4/03.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 12/31/2002
Comments: DTSC approved Site Characterization activities in December 2002. Contaminants of concern included PAHs & BTEX.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/05/1993
Comments: The Department completed review of the PEA on January 4, 1993. The levels of the contaminants at the site were above the regulatory limit. Therefore, the Department recommended further investigation or assessment of the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Screening
Completed Date: 07/14/1992
Comments: The Dept received a notice of intent to initiate a PEA for the site. The reports indicate that the site appears to be used as part of an industrial operation. The gas production at the site began in 1905 and ended in 1910. The site approximately .06 acres in size.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Other Report
Completed Date: 09/27/2005
Comments: The Department of Toxic Substances Control (DTSC) has reviewed the PROPOSED SUPPLEMENTAL SITE INVESTIGATION, FORMER MONROVIA MANUFACTURED GAS PLANT SITE, 1622 SOUTH MAGNOLIA STREET, MONROVIA, CALIFORNIA, SEPTEMBER 6, 2005. DTSC approves the proposed

SO CAL GAS/MONROVIA MGP (Continued) **S106836061**

Supplemental Sampling. However; DTSC may require additional sampling based on visual observations in the field.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 03/15/2007
Comments: Supplemental Site Investigation Report was reviewed by DTSC. Based on the results of Additional off-site step out sampling additional removal action is necessary in the areas as described in DTSCs comments.A Supplemental Removal Action Workplan should be submitted to DTSC for review & comment prior to any removal activities.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 08/07/2008
Comments: Addendum RAW was approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 11/05/2008
Comments: Field work was completed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 05/15/2009
Comments: The results of the post remediation soil gas sampling did not indicate the presence of either naphthalene or benzene. Any potential MGP-related compounds (i.e., xylenes and toluene) were detected in soil gas at levels well below residential screening concentrations.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 09/14/2011
Comments: Report was approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Report
Completed Date: 03/20/2003
Comments: Field work was completed on March 19th and 20th, 2003.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Technical Workplan
Completed Date: 10/20/2008
Comments: Workplan submitted

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Remedial Action Completion Report
Completed Date: 09/15/2010
Comments: Time Critical Removal Action letter report approved.

SO CAL GAS/MONROVIA MGP (Continued) **S106836061**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Initial Study/ Neg. Declaration
Completed Date:	03/04/2003
Comments:	Not reported

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Certification
Completed Date:	06/30/2014
Comments:	Site certification letter was sent.

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

Facility ID:	60000166
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	2.2
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Javier Hinojosa
Division Branch:	Cleanup Chatsworth
Site Code:	301306
Assembly:	41
Senate:	25
Special Programs Code:	CLRRA Liability Immunity (AB 389)
Status:	Certified
Status Date:	11/03/2014
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	34.13362 / -118.0044
APN:	8507-003-054, 8507003917
Past Use:	MACHINE SHOP, MANUFACTURING - METAL
Potential COC:	30001, 30019, 3002502
Confirmed COC:	30019,30001,3002502
Potential Description:	SOIL
Alias Name:	METRIC MACHINING - ADJACENT TO MONROVIA
Alias Type:	Alternate Name
Alias Name:	8507-003-054
Alias Type:	APN
Alias Name:	8507003917
Alias Type:	APN
Alias Name:	110033610616
Alias Type:	EPA (FRS #)
Alias Name:	301276

SO CAL GAS/MONROVIA MGP (Continued) **S106836061**

Alias Type: Project Code (Site Code)
Alias Name: 301306
Alias Type: Project Code (Site Code)
Alias Name: 60000166
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: California Land Reuse and Revitalization Agreement
Completed Date: 11/21/2006
Comments: AB389 agreement was finalized and signed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 06/30/2014
Comments: Remedial Action Certification complete.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 01/17/2006
Comments: Voluntary Cleanup agreement signed.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 02/08/2008
Comments: PEA Workplan was approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement Termination Notification
Completed Date: 12/26/2006
Comments: VCA was terminated for the site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 02/11/2010
Comments: Report approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: AB 389 Response Plan
Completed Date: 02/11/2010
Comments: Response Plan approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 03/07/2012
Comments: Revised RACR letter, no further action required for site.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1

SO CAL GAS/MONROVIA MGP (Continued) **S106836061**

Completed Date:	10/25/2005
Comments:	Additional investigation is necessary based on a site reconnaissance, review of historical information and environmental databases, and interviews with Metric representatives.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	12/05/2005
Comments:	Phase 2 ESA submitted
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Report
Completed Date:	06/24/2014
Comments:	Evaluation of potential Off-site concerns completed for Redevelopment agency.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

EMI:

Year:	1987
County Code:	19
Air Basin:	SC
Facility ID:	6125
Air District Name:	SC
SIC Code:	2511
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	4
Reactive Organic Gases Tons/Yr:	4
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

A6 **SO CAL GAS/MONROVIA** **EDR MGP** **1008407719**
East **1622 S MAGNOLIA AVE** **N/A**
< 1/8 **MONROVIA, CA 91016**
0.011 mi.
56 ft. **Site 6 of 6 in cluster A**

Relative:
Higher

Actual:
440 ft.

Manufactured Gas Plants:

Site located at 1622 South Magnolia Street in Monrovia, California. The former MGP site occupies approximately 0.6 acres within the property. An oil gas plant operates at the site from 1905 until 1917. Sometime in 1917, the MGP was converted to a reggulating station and storage site. It is believed that

SO CAL GAS/MONROVIA (Continued) **1008407719**

between 1917 to 1921, the gas generating and processing equipment was dismantled. Various businesses have occupied the site since 1965.

B7
WNW
< 1/8
0.013 mi.
71 ft.

JOHNSON TREE SERVICE
450 W EVERGREEN AVE
MONROVIA, CA 91016

SWEEPS UST **S101618269**
CA FID UST **N/A**
LOS ANGELES CO. HMS

Site 1 of 4 in cluster B

Relative:
Higher

Actual:
439 ft.

SWEEPS UST:

Status:	Active
Comp Number:	11903
Number:	9
Board Of Equalization:	44-009557
Referral Date:	06-30-89
Action Date:	Not reported
Created Date:	06-30-89
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-000-011903-000001
Tank Status:	A
Capacity:	Not reported
Active Date:	06-30-89
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	2

Status:	Active
Comp Number:	11903
Number:	9
Board Of Equalization:	44-009557
Referral Date:	06-30-89
Action Date:	Not reported
Created Date:	06-30-89
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-000-011903-000002
Tank Status:	A
Capacity:	Not reported
Active Date:	06-30-89
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	Not reported

CA FID UST:

Facility ID:	19004638
Regulated By:	UTNKA
Regulated ID:	00033906
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	8180000000
Mail To:	Not reported
Mailing Address:	450 W EVERGREEN
Mailing Address 2:	Not reported
Mailing City,St,Zip:	MONROVIA
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported

JOHNSON TREE SERVICE (Continued) **S101618269**

NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

LOS ANGELES CO. HMS:
Region: LA
Permit Category: T
Facility Id: 011836-011903
Facility Type: 0
Facility Status: Removed
Area: 3G
Permit Number: 00003479T
Permit Status: Removed

B8 **JOHNSON TREE SERVICE INC** **HIST UST** **U001566536**
WNW **450 W EVERGREEN** **N/A**
< 1/8 **MONROVIA, CA 91016**
0.013 mi.
71 ft. **Site 2 of 4 in cluster B**

Relative:
Higher

Actual:
439 ft.

HIST UST:
File Number: 0002720F
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/0002720F.pdf
Region: STATE
Facility ID: 00000033906
Facility Type: Other
Other Type: TREE SERVICE YARD
Contact Name: CLARENCE T. SMITH V.P.
Telephone: 8184475239
Owner Name: JOHNSON TREE SERVICE INC.
Owner Address: 450 W. EVERGREEN
Owner City,St,Zip: MONROVIA, CA 91016
Total Tanks: 0002

Tank Num: 001
Container Num: 2
Year Installed: Not reported
Tank Capacity: 00000994
Tank Used for: PRODUCT
Type of Fuel: DIESEL
Container Construction Thickness: 1/4
Leak Detection: None

Tank Num: 002
Container Num: 1
Year Installed: Not reported
Tank Capacity: 00001000
Tank Used for: PRODUCT
Type of Fuel: REGULAR
Container Construction Thickness: 1/4
Leak Detection: None

Click here for Geo Tracker PDF:

B9
WNW
< 1/8
0.013 mi.
71 ft.

JIMS AUTO REPAIR
450 W EVERGREEN
MONROVIA, CA 91016

EDR Hist Auto **1021844288**
N/A

Site 3 of 4 in cluster B

Relative:
Higher

Actual:
439 ft.

EDR Hist Auto

Year:	Name:	Type:
1979	JIMS AUTO REPAIR	General Automotive Repair Shops

C10
WSW
< 1/8
0.015 mi.
79 ft.

STRAND AUTOMOTIVE
333 GENOA ST
MONROVIA, CA 91016

EDR Hist Auto **1020504799**
N/A

Site 1 of 3 in cluster C

Relative:
Lower

Actual:
429 ft.

EDR Hist Auto

Year:	Name:	Type:
1991	PEDRONIS AUTOMOTIVE	General Automotive Repair Shops
1996	STRAND AUTOMOTIVE	General Automotive Repair Shops
1997	STRAND AUTOMOTIVE	General Automotive Repair Shops

C11
West
< 1/8
0.016 mi.
83 ft.

LIEDER DEVELOPMENT INC
335 GENOA ST
MONROVIA, CA 91016

RCRA-SQG **1000187952**
FINDS **CAD981668981**
ECHO
HAZNET

Site 2 of 3 in cluster C

Relative:
Lower

Actual:
427 ft.

RCRA-SQG:

Date form received by agency:	12/12/1986
Facility name:	LIEDER DEVELOPMENT INC
Facility address:	335 GENOA ST MONROVIA, CA 91016
EPA ID:	CAD981668981
Contact:	ENVIRONMENTAL MANAGER
Contact address:	335 GENOA ST MONROVIA, CA 91016
Contact country:	US
Contact telephone:	(818) 358-1531
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	GORDON LESLIE
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner

LIEDER DEVELOPMENT INC (Continued) **1000187952**

Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002743826

Environmental Interest/Information System
California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000187952
Registry ID: 110002743826
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002743826

LIEDER DEVELOPMENT INC (Continued) **1000187952**

HAZNET:

envid:	1000187952
Year:	2006
GEPAID:	CAD981668981
Contact:	G B SEYFERT EXEC VP/GEN MGR
Telephone:	6263581531
Mailing Name:	Not reported
Mailing Address:	335 GENOA ST
Mailing City,St,Zip:	MONROVIA, CA 910164550
Gen County:	Not reported
TSD EPA ID:	NVT330010000
TSD County:	Not reported
Waste Category:	Unspecified organic liquid mixture
Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	0.2
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Los Angeles

envid:	1000187952
Year:	2006
GEPAID:	CAD981668981
Contact:	G B SEYFERT EXEC VP/GEN MGR
Telephone:	6263581531
Mailing Name:	Not reported
Mailing Address:	335 GENOA ST
Mailing City,St,Zip:	MONROVIA, CA 910164550
Gen County:	Not reported
TSD EPA ID:	NVT330010000
TSD County:	Not reported
Waste Category:	Other organic solids
Disposal Method:	Landfill Or Surface Impoundment That Will Be Closed As Landfill(To Include On-Site Treatment And/Or Stabilization)
Tons:	Not reported
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Los Angeles

envid:	1000187952
Year:	2005
GEPAID:	CAD981668981
Contact:	G B SEYFERT EXEC VP/GEN MGR
Telephone:	6263581531
Mailing Name:	Not reported
Mailing Address:	335 GENOA ST
Mailing City,St,Zip:	MONROVIA, CA 910164550
Gen County:	Not reported
TSD EPA ID:	CAD981696420
TSD County:	Not reported
Waste Category:	Waste oil and mixed oil
Disposal Method:	Transfer Station
Tons:	0.62
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Los Angeles

LIEDER DEVELOPMENT INC (Continued) **1000187952**

envid:	1000187952
Year:	2005
GEPAID:	CAD981668981
Contact:	G B SEYFERT EXEC VP/GEN MGR
Telephone:	6263581531
Mailing Name:	Not reported
Mailing Address:	335 GENOA ST
Mailing City,St,Zip:	MONROVIA, CA 910164550
Gen County:	Not reported
TSD EPA ID:	CAD097030993
TSD County:	Not reported
Waste Category:	Unspecified aqueous solution
Disposal Method:	Recycler
Tons:	0.15
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Los Angeles

envid:	1000187952
Year:	2005
GEPAID:	CAD981668981
Contact:	G B SEYFERT EXEC VP/GEN MGR
Telephone:	6263581531
Mailing Name:	Not reported
Mailing Address:	335 GENOA ST
Mailing City,St,Zip:	MONROVIA, CA 910164550
Gen County:	Not reported
TSD EPA ID:	CAD097030993
TSD County:	Not reported
Waste Category:	Unspecified aqueous solution
Disposal Method:	Not reported
Tons:	0.15
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Los Angeles

Click this hyperlink while viewing on your computer to access
53 additional CA_HAZNET: record(s) in the EDR Site Report.

C12
West
< 1/8
0.016 mi.
83 ft.

A F B ENGINERRING **EDR Hist Auto** **1021891728**
335 GENOA ST **N/A**
MONROVIA, CA 91016

Site 3 of 3 in cluster C

Relative:
Lower

Actual:
427 ft.

EDR Hist Auto

Year:	Name:	Type:
1987	A F B ENGINERRING	General Automotive Repair Shops
1988	A F B ENGINERRING	General Automotive Repair Shops
1989	A F B ENGINERRING	General Automotive Repair Shops
1990	A F B ENGINERRING	General Automotive Repair Shops
1991	A F B ENGINEERING	General Automotive Repair Shops
1992	A F B ENGINEERING	General Automotive Repair Shops
1993	A F B ENGINEERING	General Automotive Repair Shops

B13 **LIVE OAK CARPET CLEANING** **EDR Hist Cleaner** **1018793263**
WNW **1518 S MAYFLOWER AVE** **N/A**
< 1/8 **MONROVIA, CA 91016**
0.026 mi.
136 ft. **Site 4 of 4 in cluster B**

Relative:
Lower

Actual:
437 ft.

EDR Hist Cleaner

Year:	Name:	Type:
2006	LIVE OAK CARPET CLEANING	Carpet And Upholstery Cleaning
2007	LIVE OAK CARPET CLEANING	Carpet And Upholstery Cleaning
2008	LIVE OAK CARPET CLEANING	Carpet And Upholstery Cleaning

D14 **MESA INDUSTRIES** **HAZNET** **S102824995**
SE **1726 S MAGNOLIA AVE** **WIP** **N/A**
< 1/8 **MONROVIA, CA 91016**
0.043 mi.
225 ft. **Site 1 of 4 in cluster D**

Relative:
Lower

Actual:
434 ft.

HAZNET:

envid:	S102824995
Year:	2013
GEPAID:	CAC002744043
Contact:	KENT SEXTON
Telephone:	8183599361
Mailing Name:	Not reported
Mailing Address:	1726 S MAGNOLIA AVE
Mailing City,St,Zip:	MONROVIA, CA 91016
Gen County:	Los Angeles
TSD EPA ID:	CAD008252405
TSD County:	Los Angeles
Waste Category:	Not reported
Disposal Method:	Fuel Blending Prior To Energy Recovery At Another Site
Tons:	0.1815
Cat Decode:	Not reported
Method Decode:	Not reported
Facility County:	Not reported

WIP:

Region:	4
File Number:	106.2055
File Status:	**Not reported**
Staff:	UNIDENTIFIED
Facility Suite:	Not reported

---

15 **KEENEY EDWARD M** **EDR Hist Auto** **1020872918**
SSW **331 GENOA ST** **N/A**
< 1/8 **MONROVIA, CA 91016**
0.051 mi.
270 ft.

Relative:
Lower

Actual:
427 ft.

EDR Hist Auto

Year:	Name:	Type:
1974	KEENEY EDWARD M	Automotive Repair Shops, NEC
1975	KEENEY EDWARD M	Automotive Repair Shops, NEC

D16 **JACKS ARCO** **SWEEPS UST** **S101587173**
South **301 W DUARTE RD** **CA FID UST** **N/A**
< 1/8 **MONROVIA, CA**
0.079 mi.
415 ft. **Site 2 of 4 in cluster D**

Relative:
Lower

Actual:
429 ft.

SWEEPS UST:

Status:	Active
Comp Number:	11862
Number:	9
Board Of Equalization:	44-009530
Referral Date:	06-30-89
Action Date:	Not reported
Created Date:	06-30-89
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-000-011862-000001
Tank Status:	A
Capacity:	Not reported
Active Date:	06-30-89
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	3

Status:	Active
Comp Number:	11862
Number:	9
Board Of Equalization:	44-009530
Referral Date:	06-30-89
Action Date:	Not reported
Created Date:	06-30-89
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-000-011862-000002
Tank Status:	A
Capacity:	Not reported
Active Date:	06-30-89
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	11862
Number:	9
Board Of Equalization:	44-009530
Referral Date:	06-30-89
Action Date:	Not reported
Created Date:	06-30-89
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-000-011862-000003
Tank Status:	A
Capacity:	Not reported
Active Date:	06-30-89
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	Not reported

JACKS ARCO (Continued) **S101587173**

CA FID UST:

Facility ID:	19055015
Regulated By:	UTNKA
Regulated ID:	00028162
Cortese Code:	Not reported
SIC Code:	Not reported
Facility Phone:	8180000000
Mail To:	Not reported
Mailing Address:	301 W DUARTE RD
Mailing Address 2:	Not reported
Mailing City,St,Zip:	MONROVIA
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

D17 **KAHABIDIAN JOHN** **EDR Hist Auto** **1008993459**
South **301 W DUERTE RD** **N/A**
< 1/8 **MONROVIA, CA 91016**
0.079 mi.
415 ft. **Site 3 of 4 in cluster D**

Relative: **Lower**

Actual: **429 ft.**

EDR Hist Auto

Year:	Name:	Type:
1958	COBLE'S SIGNAL SERVICE	Not reported
1958	COBLE'S SIGNAL SERVICE	Not reported
1961	NORM'S SIGNAL SERVICE	Not reported
1961	NORM'S SIGNAL SERVICE	Not reported
1965	HAYES BUD SIGNAL SERVICE	Not reported
1965	HAYES BUD SIGNAL SERVICE	Not reported
1983	B & E AUTOMOTIVE	General Automotive Repair Shops
1985	B & E AUTOMOTIVE SERVICE	General Automotive Repair Shops
1986	B & E AUTOMOTIVE SERVICE	General Automotive Repair Shops
1987	B & E AUTOMOTIVE SERVICE	General Automotive Repair Shops
1988	B & E AUTOMOTIVE SERVICE	General Automotive Repair Shops
1988	JACK S ARCO AUTO REPAIR	General Automotive Repair Shops
1989	JOHNS ARCO AUTO REPAIR	General Automotive Repair Shops
1990	KAHABIDIAN JOHN	General Automotive Repair Shops
1991	KAHABIDIAN JOHN	General Automotive Repair Shops
1992	KAHABIDIAN JOHN	General Automotive Repair Shops
1993	KAHABIDIAN JOHN	General Automotive Repair Shops
1994	KAHABIDIAN JOHN	General Automotive Repair Shops
1994	STEVES SERVICE STATION	Gasoline Service Stations
1995	KAHABIDIAN JOHN	General Automotive Repair Shops
1995	STEVES SERVICE STATION	Gasoline Service Stations
1996	KAHABIDIAN JOHN	General Automotive Repair Shops
1996	JACKS ARCO	Gasoline Service Stations
1996	STEVES SERVICE STATION	Gasoline Service Stations
1997	JACKS ARCO	Gasoline Service Stations
1997	STEVES SERVICE STATION	Gasoline Service Stations
1997	KAHABIDIAN JOHN	General Automotive Repair Shops
1998	STEVES SERVICE STATION	Gasoline Service Stations
1998	JACKS ARCO	Gasoline Service Stations

KAHABIDIAN JOHN (Continued) **1008993459**

1998	KAHABIDIAN JOHN	General Automotive Repair Shops
1999	STEVES SERVICE STATION	Gasoline Service Stations
1999	JACKS ARCO	Gasoline Service Stations
1999	KAHABIDIAN JOHN	General Automotive Repair Shops
2000	STEVES SERVICE STATION	Gasoline Service Stations
2001	STEVES SERVICE STATION	Gasoline Service Stations
2002	STEVES SERVICE STATION	Gasoline Service Stations

D18 **STEVE'S SERVICE** **UST** **U003983982**
South **301 W DUARTE RD** **LOS ANGELES CO. HMS** **N/A**
< 1/8 **MONROVIA, CA 91016**
0.079 mi.
415 ft. **Site 4 of 4 in cluster D**

Relative: **Lower**

Actual: **429 ft.**

UST:
Facility ID: 11862
Permitting Agency: LOS ANGELES COUNTY
Latitude: 34.133882
Longitude: -118.0040258

LOS ANGELES CO. HMS:
Region: LA
Permit Category: T
Facility Id: 011798-011862
Facility Type: 0
Facility Status: Removed
Area: 3G
Permit Number: 00003445T
Permit Status: Removed

E19 **MONROVIA AUTOMOTIVE SERVICE** **EDR Hist Auto** **1008996692**
South **309 W DUARTE RD** **N/A**
< 1/8 **MONROVIA, CA 91016**
0.099 mi.
524 ft. **Site 1 of 4 in cluster E**

Relative: **Lower**

Actual: **427 ft.**

EDR Hist Auto

Year:	Name:	Type:
1963	MONROVIA AUTOMOTIVE SERVICE	Not reported
1969	MONROVIA AUTOMOTIVE SERVICE	Gasoline Service Stations
1970	MONROVIA AUTOMOTIVE SERVICE	Gasoline Service Stations
1979	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1980	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1982	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1983	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1985	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1986	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1987	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1988	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1989	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1990	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1991	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1992	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1993	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1994	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops

MONROVIA AUTOMOTIVE SERVICE (Continued) **1008996692**

1995	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1996	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1997	MESROPYAN EDWARD	Gasoline Service Stations
1997	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1998	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
1999	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
2000	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
2001	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
2002	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
2003	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
2004	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
2005	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
2006	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
2007	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops
2008	MONROVIA AUTOMOTIVE SERVICE	General Automotive Repair Shops

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E20 **ALIEN GRAPHICS** **RCRA-SQG 1000985035**
SSE **270 W DUARTE RD UNIT D** **FINDS CAR000001446**
< 1/8 **MONROVIA, CA 91016** **ECHO**
0.107 mi.
563 ft. **Site 2 of 4 in cluster E**

Relative:
Lower

Actual:
428 ft.

RCRA-SQG:

Date form received by agency:	03/21/1995
Facility name:	ALIEN GRAPHICS
Facility address:	270 W DUARTE RD UNIT D MONROVIA, CA 91016
EPA ID:	CAR000001446
Mailing address:	1825 S PECK RD UNIT F MONROVIA, CA 91016
Contact:	CHRIS MITROVITCH
Contact address:	270 W DUARTE RD UNIT D MONROVIA, CA 91016
Contact country:	US
Contact telephone:	(818) 357-0274
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	ALIEN GRAPHICS
Owner/operator address:	270 W DUARTE RD UNIT D MONROVIA, CA 91016
Owner/operator country:	Not reported
Owner/operator telephone:	(818) 357-0274
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No

ALIEN GRAPHICS (Continued) **1000985035**

Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Violation Status: No violations found

FINDS:

Registry ID: 110002905072

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000985035
Registry ID:	110002905072
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110002905072

E21 **GASKIN RAY SERVICE*** **EDR Hist Auto** **1021923760**
South **300 W DUARTE RD** **N/A**
< 1/8 **MONROVIA, CA 91016**
0.108 mi.
572 ft. **Site 3 of 4 in cluster E**

Relative: **Lower**

Actual: **427 ft.**

EDR Hist Auto

Year:	Name:	Type:
1972	GASKIN RAY SERVICE*	Truck And Bus Bodies
1973	GASKIN RAY SERVICE*	Truck And Bus Bodies
1974	GASKIN RAY SERVICE*	Truck And Bus Bodies
1975	GASKIN RAY SERVICE*	Truck And Bus Bodies
1976	GASKIN RAY SERVICE INC	Truck And Bus Bodies
1977	GASKIN RAY SERVICE INC	Truck And Bus Bodies
1978	GASKIN RAY SERVICE INC	Truck And Bus Bodies
1979	GASKIN RAY SERVICE INC	Truck And Bus Bodies

F22 **MEE INDUSTRIES** **RCRA-SQG** **1004677464**
East **204 W POMONA** **FINDS** **CAR000097584**
< 1/8 **MONROVIA, CA 91016** **ECHO**
0.111 mi.
585 ft. **Site 1 of 5 in cluster F**

Relative:
Higher

Actual:
446 ft.

RCRA-SQG:

Date form received by agency:	05/30/2001
Facility name:	MEE INDUSTRIES
Facility address:	204 W POMONA MONROVIA, CA 91016
EPA ID:	CAR000097584
Contact:	KIRK ROGERS
Contact address:	204 W POMONA MONROVIA, CA 91016
Contact country:	US
Contact telephone:	(626) 359-4550
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	DARCY MURRAY
Owner/operator address:	204 W POMONA MONROVIA, CA 91016
Owner/operator country:	Not reported
Owner/operator telephone:	(626) 359-4550
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

. Waste code:	D039
. Waste name:	TETRACHLOROETHYLENE

Violation Status: No violations found

MEE INDUSTRIES (Continued) **1004677464**

FINDS:

Registry ID: 110012243054

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1004677464
Registry ID: 110012243054
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110012243054

23
SSW
< 1/8
0.124 mi.
656 ft.

MON-ARC CLEANERS **EDR Hist Cleaner** **1009126738**
343 W DUARTE RD **N/A**
MONROVIA, CA 91016

Relative: Lower

Actual: 424 ft.

EDR Hist Cleaner

Year:	Name:	Type:
1955	MON-ARC CLEANERS	Not reported
1955	MON-ARC CLEANERS	Not reported
1955	MON-ARC CLEANERS	Not reported
1955	MON-ARC CLEANERS	Not reported
1955	MON-ARC CLEANERS	Not reported
1955	MON-ARC CLEANERS	Not reported
1955	MON-ARC CLEANERS	Not reported

F24
East
1/8-1/4
0.129 mi.
683 ft.

UNOCAL #6024 **HIST CORTESE** **S105025022**
1551 PRIMROSE **N/A**
MONROVIA, CA 91016

Site 2 of 5 in cluster F

Relative: Higher

Actual: 449 ft.

HIST CORTESE:
Region: CORTESE
Facility County Code: 19
Reg By: LTNKA
Reg Id: 2906

F25 **METRIC MACHINING** **RCRA-SQG** **1000358372**
East **1551 S PRIMROSE AVE** **FINDS** **CAD063811541**
1/8-1/4 **MONROVIA, CA 91016** **ECHO**
0.129 mi. **WIP**
683 ft. **Site 3 of 5 in cluster F**

Relative:
Higher

Actual:
449 ft.

RCRA-SQG:

Date form received by agency:	09/01/1996
Facility name:	METRIC MACHINING
Facility address:	1551 S PRIMROSE AVE MONROVIA, CA 91016
EPA ID:	CAD063811541
Mailing address:	1551 SO PRIMROSE AVE MONROVIA, CA 91016
Contact:	Not reported
Contact address:	Not reported Not reported
Contact country:	US
Contact telephone:	Not reported
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	RICHARD R PARKER
Owner/operator address:	NOT REQUIRED NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No

METRIC MACHINING (Continued) **1000358372**

Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 07/21/1980
Site name: METRIC MACHINING
Classification: Large Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110002653708

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZARDOUS AIR POLLUTANT MAJOR

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000358372
Registry ID: 110002653708
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002653708

WIP:
Region: 4
File Number: 106.2056
File Status: Not reported
Staff: UNIDENTIFIED
Facility Suite: Not reported

E26 **RONCELLI PLASTICS, INC.** **WIP** **S106093628**
SSW **330 W DUARTE RD** **N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.130 mi.
685 ft. **Site 4 of 4 in cluster E**

Relative:
Lower

Actual:
422 ft.

WIP:
Region: 4
File Number: 106.2027
File Status: Historical
Staff: WLIU
Facility Suite: Not reported

F27
East
1/8-1/4
0.132 mi.
697 ft.

THE PARKS AT MONROVIA STATION SQUARE I LLC
204 & 200 WEST POMONA AVENUE AND 1625 PRIMROSE AVENUE
MONROVIA, CA 91016

Site 4 of 5 in cluster F

ENVIROSTOR
VCP

S117534663
N/A

Relative:
Higher

Actual:
446 ft.

ENVIROSTOR:

Facility ID:	60002125
Status:	Certified
Status Date:	12/09/2015
Site Code:	301694
Site Type:	Voluntary Cleanup
Site Type Detailed:	Voluntary Cleanup
Acres:	1.08
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Poonam Acharya
Supervisor:	Emad Yemut
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	41
Senate:	25
Special Program:	Voluntary Cleanup Program
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Responsible Party
Latitude:	34.13404
Longitude:	-118.0029
APN:	8507-003-089, 8507-003-090
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	8507-003-089
Alias Type:	APN
Alias Name:	8507-003-090
Alias Type:	APN
Alias Name:	301694
Alias Type:	Project Code (Site Code)
Alias Name:	60002125
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Notice of Exemption
Completed Date:	08/14/2015
Comments:	The Notice of Exemption for the Parks at Monrovia Station Square has been filed at the State Clearinghouse on August 14, 2015.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	01/08/2015
Comments:	Comments were sent out.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	01/08/2015

THE PARKS AT MONROVIA STATION SQUARE I LLC (Continued) **S117534663**

Comments:	Comments were sent out.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Endangerment Assessment Workplan
Completed Date:	04/23/2015
Comments:	Work plan was approved.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Report
Completed Date:	05/06/2015
Comments:	SSI Report was approved.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	04/30/2015
Comments:	Fieldwork associated with implementation of SAP was accomplished
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	12/01/2014
Comments:	Not reported
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Certification
Completed Date:	10/05/2015
Comments:	Site is certified for unrestricted use.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Workplan
Completed Date:	08/10/2015
Comments:	RAW was approved.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Community Profile
Completed Date:	07/28/2015
Comments:	final community profile.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Removal Action Completion Report
Completed Date:	10/05/2015
Comments:	Report was approved.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	08/31/2015
Comments:	The fieldwork for the RAW implementation was accomplished and removal action goals were achieved for the site.

THE PARKS AT MONROVIA STATION SQUARE I LLC (Continued) **S117534663**

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

VCP:

Facility ID:	60002125
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	1.08
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Poonam Acharya
Supervisor:	Emad Yemut
Division Branch:	Southern California Schools & Brownfields Outreach
Site Code:	301694
Assembly:	41
Senate:	25
Special Programs Code:	Voluntary Cleanup Program
Status:	Certified
Status Date:	12/09/2015
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	34.13404 / -118.0029
APN:	8507-003-089, 8507-003-090
Past Use:	NONE SPECIFIED
Potential COC:	NONE SPECIFIED
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	8507-003-089
Alias Type:	APN
Alias Name:	8507-003-090
Alias Type:	APN
Alias Name:	301694
Alias Type:	Project Code (Site Code)
Alias Name:	60002125
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	CEQA - Notice of Exemption
Completed Date:	08/14/2015
Comments:	The Notice of Exemption for the Parks at Monrovia Station Square has been filed at the State Clearinghouse on August 14, 2015.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1

THE PARKS AT MONROVIA STATION SQUARE I LLC (Continued) **S117534663**

Completed Date: 01/08/2015
Comments: Comments were sent out.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 01/08/2015
Comments: Comments were sent out.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 04/23/2015
Comments: Work plan was approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 05/06/2015
Comments: SSI Report was approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Fieldwork
Completed Date: 04/30/2015
Comments: Fieldwork associated with implementation of SAP was accomplished

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 12/01/2014
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Certification
Completed Date: 10/05/2015
Comments: Site is certified for unrestricted use.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 08/10/2015
Comments: RAW was approved.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Community Profile
Completed Date: 07/28/2015
Comments: final community profile.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 10/05/2015
Comments: Report was approved.

THE PARKS AT MONROVIA STATION SQUARE I LLC (Continued) **S117534663**

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Fieldwork
Completed Date:	08/31/2015
Comments:	The fieldwork for the RAW implementation was accomplished and removal action goals were achieved for the site.
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

F28 **VALLEY GRAIN PRODUCTS** **WIP** **S106765129**
ESE **1675 PRIMROSE AVE** **N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.141 mi.
744 ft. **Site 5 of 5 in cluster F**

Relative:
Higher

Actual:
444 ft.

WIP:

Region:	4
File Number:	106.2068
File Status:	**Historical**
Staff:	UNIDENTIFIED
Facility Suite:	Not reported

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29 **AVALON WESTERN INC** **RCRA-SQG** **1000290401**
SE **205 W DUARTE RD** **FINDS** **CAD028694511**
1/8-1/4 **MONROVIA, CA 91016** **ECHO**
0.144 mi.
758 ft.

Relative:
Lower

Actual:
433 ft.

RCRA-SQG:

Date form received by agency:	09/01/1996
Facility name:	AVALON WESTERN INC
Facility address:	205 W DUARTE RD MONROVIA, CA 91016
EPA ID:	CAD028694511
Mailing address:	W DUARTE RD MONROVIA, CA 91016
Contact:	Not reported
Contact address:	Not reported Not reported
Contact country:	US
Contact telephone:	Not reported
Contact email:	Not reported
EPA Region:	09
Classification:	Small Small Quantity Generator
Description:	Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of

AVALON WESTERN INC (Continued) **1000290401**

hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: MORTON R BERMAN
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002640802

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

AVALON WESTERN INC (Continued) **1000290401**

ECHO:
Envid: 1000290401
Registry ID: 110002640802
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002640802

30
SW
1/8-1/4
0.170 mi.
897 ft.

Relative:
Lower

Actual:
425 ft.

MDH INDUSTRIES INC **RCRA-SQG** **1000119955**
426 WEST DUARTE **FINDS** **CAD982402232**
MONROVIA, CA 91016 **ECHO**

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: MDH INDUSTRIES INC
Facility address: 426 WEST DUARTE
MONROVIA, CA 91016
EPA ID: CAD982402232
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: MDH INDUSTRIES
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No

MDH INDUSTRIES INC (Continued) **1000119955**

Transporter of hazardous waste:	No
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Historical Generators:
Date form received by agency: 11/01/1989
Site name: MDH INDUSTRIES INC
Classification: Large Quantity Generator

Violation Status: No violations found

FINDS:

Registry ID: 110002804715

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000119955
Registry ID: 110002804715
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002804715

G31 **MICHAEL AUTO BODY SHOP** **RCRA-SQG** **1000239096**
SW **450 W DUARTE RD** **FINDS** **CAD982030702**
1/8-1/4 **MONROVIA, CA 91016** **ECHO**
0.188 mi. **EMI**
990 ft. **Site 1 of 5 in cluster G**

Relative:
Lower

Actual:
426 ft.

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: MICHAEL AUTO BODY SHOP
Facility address: 450 W DUARTE RD
MONROVIA, CA 91016
EPA ID: CAD982030702
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: US

MICHAEL AUTO BODY SHOP (Continued) **1000239096**

Contact telephone: Not reported
Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: MICHAEL A BACA
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 07/23/1987
Site name: MICHAEL AUTO BODY SHOP
Classification: Large Quantity Generator

Violation Status: No violations found

FINDS:

MICHAEL AUTO BODY SHOP (Continued) **1000239096**

Registry ID: 110002782720

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

STATE MASTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1000239096
Registry ID:	110002782720
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110002782720

EMI:

Year:	1987
County Code:	19
Air Basin:	SC
Facility ID:	37144
Air District Name:	SC
SIC Code:	7538
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	1990
County Code:	19
Air Basin:	SC
Facility ID:	37144
Air District Name:	SC
SIC Code:	7538
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

G32 **MONROVIA MOBIL** **SWEEPS UST** **S101584863**
SW **502 W DUARTE RD** **CA FID UST** **N/A**
1/8-1/4 **MONROVIA, CA 91016** **LOS ANGELES CO. HMS**
0.194 mi.
1026 ft. **Site 2 of 5 in cluster G**

Relative:
Lower

Actual:
427 ft.

SWEEPS UST:

Status:	Active
Comp Number:	12679
Number:	3
Board Of Equalization:	44-009878
Referral Date:	03-01-91
Action Date:	03-01-91
Created Date:	06-30-89
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-000-012679-000001
Tank Status:	A
Capacity:	Not reported
Active Date:	06-30-89
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	5

Status:	Active
Comp Number:	12679
Number:	3
Board Of Equalization:	44-009878
Referral Date:	03-01-91
Action Date:	03-01-91
Created Date:	06-30-89
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-000-012679-000002
Tank Status:	A
Capacity:	Not reported
Active Date:	06-30-89
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	Not reported

Status:	Active
Comp Number:	12679
Number:	3
Board Of Equalization:	44-009878
Referral Date:	03-01-91
Action Date:	03-01-91
Created Date:	06-30-89
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-000-012679-000003
Tank Status:	A
Capacity:	Not reported
Active Date:	06-30-89
Tank Use:	UNKNOWN
STG:	W
Content:	Not reported
Number Of Tanks:	Not reported

Status:	Active

MONROVIA MOBIL (Continued) **S101584863**

Comp Number: 12679
Number: 3
Board Of Equalization: 44-009878
Referral Date: 03-01-91
Action Date: 03-01-91
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-012679-000004
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 12679
Number: 3
Board Of Equalization: 44-009878
Referral Date: 03-01-91
Action Date: 03-01-91
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-012679-000005
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

CA FID UST:
Facility ID: 19016385
Regulated By: UTNKA
Regulated ID: 00055883
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 8183033844
Mail To: Not reported
Mailing Address: 927 E WINNIE WAY
Mailing Address 2: Not reported
Mailing City,St,Zip: MONROVIA 91016
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

LOS ANGELES CO. HMS:
Region: LA
Permit Category: T
Facility Id: 012523-012679

MONROVIA MOBIL (Continued) **S101584863**

Facility Type: 0
Facility Status: Closed
Area: 3G
Permit Number: 00004500T
Permit Status: Closed

G33 **SIAM MINH MOBIL** **UST** **U003777407**
SW **502 W DUARTE RD** **N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.194 mi.
1026 ft. **Site 3 of 5 in cluster G**

Relative:
Lower

Actual:
427 ft.

UST:
Facility ID: 21467
Permitting Agency: LOS ANGELES COUNTY
Latitude: 34.133198
Longitude: -118.008366

Facility ID: LACoFA0037851
Permitting Agency: Los Angeles County Fire Department
Latitude: 34.13185
Longitude: -118.00971

G34 **PAYLESS GAS STATION** **HIST UST** **U001566548**
SW **502 W DUARTE RD** **N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.194 mi.
1026 ft. **Site 4 of 5 in cluster G**

Relative:
Lower

Actual:
427 ft.

HIST UST:
File Number: 00027C56
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00027C56.pdf
Region: STATE
Facility ID: 00000055883
Facility Type: Gas Station
Other Type: Not reported
Contact Name: Not reported
Telephone: 8183599822
Owner Name: PAYLESS GAS STATION
Owner Address: 502 W. DUARTE RD.
Owner City,St,Zip: MONROVIA, CA 91016
Total Tanks: 0004

Tank Num: 001
Container Num: 3
Year Installed: Not reported
Tank Capacity: 00007500
Tank Used for: PRODUCT
Type of Fuel: UNLEADED
Container Construction Thickness: Not reported
Leak Detection: Pressure Test

Tank Num: 002
Container Num: 2
Year Installed: Not reported
Tank Capacity: 00007500

PAYLESS GAS STATION (Continued) **U001566548**

Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Container Construction Thickness:	Not reported
Leak Detection:	Pressure Test
Tank Num:	003
Container Num:	4
Year Installed:	Not reported
Tank Capacity:	00004000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	Not reported
Leak Detection:	Pressure Test
Tank Num:	004
Container Num:	1
Year Installed:	Not reported
Tank Capacity:	00007500
Tank Used for:	PRODUCT
Type of Fuel:	PREMIUM
Container Construction Thickness:	Not reported
Leak Detection:	Pressure Test

Click here for Geo Tracker PDF:

G35 **SIAM MINH MOBIL STATION** **LUST** **S100945026**
SW **502 DUARTE RD W** **LOS ANGELES CO. HMS** **N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.194 mi.
1026 ft. **Site 5 of 5 in cluster G**

Relative:
Lower

Actual:
427 ft.

LUST:

Region:	STATE
Global Id:	T0603704476
Latitude:	34.13185
Longitude:	-118.009714
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	04/23/1998
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	CET
Local Agency:	LOS ANGELES COUNTY
RB Case Number:	I-21467
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Diesel
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603704476
Contact Type:	Regional Board Caseworker
Contact Name:	CHANDRA TYLER
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	Not reported
City:	R4 UNKNOWN

SIAM MINH MOBIL STATION (Continued) **S100945026**

Email: cetyler@waterboards.ca.gov
Phone Number: Not reported

Global Id: T0603704476
Contact Type: Local Agency Caseworker
Contact Name: JOHN AWUJO
Organization Name: LOS ANGELES COUNTY
Address: 900 S FREMONT AVE
City: ALHAMBRA
Email: jawujo@dpw.lacounty.gov
Phone Number: 6264583507

Status History:
Global Id: T0603704476
Status: Completed - Case Closed
Status Date: 04/23/1998

Global Id: T0603704476
Status: Open - Case Begin Date
Status Date: 10/01/1993

Global Id: T0603704476
Status: Open - Site Assessment
Status Date: 03/03/1994

Regulatory Activities:
Global Id: T0603704476
Action Type: Other
Date: 10/01/1993
Action: Leak Discovery

Global Id: T0603704476
Action Type: Other
Date: 03/03/1994
Action: Leak Reported

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: I-21467
Status: Case Closed
Substance: Diesel
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Soil
Abatement Method Used at the Site: Excavate and Dispose
Global ID: T0603704476
W Global ID: Not reported
Staff: CEC
Local Agency: 19000
Cross Street: MAYFLOWER
Enforcement Type: Not reported
Date Leak Discovered: 10/1/1993
Date Leak First Reported: 3/3/1994

SIAM MINH MOBIL STATION (Continued) **S100945026**

Date Leak Record Entered: 6/6/1995
Date Confirmation Began: 3/3/1994
Date Leak Stopped: Not reported
Date Case Last Changed on Database: 4/7/1998
Date the Case was Closed: 4/23/1998
How Leak Discovered: OM
How Leak Stopped: Not reported
Cause of Leak: UNK
Leak Source: Piping
Operator: SAM VASNARUNG
Water System: Not reported
Well Name: Not reported
Approx. Dist To Production Well (ft): 2864.22454959605911092829052 54
Source of Cleanup Funding: Piping
Preliminary Site Assessment Workplan Submitted: Not reported
Preliminary Site Assessment Began: Not reported
Pollution Characterization Began: Not reported
Remediation Plan Submitted: Not reported
Remedial Action Underway: Not reported
Post Remedial Action Monitoring Began: Not reported
Enforcement Action Date: Not reported
Historical Max MTBE Date: Not reported
Hist Max MTBE Conc in Groundwater: Not reported
Hist Max MTBE Conc in Soil: Not reported
Significant Interim Remedial Action Taken: Yes
GW Qualifier: Not reported
Soil Qualifier: Not reported
Organization: Not reported
Owner Contact: Not reported
Responsible Party: SIAM MINH MOBIL STATION
RP Address: 990 FALLEN LEAF RD., ARCADIA, CA 91006
Program: LUST
Lat/Long: 34.1319891 / -1
Local Agency Staff: Not reported
Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

LOS ANGELES CO. HMS:
Region: LA
Permit Category: T
Facility Id: 012523-021467
Facility Type: 0
Facility Status: Permit
Area: 3G
Permit Number: 000081831
Permit Status: Permit

H36 **NU-WAY INDUSTRIES** **LUST** **S101618273**
SE **145 DUARTE RD W** **SWEEPS UST** **N/A**
1/8-1/4 **MONROVIA, CA 91016** **CA FID UST**
0.198 mi. **HIST CORTESE**
1045 ft. **Site 1 of 8 in cluster H** **LOS ANGELES CO. HMS**

Relative:
Lower

Actual:
434 ft.

LUST:

Region:	STATE
Global Id:	T0603705061
Latitude:	34.1322621
Longitude:	-118.0023673
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	01/07/1994
Lead Agency:	LOS ANGELES COUNTY
Case Worker:	JOA
Local Agency:	LOS ANGELES COUNTY
RB Case Number:	R-11645
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Aviation
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603705061
Contact Type:	Local Agency Caseworker
Contact Name:	JOHN AWUJO
Organization Name:	LOS ANGELES COUNTY
Address:	900 S FREMONT AVE
City:	ALHAMBRA
Email:	jawujo@dpw.lacounty.gov
Phone Number:	6264583507

Global Id:	T0603705061
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Status History:

Global Id:	T0603705061
Status:	Completed - Case Closed
Status Date:	01/07/1994

Global Id:	T0603705061
Status:	Open - Case Begin Date
Status Date:	01/07/1994

Regulatory Activities:

Global Id:	T0603705061
Action Type:	Other
Date:	01/07/1994
Action:	Leak Reported

NU-WAY INDUSTRIES (Continued) **S101618273**

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	R-11645	
Status:	Case Closed	
Substance:	1	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603705061	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	19000	
Cross Street:	SOUTH MYRTLE	
Enforcement Type:	Not reported	
Date Leak Discovered:	Not reported	
Date Leak First Reported:		1/7/1994
Date Leak Record Entered:	6/6/1995	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		6/6/1995
Date the Case was Closed:		1/7/1994
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	OLD CASE #060695-08	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		813.944561229859836050930 9195
Source of Cleanup Funding:		Not reported
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	NU-WAY INDUSTRIES	
RP Address:	54 E HUNTINGTON DR ARCADIA CA 91006	
Program:	LUST	
Lat/Long:	34.1322621 / -1	
Local Agency Staff:	Not reported	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	

NU-WAY INDUSTRIES (Continued) **S101618273**

Assigned Name: Not reported
Summary: Not reported

SWEEPS UST:
Status: Active
Comp Number: 11645
Number: 9
Board Of Equalization: 44-009410
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-011645-000002
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 11645
Number: 9
Board Of Equalization: 44-009410
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-011645-000001
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: 2

CA FID UST:
Facility ID: 19006866
Regulated By: UTNKA
Regulated ID: 00020469
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 8180000000
Mail To: Not reported
Mailing Address: 145 W DUARTE RD
Mailing Address 2: Not reported
Mailing City,St,Zip: MONROVIA
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

NU-WAY INDUSTRIES (Continued) **S101618273**

HIST CORTESE:
Region: CORTESE
Facility County Code: 19
Reg By: LTNKA
Reg Id: R-11645

LOS ANGELES CO. HMS:
Region: LA
Permit Category: T
Facility Id: 011594-011645
Facility Type: 0
Facility Status: Removed
Area: 3G
Permit Number: 00003202T
Permit Status: Removed

Region: LA
Permit Category: T
Facility Id: 011594-011645
Facility Type: 1
Facility Status: Removed
Area: 3G
Permit Number: 0000T3202
Permit Status: Removed

H37 **ALLAN CO** **RCRA NonGen / NLR** **1008402378**
ESE **145 W DUARTE RD** **CAR000164509**
1/8-1/4 **MONROVIA, CA 91016**
0.214 mi.
1128 ft. **Site 2 of 8 in cluster H**

Relative:
Lower

Actual:
436 ft.

RCRA NonGen / NLR:
Date form received by agency: 08/05/2005
Facility name: ALLAN CO
Facility address: 145 W DUARTE RD
EAST YARD
MONROVIA, CA 91016
EPA ID: CAR000164509
Mailing address: 14618 ARROW HWY
BALDWIN PARK, CA 91706
Contact: RICHARD HUBBARD
Contact address: 14618 ARROW HWY
BALDWIN PARK, CA 91706
Contact country: US
Contact telephone: 626-962-4047
Contact email: Not reported
EPA Region: 09
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: ALLAN CO
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported

ALLAN CO (Continued) **1008402378**

Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 01/18/1993
Owner/Op end date: Not reported

Owner/operator name: MNOIAN PROP
Owner/operator address: PO BOX 661238
ARCADIA, CA 91066
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 08/14/1952
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

H38 **SAN MARINO DISPOSAL CO/NU-WAY RUBBISH** **RCRA NonGen / NLR** **1000123673**
ESE **145 W DUARTE RD** **FINDS** **CAD005848841**
1/8-1/4 **MONROVIA, CA 91016** **ECHO**
0.214 mi.
1128 ft. **Site 3 of 8 in cluster H**

Relative:
Lower

Actual:
436 ft.

RCRA NonGen / NLR:
Date form received by agency: 01/06/1981
Facility name: SAN MARINO DISPOSAL CO/NU-WAY RUBBISH
Facility address: 145 W DUARTE RD
MONROVIA, CA 91016
EPA ID: CAD005848841
Mailing address: W DUARTE RD
MONROVIA, CA 91016
Contact: ENVIRONMENTAL MANAGER
Contact address: 145 W DUARTE RD
MONROVIA, CA 91016
Contact country: US
Contact telephone: (213) 445-3470
Contact email: Not reported
EPA Region: 09
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

SAN MARINO DISPOSAL CO/NU-WAY RUBBISH (Continued) **1000123673**

Owner/Operator Summary:

Owner/operator name:	MNOIAN JIM & ERNIE & EDWARD (BROTHERS)
Owner/operator address:	NOT REQUIRED
	NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Owner
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Owner/operator name:	NOT REQUIRED
Owner/operator address:	NOT REQUIRED
	NOT REQUIRED, ME 99999
Owner/operator country:	Not reported
Owner/operator telephone:	(415) 555-1212
Legal status:	Private
Owner/Operator Type:	Operator
Owner/Op start date:	Not reported
Owner/Op end date:	Not reported

Handler Activities Summary:

U.S. importer of hazardous waste:	No
Mixed waste (haz. and radioactive):	No
Recycler of hazardous waste:	No
Transporter of hazardous waste:	Yes
Treater, storer or disposer of HW:	No
Underground injection activity:	No
On-site burner exemption:	No
Furnace exemption:	No
Used oil fuel burner:	No
Used oil processor:	No
User oil refiner:	No
Used oil fuel marketer to burner:	No
Used oil Specification marketer:	No
Used oil transfer facility:	No
Used oil transporter:	No

Violation Status: No violations found

FINDS:

Registry ID: 110002629709

Environmental Interest/Information System

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

SAN MARINO DISPOSAL CO/NU-WAY RUBBISH (Continued) **1000123673**

ECHO:
Envid: 1000123673
Registry ID: 110002629709
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002629709

H39 **ALLAN CO** **SWF/LF** **U001566545**
ESE **145 W DUARTE RD** **SWRCY** **N/A**
1/8-1/4 **MONROVIA, CA 91016** **HIST UST**
0.214 mi. **NPDES**
1128 ft. **Site 4 of 8 in cluster H**

Relative:
Lower

Actual:
436 ft.

LOS ANGELES CO. LF:
Site ID: 1564
Alt. Address: Not reported
Site Contact: Not reported
Site Contact Phone: (626) 358-8007
Site Email: nuwayrolloffservice@yahoo.com
Site Website: Not reported
Site Type: Waste Hauler
Site SWIS Number: 19-AS-0568
Beginning Operation Date: Not reported
Ending Operation Date: Not reported
Local Enforcement Agency: Not reported
Maximun Depth Fill(Ft): Not reported
Permitted Capacity: Not reported
Present Use: Not reported
Remaining Capacity(Million): Not reported
Status: Closed
Waste Accepted: Not reported
Hours of Operation: Not reported
Disposal Area (Acre): Not reported

Detail As Of 01/2014:
Operator Name: Nu-Way Roll-Off Service
Operator Address: 145 W. Duarte RD.
Operator City/State/Zip: Monrovia, CA 91016
Operator Contact: Not reported
Operator Telephone: (626) 358-8007
Operator Email: nuwayrolloffservice@yahoo.com
Owner Name: Unknown
Owner Address: Not reported
Owner City/State/Zip: Not reported
Owner Contact: Not reported
Owner Telephone: Not reported
Owner Email: Not reported

SWRCY:
Reg Id: 27512
Cert Id: RC4438
Mailing Address: P O Box 51333
Mailing City: Los Angeles
Mailing State: CA
Mailing Zip Code: 90051
Website: Not reported
Email: Not reported
Phone Number: (626) 303-4617
Grand Father: N

ALLAN CO (Continued) **U001566545**

Rural:	N
Operation Begin Date:	11/08/1991
Aluminium:	Y
Glass:	Y
Plastic:	Y
Bimetal:	Y
Agency:	N/A
Monday Hours Of Operation:	8:00 am - 5:00 pm
Tuesday Hours Of Operation:	8:00 am - 5:00 pm
Wednesday Hours Of Operation:	8:00 am - 5:00 pm
Thursday Hours Of Operation:	8:00 am - 5:00 pm
Friday Hours Of Operation:	8:00 am - 5:00 pm
Saturday Hours Of Operation:	8:00 am - 4:00 pm
Sunday Hours Of Operation:	CLOSED
Organization ID:	19498
Organization Name:	Cedarwood Young Co

HIST UST:

File Number:	00027980
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00027980.pdf
Region:	STATE
Facility ID:	00000020469
Facility Type:	Other
Other Type:	REPAIRS
Contact Name:	Not reported
Telephone:	8183575053
Owner Name:	NU-WAY TRUCK CENTER
Owner Address:	145 W. DUARTE RD.
Owner City,St,Zip:	MONROVIA, CA 91016
Total Tanks:	0002
Tank Num:	001
Container Num:	1
Year Installed:	1965
Tank Capacity:	00007500
Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Container Construction Thickness:	3/8
Leak Detection:	Stock Inventor
Tank Num:	002
Container Num:	2
Year Installed:	1977
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	1/4
Leak Detection:	Stock Inventor

Click here for Geo Tracker PDF:

NPDES:

Npdes Number:	CAS000001
Facility Status:	Active
Agency Id:	0
Region:	4

ALLAN CO (Continued) **U001566545**

Regulatory Measure Id:	188681
Order No:	97-03-DWQ
Regulatory Measure Type:	Enrollee
Place Id:	Not reported
WDID:	4 19I000751
Program Type:	Industrial
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	03/20/1992
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Allan Co
Discharge Address:	14618 Arrow Hwy
Discharge City:	Baldwin Park
Discharge State:	California
Discharge Zip:	91706
RECEIVED DATE:	Not reported
PROCESSED DATE:	Not reported
STATUS CODE NAME:	Not reported
STATUS DATE:	Not reported
PLACE SIZE:	Not reported
PLACE SIZE UNIT:	Not reported
FACILITY CONTACT NAME:	Not reported
FACILITY CONTACT TITLE:	Not reported
FACILITY CONTACT PHONE:	Not reported
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	Not reported
OPERATOR NAME:	Not reported
OPERATOR ADDRESS:	Not reported
OPERATOR CITY:	Not reported
OPERATOR STATE:	Not reported
OPERATOR ZIP:	Not reported
OPERATOR CONTACT NAME:	Not reported
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	Not reported
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	Not reported
OPERATOR TYPE:	Not reported
DEVELOPER NAME:	Not reported
DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	Not reported
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	Not reported
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported

ALLAN CO (Continued) **U001566545**

CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	Not reported
RECEIVING WATER NAME:	Not reported
CERTIFIER NAME:	Not reported
CERTIFIER TITLE:	Not reported
CERTIFICATION DATE:	Not reported
PRIMARY SIC:	Not reported
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported
Npdes Number:	Not reported
Facility Status:	Not reported
Agency Id:	Not reported
Region:	4
Regulatory Measure Id:	188681
Order No:	Not reported
Regulatory Measure Type:	Industrial
Place Id:	Not reported
WDID:	4 19I000751
Program Type:	Not reported
Adoption Date Of Regulatory Measure:	Not reported
Effective Date Of Regulatory Measure:	Not reported
Expiration Date Of Regulatory Measure:	Not reported
Termination Date Of Regulatory Measure:	Not reported
Discharge Name:	Not reported
Discharge Address:	Not reported
Discharge City:	Not reported
Discharge State:	Not reported
Discharge Zip:	Not reported
RECEIVED DATE:	5/9/2008
PROCESSED DATE:	3/20/1992
STATUS CODE NAME:	Active
STATUS DATE:	3/20/1992
PLACE SIZE:	43827
PLACE SIZE UNIT:	SqFt
FACILITY CONTACT NAME:	Francisco Quezada
FACILITY CONTACT TITLE:	Site Manager
FACILITY CONTACT PHONE:	626-303-4618
FACILITY CONTACT PHONE EXT:	Not reported
FACILITY CONTACT EMAIL:	pquezada@allancompany.com
OPERATOR NAME:	Allan Co
OPERATOR ADDRESS:	14618 Arrow Hwy
OPERATOR CITY:	Baldwin Park
OPERATOR STATE:	California
OPERATOR ZIP:	91706
OPERATOR CONTACT NAME:	Richard Hubbard
OPERATOR CONTACT TITLE:	Not reported
OPERATOR CONTACT PHONE:	626-962-4047
OPERATOR CONTACT PHONE EXT:	Not reported
OPERATOR CONTACT EMAIL:	rhubbard@allancompany.com
OPERATOR TYPE:	Private Business
DEVELOPER NAME:	Not reported

ALLAN CO (Continued) **U001566545**

DEVELOPER ADDRESS:	Not reported
DEVELOPER CITY:	Not reported
DEVELOPER STATE:	California
DEVELOPER ZIP:	Not reported
DEVELOPER CONTACT NAME:	Not reported
DEVELOPER CONTACT TITLE:	Not reported
CONSTYPE LINEAR UTILITY IND:	Not reported
EMERGENCY PHONE NO:	626-303-4618
EMERGENCY PHONE EXT:	Not reported
CONSTYPE ABOVE GROUND IND:	Not reported
CONSTYPE BELOW GROUND IND:	Not reported
CONSTYPE CABLE LINE IND:	Not reported
CONSTYPE COMM LINE IND:	Not reported
CONSTYPE COMMERTIAL IND:	Not reported
CONSTYPE ELECTRICAL LINE IND:	Not reported
CONSTYPE GAS LINE IND:	Not reported
CONSTYPE INDUSTRIAL IND:	Not reported
CONSTYPE OTHER DESRIPTION:	Not reported
CONSTYPE OTHER IND:	Not reported
CONSTYPE RECONS IND:	Not reported
CONSTYPE RESIDENTIAL IND:	Not reported
CONSTYPE TRANSPORT IND:	Not reported
CONSTYPE UTILITY DESCRIPTION:	Not reported
CONSTYPE UTILITY IND:	Not reported
CONSTYPE WATER SEWER IND:	Not reported
DIR DISCHARGE USWATER IND:	N
RECEIVING WATER NAME:	Sawpit Wash
CERTIFIER NAME:	richard hubbard
CERTIFIER TITLE:	VP Operations
CERTIFICATION DATE:	25-JUN-15
PRIMARY SIC:	5093-Scrap and Waste Materials
SECONDARY SIC:	Not reported
TERTIARY SIC:	Not reported

H40 **TIM WILLIAMS** **SWEEPS UST** **S101584072**
ESE **123 W DUARTE RD** **CA FID UST** **N/A**
1/8-1/4 **MONROVIA, CA 91016** **CHMIRS**
0.236 mi.
1245 ft. **Site 5 of 8 in cluster H**

Relative:
Lower

Actual:
436 ft.

SWEEPS UST:

Status:	Not reported
Comp Number:	11775
Number:	Not reported
Board Of Equalization:	44-009484
Referral Date:	Not reported
Action Date:	Not reported
Created Date:	Not reported
Owner Tank Id:	Not reported
SWRCB Tank Id:	19-000-011775-000004
Tank Status:	Not reported
Capacity:	10000
Active Date:	Not reported
Tank Use:	PETROLEUM
STG:	PRODUCT
Content:	Not reported
Number Of Tanks:	1

TIM WILLIAMS (Continued) **S101584072**

Status: Active
Comp Number: 11775
Number: 9
Board Of Equalization: 44-009484
Referral Date: 06-07-90
Action Date: 06-07-90
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-011775-000001
Tank Status: A
Capacity: 10000
Active Date: 06-07-90
Tank Use: PETROLEUM
STG: P
Content: Not reported
Number Of Tanks: 3

Status: Active
Comp Number: 11775
Number: 9
Board Of Equalization: 44-009484
Referral Date: 06-07-90
Action Date: 06-07-90
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-011775-000002
Tank Status: A
Capacity: 10000
Active Date: 06-07-90
Tank Use: PETROLEUM
STG: P
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 11775
Number: 9
Board Of Equalization: 44-009484
Referral Date: 06-07-90
Action Date: 06-07-90
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-011775-000003
Tank Status: A
Capacity: 10000
Active Date: 06-07-90
Tank Use: M.V. FUEL
STG: P
Content: OTHER
Number Of Tanks: Not reported

CA FID UST:
Facility ID: 19008283
Regulated By: UTNKA
Regulated ID: 00034128
Cortese Code: Not reported
SIC Code: Not reported

TIM WILLIAMS (Continued) **S101584072**

Facility Phone:	8180000000
Mail To:	Not reported
Mailing Address:	123 W DUARTE RD
Mailing Address 2:	Not reported
Mailing City,St,Zip:	MONROVIA 91016
Contact:	Not reported
Contact Phone:	Not reported
DUNs Number:	Not reported
NPDES Number:	Not reported
EPA ID:	Not reported
Comments:	Not reported
Status:	Active

CHMIRS:

OES Incident Number:	4-6242
OES notification:	11/02/2014
OES Date:	Not reported
OES Time:	Not reported
Date Completed:	**Not reported**
Property Use:	Not reported
Agency Id Number:	Not reported
Agency Incident Number:	Not reported
Time Notified:	Not reported
Time Completed:	Not reported
Surrounding Area:	Not reported
Estimated Temperature:	Not reported
Property Management:	Not reported
More Than Two Substances Involved?:	Not reported
Resp Agncy Personel # Of Decontaminated:	Not reported
Responding Agency Personel # Of Injuries:	Not reported
Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	No
Waterway:	Not reported
Spill Site:	Merchant/Business
Cleanup By:	No
Containment:	Not reported
What Happened:	Not reported
Type:	Not reported
Measure:	Not reported
Other:	Not reported
Type:	PETROLEUM
Measure:	Gal(s)
Other:	Not reported
Date/Time:	1600
Year:	2014

TIM WILLIAMS (Continued) **S101584072**

Agency:	SoCal Edison
Incident Date:	11/2/2014
Admin Agency:	Not reported
Amount:	Not reported
Contained:	Yes
Site Type:	Not reported
E Date:	Not reported
Substance:	Mineral Oil, Non PCB
Quantity Released:	1
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	Not reported
Number of Injuries:	Act of Nature
Number of Fatalities:	Not reported
#1 Pipeline:	No
#2 Pipeline:	No
#3 Pipeline:	No
#1 Vessel >= 300 Tons:	No
#2 Vessel >= 300 Tons:	No
#3 Vessel >= 300 Tons:	No
Evacs:	No
Injuries:	Other
Fatals:	No
Comments:	Not reported
Description:	Per the caller a palm fraun landed on the wires causing damage to the transformer.

H41 **NU WAY CAR WASH** **UST** **U003776894**
ESE **123 W DUARTE RD** **N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.236 mi.
1245 ft. **Site 6 of 8 in cluster H**

Relative: UST:
Lower

Facility ID:	11775
Permitting Agency:	LOS ANGELES COUNTY
Latitude:	34.1337104
Longitude:	-118.0003452

Actual:
436 ft.

H42 **NU-WAY CAR WASH** **LUST** **U001566544**
ESE **123 W DUARTE** **HIST UST** **N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.236 mi.
1245 ft. **Site 7 of 8 in cluster H**

Relative: LUST REG 4:
Lower

Region:	4
Regional Board:	04
County:	Los Angeles
Facility Id:	R-11775A
Status:	Not reported
Substance:	Hydrocarbons
Substance Quantity:	Not reported
Local Case No:	Not reported
Case Type:	Soil

Actual:
436 ft.

NU-WAY CAR WASH (Continued) **U001566544**

Abatement Method Used at the Site:		Not reported
Global ID:	T0603726338	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	19000	
Cross Street:	MYRTLE AVE.	
Enforcement Type:	Not reported	
Date Leak Discovered:	7/20/2000	
Date Leak First Reported:		12/2/2003
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		Not reported
Date the Case was Closed:		Not reported
How Leak Discovered:	OM	
How Leak Stopped:	Close Tank	
Cause of Leak:	Not reported	
Leak Source:	Tank	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		Not reported
Source of Cleanup Funding:		Tank
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	JIM MNOIAN	
RP Address:	123 W. DUARTE RD.	
Program:	LUST	
Lat/Long:	0 / 0	
Local Agency Staff:	Not reported	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

HIST UST:

File Number:	000285D2
URL:	http://geotracker.waterboards.ca.gov/ustpdfs/pdf/000285D2.pdf
Region:	STATE
Facility ID:	00000034128
Facility Type:	Gas Station
Other Type:	Not reported

NU-WAY CAR WASH (Continued) **U001566544**

Contact Name:	TIMOTHY S. WILLIAMS
Telephone:	8183032212
Owner Name:	W I N C
Owner Address:	123 W. DUARTE
Owner City,St,Zip:	MONROVIA, CA 91016
Total Tanks:	0004
Tank Num:	001
Container Num:	4
Year Installed:	1969
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	PREMIUM
Container Construction Thickness:	1/2
Leak Detection:	Pressure Test
Tank Num:	002
Container Num:	3
Year Installed:	1969
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	1/2
Leak Detection:	Pressure Test
Tank Num:	003
Container Num:	1
Year Installed:	1972
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	REGULAR
Container Construction Thickness:	1/2
Leak Detection:	Pressure Test
Tank Num:	004
Container Num:	2
Year Installed:	1972
Tank Capacity:	00010000
Tank Used for:	PRODUCT
Type of Fuel:	UNLEADED
Container Construction Thickness:	1/2
Leak Detection:	Pressure Test

Click here for Geo Tracker PDF:

I43 **ABCO METAL FINISHING** **ENVIROSTOR** **S101480823**
ESE **1617-1621 SOUTH MYRTLE AVE** **N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.236 mi.
1245 ft. **Site 1 of 7 in cluster I**

Relative:
Higher

Actual:
447 ft.

ENVIROSTOR:

Facility ID:	19340734
Status:	Refer: Other Agency
Status Date:	06/06/1995
Site Code:	Not reported
Site Type:	Historical
Site Type Detailed:	* Historical

ABCO METAL FINISHING (Continued) **S101480823**

Acres: Not reported
NPL: NO
Regulatory Agencies: NONE SPECIFIED
Lead Agency: NONE SPECIFIED
Program Manager: Not reported
Supervisor: Referred - Not Assigned
Division Branch: Cleanup Chatsworth
Assembly: 41
Senate: 25
Special Program: * CERC2
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Not reported
Latitude: 34.13347
Longitude: -118.0011
APN: 8507003908
Past Use: NONE SPECIFIED
Potential COC: * LIQUIDS WITH PH <= 2 * CONTAMINATED SOIL * ACID SOLUTION 2>PH WITH METALS * UNSPECIFIED ACID SOLUTION Cadmium and compounds Cyanide (free Nickel
Confirmed COC: NONE SPECIFIED
Potential Description: NONE SPECIFIED
Alias Name: 8507003908
Alias Type: APN
Alias Name: CAD040363012
Alias Type: EPA Identification Number
Alias Name: 19340734
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: * Discovery
Completed Date: 03/07/1985
Comments: FACILITY IDENTIFIED LA CO HLTH AND MONROVIA FIRE DEPT.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Assessment Report
Completed Date: 12/30/1987
Comments: PRELIM ASSESS DONE DHS PENDING EPA/CO REPORTS

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

I44 **ABCO METAL FINISHING** **Notify 65** **S100185160**
ESE **1617-1621 S. MYRTLE AVE.** **N/A**
1/8-1/4 **MONROVIA, CA**
0.236 mi.
1245 ft. **Site 2 of 7 in cluster I**

Relative:
Higher

Actual:
447 ft.

NOTIFY 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Issue Date:	Not reported
Incident Description:	Not reported

I45 **PACIFIC ATLAS OIL** **UST** **U003777833**
East **1601 S MYRTLE AVE** **LOS ANGELES CO. HMS** **N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.236 mi.
1246 ft. **Site 3 of 7 in cluster I**

Relative:
Higher

Actual:
451 ft.

UST:

Facility ID:	25712
Permitting Agency:	LOS ANGELES COUNTY
Latitude:	34.135351
Longitude:	-117.999989

LOS ANGELES CO. HMS:

Region:	LA
Permit Category:	T
Facility Id:	018391-025712
Facility Type:	0
Facility Status:	Closed
Area:	3G
Permit Number:	000214742
Permit Status:	Closed

Region:	LA
Permit Category:	T
Facility Id:	018391-044493
Facility Type:	0
Facility Status:	Removed
Area:	3G
Permit Number:	000438349
Permit Status:	Removed

I46 **PACIFIC ATLAS OIL (ARCO)** **LUST** **S103282130**
East **1601 MYRTLE AVE S** **HIST CORTESE** **N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.236 mi.
1246 ft. **Site 4 of 7 in cluster I**

Relative:
Higher

Actual:
451 ft.

LUST:

Region:	STATE
Global Id:	T0603705521
Latitude:	34.134176
Longitude:	-118.0009432
Case Type:	LUST Cleanup Site

PACIFIC ATLAS OIL (ARCO) (Continued) **S103282130**

Status:	Open - Site Assessment
Status Date:	04/21/2010
Lead Agency:	LOS ANGELES RWQCB (REGION 4)
Case Worker:	JFL
Local Agency:	LOS ANGELES COUNTY
RB Case Number:	R-25712
LOC Case Number:	18391-44493
File Location:	Regional Board
Potential Media Affect:	Aquifer used for drinking water supply
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603705521
Contact Type:	Local Agency Caseworker
Contact Name:	IHEANACHO OFO
Organization Name:	LOS ANGELES COUNTY
Address:	900 S FREMONT AVE
City:	ALHAMBRA
Email:	iofo@dpw.lacounty.gov
Phone Number:	6264583512

Global Id:	T0603705521
Contact Type:	Regional Board Caseworker
Contact Name:	JOE F. LUERA
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH STREET, SUITE 200
City:	LOS ANGELES
Email:	jluera@waterboards.ca.gov
Phone Number:	Not reported

Status History:

Global Id:	T0603705521
Status:	Open - Case Begin Date
Status Date:	04/02/1998

Global Id:	T0603705521
Status:	Open - Site Assessment
Status Date:	04/02/1998

Global Id:	T0603705521
Status:	Open - Site Assessment
Status Date:	12/19/2008

Global Id:	T0603705521
Status:	Open - Site Assessment
Status Date:	04/21/2010

Regulatory Activities:

Global Id:	T0603705521
Action Type:	RESPONSE
Date:	07/15/2008
Action:	Other Report / Document

Global Id:	T0603705521

PACIFIC ATLAS OIL (ARCO) (Continued) **S103282130**

Action Type: RESPONSE
Date: 02/15/2009
Action: Preliminary Site Assessment Report

Global Id: T0603705521
Action Type: RESPONSE
Date: 07/15/2009
Action: Monitoring Report - Semi-Annually

Global Id: T0603705521
Action Type: RESPONSE
Date: 06/15/2010
Action: Soil and Water Investigation Workplan

Global Id: T0603705521
Action Type: ENFORCEMENT
Date: 09/16/2008
Action: Notice to Comply

Global Id: T0603705521
Action Type: RESPONSE
Date: 04/15/2009
Action: Monitoring Report - Quarterly

Global Id: T0603705521
Action Type: ENFORCEMENT
Date: 06/15/2009
Action: Staff Letter

Global Id: T0603705521
Action Type: RESPONSE
Date: 01/15/2011
Action: Monitoring Report - Semi-Annually

Global Id: T0603705521
Action Type: RESPONSE
Date: 04/15/2009
Action: Interim Remedial Action Plan

Global Id: T0603705521
Action Type: RESPONSE
Date: 07/15/2009
Action: Soil and Water Investigation Report

Global Id: T0603705521
Action Type: RESPONSE
Date: 01/15/2010
Action: Monitoring Report - Semi-Annually

Global Id: T0603705521
Action Type: Other
Date: 04/02/1998
Action: Leak Discovery

Global Id: T0603705521
Action Type: RESPONSE
Date: 07/15/2008

PACIFIC ATLAS OIL (ARCO) (Continued) **S103282130**

Action: Preliminary Site Assessment Report

Global Id: T0603705521
Action Type: ENFORCEMENT
Date: 05/16/2008
Action: 13267 Requirement

Global Id: T0603705521
Action Type: ENFORCEMENT
Date: 12/19/2008
Action: Staff Letter

Global Id: T0603705521
Action Type: Other
Date: 04/02/1998
Action: Leak Reported

Global Id: T0603705521
Action Type: ENFORCEMENT
Date: 04/23/2010
Action: Staff Letter

Global Id: T0603705521
Action Type: RESPONSE
Date: 07/15/2011
Action: Monitoring Report - Semi-Annually

Global Id: T0603705521
Action Type: RESPONSE
Date: 01/15/2012
Action: Monitoring Report - Semi-Annually

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: R-25712
Status: Leak being confirmed
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Soil
Abatement Method Used at the Site: Not reported
Global ID: T0603705521
W Global ID: Not reported
Staff: UNK
Local Agency: 19000
Cross Street: POMONA
Enforcement Type: Not reported
Date Leak Discovered: 4/2/1998
Date Leak First Reported: 4/2/1998
Date Leak Record Entered: 6/4/1998
Date Confirmation Began: 4/2/1998
Date Leak Stopped: Not reported
Date Case Last Changed on Database: 4/2/1998
Date the Case was Closed: Not reported

PACIFIC ATLAS OIL (ARCO) (Continued) **S103282130**

How Leak Discovered:	Subsurface Monitoring
How Leak Stopped:	Not reported
Cause of Leak:	Not reported
Leak Source:	UNK
Operator:	TARIF HALABI
Water System:	Not reported
Well Name:	Not reported
Approx. Dist To Production Well (ft):	418.685355023279472587114910 14
Source of Cleanup Funding:	UNK
Preliminary Site Assessment Workplan Submitted:	Not reported
Preliminary Site Assessment Began:	Not reported
Pollution Characterization Began:	Not reported
Remediation Plan Submitted:	Not reported
Remedial Action Underway:	Not reported
Post Remedial Action Monitoring Began:	Not reported
Enforcement Action Date:	Not reported
Historical Max MTBE Date:	Not reported
Hist Max MTBE Conc in Groundwater:	Not reported
Hist Max MTBE Conc in Soil:	Not reported
Significant Interim Remedial Action Taken:	Not reported
GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Organization:	Not reported
Owner Contact:	Not reported
Responsible Party:	TARIF HALABI
RP Address:	1601 S. MYRTLE AVE., MONROVIA, CA 91016
Program:	LUST
Lat/Long:	34.134176 / -1
Local Agency Staff:	Not reported
Beneficial Use:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	Not reported
Summary:	Not reported

HIST CORTESE:

Region:	CORTESE
Facility County Code:	19
Reg By:	LTNKA
Reg Id:	R-25712

I47 **ABCO METAL FINISHING** **SEMS-ARCHIVE** **1000326214**
ESE **1621 S MYRTLE AVE** **LIENS 2** **CAD040363012**
1/8-1/4 **MONROVIA, CA 91016** **RCRA NonGen / NLR**
0.237 mi. **FINDS**
1250 ft. **Site 5 of 7 in cluster I** **ECHO**

Relative: Higher

Actual: 446 ft.

SEMS-ARCHIVE:

Site ID:	901317
EPA ID:	CAD040363012
Federal Facility:	N
NPL:	Not on the NPL
Non NPL Status:	NFRAP-Site does not qualify for the NPL based on existing information

Following information was gathered from the prior CERCLIS update completed in 10/2013:

Site ID:	0901317

ABCO METAL FINISHING (Continued) **1000326214**

Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13287714.00000
Person ID: 13003854.00000

Contact Sequence ID: 13293309.00000
Person ID: 13003858.00000

Contact Sequence ID: 13299167.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Site Alias Name(s):
Alias Name: ABCO PLATING
Alias Address: Not reported
CA

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: / /
Date Completed: 01/01/87
Priority Level: Not reported

Action: ADMINISTRATIVE RECORDS
Date Started: 01/11/88
Date Completed: 01/11/88
Priority Level: Admin Record Compiled for a Removal Event

Action: REMOVAL
Date Started: 05/06/87
Date Completed: 11/17/87
Priority Level: Cleaned up

Action: PRELIMINARY ASSESSMENT
Date Started: / /
Date Completed: 04/20/89
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 01/23/96
Priority Level: Not reported

LIENS 2:
Facility name: ABCO METAL FINISHING
Facility address: 1621 S MYRTLE AVE
MONROVIA, CA 91016
EPA ID: CAD040363012
Effective date: Not reported
Lien: LP001
Party name: Not reported
Reg: 09
Release date: Not reported

ABCO METAL FINISHING (Continued) **1000326214**

Start date: 10/09/1987
Complete date: Not reported

RCRA NonGen / NLR:
Date form received by agency: 08/18/1980
Facility name: ABCO METAL FINISHING
Facility address: 1621 S MYRTLE AVE
MONROVIA, CA 91016
EPA ID: CAD040363012
Mailing address: 1621 SO MYRTLE AVE
MONROVIA, CA 91016
Contact: ENVIRONMENTAL MANAGER
Contact address: 1621 S MYRTLE AVE
MONROVIA, CA 91016
Contact country: US
Contact telephone: (213) 358-0139
Contact email: Not reported
EPA Region: 09
Classification: Non-Generator
Description: Handler: Non-Generators do not presently generate hazardous waste

Owner/Operator Summary:
Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: EDGAR M KNIPE
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No

ABCO METAL FINISHING (Continued) **1000326214**

Used oil transfer facility: No
Used oil transporter: No

Violation Status: No violations found

FINDS:

Registry ID: 110002643818

Environmental Interest/Information System
RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000326214
Registry ID: 110002643818
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002643818

J48 **CHEVRON #202035 (FORMER EXXON)** **LUST S100614542**
East **1515 MYRTLE AVE S** **HIST CORTESE N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.238 mi.
1256 ft. **Site 1 of 3 in cluster J**

Relative:
Higher

Actual:
456 ft.

LUST:
Region: STATE
Global Id: T0603703938
Latitude: 34.134649
Longitude: -118.001221
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 01/10/1997
Lead Agency: LOS ANGELES RWQCB (REGION 4)
Case Worker: YR
Local Agency: LOS ANGELES COUNTY
RB Case Number: I-12220
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Gasoline
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:
Global Id: T0603703938
Contact Type: Local Agency Caseworker
Contact Name: JOHN AWUJO
Organization Name: LOS ANGELES COUNTY
Address: 900 S FREMONT AVE

CHEVRON #202035 (FORMER EXXON) (Continued) **S100614542**

City: ALHAMBRA
Email: jawujo@dpw.lacounty.gov
Phone Number: 6264583507

Global Id: T0603703938
Contact Type: Regional Board Caseworker
Contact Name: YUE RONG
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: 320 W. 4TH ST., SUITE 200
City: Los Angeles
Email: yrong@waterboards.ca.gov
Phone Number: Not reported

Status History:
Global Id: T0603703938
Status: Completed - Case Closed
Status Date: 01/10/1997

Global Id: T0603703938
Status: Open - Case Begin Date
Status Date: 04/09/1992

Global Id: T0603703938
Status: Open - Remediation
Status Date: 06/30/1995

Global Id: T0603703938
Status: Open - Site Assessment
Status Date: 04/10/1992

Regulatory Activities:
Global Id: T0603703938
Action Type: Other
Date: 04/09/1992
Action: Leak Discovery

Global Id: T0603703938
Action Type: Other
Date: 08/24/1992
Action: Leak Stopped

Global Id: T0603703938
Action Type: Other
Date: 11/10/1992
Action: Leak Reported

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: I-12220
Status: Case Closed
Substance: Gasoline
Substance Quantity: Not reported
Local Case No: Not reported

CHEVRON #202035 (FORMER EXXON) (Continued) **S100614542**

Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603703938	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	19000	
Cross Street:	EVERGREEN	
Enforcement Type:	Not reported	
Date Leak Discovered:	4/9/1992	
Date Leak First Reported:		11/10/1992
Date Leak Record Entered:	4/28/1992	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	8/24/1992	
Date Case Last Changed on Database:		3/31/1997
Date the Case was Closed:		1/10/1997
How Leak Discovered:	OM	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	Tank	
Operator:	NERSES O'BERBERIAN	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		833.279750550553221164084 4039
Source of Cleanup Funding:		Tank
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		4/10/1992
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		6/30/1995
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	EXXON COMPANY U.S.A.	
RP Address:	2300 CLAYTON RD, SUITE 640, CONCORD CA 94520	
Program:	LUST	
Lat/Long:	34.135499 / -1	
Local Agency Staff:	Not reported	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	02/26/97 WELL ABANDONMENT REPORT 12/02/96 CLOSURE REPORT 09/30/96 3RD QUARTERLY STATUS REPORT 12/31/96 QUARTERLY STATUS REPORT	

HIST CORTESE:

Region:	CORTESE
Facility County Code:	19

CHEVRON #202035 (FORMER EXXON) (Continued) **S100614542**

Reg By: LTNKA
Reg Id: I-12220

J49 **CHEVRON STATION NO 202035** **RCRA-LQG** **1006805234**
East **1515 S MYRTLE AVE** **FINDS** **CAR000124941**
1/8-1/4 **MONROVIA, CA 91016** **ECHO**
0.238 mi.
1256 ft. **Site 2 of 3 in cluster J**

Relative:
Higher

Actual:
456 ft.

RCRA-LQG:
Date form received by agency: 02/19/2008
Facility name: CHEVRON 202035
Facility address: 1515 S MYRTLE AVE.
MONROVIA, CA 91016
EPA ID: CAR000124941
Mailing address: PO BOX 6004
SAN RAMON, CA 94583
Contact: KATHY L NORRIS
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: (925) 842-5931
Contact email: NAWTDESK@CHEVRON.COM
EPA Region: 09
Classification: Large Quantity Generator
Description: Handler: generates 1,000 kg or more of hazardous waste during any calendar month; or generates more than 1 kg of acutely hazardous waste during any calendar month; or generates more than 100 kg of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month; or generates 1 kg or less of acutely hazardous waste during any calendar month, and accumulates more than 1 kg of acutely hazardous waste at any time; or generates 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulates more than 100 kg of that material at any time

Owner/Operator Summary:
Owner/operator name: CHEVRON PRODUCTS CO.
Owner/operator address: PO BOX 6004
SAN RAMON, CA 94583
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: 06/15/1992
Owner/Op end date: Not reported

Owner/operator name: CHEVRON PRODUCTS CO
Owner/operator address: P O BOX 6004
SAN RAMON, CA 94583
Owner/operator country: Not reported
Owner/operator telephone: (925) 842-5931
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported

CHEVRON STATION NO 202035 (Continued) **1006805234**

Owner/Op end date: Not reported

Owner/operator name: CHEVRON PRODUCTS CO.
Owner/operator address: Not reported
Not reported
Owner/operator country: US
Owner/operator telephone: Not reported
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: 06/15/1992
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D018
. Waste name: BENZENE

Historical Generators:
Date form received by agency: 06/17/2002
Site name: CHEVRON STATION NO 202035
Classification: Small Quantity Generator

. Waste code: D001
. Waste name: IGNITABLE WASTE

. Waste code: D018
. Waste name: BENZENE

Violation Status: No violations found

FINDS:

Registry ID: 110055811661

Environmental Interest/Information System
STATE MASTER

Registry ID: 110013291552

CHEVRON STATION NO 202035 (Continued) **1006805234**

Environmental Interest/Information System

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

HAZARDOUS WASTE BIENNIAL REPORTER

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:

Envid:	1006805234
Registry ID:	110013291552
DFR URL:	http://echo.epa.gov/detailed-facility-report?fid=110013291552

J50 **MYRTLE AUTO CLINIC INC. CHEVRON** **UST** **U003776974**
East **1515 S MYRTLE AVE** **N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.238 mi.
1256 ft. **Site 3 of 3 in cluster J**

Relative:
Higher

Actual:
456 ft.

UST:

Facility ID:	12220
Permitting Agency:	LOS ANGELES COUNTY
Latitude:	34.1357484
Longitude:	-117.9999097
Facility ID:	LACoFA0018515
Permitting Agency:	Los Angeles County Fire Department
Latitude:	34.13465
Longitude:	-118.00121

H51 **NU WAY CAR WASH** **LUST** **S104159981**
ESE **123 DUARTE RD W** **HIST CORTESE** **N/A**
1/8-1/4 **MONROVIA, CA 91016**
0.240 mi.
1266 ft. **Site 8 of 8 in cluster H**

Relative:
Lower

Actual:
436 ft.

LUST:

Region:	STATE
Global Id:	T0603705073
Latitude:	34.1322235
Longitude:	-118.0016537
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	04/08/1996
Lead Agency:	LOS ANGELES COUNTY

NU WAY CAR WASH (Continued) **S104159981**

Case Worker:	JOA
Local Agency:	LOS ANGELES COUNTY
RB Case Number:	R-11775
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603705073
Contact Type:	Local Agency Caseworker
Contact Name:	JOHN AWUJO
Organization Name:	LOS ANGELES COUNTY
Address:	900 S FREMONT AVE
City:	ALHAMBRA
Email:	jawujo@dpw.lacounty.gov
Phone Number:	6264583507

Global Id:	T0603705073
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Status History:

Global Id:	T0603705073
Status:	Completed - Case Closed
Status Date:	04/08/1996

Global Id:	T0603705073
Status:	Open - Case Begin Date
Status Date:	09/13/1995

Regulatory Activities:

Global Id:	T0603705073
Action Type:	Other
Date:	09/13/1995
Action:	Leak Discovery

Global Id:	T0603705073
Action Type:	Other
Date:	09/25/1995
Action:	Leak Reported

LUST REG 4:

Region:	4
Regional Board:	04
County:	Los Angeles
Facility Id:	R-11775

NU WAY CAR WASH (Continued) **S104159981**

Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603705073	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	19000	
Cross Street:	MYRTLE	
Enforcement Type:	Not reported	
Date Leak Discovered:	9/13/1995	
Date Leak First Reported:		9/25/1995
Date Leak Record Entered:	11/27/1995	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		4/8/1996
Date the Case was Closed:		4/8/1996
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	OLD CASE #960105-31	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		672.23690234774529892915425319
Source of Cleanup Funding:		Not reported
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	NU-WAY CAR WASH	
RP Address:	123 W. DUARTE RD., MONROVIA, CA 91016-4527	
Program:	LUST	
Lat/Long:	34.1322731 / -1	
Local Agency Staff:	Not reported	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

HIST CORTESE:

Region:	CORTESE

NU WAY CAR WASH (Continued) **S104159981**

Facility County Code: 19
Reg By: LTNKA
Reg Id: R-11775

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52 **MOBIL #11-LAR** **LUST** **S104406576**
ENE **1419 MYRTLE S** **HIST CORTESE** **N/A**
1/4-1/2 **MONROVIA, CA 91016**
0.259 mi.
1368 ft.

Relative:
Higher

Actual:
467 ft.

LUST:

Region:	STATE
Global Id:	T0603703390
Latitude:	34.136207
Longitude:	-118.00121
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	02/06/1996
Lead Agency:	LOS ANGELES COUNTY
Case Worker:	JOA
Local Agency:	LOS ANGELES COUNTY
RB Case Number:	I-09356
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603703390
Contact Type:	Local Agency Caseworker
Contact Name:	JOHN AWUJO
Organization Name:	LOS ANGELES COUNTY
Address:	900 S FREMONT AVE
City:	ALHAMBRA
Email:	jawujo@dpw.lacounty.gov
Phone Number:	6264583507

Global Id:	T0603703390
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Status History:

Global Id:	T0603703390
Status:	Completed - Case Closed
Status Date:	02/06/1996

Global Id:	T0603703390
Status:	Open - Case Begin Date
Status Date:	07/18/1988

MOBIL #11-LAR (Continued) **S104406576**

Regulatory Activities:

Global Id:	T0603703390
Action Type:	Other
Date:	07/18/1988
Action:	Leak Discovery

Global Id:	T0603703390
Action Type:	Other
Date:	07/18/1988
Action:	Leak Reported

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	I-09356	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603703390	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	19000	
Cross Street:	Not reported	
Enforcement Type:	Not reported	
Date Leak Discovered:	7/18/1988	
Date Leak First Reported:		7/18/1988
Date Leak Record Entered:	12/1/1995	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		5/2/1995
Date the Case was Closed:		2/6/1996
How Leak Discovered:	Tank Closure	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	UNK	
Operator:	SAME	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		1164.92075666243677754895940 75
Source of Cleanup Funding:		UNK
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported

MOBIL #11-LAR (Continued) **S104406576**

GW Qualifier:	Not reported
Soil Qualifier:	Not reported
Organization:	Not reported
Owner Contact:	Not reported
Responsible Party:	MOBIL OIL CORP.
RP Address:	3700 W. 190TH STREET, TPT2
Program:	LUST
Lat/Long:	34.1364329 / -1
Local Agency Staff:	Not reported
Beneficial Use:	Not reported
Priority:	Not reported
Cleanup Fund Id:	Not reported
Suspended:	Not reported
Assigned Name:	Not reported
Summary:	Not reported

HIST CORTESE:

Region:	CORTESE
Facility County Code:	19
Reg By:	LTNKA
Reg Id:	I-09356

I53 **UNOCAL #5937** **LUST** **S104539662**
East **1602 MYRTLE AVE S** **N/A**
1/4-1/2 **MONROVIA, CA 91016**
0.266 mi.
1404 ft. **Site 6 of 7 in cluster I**

Relative:
Higher

Actual:
453 ft.

LUST:

Region:	STATE
Global Id:	T0603793011
Latitude:	34.1339309
Longitude:	-118.000422
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	04/24/2003
Lead Agency:	LOS ANGELES COUNTY
Case Worker:	JOA
Local Agency:	LOS ANGELES COUNTY
RB Case Number:	R-24779
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603793011
Contact Type:	Local Agency Caseworker
Contact Name:	JOHN AWUJO
Organization Name:	LOS ANGELES COUNTY
Address:	900 S FREMONT AVE
City:	ALHAMBRA
Email:	jawujo@dpw.lacounty.gov
Phone Number:	6264583507

UNOCAL #5937 (Continued) **S104539662**

Global Id:	T0603793011
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Status History:

Global Id:	T0603793011
Status:	Completed - Case Closed
Status Date:	04/24/2003
Global Id:	T0603793011
Status:	Open - Case Begin Date
Status Date:	08/04/1998
Global Id:	T0603793011
Status:	Open - Site Assessment
Status Date:	11/17/1999
Global Id:	T0603793011
Status:	Open - Site Assessment
Status Date:	11/20/2000

Regulatory Activities:

Global Id:	T0603793011
Action Type:	Other
Date:	08/04/1998
Action:	Leak Discovery
Global Id:	T0603793011
Action Type:	Other
Date:	11/17/1999
Action:	Leak Reported

Region:	STATE
Global Id:	T0603703791
Latitude:	34.1339309
Longitude:	-118.000422
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	11/17/1994
Lead Agency:	LOS ANGELES COUNTY
Case Worker:	JOA
Local Agency:	LOS ANGELES COUNTY
RB Case Number:	I-11381
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

UNOCAL #5937 (Continued) **S104539662**

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603703791
Contact Type:	Local Agency Caseworker
Contact Name:	JOHN AWUJO
Organization Name:	LOS ANGELES COUNTY
Address:	900 S FREMONT AVE
City:	ALHAMBRA
Email:	jawujo@dpw.lacounty.gov
Phone Number:	6264583507

Global Id:	T0603703791
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Status History:

Global Id:	T0603703791
Status:	Completed - Case Closed
Status Date:	11/17/1994

Global Id:	T0603703791
Status:	Open - Case Begin Date
Status Date:	11/28/1990

Global Id:	T0603703791
Status:	Open - Remediation
Status Date:	04/30/1992

Regulatory Activities:

Global Id:	T0603703791
Action Type:	Other
Date:	11/28/1990
Action:	Leak Discovery

Global Id:	T0603703791
Action Type:	Other
Date:	04/30/1992
Action:	Leak Reported

LUST REG 4:

Region:	4
Regional Board:	04
County:	Los Angeles
Facility Id:	R-24779
Status:	Leak being confirmed
Substance:	Gasoline
Substance Quantity:	Not reported
Local Case No:	Not reported

UNOCAL #5937 (Continued) **S104539662**

Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603793011	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	19000	
Cross Street:	POMONA AVE	
Enforcement Type:	Not reported	
Date Leak Discovered:	8/4/1998	
Date Leak First Reported:		11/17/1999
Date Leak Record Entered:	Not reported	
Date Confirmation Began:	11/17/1999	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		11/17/1999
Date the Case was Closed:		Not reported
How Leak Discovered:	OM	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Piping	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		322.39362339827639234634036387
Source of Cleanup Funding:		Piping
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	TOSCO CORPORATION	
RP Address:	P.O. BOX 25376, SANTA ANA, CA 92799	
Program:	LUST	
Lat/Long:	34.134046 / -1	
Local Agency Staff:	Not reported	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

I54 **UNOCAL #5937** **LUST** **S102440094**
East **1602 MYRTLE** **HIST CORTESE** **N/A**
1/4-1/2 **MONROVIA, CA 91016**
0.266 mi.
1404 ft. **Site 7 of 7 in cluster I**

Relative:
Higher

Actual:
453 ft.

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	I-11381	
Status:	Case Closed	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603703791	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	19000	
Cross Street:	POMONA AVE.	
Enforcement Type:	Informal Enforcement Actions,including Notices of Violations and Staff Enforcement Letters	
Date Leak Discovered:	11/28/1990	
Date Leak First Reported:		4/30/1992
Date Leak Record Entered:	5/26/1992	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		11/17/1994
Date the Case was Closed:		11/17/1994
How Leak Discovered:	Tank Closure	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	Tank	
Operator:	HINDI, BASSAN	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		360.85121302713073786248442617
Source of Cleanup Funding:		Tank
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		4/30/1992
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		1/1/1965
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	UNOCAL CORP.	
RP Address:	376 VALENCIA AVE. S., BREA CA 92621	
Program:	LUST	
Lat/Long:	34.13415 / -1	
Local Agency Staff:	Not reported	

UNOCAL #5937 (Continued) **S102440094**

Beneficial Use: Not reported
Priority: Not reported
Cleanup Fund Id: Not reported
Suspended: Not reported
Assigned Name: Not reported
Summary: Not reported

HIST CORTESE:
Region: CORTESE
Facility County Code: 19
Reg By: LTNKA
Reg Id: I-11381

K55 **VIRGINIA HARDWOOD COMPANY** **HIST UST** **U001566568**
ESE **116 RAILROAD** **HIST CORTESE** **N/A**
1/4-1/2 **MONROVIA, CA 91016**
0.305 mi.
1612 ft. **Site 1 of 2 in cluster K**

Relative:
Higher

Actual:
445 ft.

HIST UST:
File Number: 000285AA
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/000285AA.pdf
Region: STATE
Facility ID: 00000066000
Facility Type: Other
Other Type: WHSLE.FLRG.DISTRIBUT
Contact Name: STEVE GORES
Telephone: 8183584594
Owner Name: VIRGINIA HARDWOOD COMPANY
Owner Address: 116 RALROAD AVE.
Owner City,St,Zip: MONROVIA, CA 91016
Total Tanks: 0001

Tank Num: 001
Container Num: #1
Year Installed: 1974
Tank Capacity: 00009980
Tank Used for: WASTE
Type of Fuel: 1
Container Construction Thickness: X
Leak Detection: None

Click here for Geo Tracker PDF:

HIST CORTESE:
Region: CORTESE
Facility County Code: 19
Reg By: LTNKA
Reg Id: R-11436

K56 **VIRGINIA HARDWOOD COMPANY** **LUST** **S105036339**
ESE **116 RAILROAD AVE E** **SWEEPS UST** **N/A**
1/4-1/2 **MONROVIA, CA 91016** **LOS ANGELES CO. HMS**
0.305 mi.
1612 ft. **Site 2 of 2 in cluster K**

Relative:
Higher

Actual:
445 ft.

LUST:

Region:	STATE
Global Id:	T0603705044
Latitude:	34.132737
Longitude:	-117.999694
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	02/11/1997
Lead Agency:	LOS ANGELES COUNTY
Case Worker:	JOA
Local Agency:	LOS ANGELES COUNTY
RB Case Number:	R-11436
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Aviation
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603705044
Contact Type:	Local Agency Caseworker
Contact Name:	JOHN AWUJO
Organization Name:	LOS ANGELES COUNTY
Address:	900 S FREMONT AVE
City:	ALHAMBRA
Email:	jawujo@dpw.lacounty.gov
Phone Number:	6264583507

Global Id:	T0603705044
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Status History:

Global Id:	T0603705044
Status:	Completed - Case Closed
Status Date:	02/11/1997

Global Id:	T0603705044
Status:	Open - Case Begin Date
Status Date:	02/11/1997

Regulatory Activities:

Global Id:	T0603705044
Action Type:	Other
Date:	02/11/1997
Action:	Leak Reported

VIRGINIA HARDWOOD COMPANY (Continued) **S105036339**

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	R-11436	
Status:	Case Closed	
Substance:	1	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603705044	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	19000	
Cross Street:	Not reported	
Enforcement Type:	Not reported	
Date Leak Discovered:	Not reported	
Date Leak First Reported:		2/11/1997
Date Leak Record Entered:	3/19/1998	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		2/11/1997
Date the Case was Closed:		2/11/1997
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		162.32869388608256287380583138
Source of Cleanup Funding:		Not reported
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	VIRGINIA HARDWOOD COMPANY	
RP Address:	116 E. RAILROAD AVE., MONROVIA, CA 91016	
Program:	LUST	
Lat/Long:	34.1329111 / -1	
Local Agency Staff:	Not reported	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	

VIRGINIA HARDWOOD COMPANY (Continued) **S105036339**

Assigned Name: Not reported
Summary: Not reported

SWEEPS UST:
Status: Active
Comp Number: 11436
Number: 9
Board Of Equalization: 44-009296
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-011436-000001
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: 1

LOS ANGELES CO. HMS:
Region: LA
Permit Category: T
Facility Id: 011399-011436
Facility Type: 0
Facility Status: Removed
Area: 3G
Permit Number: 00002962T
Permit Status: Removed

57
NNE
1/4-1/2
0.405 mi.
2140 ft.

CITY OF MONROVIA
236 HUNTINGTON DR W
MONROVIA, CA 91016

LUST **S101297528**
HIST CORTESE **N/A**

Relative:
Higher

Actual:
489 ft.

LUST:
Region: STATE
Global Id: T0603703741
Latitude: 34.1400968
Longitude: -118.0036813
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 07/09/1992
Lead Agency: LOS ANGELES COUNTY
Case Worker: JOA
Local Agency: LOS ANGELES COUNTY
RB Case Number: I-11110
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Soil
Potential Contaminants of Concern: Waste Oil / Motor / Hydraulic / Lubricating
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

CITY OF MONROVIA (Continued) **S101297528**

Contact:
Global Id: T0603703741
Contact Type: Local Agency Caseworker
Contact Name: JOHN AWUJO
Organization Name: LOS ANGELES COUNTY
Address: 900 S FREMONT AVE
City: ALHAMBRA
Email: jawujo@dpw.lacounty.gov
Phone Number: 6264583507

Global Id: T0603703741
Contact Type: Regional Board Caseworker
Contact Name: YUE RONG
Organization Name: LOS ANGELES RWQCB (REGION 4)
Address: 320 W. 4TH ST., SUITE 200
City: Los Angeles
Email: yrong@waterboards.ca.gov
Phone Number: Not reported

Status History:
Global Id: T0603703741
Status: Completed - Case Closed
Status Date: 07/09/1992

Global Id: T0603703741
Status: Open - Case Begin Date
Status Date: 11/28/1990

Global Id: T0603703741
Status: Open - Site Assessment
Status Date: 11/28/1990

Regulatory Activities:
Global Id: T0603703741
Action Type: Other
Date: 12/05/1990
Action: Leak Reported

LUST REG 4:
Region: 4
Regional Board: 04
County: Los Angeles
Facility Id: I-11110
Status: Case Closed
Substance: Waste Oil
Substance Quantity: Not reported
Local Case No: Not reported
Case Type: Soil
Abatement Method Used at the Site: Not reported
Global ID: T0603703741
W Global ID: Not reported
Staff: UNK
Local Agency: 19000
Cross Street: Not reported

CITY OF MONROVIA (Continued) **S101297528**

Enforcement Type:	222	
Date Leak Discovered:	Not reported	
Date Leak First Reported:		12/5/1990
Date Leak Record Entered:	8/9/1992	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		7/9/1992
Date the Case was Closed:		7/9/1992
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	UNK	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		2703.715859482807333160817133
Source of Cleanup Funding:		UNK
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		11/28/1990
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		1/1/1965
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	ASSAEL MOTORS	
RP Address:	1451 S. MOUNTAIN AVE., MONROVIA, CA 91016	
Program:	LUST	
Lat/Long:	34.1400968 / -1	
Local Agency Staff:	Not reported	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	Not reported	

HIST CORTESE:

Region:	CORTESE
Facility County Code:	19
Reg By:	LTNKA
Reg Id:	I-11110

58
East
1/4-1/2
0.414 mi.
2184 ft.

STANLEY WORKS
200 RAILROAD AVE
MONROVIA, CA 91016

LUST
HIST CORTESE
LOS ANGELES CO. HMS

S102055802
N/A

Relative:
Higher

Actual:
452 ft.

LUST:

Region:	STATE
Global Id:	T0603705261
Latitude:	34.132801
Longitude:	-117.997944
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	02/06/1991
Lead Agency:	LOS ANGELES COUNTY
Case Worker:	JOA
Local Agency:	LOS ANGELES COUNTY
RB Case Number:	R-15678
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Aviation
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603705261
Contact Type:	Local Agency Caseworker
Contact Name:	JOHN AWUJO
Organization Name:	LOS ANGELES COUNTY
Address:	900 S FREMONT AVE
City:	ALHAMBRA
Email:	jawujo@dpw.lacounty.gov
Phone Number:	6264583507

Global Id:	T0603705261
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Status History:

Global Id:	T0603705261
Status:	Completed - Case Closed
Status Date:	02/06/1991

Global Id:	T0603705261
Status:	Open - Case Begin Date
Status Date:	02/06/1991

Regulatory Activities:

Global Id:	T0603705261
Action Type:	Other
Date:	02/06/1991
Action:	Leak Reported

STANLEY WORKS (Continued) **S102055802**

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	R-15678	
Status:	Case Closed	
Substance:	1	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603705261	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	19000	
Cross Street:	MYRTLE AVE	
Enforcement Type:	Not reported	
Date Leak Discovered:	Not reported	
Date Leak First Reported:		2/6/1991
Date Leak Record Entered:	5/3/1996	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		2/6/1991
Date the Case was Closed:		2/6/1991
How Leak Discovered:	Not reported	
How Leak Stopped:	Not reported	
Cause of Leak:	Not reported	
Leak Source:	Not reported	
Operator:	Not reported	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		766.48901649509337120364451298
Source of Cleanup Funding:		Not reported
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		Not reported
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	THE STANLEY WORKS	
RP Address:	1000 STANLEY DR NEW BRITAIN CA 06050	
Program:	LUST	
Lat/Long:	34.1332351 / -1	
Local Agency Staff:	Not reported	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	

STANLEY WORKS (Continued) **S102055802**

Assigned Name: Not reported
Summary: Not reported

HIST CORTESE:
Region: CORTESE
Facility County Code: 19
Reg By: LTNKA
Reg Id: R-15678

LOS ANGELES CO. HMS:
Region: LA
Permit Category: T
Facility Id: 014882-015678
Facility Type: 1
Facility Status: Removed
Area: 3G
Permit Number: 000429015
Permit Status: Removed

L59 **AREMAC** **SLIC** **S105053231**
SSE **2004 S MYRTLE AV** **EMI** **N/A**
1/4-1/2 **MONROVIA, CA 91016** **LOS ANGELES CO. HMS**
0.426 mi. **WIP**
2249 ft. **Site 1 of 2 in cluster L**

Relative:
Lower

Actual:
406 ft.

SLIC:
Region: STATE
Facility Status: **Open - Inactive**
Status Date: 10/29/2014
Global Id: SL603798691
Lead Agency: LOS ANGELES RWQCB (REGION 4)
Lead Agency Case Number: Not reported
Latitude: 34.128912
Longitude: -118.000657
Case Type: Cleanup Program Site
Case Worker: GJH
Local Agency: Not reported
RB Case Number: 106.2018
File Location: Not reported
Potential Media Affected: Aquifer used for drinking water supply
Potential Contaminants of Concern: Not reported
Site History: Not reported

Click here to access the California GeoTracker records for this facility:

EMI:
Year: 1990
County Code: 19
Air Basin: SC
Facility ID: 52993
Air District Name: SC
SIC Code: 3398
Air District Name: SOUTH COAST AQMD
Community Health Air Pollution Info System: Not reported
Consolidated Emission Reporting Rule: Not reported
Total Organic Hydrocarbon Gases Tons/Yr: 1

AREMAC (Continued) **S105053231**

Reactive Organic Gases Tons/Yr: 0
Carbon Monoxide Emissions Tons/Yr: 0
NOX - Oxides of Nitrogen Tons/Yr: 0
SOX - Oxides of Sulphur Tons/Yr: 0
Particulate Matter Tons/Yr: 0
Part. Matter 10 Micrometers and Smllr Tons/Yr: 0

LOS ANGELES CO. HMS:
Region: LA
Permit Category: Not reported
Facility Id: 015340-016547
Facility Type: Not reported
Facility Status: OPEN
Area: 3G
Permit Number: Not reported
Permit Status: Not reported

WIP:
Region: 4
File Number: 106.2018
File Status: Backlog
Staff: UNIDENTIFIED
Facility Suite: Not reported

L60 **MERCURY RECOVERY SERVICES** **HWP** **S100939920**
SSE **2021 S MYRTLE** **N/A**
1/4-1/2 **MONROVIA, CA 91016**
0.429 mi.
2267 ft. **Site 2 of 2 in cluster L**

Relative:
Lower

Actual:
403 ft.

HWP:
EPA Id: CAL000043715
Cleanup Status: CLOSED
Latitude: 34.12824
Longitude: -118.0016
Facility Type: Historical - Non-Operating
Facility Size: Not reported
Team: Not reported
Supervisor: Not reported
Site Code: Not reported
Assembly District: 41
Senate District: 25
Public Information Officer: Not reported
Public Information Officer: Not reported

Closure:
EPA Id: CAL000043715
Facility Type: Historical - Non-Operating
Unit Names: TANKTRT1
Event Description: Closure Final - ISSUE CLOSURE VERIFICATION
Actual Date: 03/26/1999

M61 **MONTEREY SHELL/ FORMER SH** **HIST CORTESE** **S102437042**
NW **705 HUNTINGTON** **N/A**
1/4-1/2 **MONROVIA, CA 91016**
0.468 mi.
2470 ft. **Site 1 of 2 in cluster M**

Relative:
Higher

Actual:
464 ft.

HIST CORTESE:

Region:	CORTESE
Facility County Code:	19
Reg By:	LTNKA
Reg Id:	R-26399

M62 **MONTEREY SHELL/ FORMER SHELL OIL** **LUST** **S104532754**
NW **705 HUNTINGTON DR W** **SLIC** **N/A**
1/4-1/2 **MONROVIA, CA 91016**
0.468 mi.
2470 ft. **Site 2 of 2 in cluster M**

Relative:
Higher

Actual:
464 ft.

LUST:

Region:	STATE
Global Id:	T0603705537
Latitude:	34.140737
Longitude:	-118.014567
Case Type:	LUST Cleanup Site
Status:	Completed - Case Closed
Status Date:	11/28/1992
Lead Agency:	LOS ANGELES COUNTY
Case Worker:	JOA
Local Agency:	LOS ANGELES COUNTY
RB Case Number:	R-26399
LOC Case Number:	Not reported
File Location:	Not reported
Potential Media Affect:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603705537
Contact Type:	Local Agency Caseworker
Contact Name:	JOHN AWUJO
Organization Name:	LOS ANGELES COUNTY
Address:	900 S FREMONT AVE
City:	ALHAMBRA
Email:	jawujo@dpw.lacounty.gov
Phone Number:	6264583507

Global Id:	T0603705537
Contact Type:	Regional Board Caseworker
Contact Name:	YUE RONG
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	Los Angeles
Email:	yrong@waterboards.ca.gov
Phone Number:	Not reported

Status History:

Global Id:	T0603705537
Status:	Completed - Case Closed

MONTEREY SHELL/ FORMER SHELL OIL (Continued) **S104532754**

Status Date: 03/30/1992

Global Id: T0603705537
Status: Completed - Case Closed
Status Date: 11/28/1992

Global Id: T0603705537
Status: Open - Case Begin Date
Status Date: 08/10/1989

Global Id: T0603705537
Status: Open - Remediation
Status Date: 01/10/1990

Global Id: T0603705537
Status: Open - Remediation
Status Date: 11/27/1992

Global Id: T0603705537
Status: Open - Reopen Case
Status Date: 11/26/1992

Global Id: T0603705537
Status: Open - Site Assessment
Status Date: 08/10/1989

Global Id: T0603705537
Status: Open - Site Assessment
Status Date: 11/10/1989

Regulatory Activities:

Global Id: T0603705537
Action Type: Other
Date: 07/18/1990
Action: Leak Discovery

Global Id: T0603705537
Action Type: Other
Date: 07/18/1990
Action: Leak Stopped

Global Id: T0603705537
Action Type: Other
Date: 08/15/1990
Action: Leak Reported

Global Id: T0603705537
Action Type: ENFORCEMENT
Date: 03/30/1992
Action: Closure/No Further Action Letter

Global Id: T0603705537
Action Type: ENFORCEMENT
Date: 05/22/1990
Action: Closure/No Further Action Letter - #c35727

MONTEREY SHELL/ FORMER SHELL OIL (Continued) **S104532754**

LUST REG 4:

Region:	4	
Regional Board:	04	
County:	Los Angeles	
Facility Id:	R-26399	
Status:	Remedial action (cleanup) Underway	
Substance:	Gasoline	
Substance Quantity:	Not reported	
Local Case No:	Not reported	
Case Type:	Soil	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603705537	
W Global ID:	Not reported	
Staff:	UNK	
Local Agency:	19000	
Cross Street:	MONTEREY AVE.	
Enforcement Type:	222	
Date Leak Discovered:	7/18/1990	
Date Leak First Reported:		8/15/1990
Date Leak Record Entered:	10/1/1990	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	7/18/1990	
Date Case Last Changed on Database:		6/30/1992
Date the Case was Closed:		Not reported
How Leak Discovered:	Tank Closure	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	UNK	
Operator:	CLAUDIO, MIKE	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		2934.220162909711999215261087 7
Source of Cleanup Funding:		UNK
Preliminary Site Assessment Workplan Submitted:		8/10/1989
Preliminary Site Assessment Began:		11/10/1989
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		1/10/1990
Remedial Action Underway:		11/27/1992
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		1/1/1965
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	SHELL OIL CO.	
RP Address:	P.O. BOX 4818, ANAHEIM, 92803	
Program:	LUST	
Lat/Long:	34.1403038 / -1	
Local Agency Staff:	Not reported	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	

MONTEREY SHELL/ FORMER SHELL OIL (Continued) **S104532754**

Assigned Name: Not reported
Summary: FORMER SHELL #204-5076-0457 CASE I--09486

SLIC:

Region:	STATE
Facility Status:	**Completed - Case Closed**
Status Date:	01/30/2007
Global Id:	T0603716779
Lead Agency:	LOS ANGELES COUNTY
Lead Agency Case Number:	009657-026399
Latitude:	34.140737
Longitude:	-118.014567
Case Type:	Cleanup Program Site
Case Worker:	MRR
Local Agency:	LOS ANGELES COUNTY
RB Case Number:	Not reported
File Location:	Not reported
Potential Media Affected:	Soil
Potential Contaminants of Concern:	Gasoline
Site History:	Not reported

Click here to access the California GeoTracker records for this facility:

63
NNW
1/4-1/2
0.475 mi.
2508 ft.

Relative:
Higher

Actual:
482 ft.

J P PAPER SHREDDERS **SWRCY** **S107137162**
428 W CHESTNUT AVE **N/A**
MONROVIA, CA 91016

SWRCY:

Reg Id:	19157
Cert Id:	RC0067
Mailing Address:	428 W Chestnut Ave
Mailing City:	Monrovia
Mailing State:	CA
Mailing Zip Code:	91016
Website:	Not reported
Email:	Not reported
Phone Number:	(626) 357-1775
Grand Father:	Y
Rural:	N
Operation Begin Date:	08/17/1987
Aluminium:	Y
Glass:	Y
Plastic:	Y
Bimetal:	Y
Agency:	N/A
Monday Hours Of Operation:	8:00 am - 4:30 pm
Tuesday Hours Of Operation:	8:00 am - 4:30 pm
Wednesday Hours Of Operation:	8:00 am - 4:30 pm
Thursday Hours Of Operation:	8:00 am - 4:30 pm
Friday Hours Of Operation:	8:00 am - 4:30 pm
Saturday Hours Of Operation:	8:00 am - 4:00 pm
Sunday Hours Of Operation:	CLOSED
Organization ID:	19157
Organization Name:	J P Paper Shredders

64 North 1/2-1 0.553 mi. 2919 ft.

PRECISE SENSORS INC
235 W CHESTNUT AVE
MONROVIA, CA 91016

SEMS-ARCHIVE
RCRA-SQG
ENVIROSTOR
FINDS
ECHO

1000171823
CAD052387297

Relative: Higher

Actual: 504 ft.

SEMS-ARCHIVE:
Site ID: 901426
EPA ID: CAD052387297
Federal Facility: N
NPL: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

Following information was gathered from the prior CERCLIS update completed in 10/2013:
Site ID: 0901426
Federal Facility: Not a Federal Facility
NPL Status: Not on the NPL
Non NPL Status: NFRAP-Site does not qualify for the NPL based on existing information

CERCLIS-NFRAP Site Contact Details:
Contact Sequence ID: 13285166.00000
Person ID: 13003854.00000

Contact Sequence ID: 13290761.00000
Person ID: 13003858.00000

Contact Sequence ID: 13296619.00000
Person ID: 13004003.00000

CERCLIS-NFRAP Assessment History:
Action: DISCOVERY
Date Started: / /
Date Completed: 12/01/80
Priority Level: Not reported

Action: ARCHIVE SITE
Date Started: / /
Date Completed: 05/01/85
Priority Level: Not reported

Action: PRELIMINARY ASSESSMENT
Date Started: 08/01/84
Date Completed: 05/01/85
Priority Level: NFRAP-Site does not qualify for the NPL based on existing information

RCRA-SQG:
Date form received by agency: 09/01/1996
Facility name: PRECISE SENSORS INC
Facility address: 235 W CHESTNUT AVE
MONROVIA, CA 91016
EPA ID: CAD052387297
Mailing address: BOX FIFTH HUNDRED SEVENTY NINE
MONROVIA, CA 91016
Contact: Not reported
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: Not reported

PRECISE SENSORS INC (Continued) **1000171823**

Contact email: Not reported
EPA Region: 09
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Owner/Operator Summary:
Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Owner
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Owner/operator name: NOT REQUIRED
Owner/operator address: NOT REQUIRED
NOT REQUIRED, ME 99999
Owner/operator country: Not reported
Owner/operator telephone: (415) 555-1212
Legal status: Private
Owner/Operator Type: Operator
Owner/Op start date: Not reported
Owner/Op end date: Not reported

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 12/23/1980
Site name: PRECISE SENSORS INC
Classification: Large Quantity Generator

Violation Status: No violations found

ENVIROSTOR:
Facility ID: 19360519

PRECISE SENSORS INC (Continued) **1000171823**

Status:	Refer: Other Agency
Status Date:	04/26/1984
Site Code:	Not reported
Site Type:	Historical
Site Type Detailed:	* Historical
Acres:	Not reported
NPL:	NO
Regulatory Agencies:	NONE SPECIFIED
Lead Agency:	NONE SPECIFIED
Program Manager:	Not reported
Supervisor:	* Mmonroy
Division Branch:	Cleanup Chatsworth
Assembly:	41
Senate:	25
Special Program:	* RCRA 3012 - Past Haz Waste Disp Inven Site
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	Not reported
Latitude:	34.1425
Longitude:	-118.0036
APN:	NONE SPECIFIED
Past Use:	NONE SPECIFIED
Potential COC:	* OXYGENATED SOLVENTS * UNSPECIFIED SOLVENT MIXTURES * WASTE OIL & MIXED OIL
Confirmed COC:	NONE SPECIFIED
Potential Description:	NONE SPECIFIED
Alias Name:	CAD052387297
Alias Type:	EPA Identification Number
Alias Name:	110002648957
Alias Type:	EPA (FRS #)
Alias Name:	19360519
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	* Discovery
Completed Date:	09/28/1983
Comments:	FACILITY IDENTIFIED ID FROM ERRIS
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Screening
Completed Date:	10/25/1994
Comments:	Database verification project confirms NFA for DTSC.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Preliminary Assessment Report
Completed Date:	04/26/1984
Comments:	T/C W/ R.TRUJILLO, PRECISE,818-358-4578, 4/25/84 - SOURCE ACT: MFG ELECT PRESSURE TRANSDUCERS. YR OF OPER: 1970 TO PRESENT WASTE HAULED BY BARON-BLAKESLEE TO RECYC & RECOVERY PROCESING, 2+GAL/MONTH. SUBMIT TO EPA PRELIM ASSESS DONE RCRA 3012
Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported

PRECISE SENSORS INC (Continued) **1000171823**

Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

FINDS:

Registry ID: 110002648957

Environmental Interest/Information System

California Hazardous Waste Tracking System - Datamart (HWTS-DATAMART) provides California with information on hazardous waste shipments for generators, transporters, and treatment, storage, and disposal facilities.

RCRAInfo is a national information system that supports the Resource Conservation and Recovery Act (RCRA) program through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA.

Click this hyperlink while viewing on your computer to access additional FINDS: detail in the EDR Site Report.

ECHO:
Envid: 1000171823
Registry ID: 110002648957
DFR URL: http://echo.epa.gov/detailed-facility-report?fid=110002648957

65
NNE
1/2-1
0.567 mi.
2993 ft.

SO CAL EDISON CO **EDR MGP** **1008407718**
W. CHESTNUT AND S. PRIMROSE **N/A**
MONROVIA, CA 91016

Relative:
Higher

Actual:
509 ft.

Manufactured Gas Plants:
No additional information available

N66 **AVERY DENNISON** **RCRA-SQG** **1000372430**
East **1620 CALIFORNIA AVE** **LUST** **CAD057339640**
1/2-1 **MONROVIA, CA 91016** **SWEEPS UST**
0.593 mi. **HIST UST**
3132 ft. **Site 1 of 2 in cluster N** **CA FID UST**
CHMIRS
Relative: **EMI**
Higher **ENF**
HIST CORTESE
Actual: **LOS ANGELES CO. HMS**
461 ft. **Notify 65**
WIP

RCRA-SQG:
Date form received by agency: 03/04/1999
Facility name: AVERY DENNISON
Facility address: 1620 CALIFORNIA AVE
MONROVIA, CA 91016
EPA ID: CAD057339640
Contact: KELLI KIMBERLY
Contact address: Not reported
Not reported
Contact country: US
Contact telephone: (909) 948-3250
Contact email: Not reported
EPA Region: 09
Land type: Private
Classification: Small Small Quantity Generator
Description: Handler: generates more than 100 and less than 1000 kg of hazardous waste during any calendar month and accumulates less than 6000 kg of hazardous waste at any time; or generates 100 kg or less of hazardous waste during any calendar month, and accumulates more than 1000 kg of hazardous waste at any time

Handler Activities Summary:
U.S. importer of hazardous waste: No
Mixed waste (haz. and radioactive): No
Recycler of hazardous waste: No
Transporter of hazardous waste: No
Treater, storer or disposer of HW: No
Underground injection activity: No
On-site burner exemption: No
Furnace exemption: No
Used oil fuel burner: No
Used oil processor: No
User oil refiner: No
Used oil fuel marketer to burner: No
Used oil Specification marketer: No
Used oil transfer facility: No
Used oil transporter: No

Historical Generators:
Date form received by agency: 09/01/1996
Site name: AVERY DENNISON
Classification: Large Quantity Generator

Date form received by agency: 09/01/1996
Site name: AVERY DENNISON

AVERY DENNISON (Continued) **1000372430**

Classification: Small Quantity Generator

Date form received by agency: 03/22/1996
Site name: AVERY DENNISON
Classification: Large Quantity Generator

Date form received by agency: 03/01/1996
Site name: AVERY DENNISON CORP., FASSON ROLL DIV
Classification: Large Quantity Generator

Date form received by agency: 03/31/1994
Site name: AVERY DENNISON CORP., FASSON ROLL DIV
Classification: Large Quantity Generator

Date form received by agency: 02/29/1992
Site name: AVERY-DENNISON
Classification: Large Quantity Generator

Date form received by agency: 04/12/1990
Site name: AVERY LABEL
Classification: Large Quantity Generator

Facility Has Received Notices of Violations:
Regulation violated: FR - 262.30-34.C
Area of violation: Generators - General
Date violation determined: 02/22/1994
Date achieved compliance: 04/14/1994
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/28/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 268.7
Area of violation: LDR - General
Date violation determined: 02/22/1994
Date achieved compliance: 04/14/1994
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL
Enforcement action date: 02/28/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.50-60
Area of violation: Generators - General
Date violation determined: 02/22/1994
Date achieved compliance: 04/14/1994
Violation lead agency: EPA
Enforcement action: WRITTEN INFORMAL

AVERY DENNISON (Continued) **1000372430**

Enforcement action date: 02/28/1994
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: EPA
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Regulation violated: FR - 262.10-12.A
Area of violation: Generators - General
Date violation determined: 01/10/1994
Date achieved compliance: 01/10/1999
Violation lead agency: State
Enforcement action: Not reported
Enforcement action date: Not reported
Enf. disposition status: Not reported
Enf. disp. status date: Not reported
Enforcement lead agency: Not reported
Proposed penalty amount: Not reported
Final penalty amount: Not reported
Paid penalty amount: Not reported

Evaluation Action Summary:
Evaluation date: 01/10/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 01/10/1999
Evaluation lead agency: State Contractor/Grantee

Evaluation date: 01/10/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: Generators - General
Date achieved compliance: 04/14/1994
Evaluation lead agency: EPA

Evaluation date: 01/10/1994
Evaluation: COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of violation: LDR - General
Date achieved compliance: 04/14/1994
Evaluation lead agency: EPA

LUST:
Region: STATE
Global Id: T0603700157
Latitude: 34.133961
Longitude: -117.994914
Case Type: LUST Cleanup Site
Status: Completed - Case Closed
Status Date: 11/25/1996
Lead Agency: LOS ANGELES RWQCB (REGION 4)
Case Worker: WIP
Local Agency: LOS ANGELES COUNTY
RB Case Number: 106.2012
LOC Case Number: Not reported
File Location: Not reported
Potential Media Affect: Aquifer used for drinking water supply
Potential Contaminants of Concern: * Solvents

AVERY DENNISON (Continued) **1000372430**

Site History: Not reported

Click here to access the California GeoTracker records for this facility:

Contact:

Global Id:	T0603700157
Contact Type:	Local Agency Caseworker
Contact Name:	JOHN AWUJO
Organization Name:	LOS ANGELES COUNTY
Address:	900 S FREMONT AVE
City:	ALHAMBRA
Email:	jawujo@dpw.lacounty.gov
Phone Number:	6264583507

Global Id:	T0603700157
Contact Type:	Regional Board Caseworker
Contact Name:	WELL INVESTIGATION PROGRAM
Organization Name:	LOS ANGELES RWQCB (REGION 4)
Address:	320 W. 4TH ST., SUITE 200
City:	LOS ANGELES
Email:	Not reported
Phone Number:	Not reported

Status History:

Global Id:	T0603700157
Status:	Completed - Case Closed
Status Date:	11/25/1996

Global Id:	T0603700157
Status:	Open - Case Begin Date
Status Date:	10/04/1989

Global Id:	T0603700157
Status:	Open - Site Assessment
Status Date:	10/30/1990

Regulatory Activities:

Global Id:	T0603700157
Action Type:	Other
Date:	10/04/1989
Action:	Leak Discovery

Global Id:	T0603700157
Action Type:	Other
Date:	10/30/1990
Action:	Leak Reported

LUST REG 4:

Region:	4
Regional Board:	04
County:	Los Angeles
Facility Id:	106.2012
Status:	Case Closed
Substance:	Solvents
Substance Quantity:	Not reported

AVERY DENNISON (Continued) **1000372430**

Local Case No:	Not reported	
Case Type:	Specific tank leak that has contaminated an aquifer used for drinking water	
Abatement Method Used at the Site:		Not reported
Global ID:	T0603700157	
W Global ID:	Not reported	
Staff:	WIP	
Local Agency:	19000	
Cross Street:	DUARTE RD.	
Enforcement Type:	Not reported	
Date Leak Discovered:	10/4/1989	
Date Leak First Reported:		10/30/1990
Date Leak Record Entered:	12/5/1990	
Date Confirmation Began:	Not reported	
Date Leak Stopped:	Not reported	
Date Case Last Changed on Database:		11/25/1996
Date the Case was Closed:		11/25/1996
How Leak Discovered:	OM	
How Leak Stopped:	Not reported	
Cause of Leak:	UNK	
Leak Source:	UNK	
Operator:	VERSHEL, RICHARD B.	
Water System:	Not reported	
Well Name:	Not reported	
Approx. Dist To Production Well (ft):		1551.335714865533452250328642
Source of Cleanup Funding:		UNK
Preliminary Site Assessment Workplan Submitted:		Not reported
Preliminary Site Assessment Began:		10/30/1990
Pollution Characterization Began:		Not reported
Remediation Plan Submitted:		Not reported
Remedial Action Underway:		Not reported
Post Remedial Action Monitoring Began:		Not reported
Enforcement Action Date:		Not reported
Historical Max MTBE Date:		Not reported
Hist Max MTBE Conc in Groundwater:		Not reported
Hist Max MTBE Conc in Soil:		Not reported
Significant Interim Remedial Action Taken:		Not reported
GW Qualifier:	Not reported	
Soil Qualifier:	Not reported	
Organization:	Not reported	
Owner Contact:	Not reported	
Responsible Party:	AVERY DENNISON/FASSON	
RP Address:	1620 S. CALIFORNIA AVE., MONROVIA, CA 91016-4622	
Program:	LUST	
Lat/Long:	34.133961 / -1	
Local Agency Staff:	Not reported	
Beneficial Use:	Not reported	
Priority:	Not reported	
Cleanup Fund Id:	Not reported	
Suspended:	Not reported	
Assigned Name:	Not reported	
Summary:	REMEDIATION AT THE SITE IS ONGOING.	

SWEEPS UST:

Status:	Active
Comp Number:	10025
Number:	9
Board Of Equalization:	44-008686

AVERY DENNISON (Continued) **1000372430**

Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-010025-000001
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: 11

Status: Active
Comp Number: 10025
Number: 9
Board Of Equalization: 44-008686
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-010025-000002
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 10025
Number: 9
Board Of Equalization: 44-008686
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-010025-000003
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 10025
Number: 9
Board Of Equalization: 44-008686
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-010025-000004
Tank Status: A

AVERY DENNISON (Continued) **1000372430**

Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 10025
Number: 9
Board Of Equalization: 44-008686
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-010025-000005
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 10025
Number: 9
Board Of Equalization: 44-008686
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-010025-000006
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 10025
Number: 9
Board Of Equalization: 44-008686
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-010025-000007
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

AVERY DENNISON (Continued) **1000372430**

Status: Active
Comp Number: 10025
Number: 9
Board Of Equalization: 44-008686
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-010025-000008
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 10025
Number: 9
Board Of Equalization: 44-008686
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-010025-000009
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 10025
Number: 9
Board Of Equalization: 44-008686
Referral Date: 06-30-89
Action Date: Not reported
Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-010025-000010
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

Status: Active
Comp Number: 10025
Number: 9
Board Of Equalization: 44-008686
Referral Date: 06-30-89
Action Date: Not reported

AVERY DENNISON (Continued) **1000372430**

Created Date: 06-30-89
Owner Tank Id: Not reported
SWRCB Tank Id: 19-000-010025-000011
Tank Status: A
Capacity: Not reported
Active Date: 06-30-89
Tank Use: UNKNOWN
STG: W
Content: Not reported
Number Of Tanks: Not reported

HIST UST:
File Number: 00026620
URL: http://geotracker.waterboards.ca.gov/ustpdfs/pdf/00026620.pdf
Region: STATE
Facility ID: 00000029259
Facility Type: Other
Other Type: MFG. FACILITY
Contact Name: Not reported
Telephone: 8183577031
Owner Name: AVERY LABEL
Owner Address: 1616 SOUTH CALIFORNIA AVE.
Owner City,St,Zip: MONROVIA, CA 91016
Total Tanks: 0012

Tank Num: 001
Container Num: TANK #2
Year Installed: Not reported
Tank Capacity: 00030000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 002
Container Num: TAND #1
Year Installed: Not reported
Tank Capacity: 00030000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 003
Container Num: TANK #4
Year Installed: Not reported
Tank Capacity: 00004000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Stock Inventor

Tank Num: 004
Container Num: TANK #6
Year Installed: Not reported
Tank Capacity: 00004000
Tank Used for: PRODUCT

AVERY DENNISON (Continued) **1000372430**

Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	005
Container Num:	TANK #3
Year Installed:	Not reported
Tank Capacity:	00030000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	006
Container Num:	TANK #5
Year Installed:	Not reported
Tank Capacity:	00004000
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Stock Inventor
Tank Num:	007
Container Num:	7
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	PRODUCT
Type of Fuel:	DIESEL
Container Construction Thickness:	Not reported
Leak Detection:	Not reported
Tank Num:	008
Container Num:	8
Year Installed:	Not reported
Tank Capacity:	00000000
Tank Used for:	WASTE
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	None
Tank Num:	009
Container Num:	T-9
Year Installed:	Not reported
Tank Capacity:	00010850
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	X
Leak Detection:	Visual, Stock Inventor
Tank Num:	010
Container Num:	T-10
Year Installed:	Not reported
Tank Capacity:	00010850
Tank Used for:	PRODUCT
Type of Fuel:	Not reported
Container Construction Thickness:	Not reported
Leak Detection:	Visual, Stock Inventor

AVERY DENNISON (Continued) **1000372430**

Tank Num: 011
Container Num: T-11
Year Installed: Not reported
Tank Capacity: 00010850
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Visual, Stock Inventor

Tank Num: 012
Container Num: T-7
Year Installed: Not reported
Tank Capacity: 00006000
Tank Used for: PRODUCT
Type of Fuel: Not reported
Container Construction Thickness: Not reported
Leak Detection: Visual, Stock Inventor

Click here for Geo Tracker PDF:

CA FID UST:
Facility ID: 19002860
Regulated By: UTNKA
Regulated ID: 00029259
Cortese Code: Not reported
SIC Code: Not reported
Facility Phone: 8180000000
Mail To: Not reported
Mailing Address: 1616 S CALIFORNIA AVE
Mailing Address 2: Not reported
Mailing City,St,Zip: MONROVIA
Contact: Not reported
Contact Phone: Not reported
DUNs Number: Not reported
NPDES Number: Not reported
EPA ID: Not reported
Comments: Not reported
Status: Active

CHMIRS:
OES Incident Number: 7682
OES notification: Not reported
OES Date: 4/20/1993
OES Time: 08:00:00 AM
Date Completed: **Not reported**
Property Use: Not reported
Agency Id Number: Not reported
Agency Incident Number: Not reported
Time Notified: Not reported
Time Completed: Not reported
Surrounding Area: Not reported
Estimated Temperature: Not reported
Property Management: Not reported
More Than Two Substances Involved?: Not reported
Resp Agncy Personel # Of Decontaminated: Not reported
Responding Agency Personel # Of Injuries: Not reported

AVERY DENNISON (Continued) **1000372430**

Responding Agency Personel # Of Fatalities:	Not reported
Others Number Of Decontaminated:	Not reported
Others Number Of Injuries:	Not reported
Others Number Of Fatalities:	Not reported
Vehicle Make/year:	Not reported
Vehicle License Number:	Not reported
Vehicle State:	Not reported
Vehicle Id Number:	Not reported
CA DOT PUC/ICC Number:	Not reported
Company Name:	Not reported
Reporting Officer Name/ID:	Not reported
Report Date:	Not reported
Facility Telephone:	Not reported
Waterway Involved:	NO
Waterway:	Not reported
Spill Site:	Not reported
Cleanup By:	NO EXTERNAL CLEAN UP
Containment:	Not reported
What Happened:	Not reported
Type:	CHEMICAL
Measure:	Not reported
Other:	Not reported
Date/Time:	Not reported
Year:	1993
Agency:	AVERY LABE CO.
Incident Date:	1324
Admin Agency:	Not reported
Amount:	40 GAL
Contained:	NO
Site Type:	S/S
E Date:	Not reported
Substance:	NAPHA / SOLVENT
Unknown:	Not reported
Substance #2:	Not reported
Substance #3:	Not reported
Evacuations:	UNKNOWN
Number of Injuries:	UNKNOWN
Number of Fatalities:	UNKNOWN
#1 Pipeline:	Not reported
#2 Pipeline:	Not reported
#3 Pipeline:	Not reported
#1 Vessel >= 300 Tons:	Not reported
#2 Vessel >= 300 Tons:	Not reported
#3 Vessel >= 300 Tons:	Not reported
Evacs:	Not reported
Injuries:	Not reported
Fatals:	Not reported
Comments:	Not reported
Description:	SPILLES IN PLANT, ALL CONTAINED IN PLANT

EMI:

Year:	1987
County Code:	19
Air Basin:	SC
Facility ID:	19532
Air District Name:	SC
SIC Code:	2671

AVERY DENNISON (Continued) **1000372430**

Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	428
Reactive Organic Gases Tons/Yr:	423
Carbon Monoxide Emissions Tons/Yr:	1
NOX - Oxides of Nitrogen Tons/Yr:	16
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers and Smllr Tons/Yr:	1

Year:	1990
County Code:	19
Air Basin:	SC
Facility ID:	19532
Air District Name:	SC
SIC Code:	2671
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	360
Reactive Organic Gases Tons/Yr:	355
Carbon Monoxide Emissions Tons/Yr:	4
NOX - Oxides of Nitrogen Tons/Yr:	11
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	1
Part. Matter 10 Micrometers and Smllr Tons/Yr:	1

Year:	1993
County Code:	19
Air Basin:	SC
Facility ID:	19532
Air District Name:	SC
SIC Code:	2671
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	23
Reactive Organic Gases Tons/Yr:	4
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	1995
County Code:	19
Air Basin:	SC
Facility ID:	19532
Air District Name:	SC
SIC Code:	2671
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	23
Reactive Organic Gases Tons/Yr:	4
Carbon Monoxide Emissions Tons/Yr:	0

AVERY DENNISON (Continued) **1000372430**

NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	1996
County Code:	19
Air Basin:	SC
Facility ID:	107522
Air District Name:	SC
SIC Code:	2891
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	0
Reactive Organic Gases Tons/Yr:	0
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	1997
County Code:	19
Air Basin:	SC
Facility ID:	107522
Air District Name:	SC
SIC Code:	2759
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	1998
County Code:	19
Air Basin:	SC
Facility ID:	107522
Air District Name:	SC
SIC Code:	2759
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	1999

AVERY DENNISON (Continued) **1000372430**

County Code:	19
Air Basin:	SC
Facility ID:	107522
Air District Name:	SC
SIC Code:	2759
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2000
County Code:	19
Air Basin:	SC
Facility ID:	107522
Air District Name:	SC
SIC Code:	2759
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

Year:	2001
County Code:	19
Air Basin:	SC
Facility ID:	107522
Air District Name:	SC
SIC Code:	2759
Air District Name:	SOUTH COAST AQMD
Community Health Air Pollution Info System:	Not reported
Consolidated Emission Reporting Rule:	Not reported
Total Organic Hydrocarbon Gases Tons/Yr:	1
Reactive Organic Gases Tons/Yr:	1
Carbon Monoxide Emissions Tons/Yr:	0
NOX - Oxides of Nitrogen Tons/Yr:	0
SOX - Oxides of Sulphur Tons/Yr:	0
Particulate Matter Tons/Yr:	0
Part. Matter 10 Micrometers and Smllr Tons/Yr:	0

ENF:

Region:	4
Facility Id:	206869
Agency Name:	Avery Dennison
Place Type:	Facility
Place Subtype:	Not reported
Facility Type:	Not reported

AVERY DENNISON (Continued) **1000372430**

Agency Type:	Privately-Owned Business
# Of Agencies:	1
Place Latitude:	34.13402
Place Longitude:	-117.995035
SIC Code 1:	Not reported
SIC Desc 1:	Not reported
SIC Code 2:	Not reported
SIC Desc 2:	Not reported
SIC Code 3:	Not reported
SIC Desc 3:	Not reported
NAICS Code 1:	Not reported
NAICS Desc 1:	Not reported
NAICS Code 2:	Not reported
NAICS Desc 2:	Not reported
NAICS Code 3:	Not reported
NAICS Desc 3:	Not reported
# Of Places:	1
Source Of Facility:	Reg Meas
Design Flow:	Not reported
Threat To Water Quality:	Not reported
Complexity:	Not reported
Pretreatment:	Not reported
Facility Waste Type:	Not reported
Facility Waste Type 2:	Not reported
Facility Waste Type 3:	Not reported
Facility Waste Type 4:	Not reported
Program:	WIP
Program Category1:	MONITORING
Program Category2:	MONITORING
# Of Programs:	1
WDID:	4WIP1062012
Reg Measure Id:	155113
Reg Measure Type:	Unregulated
Region:	4
Order #:	Not reported
Npdes# CA#:	Not reported
Major-Minor:	Not reported
Npdes Type:	Not reported
Reclamation:	Not reported
Dredge Fill Fee:	Not reported
301H:	Not reported
Application Fee Amt Received:	Not reported
Status:	Historical
Status Date:	06/17/2005
Effective Date:	Not reported
Expiration/Review Date:	Not reported
Termination Date:	Not reported
WDR Review - Amend:	Not reported
WDR Review - Revise/Renew:	Not reported
WDR Review - Rescind:	Not reported
WDR Review - No Action Required:	Not reported
WDR Review - Pending:	Not reported
WDR Review - Planned:	Not reported
Status Enrollee:	N
Individual/General:	Not reported
Fee Code:	Not reported
Direction/Voice:	Passive

AVERY DENNISON (Continued) **1000372430**

Enforcement Id(EID):	225980
Region:	4
Order / Resolution Number:	LT910613
Enforcement Action Type:	13267 Letter
Effective Date:	06/13/1991
Adoption/Issuance Date:	Not reported
Achieve Date:	Not reported
Termination Date:	Not reported
ACL Issuance Date:	Not reported
EPL Issuance Date:	Not reported
Status:	Historical
Title:	Enforcement - 4WIP1062012
Description:	Not reported
Program:	WIP
Latest Milestone Completion Date:	Not reported
# Of Programs1:	1
Total Assessment Amount:	0
Initial Assessed Amount:	0
Liability $ Amount:	0
Project $ Amount:	0
Liability $ Paid:	0
Project $ Completed:	0
Total $ Paid/Completed Amount:	0

HIST CORTESE:

Region:	CORTESE
Facility County Code:	19
Reg By:	LTNKA
Reg Id:	106.2012

LOS ANGELES CO. HMS:

Region:	LA
Permit Category:	T
Facility Id:	010156-010025
Facility Type:	0
Facility Status:	Closed
Area:	3G
Permit Number:	00001462T
Permit Status:	Closed

NOTIFY 65:

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Issue Date:	Not reported
Incident Description:	Not reported

Date Reported:	Not reported
Staff Initials:	Not reported
Board File Number:	Not reported
Facility Type:	Not reported
Discharge Date:	Not reported
Issue Date:	Not reported
Incident Description:	Not reported

AVERY DENNISON (Continued) **1000372430**

Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Issue Date: Not reported
Incident Description: Not reported

Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Issue Date: Not reported
Incident Description: Not reported

Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Issue Date: Not reported
Incident Description: Not reported

Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Issue Date: Not reported
Incident Description: Not reported

Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Issue Date: Not reported
Incident Description: Not reported

Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Issue Date: Not reported
Incident Description: Not reported

Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Issue Date: Not reported
Incident Description: Not reported

AVERY DENNISON (Continued) **1000372430**

WIP:
Region: 4
File Number: 106.2012
File Status: Historical
Staff: ESOLOMON
Facility Suite: Not reported

N67 **AVERY** **Notify 65** **S100178073**
East **1616 S.CALIF. AVE.** **N/A**
1/2-1 **MONROVIA, CA**
0.593 mi.
3132 ft. **Site 2 of 2 in cluster N**

Relative: Higher

Actual: 461 ft.

NOTIFY 65:
Date Reported: Not reported
Staff Initials: Not reported
Board File Number: Not reported
Facility Type: Not reported
Discharge Date: Not reported
Issue Date: Not reported
Incident Description: Not reported

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68 **METRO GOLD LINE FOOTHILL EXTENSION** **ENVIROSTOR** **S112165833**
NE **AT SIERRA MADRE VILLA AVE AND 210-FRWY TO FOOTHILL BLVD AND** **VCP** **N/A**
1/2-1 **PASADENA TO AZUSA, CA 91016**
0.725 mi.
3827 ft.

Relative: Higher

Actual: 520 ft.

ENVIROSTOR:
Facility ID: 60001799
Status: Inactive - Needs Evaluation
Status Date: 09/08/2014
Site Code: 301580
Site Type: Voluntary Cleanup
Site Type Detailed: Voluntary Cleanup
Acres: 100
NPL: NO
Regulatory Agencies: SMBRP
Lead Agency: SMBRP
Program Manager: Jessy Fierro
Supervisor: Juli Propes
Division Branch: Cleanup Chatsworth
Assembly: 44
Senate: 25
Special Program: Voluntary Cleanup Program
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Responsible Party
Latitude: 34.14039
Longitude: -117.9947
APN: NONE SPECIFIED
Past Use: RAILROAD RIGHT OF WAY
Potential COC: Arsenic Lead
Confirmed COC: Arsenic Lead
Potential Description: SOIL
Alias Name: 301580

METRO GOLD LINE FOOTHILL EXTENSION (Continued) **S112165833**

Alias Type: Project Code (Site Code)
Alias Name: 60001799
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Workplan
Completed Date: 10/01/2012
Comments: MTA proposes to conduct sampling at the bridge areas to delineate the impacted soil.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 10/02/2012
Comments: The Sampling Report presents sampling data the Gold Line extension area.

Completed Area Name: Irwindale Stockpile
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Workplan
Completed Date: 06/18/2015
Comments: Sampling Workplan prepared to identify potential contaminants in stockpile.

Completed Area Name: Irwindale Stockpile
Completed Sub Area Name: Not reported
Completed Document Type: Site Characterization Report
Completed Date: 08/25/2015
Comments: Sampling for Irwindale stockpile identified no significant concentrations of chemicals. The soil can be reused for the project.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Annual Oversight Cost Estimate
Completed Date: 01/28/2014
Comments: Updated Cost Estimate sent to Proponent.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Voluntary Cleanup Agreement
Completed Date: 10/01/2012
Comments: VCA executed by DTSC and MTA to provide oversight on sampling and removal proposals and field activities.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

VCP:

METRO GOLD LINE FOOTHILL EXTENSION (Continued) **S112165833**

Facility ID:	60001799
Site Type:	Voluntary Cleanup
Site Type Detail:	Voluntary Cleanup
Site Mgmt. Req.:	NONE SPECIFIED
Acres:	100
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP
Lead Agency:	SMBRP
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Jessy Fierro
Supervisor:	Juli Propes
Division Branch:	Cleanup Chatsworth
Site Code:	301580
Assembly:	44
Senate:	25
Special Programs Code:	Voluntary Cleanup Program
Status:	Inactive - Needs Evaluation
Status Date:	09/08/2014
Restricted Use:	NO
Funding:	Responsible Party
Lat/Long:	34.14039 / -117.9947
APN:	NONE SPECIFIED
Past Use:	RAILROAD RIGHT OF WAY
Potential COC:	30001, 30013
Confirmed COC:	30001,30013
Potential Description:	SOIL
Alias Name:	301580
Alias Type:	Project Code (Site Code)
Alias Name:	60001799
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Workplan
Completed Date:	10/01/2012
Comments:	MTA proposes to conduct sampling at the bridge areas to delineate the impacted soil.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Report
Completed Date:	10/02/2012
Comments:	The Sampling Report presents sampling data the Gold Line extension area.
Completed Area Name:	Irwindale Stockpile
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Workplan
Completed Date:	06/18/2015
Comments:	Sampling Workplan prepared to identify potential contaminants in stockpile.
Completed Area Name:	Irwindale Stockpile
Completed Sub Area Name:	Not reported
Completed Document Type:	Site Characterization Report
Completed Date:	08/25/2015
Comments:	Sampling for Irwindale stockpile identified no significant

METRO GOLD LINE FOOTHILL EXTENSION (Continued) **S112165833**

concentrations of chemicals. The soil can be reused for the project.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Annual Oversight Cost Estimate
Completed Date:	01/28/2014
Comments:	Updated Cost Estimate sent to Proponent.

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Voluntary Cleanup Agreement
Completed Date:	10/01/2012
Comments:	VCA executed by DTSC and MTA to provide oversight on sampling and removal proposals and field activities.

Future Area Name:	Not reported
Future Sub Area Name:	Not reported
Future Document Type:	Not reported
Future Due Date:	Not reported
Schedule Area Name:	Not reported
Schedule Sub Area Name:	Not reported
Schedule Document Type:	Not reported
Schedule Due Date:	Not reported
Schedule Revised Date:	Not reported

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69 **TROTTER APARTMENTS** **RESPONSE** **S106076586**
NW **827/829 W OLIVE AVE & 832 W COLORADO BLV** **ENVIROSTOR** **N/A**
1/2-1 **MONROVIA, CA 91016** **HIST Cal-Sites**
0.811 mi.
4282 ft.

Relative:
Higher

Actual:
489 ft.

AWP:

AWP Facility ID:	19000008
Region Code:	3
Region:	GLENDALE
SMBR Branch Code:	SA
SMBR Branch Unit:	SO CAL - GLENDALE
Site Name.:	SAME
Current Status Date:	07012002
Current Status:	ANNUAL WORKPLAN - ACTIVE SITE
Lead Agency Code:	DTSC
Lead Agency:	DEPT OF TOXIC SUBSTANCES CONTROL
Facility Type:	State orphan site
Awp Site Type:	STATE FUNDED SITE
NPL:	Not Listed
Tier Of AWP Site:	Not reported
Source Of Funding:	Not reported
Responsible Staff Member:	RKRUG
Supervisor Responsible:	Not reported
SIC Code:	00
Facility SIC:	PROPERTIES THAT DO NOT HAVE SIC CODES
RWQCB Code:	Not reported
RWQCB Associated With Site:	Not reported
Site Access Controlled:	Not reported
Site Listed HWS List:	Not reported
Hazard Ranking Score:	Not reported
Date Site Hazard Ranked:	Not reported
Groundwater Contamination:	Not reported

TROTTER APARTMENTS (Continued) **S106076586**

# Of Contamination Sources:	0
Lat/Long:	Not reported
Lat/Long (dms):	0 0 0 / 0 0 0
Lat/long Method:	Not reported
Description Of Entity:	Not reported
State Assembly Distt Code:	59
State Senate District:	29

RESPONSE:

Facility ID:	19000008
Site Type:	State Response
Site Type Detail:	State Response or NPL
Acres:	1
National Priorities List:	NO
Cleanup Oversight Agencies:	SMBRP, US EPA, LOS ANGELES COUNTY
Lead Agency Description:	DTSC - Site Cleanup Program
Project Manager:	Not reported
Supervisor:	Philip Chandler
Division Branch:	Cleanup Chatsworth
Site Code:	300742
Site Mgmt. Req.:	NONE SPECIFIED
Assembly:	41
Senate:	25
Special Program Status:	EPA - PASI
Status:	Certified
Status Date:	08/09/2005
Restricted Use:	NO
Funding:	Orphan Funds
Latitude:	34.14509
Longitude:	-118.0166
APN:	8506024015, 8506024021, 8506024026
Past Use:	BATTERY RECLAMATION, BATTERY STORAGE
Potential COC :	Lead
Confirmed COC:	NONE SPECIFIED
Potential Description:	SOIL
Alias Name:	BARTH'S BATTERY SHOP
Alias Type:	Alternate Name
Alias Name:	SAME
Alias Type:	Alternate Name
Alias Name:	8506024015
Alias Type:	APN
Alias Name:	8506024021
Alias Type:	APN
Alias Name:	8506024026
Alias Type:	APN
Alias Name:	CASFN0905476
Alias Type:	CERCLIS ID
Alias Name:	110033609726
Alias Type:	EPA (FRS #)
Alias Name:	300742
Alias Type:	Project Code (Site Code)
Alias Name:	19000008
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported

TROTTER APARTMENTS (Continued) **S106076586**

Completed Document Type: Removal Action Completion Report
Completed Date: 01/07/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 04/29/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Design/Implementation Workplan
Completed Date: 05/21/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 12/17/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Triage Meeting
Completed Date: 06/17/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Imminent and/or Subst. Endangerment Determination
Completed Date: 02/11/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 04/29/2003
Comments: Lead contaminated soils still exist at the site, but are not considered a threat to human health nor the environment because those areas are either covered by building structures, driveway, or sidewalks. Final Removal Action Completion Report approved with supplemental information provided by DTSC.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

ENVIROSTOR:
Facility ID: 19000008
Status: Certified

TROTTER APARTMENTS (Continued) **S106076586**

Status Date: 08/09/2005
Site Code: 300742
Site Type: State Response
Site Type Detailed: State Response or NPL
Acres: 1
NPL: NO
Regulatory Agencies: SMBRP, US EPA, LOS ANGELES COUNTY
Lead Agency: SMBRP
Program Manager: Not reported
Supervisor: Philip Chandler
Division Branch: Cleanup Chatsworth
Assembly: 41
Senate: 25
Special Program: EPA - PASI
Restricted Use: NO
Site Mgmt Req: NONE SPECIFIED
Funding: Orphan Funds
Latitude: 34.14509
Longitude: -118.0166
APN: 8506024015, 8506024021, 8506024026
Past Use: BATTERY RECLAMATION, BATTERY STORAGE
Potential COC: Lead
Confirmed COC: NONE SPECIFIED
Potential Description: SOIL
Alias Name: BARTH'S BATTERY SHOP
Alias Type: Alternate Name
Alias Name: SAME
Alias Type: Alternate Name
Alias Name: 8506024015
Alias Type: APN
Alias Name: 8506024021
Alias Type: APN
Alias Name: 8506024026
Alias Type: APN
Alias Name: CASFN0905476
Alias Type: CERCLIS ID
Alias Name: 110033609726
Alias Type: EPA (FRS #)
Alias Name: 300742
Alias Type: Project Code (Site Code)
Alias Name: 19000008
Alias Type: Envirostor ID Number

Completed Info:
Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Completion Report
Completed Date: 01/07/2004
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 04/29/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported

TROTTER APARTMENTS (Continued) **S106076586**

Completed Document Type: Design/Implementation Workplan
Completed Date: 05/21/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Removal Action Workplan
Completed Date: 12/17/2002
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Triage Meeting
Completed Date: 06/17/2015
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Imminent and/or Subst. Endangerment Determination
Completed Date: 02/11/2003
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: CEQA - Notice of Exemption
Completed Date: 04/29/2003
Comments: Lead contaminated soils still exist at the site, but are not considered a threat to human health nor the environment because those areas are either covered by building structures, driveway, or sidewalks. Final Removal Action Completion Report approved with supplemental information provided by DTSC.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Calsite:
Region: GLENDALE
Facility ID: 19000008
Facility Type: STATE
Type: STATE FUNDED SITE
Branch: SA
Branch Name: SO CAL - GLENDALE
File Name: SAME
State Senate District: 07012002
Status: ANNUAL WORKPLAN (AWP) - ACTIVE SITE
Status Name: ANNUAL WORKPLAN - ACTIVE SITE
Lead Agency: DEPT OF TOXIC SUBSTANCES CONTROL
NPL: Not Listed
SIC Code: 00
SIC Name: PROPERTIES THAT DO NOT HAVE SIC CODES

TROTTER APARTMENTS (Continued) **S106076586**

Access:	Not reported
Cortese:	Not reported
Hazardous Ranking Score:	Not reported
Date Site Hazard Ranked:	Not reported
Groundwater Contamination:	Not reported
Staff Member Responsible for Site:	RKRUG
Supervisor Responsible for Site:	Not reported
Region Water Control Board:	Not reported
Region Water Control Board Name:	Not reported
Lat/Long Direction:	Not reported
Lat/Long (dms):	0 0 0 / 0 0 0
Lat/long Method:	Not reported
Lat/Long Description:	Not reported
State Assembly District Code:	59
State Senate District Code:	29
Facility ID:	19000008
Activity:	CEQA
Activity Name:	CEQA INCLUDING NEGATIVE DECS
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	04292003
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	19000008
Activity:	RAW
Activity Name:	REMOVAL ACTION WORKPLAN
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	04292003
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	0
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported

TROTTER APARTMENTS (Continued) **S106076586**

Removal Action Certification:	Not reported
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0
Unknown Type:	0
Facility ID:	19000008
Activity:	RA
Activity Name:	REMOVAL ACTION
AWP Code:	Not reported
Proposed Budget:	0
AWP Completion Date:	Not reported
Revised Due Date:	Not reported
Comments Date:	01072004
Est Person-Yrs to complete:	0
Estimated Size:	Not reported
Request to Delete Activity:	Not reported
Activity Status:	AWP
Definition of Status:	ANNUAL WORKPLAN - ACTIVE SITE
Liquids Removed (Gals):	214
Liquids Treated (Gals):	0
Action Included Capping:	Not reported
Well Decommissioned:	Not reported
Action Included Fencing:	Not reported
Removal Action Certification:	N
Activity Comments:	Not reported
For Commercial Reuse:	0
For Industrial Reuse:	0
For Residential Reuse:	0.50000
Unknown Type:	0
Alternate Address:	829 WEST OLIVE AVE.
Alternate City,St,Zip:	MONROVIA, CA 91016
Alternate Address:	831 WEST OLIVE AVENUE
Alternate City,St,Zip:	MONROVIA
Alternate Address:	827 WEST OLIVE AVENUE
Alternate City,St,Zip:	MONROVIA
Alternate Address:	832 WEST COLORADO BLVD
Alternate City,St,Zip:	MONROVIA
Alternate Address:	829 WEST OLIVE AVENUE
Alternate City,St,Zip:	MONROVIA
Alternate Address:	827/829 W OLIVE AVE & 832 W COLORADO BLV
Alternate City,St,Zip:	NROVIA, CA 91016
Alternate Address:	827/829 W OLIVE AVE & 832 W COLORADO BLV
Alternate City,St,Zip:	MONROVIA, CA 91016
Background Info:	This lead contaminated Site has been a joint project between LA County, US-EPA, and DTSC, with DTSC now as the Lead Agency. The Site originally consisted of five properties; 827, 829, 831 Olive Avenue and 824, 832 Colorado Blvd; but now two properties, 831 Olive and the 824 Colorado are determined clean. Lead contamination exists in sols from 0-2 and the contamination was probably from Barth's Battery Shop which was located on 832 Colorado Blvd. in the 1930s. In the 1930s the Olive Avenue properties were a vacant lot. The battery shop probably disposed their battery waste beind the business as pieces of battery casings have been found in Site soils. In the 1960s the Olive Avenue vacant lot was developed with the current residential buildings which were built on top

TROTTER APARTMENTS (Continued) **S106076586**

of the battery waste. Grading of the lot prior to construction probably spread the lead waste throughout the properties.
Not reported
DTSC sampled in May and October 2001 to define the vertical and lateral extent of the lead contamination. DTSC then conducted an Emergency Removal Action in January 2002 to remove surface soils contaminated with lead that may pose a health risk to residents. After this action the 824 Colorado Blvd address was determined cleaned as only a small area in the southwest corner of the property needed excavation. In May 2003 DTSC conducted a Removal Action to remove the remaining lead contaminated soil that was not covered by structures or paving. After this action the 831 Olive Avenue was determined cleaned as only a small area on the south western lot was excavated.
Not reported
DTSC believes that the health risk has been removed at the Site. Lead contaminated soil still exists there, but the areas where lead contaminated soil exists are either covered by concrete, asphalt, or building structures, and therefore do not pose a risk to human health or the environment.

Comments Date: 01072004
Comments: Lead contaminated soils still exist at the site, but are not
Comments Date: 01072004
Comments: considered a threat to human health nor the environment
Comments Date: 01072004
Comments: because those areas are either covered by building structures,
Comments Date: 01072004
Comments: driveway, or sidewalks.
Comments Date: 01072004
Comments: Not reported
Comments Date: 01072004
Comments: Final Removal Action Completion Report approved with
Comments Date: 01072004
Comments: supplemental information provided by DTSC.
Comments Date: 01252002
Comments: Five more locations were sampled at one adjacent property to
Comments Date: 01252002
Comments: clarify a previous abnormal hit. These samples discounted the
Comments Date: 01252002
Comments: previous hit and showed that there was not a problem with
Comments Date: 01252002
Comments: this property.
Comments Date: 02012002
Comments: 01/30-02/01/02 fifty five samples taken during a Removal Action.
Comments Date: 02062002
Comments: Removal Action completed. About 80 cubic yards were removed,
Comments Date: 02062002
Comments: most of which were in the backyard of 827 Olive Ave. Minor
Comments Date: 02062002
Comments: areas in 829 and 831 Olive Ave., and 824 and 832 Colorodo Blvd.
Comments Date: 02062002
Comments: were also removed. New replacement plants and a slurry coat
Comments Date: 02062002
Comments: to the 827 Olive Ave.a driveway were done.
Comments Date: 03032003
Comments: Thirty day Comment Period starts for the RAW.

TROTTER APARTMENTS (Continued) **S106076586**

Comments Date:	03292002
Comments:	Landscaper filled and leveled excavation area, at 827 Olive per
Comments Date:	03292002
Comments:	owners request. Cost of $1500.
Comments Date:	04292003
Comments:	CEQA NOE has completed its 35 day posting without challange.
Comments Date:	04292003
Comments:	Not reported
Comments Date:	04292003
Comments:	Approved final RAW, there were no comments presented in the
Comments Date:	04292003
Comments:	30 day comment period.
Comments Date:	05062002
Comments:	Paver repaired and re-surfaced part of the driveway at 827
Comments Date:	05062002
Comments:	Olive. Cost of $1100.
Comments Date:	05092001
Comments:	Initial sampling of the area was done under the Site Screening
Comments Date:	05092001
Comments:	program. 10 locations were sampled, with a high of 4,700 ppm
Comments Date:	05092001
Comments:	of lead.
Comments Date:	05282003
Comments:	Removal Actions starts. Excavate soils at 827,829,831 Olive
Comments Date:	05282003
Comments:	& at 832 Colorado. Demo & reconcrete 2 patios & driveway at
Comments Date:	05282003
Comments:	829 Olive, re-asphalt driveway at 827 Olive, asphalt east rear
Comments Date:	05282003
Comments:	park area at 832 Colorado. Relandscape 824 & 829 Olive,
Comments Date:	05282003
Comments:	spot removal at 831 Olive.
Comments Date:	06252003
Comments:	Finish Removal Action except for minor landscape issues & small
Comments Date:	06252003
Comments:	pave area.
Comments Date:	07012002
Comments:	Received $200,000 of Orphan Fund money to clean up near surface
Comments Date:	07012002
Comments:	soils that may be a threat to human health.
Comments Date:	08142003
Comments:	Draft Removal Action Completion Report by Performance Excavators.
Comments Date:	08142003
Comments:	Not reported
Comments Date:	10122001
Comments:	Under the Preliminary Assessment Program, 21 more locations were
Comments Date:	10122001
Comments:	sampled including adjacent properties, with a high of 18,800 ppm.
Comments Date:	10312001
Comments:	Four locations were sampled, with a high of 1,500 ppm.
ID Name:	Not reported
ID Value:	Not reported
Alternate Name:	TROTTER APARTMENTS
Alternate Name:	SAME
Alternate Name:	BARTH'S BATTERY SHOP
Alternate Name:	Not reported
Special Programs Code:	Not reported

TROTTER APARTMENTS (Continued) **S106076586**

Special Programs Name: Not reported

70
East
1/2-1
0.832 mi.
4391 ft.

KENNEDY CO **HWP** **S109467255**
1600 SOUTH SHAMROCK AVE. **N/A**
MONROVIA, CA 91016

Relative:
Higher

Actual:
472 ft.

HWP:

EPA Id:	CAD000062729
Cleanup Status:	CLOSED
Latitude:	34.13412
Longitude:	-117.9905
Facility Type:	Historical - Non-Operating
Facility Size:	Not reported
Team:	Not reported
Supervisor:	Not reported
Site Code:	Not reported
Assembly District:	41
Senate District:	25
Public Information Officer:	Not reported
Public Information Officer:	Not reported

Activities:

EPA Id:	CAD000062729
Facility Type:	Historical - Non-Operating
Unit Names:	OTHRTRT1, TANKSTR1
Event Description:	New Operating Permit - APPLICATION PART A RECEIVED
Actual Date:	11/19/1980

EPA Id:	CAD000062729
Facility Type:	Historical - Non-Operating
Unit Names:	OTHRTRT1, TANKSTR1
Event Description:	New Operating Permit - FINAL PERMIT - WITHDRAWAL REQUEST RECEIVED
Actual Date:	10/21/1982

EPA Id:	CAD000062729
Facility Type:	Historical - Non-Operating
Unit Names:	OTHRTRT1, TANKSTR1
Event Description:	New Operating Permit - FINAL PERMIT - WITHDRAWAL REQUEST ACKNOWLEDGED
Actual Date:	10/29/1982

Closure:

EPA Id:	CAD000062729
Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1, CONTAIN2, OTHRTRT1, TANKSTR1
Event Description:	Closure Final - RECEIVE CLOSURE CERTIFICATION
Actual Date:	09/29/1995

EPA Id:	CAD000062729
Facility Type:	Historical - Non-Operating
Unit Names:	CONTAIN1, CONTAIN2, OTHRTRT1, TANKSTR1
Event Description:	Closure Final - ISSUE CLOSURE VERIFICATION
Actual Date:	09/29/1995

71
NW
1/2-1
0.870 mi.
4596 ft.

PROPOSED SCHOOL ADDITIONS
845 WEST COLORADO BOULEVARD
MONROVIA, CA 91016

ENVIROSTOR
SCH

S109149558
N/A

Relative:
Higher

Actual:
492 ft.

ENVIROSTOR:

Facility ID:	60000934
Status:	No Further Action
Status Date:	01/21/2009
Site Code:	304607
Site Type:	School Investigation
Site Type Detailed:	School
Acres:	1.1
NPL:	NO
Regulatory Agencies:	SMBRP
Lead Agency:	SMBRP
Program Manager:	Not reported
Supervisor:	Shahir Haddad
Division Branch:	Southern California Schools & Brownfields Outreach
Assembly:	41
Senate:	25
Special Program:	Not reported
Restricted Use:	NO
Site Mgmt Req:	NONE SPECIFIED
Funding:	School District
Latitude:	34.14569
Longitude:	-118.0171
APN:	8505027900
Past Use:	AGRICULTURAL - ROW CROPS, SCHOOL - HIGH SCHOOL
Potential COC:	Arsenic Chlordane DDD DDE DDT Endrin Lead Toxaphene
Confirmed COC:	30001-NO 30004-NO 30023-NO 30013-NO 30006-NO 30007-NO 30008-NO 30010-NO
Potential Description:	SOIL
Alias Name:	8505027900
Alias Type:	APN
Alias Name:	304607
Alias Type:	Project Code (Site Code)
Alias Name:	60000934
Alias Type:	Envirostor ID Number

Completed Info:

Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Environmental Oversight Agreement
Completed Date:	08/04/2008
Comments:	Signed agreement sent to District by regular mail.
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Cost Recovery Closeout Memo
Completed Date:	01/21/2009
Comments:	DTSC prepared a Cost Recovery Unit project close out memorandum
Completed Area Name:	PROJECT WIDE
Completed Sub Area Name:	Not reported
Completed Document Type:	Phase 1
Completed Date:	07/21/2008
Comments:	Not reported

PROPOSED SCHOOL ADDITIONS (Continued) **S109149558**

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 10/02/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/22/2009
Comments: DTSC concurred with the PEA recommendation of No Further Action.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

SCH:

Facility ID: 60000934
Site Type: School Investigation
Site Type Detail: School
Site Mgmt. Req.: NONE SPECIFIED
Acres: 1.1
National Priorities List: NO
Cleanup Oversight Agencies: SMBRP
Lead Agency: SMBRP
Lead Agency Description: DTSC - Site Cleanup Program
Project Manager: Not reported
Supervisor: Shahir Haddad
Division Branch: Southern California Schools & Brownfields Outreach
Site Code: 304607
Assembly: 41
Senate: 25
Special Program Status: Not reported
Status: No Further Action
Status Date: 01/21/2009
Restricted Use: NO
Funding: School District
Latitude: 34.14569
Longitude: -118.0171
APN: 8505027900
Past Use: AGRICULTURAL - ROW CROPS, SCHOOL - HIGH SCHOOL
Potential COC: Arsenic, Chlordane, DDD, DDE, DDT, Endrin, Lead, Toxaphene
Confirmed COC: 30001-NO, 30004-NO, 30023-NO, 30013-NO, 30006-NO, 30007-NO, 30008-NO, 30010-NO
Potential Description: SOIL
Alias Name: 8505027900
Alias Type: APN
Alias Name: 304607
Alias Type: Project Code (Site Code)
Alias Name: 60000934

PROPOSED SCHOOL ADDITIONS (Continued) **S109149558**

Alias Type: Envirostor ID Number

Completed Info:

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Environmental Oversight Agreement
Completed Date: 08/04/2008
Comments: Signed agreement sent to District by regular mail.

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Cost Recovery Closeout Memo
Completed Date: 01/21/2009
Comments: DTSC prepared a Cost Recovery Unit project close out memorandum

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Phase 1
Completed Date: 07/21/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Workplan
Completed Date: 10/02/2008
Comments: Not reported

Completed Area Name: PROJECT WIDE
Completed Sub Area Name: Not reported
Completed Document Type: Preliminary Endangerment Assessment Report
Completed Date: 01/22/2009
Comments: DTSC concurred with the PEA recommendation of No Further Action.

Future Area Name: Not reported
Future Sub Area Name: Not reported
Future Document Type: Not reported
Future Due Date: Not reported
Schedule Area Name: Not reported
Schedule Sub Area Name: Not reported
Schedule Document Type: Not reported
Schedule Due Date: Not reported
Schedule Revised Date: Not reported

Count: 3 records. ORPHAN SUMMARY

City	EDR ID	Site Name	Site Address	Zip	Database(s)
MONROVIA	S105126419	SHELL	102 HUNTINGTON DR W	91016	LUST
MONROVIA	1007443877	EL MONTE PIT	LIND AND MAYFLOWER		ODI
MONROVIA	S112974122	MONROVIA REDEVELOPMENT AGENCY	200-204 W POMONA AVE	91016	HAZNET

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

To maintain currency of the following federal and state databases, EDR contacts the appropriate governmental agency on a monthly or quarterly basis, as required.

Number of Days to Update: Provides confirmation that EDR is reporting records that have been updated within 90 days from the date the government agency made the information available to the public.

STANDARD ENVIRONMENTAL RECORDS

Federal NPL site list

NPL: National Priority List

National Priorities List (Superfund). The NPL is a subset of CERCLIS and identifies over 1,200 sites for priority cleanup under the Superfund Program. NPL sites may encompass relatively large areas. As such, EDR provides polygon coverage for over 1,000 NPL site boundaries produced by EPA's Environmental Photographic Interpretation Center (EPIC) and regional EPA offices.

Date of Government Version: 04/05/2017
Date Data Arrived at EDR: 04/21/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 04/21/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Quarterly

NPL Site Boundaries

Sources:

EPA's Environmental Photographic Interpretation Center (EPIC)
Telephone: 202-564-7333

EPA Region 1
Telephone 617-918-1143

EPA Region 6
Telephone: 214-655-6659

EPA Region 3
Telephone 215-814-5418

EPA Region 7
Telephone: 913-551-7247

EPA Region 4
Telephone 404-562-8033

EPA Region 8
Telephone: 303-312-6774

EPA Region 5
Telephone 312-886-6686

EPA Region 9
Telephone: 415-947-4246

EPA Region 10
Telephone 206-553-8665

Proposed NPL: Proposed National Priority List Sites

A site that has been proposed for listing on the National Priorities List through the issuance of a proposed rule in the Federal Register. EPA then accepts public comments on the site, responds to the comments, and places on the NPL those sites that continue to meet the requirements for listing.

Date of Government Version: 04/05/2017
Date Data Arrived at EDR: 04/21/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 04/21/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Quarterly

NPL LIENS: Federal Superfund Liens

Federal Superfund Liens. Under the authority granted the USEPA by CERCLA of 1980, the USEPA has the authority to file liens against real property in order to recover remedial action expenditures or when the property owner received notification of potential liability. USEPA compiles a listing of filed notices of Superfund Liens.

Date of Government Version: 10/15/1991
Date Data Arrived at EDR: 02/02/1994
Date Made Active in Reports: 03/30/1994
Number of Days to Update: 56

Source: EPA
Telephone: 202-564-4267
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

Federal Delisted NPL site list

Delisted NPL: National Priority List Deletions

The National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the criteria that the EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425.(e), sites may be deleted from the NPL where no further response is appropriate.

Date of Government Version: 04/05/2017
Date Data Arrived at EDR: 04/21/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 21

Source: EPA
Telephone: N/A
Last EDR Contact: 04/21/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Quarterly

Federal CERCLIS list

FEDERAL FACILITY: Federal Facility Site Information listing

A listing of National Priority List (NPL) and Base Realignment and Closure (BRAC) sites found in the Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Database where EPA Federal Facilities Restoration and Reuse Office is involved in cleanup activities.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 92

Source: Environmental Protection Agency
Telephone: 703-603-8704
Last EDR Contact: 04/07/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Varies

SEMS: Superfund Enterprise Management System

SEMS (Superfund Enterprise Management System) tracks hazardous waste sites, potentially hazardous waste sites, and remedial activities performed in support of EPA's Superfund Program across the United States. The list was formerly know as CERCLIS, renamed to SEMS by the EPA in 2015. The list contains data on potentially hazardous waste sites that have been reported to the USEPA by states, municipalities, private companies and private persons, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). This dataset also contains sites which are either proposed to or on the National Priorities List (NPL) and the sites which are in the screening and assessment phase for possible inclusion on the NPL.

Date of Government Version: 02/07/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/21/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Quarterly

Federal CERCLIS NFRAP site list

SEMS-ARCHIVE: Superfund Enterprise Management System Archive

SEMS-ARCHIVE (Superfund Enterprise Management System Archive) tracks sites that have no further interest under the Federal Superfund Program based on available information. The list was formerly known as the CERCLIS-NFRAP, renamed to SEMS ARCHIVE by the EPA in 2015. EPA may perform a minimal level of assessment work at a site while it is archived if site conditions change and/or new information becomes available. Archived sites have been removed and archived from the inventory of SEMS sites. Archived status indicates that, to the best of EPA's knowledge, assessment at a site has been completed and that EPA has determined no further steps will be taken to list the site on the National Priorities List (NPL), unless information indicates this decision was not appropriate or other considerations require a recommendation for listing at a later time. The decision does not necessarily mean that there is no hazard associated with a given site; it only means that. based upon available information, the location is not judged to be potential NPL site.

Date of Government Version: 02/07/2017
Date Data Arrived at EDR: 04/19/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 16

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 04/25/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Quarterly

Federal RCRA CORRACTS facilities list

CORRACTS: Corrective Action Report

CORRACTS identifies hazardous waste handlers with RCRA corrective action activity.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: EPA
Telephone: 800-424-9346
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Quarterly

Federal RCRA non-CORRACTS TSD facilities list

RCRA-TSDF: RCRA - Treatment, Storage and Disposal

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Transporters are individuals or entities that move hazardous waste from the generator offsite to a facility that can recycle, treat, store, or dispose of the waste. TSDFs treat, store, or dispose of the waste.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Quarterly

Federal RCRA generators list

RCRA-LQG: RCRA - Large Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Large quantity generators (LQGs) generate over 1,000 kilograms (kg) of hazardous waste, or over 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Quarterly

RCRA-SQG: RCRA - Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQGs) generate between 100 kg and 1,000 kg of hazardous waste per month.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Quarterly

RCRA-CESQG: RCRA - Conditionally Exempt Small Quantity Generators

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Conditionally exempt small quantity generators (CESQGs) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Varies

Federal institutional controls / engineering controls registries

LUCIS: Land Use Control Information System

LUCIS contains records of land use control information pertaining to the former Navy Base Realignment and Closure properties.

Date of Government Version: 12/28/2016
Date Data Arrived at EDR: 01/04/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 93

Source: Department of the Navy
Telephone: 843-820-7326
Last EDR Contact: 05/15/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: Varies

US ENG CONTROLS: Engineering Controls Sites List

A listing of sites with engineering controls in place. Engineering controls include various forms of caps, building foundations, liners, and treatment methods to create pathway elimination for regulated substances to enter environmental media or effect human health.

Date of Government Version: 11/15/2016
Date Data Arrived at EDR: 11/29/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/31/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Varies

US INST CONTROL: Sites with Institutional Controls

A listing of sites with institutional controls in place. Institutional controls include administrative measures, such as groundwater use restrictions, construction restrictions, property use restrictions, and post remediation care requirements intended to prevent exposure to contaminants remaining on site. Deed restrictions are generally required as part of the institutional controls.

Date of Government Version: 11/15/2016
Date Data Arrived at EDR: 11/29/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 66

Source: Environmental Protection Agency
Telephone: 703-603-0695
Last EDR Contact: 05/31/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Varies

Federal ERNS list

ERNS: Emergency Response Notification System

Emergency Response Notification System. ERNS records and stores information on reported releases of oil and hazardous substances.

Date of Government Version: 09/26/2016
Date Data Arrived at EDR: 09/29/2016
Date Made Active in Reports: 11/11/2016
Number of Days to Update: 43

Source: National Response Center, United States Coast Guard
Telephone: 202-267-2180
Last EDR Contact: 03/29/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Annually

State- and tribal - equivalent NPL

RESPONSE: State Response Sites

Identifies confirmed release sites where DTSC is involved in remediation, either in a lead or oversight capacity. These confirmed release sites are generally high-priority and high potential risk.

Date of Government Version: 01/30/2017
Date Data Arrived at EDR: 01/31/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 112

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Quarterly

State- and tribal - equivalent CERCLIS

ENVIROSTOR: EnviroStor Database

The Department of Toxic Substances Control's (DTSC's) Site Mitigation and Brownfields Reuse Program's (SMBRP's) EnviroStor database identifes sites that have known contamination or sites for which there may be reasons to investigate further. The database includes the following site types: Federal Superfund sites (National Priorities List (NPL)); State Response, including Military Facilities and State Superfund; Voluntary Cleanup; and School sites. EnviroStor provides similar information to the information that was available in CalSites, and provides additional site information, including, but not limited to, identification of formerly-contaminated properties that have been released for reuse, properties where environmental deed restrictions have been recorded to prevent inappropriate land uses, and risk characterization information that is used to assess potential impacts to public health and the environment at contaminated sites.

Date of Government Version: 01/30/2017
Date Data Arrived at EDR: 01/31/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 112

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Quarterly

State and tribal landfill and/or solid waste disposal site lists

SWF/LF (SWIS): Solid Waste Information System

Active, Closed and Inactive Landfills. SWF/LF records typically contain an inve ntory of solid waste disposal facilities or landfills. These may be active or i nactive facilities or open dumps that failed to meet RCRA Section 4004 criteria for solid waste landfills or disposal sites.

Date of Government Version: 02/13/2017
Date Data Arrived at EDR: 02/15/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 76

Source: Department of Resources Recycling and Recovery
Telephone: 916-341-6320
Last EDR Contact: 05/17/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: Quarterly

State and tribal leaking storage tank lists

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

LUST: Leaking Underground Fuel Tank Report (GEOTRACKER)
Leaking Underground Storage Tank (LUST) Sites included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 49
Source: State Water Resources Control Board
Telephone: see region list
Last EDR Contact: 03/14/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

LUST REG 6V: Leaking Underground Storage Tank Case Listing
Leaking Underground Storage Tank locations. Inyo, Kern, Los Angeles, Mono, San Bernardino counties.

Date of Government Version: 06/07/2005
Date Data Arrived at EDR: 06/07/2005
Date Made Active in Reports: 06/29/2005
Number of Days to Update: 22
Source: California Regional Water Quality Control Board Victorville Branch Office (6)
Telephone: 760-241-7365
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 4: Underground Storage Tank Leak List
Los Angeles, Ventura counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6710
Last EDR Contact: 09/06/2011
Next Scheduled EDR Contact: 12/19/2011
Data Release Frequency: No Update Planned

LUST REG 3: Leaking Underground Storage Tank Database
Leaking Underground Storage Tank locations. Monterey, San Benito, San Luis Obispo, Santa Barbara, Santa Cruz counties.

Date of Government Version: 05/19/2003
Date Data Arrived at EDR: 05/19/2003
Date Made Active in Reports: 06/02/2003
Number of Days to Update: 14
Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-542-4786
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: No Update Planned

LUST REG 2: Fuel Leak List
Leaking Underground Storage Tank locations. Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, Santa Clara, Solano, Sonoma counties.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30
Source: California Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-622-2433
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

LUST REG 1: Active Toxic Site Investigation
Del Norte, Humboldt, Lake, Mendocino, Modoc, Siskiyou, Sonoma, Trinity counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/01/2001
Date Data Arrived at EDR: 02/28/2001
Date Made Active in Reports: 03/29/2001
Number of Days to Update: 29
Source: California Regional Water Quality Control Board North Coast (1)
Telephone: 707-570-3769
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 6L: Leaking Underground Storage Tank Case Listing
For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 09/09/2003
Date Data Arrived at EDR: 09/10/2003
Date Made Active in Reports: 10/07/2003
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Lahontan Region (6)
Telephone: 530-542-5572
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: No Update Planned

LUST REG 5: Leaking Underground Storage Tank Database

Leaking Underground Storage Tank locations. Alameda, Alpine, Amador, Butte, Colusa, Contra Costa, Calveras, El Dorado, Fresno, Glenn, Kern, Kings, Lake, Lassen, Madera, Mariposa, Merced, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, San Joaquin, Shasta, Solano, Stanislaus, Sutter, Tehama, Tulare, Tuolumne, Yolo, Yuba counties.

Date of Government Version: 07/01/2008
Date Data Arrived at EDR: 07/22/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 9

Source: California Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-4834
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: No Update Planned

LUST REG 7: Leaking Underground Storage Tank Case Listing

Leaking Underground Storage Tank locations. Imperial, Riverside, San Diego, Santa Barbara counties.

Date of Government Version: 02/26/2004
Date Data Arrived at EDR: 02/26/2004
Date Made Active in Reports: 03/24/2004
Number of Days to Update: 27

Source: California Regional Water Quality Control Board Colorado River Basin Region (7)
Telephone: 760-776-8943
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

LUST REG 8: Leaking Underground Storage Tanks

California Regional Water Quality Control Board Santa Ana Region (8). For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 02/14/2005
Date Data Arrived at EDR: 02/15/2005
Date Made Active in Reports: 03/28/2005
Number of Days to Update: 41

Source: California Regional Water Quality Control Board Santa Ana Region (8)
Telephone: 909-782-4496
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Varies

LUST REG 9: Leaking Underground Storage Tank Report

Orange, Riverside, San Diego counties. For more current information, please refer to the State Water Resources Control Board's LUST database.

Date of Government Version: 03/01/2001
Date Data Arrived at EDR: 04/23/2001
Date Made Active in Reports: 05/21/2001
Number of Days to Update: 28

Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-637-5595
Last EDR Contact: 09/26/2011
Next Scheduled EDR Contact: 01/09/2012
Data Release Frequency: No Update Planned

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land

A listing of leaking underground storage tank locations on Indian Land.

Date of Government Version: 11/14/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land

LUSTs on Indian land in Florida, Mississippi and North Carolina.

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98

Source: EPA Region 4
Telephone: 404-562-8677
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Semi-Annually

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Alaska, Idaho, Oregon and Washington.

Date of Government Version: 10/07/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Quarterly

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Arizona, California, New Mexico and Nevada

Date of Government Version: 10/06/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: Environmental Protection Agency
Telephone: 415-972-3372
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Quarterly

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in New Mexico and Oklahoma.

Date of Government Version: 10/01/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 6
Telephone: 214-665-6597
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land
Leaking underground storage tanks located on Indian Land in Michigan, Minnesota and Wisconsin.

Date of Government Version: 11/14/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA, Region 5
Telephone: 312-886-7439
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Colorado, Montana, North Dakota, South Dakota, Utah and Wyoming.

Date of Government Version: 10/17/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 8
Telephone: 303-312-6271
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Quarterly

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land
LUSTs on Indian land in Iowa, Kansas, and Nebraska

Date of Government Version: 09/01/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

SLIC: Statewide SLIC Cases (GEOTRACKER)
Cleanup Program Sites (CPS; also known as Site Cleanups [SC] and formerly known as Spills, Leaks, Investigations, and Cleanups [SLIC] sites) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 49
Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/14/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Varies

SLIC REG 1: Active Toxic Site Investigations

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2003
Date Data Arrived at EDR: 04/07/2003
Date Made Active in Reports: 04/25/2003
Number of Days to Update: 18

Source: California Regional Water Quality Control Board, North Coast Region (1)
Telephone: 707-576-2220
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 2: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/30/2004
Date Data Arrived at EDR: 10/20/2004
Date Made Active in Reports: 11/19/2004
Number of Days to Update: 30

Source: Regional Water Quality Control Board San Francisco Bay Region (2)
Telephone: 510-286-0457
Last EDR Contact: 09/19/2011
Next Scheduled EDR Contact: 01/02/2012
Data Release Frequency: Quarterly

SLIC REG 3: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/18/2006
Date Data Arrived at EDR: 05/18/2006
Date Made Active in Reports: 06/15/2006
Number of Days to Update: 28

Source: California Regional Water Quality Control Board Central Coast Region (3)
Telephone: 805-549-3147
Last EDR Contact: 07/18/2011
Next Scheduled EDR Contact: 10/31/2011
Data Release Frequency: Semi-Annually

SLIC REG 4: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/17/2004
Date Data Arrived at EDR: 11/18/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 47

Source: Region Water Quality Control Board Los Angeles Region (4)
Telephone: 213-576-6600
Last EDR Contact: 07/01/2011
Next Scheduled EDR Contact: 10/17/2011
Data Release Frequency: Varies

SLIC REG 5: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/01/2005
Date Data Arrived at EDR: 04/05/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 16

Source: Regional Water Quality Control Board Central Valley Region (5)
Telephone: 916-464-3291
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 6V: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing

The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 05/24/2005
Date Data Arrived at EDR: 05/25/2005
Date Made Active in Reports: 06/16/2005
Number of Days to Update: 22

Source: Regional Water Quality Control Board, Victorville Branch
Telephone: 619-241-6583
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: Semi-Annually

SLIC REG 6L: SLIC Sites
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/07/2004
Date Data Arrived at EDR: 09/07/2004
Date Made Active in Reports: 10/12/2004
Number of Days to Update: 35
Source: California Regional Water Quality Control Board, Lahontan Region
Telephone: 530-542-5574
Last EDR Contact: 08/15/2011
Next Scheduled EDR Contact: 11/28/2011
Data Release Frequency: No Update Planned

SLIC REG 7: SLIC List
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 11/24/2004
Date Data Arrived at EDR: 11/29/2004
Date Made Active in Reports: 01/04/2005
Number of Days to Update: 36
Source: California Regional Quality Control Board, Colorado River Basin Region
Telephone: 760-346-7491
Last EDR Contact: 08/01/2011
Next Scheduled EDR Contact: 11/14/2011
Data Release Frequency: No Update Planned

SLIC REG 8: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 04/03/2008
Date Data Arrived at EDR: 04/03/2008
Date Made Active in Reports: 04/14/2008
Number of Days to Update: 11
Source: California Region Water Quality Control Board Santa Ana Region (8)
Telephone: 951-782-3298
Last EDR Contact: 09/12/2011
Next Scheduled EDR Contact: 12/26/2011
Data Release Frequency: Semi-Annually

SLIC REG 9: Spills, Leaks, Investigation & Cleanup Cost Recovery Listing
The SLIC (Spills, Leaks, Investigations and Cleanup) program is designed to protect and restore water quality from spills, leaks, and similar discharges.

Date of Government Version: 09/10/2007
Date Data Arrived at EDR: 09/11/2007
Date Made Active in Reports: 09/28/2007
Number of Days to Update: 17
Source: California Regional Water Quality Control Board San Diego Region (9)
Telephone: 858-467-2980
Last EDR Contact: 08/08/2011
Next Scheduled EDR Contact: 11/21/2011
Data Release Frequency: Annually

State and tribal registered storage tank lists

FEMA UST: Underground Storage Tank Listing
A listing of all FEMA owned underground storage tanks.

Date of Government Version: 01/01/2010
Date Data Arrived at EDR: 02/16/2010
Date Made Active in Reports: 04/12/2010
Number of Days to Update: 55
Source: FEMA
Telephone: 202-646-5797
Last EDR Contact: 04/11/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Varies

UST: Active UST Facilities
Active UST facilities gathered from the local regulatory agencies

Date of Government Version: 03/12/2017
Date Data Arrived at EDR: 03/16/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 57
Source: SWRCB
Telephone: 916-341-5851
Last EDR Contact: 03/16/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Semi-Annually

AST: Aboveground Petroleum Storage Tank Facilities
A listing of aboveground storage tank petroleum storage tank locations.

Date of Government Version: 07/06/2016
Date Data Arrived at EDR: 07/12/2016
Date Made Active in Reports: 09/19/2016
Number of Days to Update: 69
Source: California Environmental Protection Agency
Telephone: 916-327-5092
Last EDR Contact: 03/24/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Quarterly

INDIAN UST R5: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 5 (Michigan, Minnesota and Wisconsin and Tribal Nations).

Date of Government Version: 01/14/2017
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 5
Telephone: 312-886-6136
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

INDIAN UST R6: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 6 (Louisiana, Arkansas, Oklahoma, New Mexico, Texas and 65 Tribes).

Date of Government Version: 10/01/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 6
Telephone: 214-665-7591
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Semi-Annually

INDIAN UST R7: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 7 (Iowa, Kansas, Missouri, Nebraska, and 9 Tribal Nations).

Date of Government Version: 09/01/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 7
Telephone: 913-551-7003
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

INDIAN UST R8: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 8 (Colorado, Montana, North Dakota, South Dakota, Utah, Wyoming and 27 Tribal Nations).

Date of Government Version: 10/17/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 8
Telephone: 303-312-6137
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Quarterly

INDIAN UST R9: Underground Storage Tanks on Indian Land
The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 9 (Arizona, California, Hawaii, Nevada, the Pacific Islands, and Tribal Nations).

Date of Government Version: 10/06/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99
Source: EPA Region 9
Telephone: 415-972-3368
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Quarterly

INDIAN UST R1: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 1 (Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont and ten Tribal Nations).

Date of Government Version: 11/14/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA, Region 1
Telephone: 617-918-1313
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

INDIAN UST R4: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 4 (Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, Tennessee and Tribal Nations)

Date of Government Version: 10/14/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 98

Source: EPA Region 4
Telephone: 404-562-9424
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Semi-Annually

INDIAN UST R10: Underground Storage Tanks on Indian Land

The Indian Underground Storage Tank (UST) database provides information about underground storage tanks on Indian land in EPA Region 10 (Alaska, Idaho, Oregon, Washington, and Tribal Nations).

Date of Government Version: 10/07/2016
Date Data Arrived at EDR: 01/26/2017
Date Made Active in Reports: 05/05/2017
Number of Days to Update: 99

Source: EPA Region 10
Telephone: 206-553-2857
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Quarterly

State and tribal voluntary cleanup sites

INDIAN VCP R1: Voluntary Cleanup Priority Listing

A listing of voluntary cleanup priority sites located on Indian Land located in Region 1.

Date of Government Version: 07/27/2015
Date Data Arrived at EDR: 09/29/2015
Date Made Active in Reports: 02/18/2016
Number of Days to Update: 142

Source: EPA, Region 1
Telephone: 617-918-1102
Last EDR Contact: 03/27/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Varies

INDIAN VCP R7: Voluntary Cleanup Priority Lisitng

A listing of voluntary cleanup priority sites located on Indian Land located in Region 7.

Date of Government Version: 03/20/2008
Date Data Arrived at EDR: 04/22/2008
Date Made Active in Reports: 05/19/2008
Number of Days to Update: 27

Source: EPA, Region 7
Telephone: 913-551-7365
Last EDR Contact: 04/20/2009
Next Scheduled EDR Contact: 07/20/2009
Data Release Frequency: Varies

VCP: Voluntary Cleanup Program Properties

Contains low threat level properties with either confirmed or unconfirmed releases and the project proponents have request that DTSC oversee investigation and/or cleanup activities and have agreed to provide coverage for DTSC's costs.

Date of Government Version: 01/30/2017
Date Data Arrived at EDR: 01/31/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 112

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Quarterly

State and tribal Brownfields sites

BROWNFIELDS: Considered Brownfieds Sites Listing
A listing of sites the SWRCB considers to be Brownfields since these are sites have come to them through the MOA Process.

Date of Government Version: 01/03/2017
Date Data Arrived at EDR: 01/04/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 57
Source: State Water Resources Control Board
Telephone: 916-323-7905
Last EDR Contact: 03/29/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Varies

ADDITIONAL ENVIRONMENTAL RECORDS

Local Brownfield lists

US BROWNFIELDS: A Listing of Brownfields Sites
Brownfields are real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant. Cleaning up and reinvesting in these properties takes development pressures off of undeveloped, open land, and both improves and protects the environment. Assessment, Cleanup and Redevelopment Exchange System (ACRES) stores information reported by EPA Brownfields grant recipients on brownfields properties assessed or cleaned up with grant funding as well as information on Targeted Brownfields Assessments performed by EPA Regions. A listing of ACRES Brownfield sites is obtained from Cleanups in My Community. Cleanups in My Community provides information on Brownfields properties for which information is reported back to EPA, as well as areas served by Brownfields grant programs.

Date of Government Version: 03/02/2017
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 36
Source: Environmental Protection Agency
Telephone: 202-566-2777
Last EDR Contact: 03/02/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: Semi-Annually

Local Lists of Landfill / Solid Waste Disposal Sites

WMUDS/SWAT: Waste Management Unit Database
Waste Management Unit Database System. WMUDS is used by the State Water Resources Control Board staff and the Regional Water Quality Control Boards for program tracking and inventory of waste management units. WMUDS is composed of the following databases: Facility Information, Scheduled Inspections Information, Waste Management Unit Information, SWAT Program Information, SWAT Report Summary Information, SWAT Report Summary Data, Chapter 15 (formerly Subchapter 15) Information, Chapter 15 Monitoring Parameters, TPCA Program Information, RCRA Program Information, Closure Information, and Interested Parties Information.

Date of Government Version: 04/01/2000
Date Data Arrived at EDR: 04/10/2000
Date Made Active in Reports: 05/10/2000
Number of Days to Update: 30
Source: State Water Resources Control Board
Telephone: 916-227-4448
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: No Update Planned

SWRCY: Recycler Database
A listing of recycling facilities in California.

Date of Government Version: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 50
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/14/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

HAULERS: Registered Waste Tire Haulers Listing
A listing of registered waste tire haulers.

Date of Government Version: 01/13/2017
Date Data Arrived at EDR: 01/17/2017
Date Made Active in Reports: 05/31/2017
Number of Days to Update: 134
Source: Integrated Waste Management Board
Telephone: 916-341-6422
Last EDR Contact: 05/15/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: Varies

INDIAN ODI: Report on the Status of Open Dumps on Indian Lands
Location of open dumps on Indian land.

Date of Government Version: 12/31/1998
Date Data Arrived at EDR: 12/03/2007
Date Made Active in Reports: 01/24/2008
Number of Days to Update: 52
Source: Environmental Protection Agency
Telephone: 703-308-8245
Last EDR Contact: 05/01/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

ODI: Open Dump Inventory
An open dump is defined as a disposal facility that does not comply with one or more of the Part 257 or Part 258 Subtitle D Criteria.

Date of Government Version: 06/30/1985
Date Data Arrived at EDR: 08/09/2004
Date Made Active in Reports: 09/17/2004
Number of Days to Update: 39
Source: Environmental Protection Agency
Telephone: 800-424-9346
Last EDR Contact: 06/09/2004
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

DEBRIS REGION 9: Torres Martinez Reservation Illegal Dump Site Locations
A listing of illegal dump sites location on the Torres Martinez Indian Reservation located in eastern Riverside County and northern Imperial County, California.

Date of Government Version: 01/12/2009
Date Data Arrived at EDR: 05/07/2009
Date Made Active in Reports: 09/21/2009
Number of Days to Update: 137
Source: EPA, Region 9
Telephone: 415-947-4219
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: No Update Planned

IHS OPEN DUMPS: Open Dumps on Indian Land
A listing of all open dumps located on Indian Land in the United States.

Date of Government Version: 04/01/2014
Date Data Arrived at EDR: 08/06/2014
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 176
Source: Department of Health & Human Serivces, Indian Health Service
Telephone: 301-443-1452
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

Local Lists of Hazardous waste / Contaminated Sites

US HIST CDL: National Clandestine Laboratory Register
A listing of clandestine drug lab locations that have been removed from the DEAs National Clandestine Laboratory Register.

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 36
Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 02/28/2017
Next Scheduled EDR Contact: 06/12/2017
Data Release Frequency: No Update Planned

HIST CAL-SITES: Calsites Database
The Calsites database contains potential or confirmed hazardous substance release properties. In 1996, California EPA reevaluated and significantly reduced the number of sites in the Calsites database. No longer updated by the state agency. It has been replaced by ENVIROSTOR.

Date of Government Version: 08/08/2005
Date Data Arrived at EDR: 08/03/2006
Date Made Active in Reports: 08/24/2006
Number of Days to Update: 21

Source: Department of Toxic Substance Control
Telephone: 916-323-3400
Last EDR Contact: 02/23/2009
Next Scheduled EDR Contact: 05/25/2009
Data Release Frequency: No Update Planned

SCH: School Property Evaluation Program

This category contains proposed and existing school sites that are being evaluated by DTSC for possible hazardous materials contamination. In some cases, these properties may be listed in the CalSites category depending on the level of threat to public health and safety or the environment they pose.

Date of Government Version: 01/30/2017
Date Data Arrived at EDR: 01/31/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 112

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Quarterly

CDL: Clandestine Drug Labs

A listing of drug lab locations. Listing of a location in this database does not indicate that any illegal drug lab materials were or were not present there, and does not constitute a determination that the location either requires or does not require additional cleanup work.

Date of Government Version: 12/31/2016
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 54

Source: Department of Toxic Substances Control
Telephone: 916-255-6504
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Varies

TOXIC PITS: Toxic Pits Cleanup Act Sites

Toxic PITS Cleanup Act Sites. TOXIC PITS identifies sites suspected of containing hazardous substances where cleanup has not yet been completed.

Date of Government Version: 07/01/1995
Date Data Arrived at EDR: 08/30/1995
Date Made Active in Reports: 09/26/1995
Number of Days to Update: 27

Source: State Water Resources Control Board
Telephone: 916-227-4364
Last EDR Contact: 01/26/2009
Next Scheduled EDR Contact: 04/27/2009
Data Release Frequency: No Update Planned

US CDL: Clandestine Drug Labs

A listing of clandestine drug lab locations. The U.S. Department of Justice ("the Department") provides this web site as a public service. It contains addresses of some locations where law enforcement agencies reported they found chemicals or other items that indicated the presence of either clandestine drug laboratories or dumpsites. In most cases, the source of the entries is not the Department, and the Department has not verified the entry and does not guarantee its accuracy. Members of the public must verify the accuracy of all entries by, for example, contacting local law enforcement and local health departments.

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 12/05/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 67

Source: Drug Enforcement Administration
Telephone: 202-307-1000
Last EDR Contact: 05/31/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Quarterly

Local Lists of Registered Storage Tanks

SWEEPS UST: SWEEPS UST Listing

Statewide Environmental Evaluation and Planning System. This underground storage tank listing was updated and maintained by a company contacted by the SWRCB in the early 1990's. The listing is no longer updated or maintained. The local agency is the contact for more information on a site on the SWEEPS list.

Date of Government Version: 06/01/1994
Date Data Arrived at EDR: 07/07/2005
Date Made Active in Reports: 08/11/2005
Number of Days to Update: 35

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/03/2005
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

UST MENDOCINO: Mendocino County UST Database
A listing of underground storage tank locations in Mendocino County.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 67

Source: Department of Public Health
Telephone: 707-463-4466
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Annually

HIST UST: Hazardous Substance Storage Container Database
The Hazardous Substance Storage Container Database is a historical listing of UST sites. Refer to local/county source for current data.

Date of Government Version: 10/15/1990
Date Data Arrived at EDR: 01/25/1991
Date Made Active in Reports: 02/12/1991
Number of Days to Update: 18

Source: State Water Resources Control Board
Telephone: 916-341-5851
Last EDR Contact: 07/26/2001
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CA FID UST: Facility Inventory Database
The Facility Inventory Database (FID) contains a historical listing of active and inactive underground storage tank locations from the State Water Resource Control Board. Refer to local/county source for current data.

Date of Government Version: 10/31/1994
Date Data Arrived at EDR: 09/05/1995
Date Made Active in Reports: 09/29/1995
Number of Days to Update: 24

Source: California Environmental Protection Agency
Telephone: 916-341-5851
Last EDR Contact: 12/28/1998
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Local Land Records

LIENS: Environmental Liens Listing
A listing of property locations with environmental liens for California where DTSC is a lien holder.

Date of Government Version: 03/06/2017
Date Data Arrived at EDR: 03/07/2017
Date Made Active in Reports: 04/21/2017
Number of Days to Update: 45

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Varies

LIENS 2: CERCLA Lien Information
A Federal CERCLA ('Superfund') lien can exist by operation of law at any site or property at which EPA has spent Superfund monies. These monies are spent to investigate and address releases and threatened releases of contamination. CERCLIS provides information as to the identity of these sites and properties.

Date of Government Version: 02/18/2014
Date Data Arrived at EDR: 03/18/2014
Date Made Active in Reports: 04/24/2014
Number of Days to Update: 37

Source: Environmental Protection Agency
Telephone: 202-564-6023
Last EDR Contact: 04/21/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

DEED: Deed Restriction Listing

Site Mitigation and Brownfields Reuse Program Facility Sites with Deed Restrictions & Hazardous Waste Management Program Facility Sites with Deed / Land Use Restriction. The DTSC Site Mitigation and Brownfields Reuse Program (SMBRP) list includes sites cleaned up under the program's oversight and generally does not include current or former hazardous waste facilities that required a hazardous waste facility permit. The list represents deed restrictions that are active. Some sites have multiple deed restrictions. The DTSC Hazardous Waste Management Program (HWMP) has developed a list of current or former hazardous waste facilities that have a recorded land use restriction at the local county recorder's office. The land use restrictions on this list were required by the DTSC HWMP as a result of the presence of hazardous substances that remain on site after the facility (or part of the facility) has been closed or cleaned up. The types of land use restriction include deed notice, deed restriction, or a land use restriction that binds current and future owners.

Date of Government Version: 03/06/2017
Date Data Arrived at EDR: 03/07/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 77

Source: DTSC and SWRCB
Telephone: 916-323-3400
Last EDR Contact: 03/07/2017
Next Scheduled EDR Contact: 06/19/2017
Data Release Frequency: Semi-Annually

Records of Emergency Release Reports

HMIRS: Hazardous Materials Information Reporting System

Hazardous Materials Incident Report System. HMIRS contains hazardous material spill incidents reported to DOT.

Date of Government Version: 12/28/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 37

Source: U.S. Department of Transportation
Telephone: 202-366-4555
Last EDR Contact: 03/29/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Annually

CHMIRS: California Hazardous Material Incident Report System

California Hazardous Material Incident Reporting System. CHMIRS contains information on reported hazardous material incidents (accidental releases or spills).

Date of Government Version: 12/06/2016
Date Data Arrived at EDR: 01/25/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 105

Source: Office of Emergency Services
Telephone: 916-845-8400
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

LDS: Land Disposal Sites Listing (GEOTRACKER)

Land Disposal sites (Landfills) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 49

Source: State Water Qualilty Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/14/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

MCS: Military Cleanup Sites Listing (GEOTRACKER)

Military sites (consisting of: Military UST sites; Military Privatized sites; and Military Cleanup sites [formerly known as DoD non UST]) included in GeoTracker. GeoTracker is the Water Boards data management system for sites that impact, or have the potential to impact, water quality in California, with emphasis on groundwater.

Date of Government Version: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 49

Source: State Water Resources Control Board
Telephone: 866-480-1028
Last EDR Contact: 03/14/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

SPILLS 90: SPILLS90 data from FirstSearch

Spills 90 includes those spill and release records available exclusively from FirstSearch databases. Typically, they may include chemical, oil and/or hazardous substance spills recorded after 1990. Duplicate records that are already included in EDR incident and release records are not included in Spills 90.

Date of Government Version: 06/06/2012
Date Data Arrived at EDR: 01/03/2013
Date Made Active in Reports: 02/22/2013
Number of Days to Update: 50

Source: FirstSearch
Telephone: N/A
Last EDR Contact: 01/03/2013
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

Other Ascertainable Records

RCRA NonGen / NLR: RCRA - Non Generators / No Longer Regulated

RCRAInfo is EPA's comprehensive information system, providing access to data supporting the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984. The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste.

Date of Government Version: 12/12/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 44

Source: Environmental Protection Agency
Telephone: (415) 495-8895
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Varies

FUDS: Formerly Used Defense Sites

The listing includes locations of Formerly Used Defense Sites properties where the US Army Corps of Engineers is actively working or will take necessary cleanup actions.

Date of Government Version: 01/31/2015
Date Data Arrived at EDR: 07/08/2015
Date Made Active in Reports: 10/13/2015
Number of Days to Update: 97

Source: U.S. Army Corps of Engineers
Telephone: 202-528-4285
Last EDR Contact: 02/24/2017
Next Scheduled EDR Contact: 06/05/2017
Data Release Frequency: Varies

DOD: Department of Defense Sites

This data set consists of federally owned or administered lands, administered by the Department of Defense, that have any area equal to or greater than 640 acres of the United States, Puerto Rico, and the U.S. Virgin Islands.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 11/10/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 62

Source: USGS
Telephone: 888-275-8747
Last EDR Contact: 04/14/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Semi-Annually

FEDLAND: Federal and Indian Lands

Federally and Indian administrated lands of the United States. Lands included are administrated by: Army Corps of Engineers, Bureau of Reclamation, National Wild and Scenic River, National Wildlife Refuge, Public Domain Land, Wilderness, Wilderness Study Area, Wildlife Management Area, Bureau of Indian Affairs, Bureau of Land Management, Department of Justice, Forest Service, Fish and Wildlife Service, National Park Service.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 02/06/2006
Date Made Active in Reports: 01/11/2007
Number of Days to Update: 339

Source: U.S. Geological Survey
Telephone: 888-275-8747
Last EDR Contact: 04/14/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: N/A

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners Listing

The State Coalition for Remediation of Drycleaners was established in 1998, with support from the U.S. EPA Office of Superfund Remediation and Technology Innovation. It is comprised of representatives of states with established drycleaner remediation programs. Currently the member states are Alabama, Connecticut, Florida, Illinois, Kansas, Minnesota, Missouri, North Carolina, Oregon, South Carolina, Tennessee, Texas, and Wisconsin.

Date of Government Version: 01/01/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 63

Source: Environmental Protection Agency
Telephone: 615-532-8599
Last EDR Contact: 05/19/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: Varies

US FIN ASSUR: Financial Assurance Information

All owners and operators of facilities that treat, store, or dispose of hazardous waste are required to provide proof that they will have sufficient funds to pay for the clean up, closure, and post-closure care of their facilities.

Date of Government Version: 02/13/2017
Date Data Arrived at EDR: 02/15/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 86

Source: Environmental Protection Agency
Telephone: 202-566-1917
Last EDR Contact: 05/17/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: Quarterly

EPA WATCH LIST: EPA WATCH LIST

EPA maintains a "Watch List" to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. Being on the Watch List does not mean that the facility has actually violated the law only that an investigation by EPA or a state or local environmental agency has led those organizations to allege that an unproven violation has in fact occurred. Being on the Watch List does not represent a higher level of concern regarding the alleged violations that were detected, but instead indicates cases requiring additional dialogue between EPA, state and local agencies - primarily because of the length of time the alleged violation has gone unaddressed or unresolved.

Date of Government Version: 08/30/2013
Date Data Arrived at EDR: 03/21/2014
Date Made Active in Reports: 06/17/2014
Number of Days to Update: 88

Source: Environmental Protection Agency
Telephone: 617-520-3000
Last EDR Contact: 05/08/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

2020 COR ACTION: 2020 Corrective Action Program List

The EPA has set ambitious goals for the RCRA Corrective Action program by creating the 2020 Corrective Action Universe. This RCRA cleanup baseline includes facilities expected to need corrective action. The 2020 universe contains a wide variety of sites. Some properties are heavily contaminated while others were contaminated but have since been cleaned up. Still others have not been fully investigated yet, and may require little or no remediation. Inclusion in the 2020 Universe does not necessarily imply failure on the part of a facility to meet its RCRA obligations.

Date of Government Version: 04/22/2013
Date Data Arrived at EDR: 03/03/2015
Date Made Active in Reports: 03/09/2015
Number of Days to Update: 6

Source: Environmental Protection Agency
Telephone: 703-308-4044
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Varies

TSCA: Toxic Substances Control Act

Toxic Substances Control Act. TSCA identifies manufacturers and importers of chemical substances included on the TSCA Chemical Substance Inventory list. It includes data on the production volume of these substances by plant site.

Date of Government Version: 12/31/2012
Date Data Arrived at EDR: 01/15/2015
Date Made Active in Reports: 01/29/2015
Number of Days to Update: 14

Source: EPA
Telephone: 202-260-5521
Last EDR Contact: 03/24/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: Every 4 Years

TRIS: Toxic Chemical Release Inventory System

Toxic Release Inventory System. TRIS identifies facilities which release toxic chemicals to the air, water and land in reportable quantities under SARA Title III Section 313.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 11/24/2015
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 133

Source: EPA
Telephone: 202-566-0250
Last EDR Contact: 05/26/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Annually

SSTS: Section 7 Tracking Systems

Section 7 of the Federal Insecticide, Fungicide and Rodenticide Act, as amended (92 Stat. 829) requires all registered pesticide-producing establishments to submit a report to the Environmental Protection Agency by March 1st each year. Each establishment must report the types and amounts of pesticides, active ingredients and devices being produced, and those having been produced and sold or distributed in the past year.

Date of Government Version: 12/31/2009
Date Data Arrived at EDR: 12/10/2010
Date Made Active in Reports: 02/25/2011
Number of Days to Update: 77

Source: EPA
Telephone: 202-564-4203
Last EDR Contact: 04/26/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Annually

ROD: Records Of Decision

Record of Decision. ROD documents mandate a permanent remedy at an NPL (Superfund) site containing technical and health information to aid in the cleanup.

Date of Government Version: 11/25/2013
Date Data Arrived at EDR: 12/12/2013
Date Made Active in Reports: 02/24/2014
Number of Days to Update: 74

Source: EPA
Telephone: 703-416-0223
Last EDR Contact: 03/06/2017
Next Scheduled EDR Contact: 06/19/2017
Data Release Frequency: Annually

RMP: Risk Management Plans

When Congress passed the Clean Air Act Amendments of 1990, it required EPA to publish regulations and guidance for chemical accident prevention at facilities using extremely hazardous substances. The Risk Management Program Rule (RMP Rule) was written to implement Section 112(r) of these amendments. The rule, which built upon existing industry codes and standards, requires companies of all sizes that use certain flammable and toxic substances to develop a Risk Management Program, which includes a(n): Hazard assessment that details the potential effects of an accidental release, an accident history of the last five years, and an evaluation of worst-case and alternative accidental releases; Prevention program that includes safety precautions and maintenance, monitoring, and employee training measures; and Emergency response program that spells out emergency health care, employee training measures and procedures for informing the public and response agencies (e.g the fire department) should an accident occur.

Date of Government Version: 02/01/2017
Date Data Arrived at EDR: 02/09/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 57

Source: Environmental Protection Agency
Telephone: 202-564-8600
Last EDR Contact: 04/21/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

RAATS: RCRA Administrative Action Tracking System

RCRA Administration Action Tracking System. RAATS contains records based on enforcement actions issued under RCRA pertaining to major violators and includes administrative and civil actions brought by the EPA. For administration actions after September 30, 1995, data entry in the RAATS database was discontinued. EPA will retain a copy of the database for historical records. It was necessary to terminate RAATS because a decrease in agency resources made it impossible to continue to update the information contained in the database.

Date of Government Version: 04/17/1995
Date Data Arrived at EDR: 07/03/1995
Date Made Active in Reports: 08/07/1995
Number of Days to Update: 35

Source: EPA
Telephone: 202-564-4104
Last EDR Contact: 06/02/2008
Next Scheduled EDR Contact: 09/01/2008
Data Release Frequency: No Update Planned

PRP: Potentially Responsible Parties
A listing of verified Potentially Responsible Parties

Date of Government Version: 10/25/2013
Date Data Arrived at EDR: 10/17/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 3
Source: EPA
Telephone: 202-564-6023
Last EDR Contact: 05/09/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

PADS: PCB Activity Database System
PCB Activity Database. PADS Identifies generators, transporters, commercial storers and/or brokers and disposers of PCB's who are required to notify the EPA of such activities.

Date of Government Version: 01/20/2016
Date Data Arrived at EDR: 04/28/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 127
Source: EPA
Telephone: 202-566-0500
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Annually

ICIS: Integrated Compliance Information System
The Integrated Compliance Information System (ICIS) supports the information needs of the national enforcement and compliance program as well as the unique needs of the National Pollutant Discharge Elimination System (NPDES) program.

Date of Government Version: 11/18/2016
Date Data Arrived at EDR: 11/23/2016
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 79
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Quarterly

FTTS: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
FTTS tracks administrative cases and pesticide enforcement actions and compliance activities related to FIFRA, TSCA and EPCRA (Emergency Planning and Community Right-to-Know Act). To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA/Office of Prevention, Pesticides and Toxic Substances
Telephone: 202-566-1667
Last EDR Contact: 05/19/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Quarterly

FTTS INSP: FIFRA/ TSCA Tracking System - FIFRA (Federal Insecticide, Fungicide, & Rodenticide Act)/TSCA (Toxic Substances Control Act)
A listing of FIFRA/TSCA Tracking System (FTTS) inspections and enforcements.

Date of Government Version: 04/09/2009
Date Data Arrived at EDR: 04/16/2009
Date Made Active in Reports: 05/11/2009
Number of Days to Update: 25
Source: EPA
Telephone: 202-566-1667
Last EDR Contact: 05/19/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Quarterly

MLTS: Material Licensing Tracking System
MLTS is maintained by the Nuclear Regulatory Commission and contains a list of approximately 8,100 sites which possess or use radioactive materials and which are subject to NRC licensing requirements. To maintain currency, EDR contacts the Agency on a quarterly basis.

Date of Government Version: 08/30/2016
Date Data Arrived at EDR: 09/08/2016
Date Made Active in Reports: 10/21/2016
Number of Days to Update: 43
Source: Nuclear Regulatory Commission
Telephone: 301-415-7169
Last EDR Contact: 05/08/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

COAL ASH DOE: Steam-Electric Plant Operation Data
A listing of power plants that store ash in surface ponds.

Date of Government Version: 12/31/2005
Date Data Arrived at EDR: 08/07/2009
Date Made Active in Reports: 10/22/2009
Number of Days to Update: 76
Source: Department of Energy
Telephone: 202-586-8719
Last EDR Contact: 06/05/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Varies

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List
A listing of coal combustion residues surface impoundments with high hazard potential ratings.

Date of Government Version: 07/01/2014
Date Data Arrived at EDR: 09/10/2014
Date Made Active in Reports: 10/20/2014
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: N/A
Last EDR Contact: 06/05/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Varies

PCB TRANSFORMER: PCB Transformer Registration Database
The database of PCB transformer registrations that includes all PCB registration submittals.

Date of Government Version: 02/01/2011
Date Data Arrived at EDR: 10/19/2011
Date Made Active in Reports: 01/10/2012
Number of Days to Update: 83
Source: Environmental Protection Agency
Telephone: 202-566-0517
Last EDR Contact: 04/28/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

RADINFO: Radiation Information Database
The Radiation Information Database (RADINFO) contains information about facilities that are regulated by U.S. Environmental Protection Agency (EPA) regulations for radiation and radioactivity.

Date of Government Version: 01/04/2017
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 35
Source: Environmental Protection Agency
Telephone: 202-343-9775
Last EDR Contact: 04/06/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Quarterly

HIST FTTS: FIFRA/TSCA Tracking System Administrative Case Listing
A complete administrative case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40
Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2007
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

HIST FTTS INSP: FIFRA/TSCA Tracking System Inspection & Enforcement Case Listing
A complete inspection and enforcement case listing from the FIFRA/TSCA Tracking System (FTTS) for all ten EPA regions. The information was obtained from the National Compliance Database (NCDB). NCDB supports the implementation of FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act) and TSCA (Toxic Substances Control Act). Some EPA regions are now closing out records. Because of that, and the fact that some EPA regions are not providing EPA Headquarters with updated records, it was decided to create a HIST FTTS database. It included records that may not be included in the newer FTTS database updates. This database is no longer updated.

Date of Government Version: 10/19/2006
Date Data Arrived at EDR: 03/01/2007
Date Made Active in Reports: 04/10/2007
Number of Days to Update: 40

Source: Environmental Protection Agency
Telephone: 202-564-2501
Last EDR Contact: 12/17/2008
Next Scheduled EDR Contact: 03/17/2008
Data Release Frequency: No Update Planned

DOT OPS: Incident and Accident Data

Department of Transporation, Office of Pipeline Safety Incident and Accident data.

Date of Government Version: 07/31/2012
Date Data Arrived at EDR: 08/07/2012
Date Made Active in Reports: 09/18/2012
Number of Days to Update: 42

Source: Department of Transporation, Office of Pipeline Safety
Telephone: 202-366-4595
Last EDR Contact: 05/02/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

CONSENT: Superfund (CERCLA) Consent Decrees

Major legal settlements that establish responsibility and standards for cleanup at NPL (Superfund) sites. Released periodically by United States District Courts after settlement by parties to litigation matters.

Date of Government Version: 09/30/2016
Date Data Arrived at EDR: 11/18/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 77

Source: Department of Justice, Consent Decree Library
Telephone: Varies
Last EDR Contact: 03/27/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Varies

BRS: Biennial Reporting System

The Biennial Reporting System is a national system administered by the EPA that collects data on the generation and management of hazardous waste. BRS captures detailed data from two groups: Large Quantity Generators (LQG) and Treatment, Storage, and Disposal Facilities.

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 02/24/2015
Date Made Active in Reports: 09/30/2015
Number of Days to Update: 218

Source: EPA/NTIS
Telephone: 800-424-9346
Last EDR Contact: 05/26/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Biennially

INDIAN RESERV: Indian Reservations

This map layer portrays Indian administered lands of the United States that have any area equal to or greater than 640 acres.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 07/14/2015
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 546

Source: USGS
Telephone: 202-208-3710
Last EDR Contact: 04/14/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Semi-Annually

FUSRAP: Formerly Utilized Sites Remedial Action Program

DOE established the Formerly Utilized Sites Remedial Action Program (FUSRAP) in 1974 to remediate sites where radioactive contamination remained from Manhattan Project and early U.S. Atomic Energy Commission (AEC) operations.

Date of Government Version: 12/23/2016
Date Data Arrived at EDR: 12/27/2016
Date Made Active in Reports: 02/17/2017
Number of Days to Update: 52

Source: Department of Energy
Telephone: 202-586-3559
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Varies

UMTRA: Uranium Mill Tailings Sites

Uranium ore was mined by private companies for federal government use in national defense programs. When the mills shut down, large piles of the sand-like material (mill tailings) remain after uranium has been extracted from the ore. Levels of human exposure to radioactive materials from the piles are low; however, in some cases tailings were used as construction materials before the potential health hazards of the tailings were recognized.

Date of Government Version: 09/14/2010
Date Data Arrived at EDR: 10/07/2011
Date Made Active in Reports: 03/01/2012
Number of Days to Update: 146

Source: Department of Energy
Telephone: 505-845-0011
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

LEAD SMELTER 1: Lead Smelter Sites

A listing of former lead smelter site locations.

Date of Government Version: 12/05/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 02/10/2017
Number of Days to Update: 36

Source: Environmental Protection Agency
Telephone: 703-603-8787
Last EDR Contact: 04/21/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Varies

LEAD SMELTER 2: Lead Smelter Sites

A list of several hundred sites in the U.S. where secondary lead smelting was done from 1931and 1964. These sites may pose a threat to public health through ingestion or inhalation of contaminated soil or dust

Date of Government Version: 04/05/2001
Date Data Arrived at EDR: 10/27/2010
Date Made Active in Reports: 12/02/2010
Number of Days to Update: 36

Source: American Journal of Public Health
Telephone: 703-305-6451
Last EDR Contact: 12/02/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

US AIRS (AFS): Aerometric Information Retrieval System Facility Subsystem (AFS)

The database is a sub-system of Aerometric Information Retrieval System (AIRS). AFS contains compliance data on air pollution point sources regulated by the U.S. EPA and/or state and local air regulatory agencies. This information comes from source reports by various stationary sources of air pollution, such as electric power plants, steel mills, factories, and universities, and provides information about the air pollutants they produce. Action, air program, air program pollutant, and general level plant data. It is used to track emissions and compliance data from industrial plants.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/07/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Annually

US AIRS MINOR: Air Facility System Data

A listing of minor source facilities.

Date of Government Version: 10/12/2016
Date Data Arrived at EDR: 10/26/2016
Date Made Active in Reports: 02/03/2017
Number of Days to Update: 100

Source: EPA
Telephone: 202-564-2496
Last EDR Contact: 03/07/2017
Next Scheduled EDR Contact: 04/10/2017
Data Release Frequency: Annually

US MINES: Mines Master Index File

Contains all mine identification numbers issued for mines active or opened since 1971. The data also includes violation information.

Date of Government Version: 02/08/2017
Date Data Arrived at EDR: 02/28/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 38

Source: Department of Labor, Mine Safety and Health Administration
Telephone: 303-231-5959
Last EDR Contact: 05/31/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Semi-Annually

US MINES 2: Ferrous and Nonferrous Metal Mines Database Listing

This map layer includes ferrous (ferrous metal mines are facilities that extract ferrous metals, such as iron ore or molybdenum) and nonferrous (Nonferrous metal mines are facilities that extract nonferrous metals, such as gold, silver, copper, zinc, and lead) metal mines in the United States.

Date of Government Version: 12/05/2005
Date Data Arrived at EDR: 02/29/2008
Date Made Active in Reports: 04/18/2008
Number of Days to Update: 49

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 05/31/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Varies

US MINES 3: Active Mines & Mineral Plants Database Listing

Active Mines and Mineral Processing Plant operations for commodities monitored by the Minerals Information Team of the USGS.

Date of Government Version: 04/14/2011
Date Data Arrived at EDR: 06/08/2011
Date Made Active in Reports: 09/13/2011
Number of Days to Update: 97

Source: USGS
Telephone: 703-648-7709
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Varies

ABANDONED MINES: Abandoned Mines

An inventory of land and water impacted by past mining (primarily coal mining) is maintained by OSMRE to provide information needed to implement the Surface Mining Control and Reclamation Act of 1977 (SMCRA). The inventory contains information on the location, type, and extent of AML impacts, as well as, information on the cost associated with the reclamation of those problems. The inventory is based upon field surveys by State, Tribal, and OSMRE program officials. It is dynamic to the extent that it is modified as new problems are identified and existing problems are reclaimed.

Date of Government Version: 03/14/2017
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 04/07/2017
Number of Days to Update: 21

Source: Department of Interior
Telephone: 202-208-2609
Last EDR Contact: 03/13/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

FINDS: Facility Index System/Facility Registry System

Facility Index System. FINDS contains both facility information and 'pointers' to other sources that contain more detail. EDR includes the following FINDS databases in this report: PCS (Permit Compliance System), AIRS (Aerometric Information Retrieval System), DOCKET (Enforcement Docket used to manage and track information on civil judicial enforcement cases for all environmental statutes), FURS (Federal Underground Injection Control), C-DOCKET (Criminal Docket System used to track criminal enforcement actions for all environmental statutes), FFIS (Federal Facilities Information System), STATE (State Environmental Laws and Statutes), and PADS (PCB Activity Data System).

Date of Government Version: 04/04/2017
Date Data Arrived at EDR: 04/07/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 35

Source: EPA
Telephone: (415) 947-8000
Last EDR Contact: 04/07/2017
Next Scheduled EDR Contact: 06/19/2017
Data Release Frequency: Quarterly

ECHO: Enforcement & Compliance History Information

ECHO provides integrated compliance and enforcement information for about 800,000 regulated facilities nationwide.

Date of Government Version: 03/19/2017
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 52

Source: Environmental Protection Agency
Telephone: 202-564-2280
Last EDR Contact: 03/21/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: Quarterly

UXO: Unexploded Ordnance Sites

A listing of unexploded ordnance site locations

Date of Government Version: 10/25/2015
Date Data Arrived at EDR: 01/29/2016
Date Made Active in Reports: 04/05/2016
Number of Days to Update: 67

Source: Department of Defense
Telephone: 571-373-0407
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

DOCKET HWC: Hazardous Waste Compliance Docket Listing
A complete list of the Federal Agency Hazardous Waste Compliance Docket Facilities.

Date of Government Version: 06/02/2016
Date Data Arrived at EDR: 06/03/2016
Date Made Active in Reports: 09/02/2016
Number of Days to Update: 91
Source: Environmental Protection Agency
Telephone: 202-564-0527
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Varies

FUELS PROGRAM: EPA Fuels Program Registered Listing
This listing includes facilities that are registered under the Part 80 (Code of Federal Regulations) EPA Fuels Programs. All companies now are required to submit new and updated registrations.

Date of Government Version: 02/22/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 79
Source: EPA
Telephone: 800-385-6164
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Quarterly

CA BOND EXP. PLAN: Bond Expenditure Plan
Department of Health Services developed a site-specific expenditure plan as the basis for an appropriation of Hazardous Substance Cleanup Bond Act funds. It is not updated.

Date of Government Version: 01/01/1989
Date Data Arrived at EDR: 07/27/1994
Date Made Active in Reports: 08/02/1994
Number of Days to Update: 6
Source: Department of Health Services
Telephone: 916-255-2118
Last EDR Contact: 05/31/1994
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

CORTESE: "Cortese" Hazardous Waste & Substances Sites List
The sites for the list are designated by the State Water Resource Control Board (LUST), the Integrated Waste Board (SWF/LS), and the Department of Toxic Substances Control (Cal-Sites).

Date of Government Version: 12/28/2016
Date Data Arrived at EDR: 12/28/2016
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 64
Source: CAL EPA/Office of Emergency Information
Telephone: 916-323-3400
Last EDR Contact: 03/29/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Quarterly

DRYCLEANERS: Cleaner Facilities
A list of drycleaner related facilities that have EPA ID numbers. These are facilities with certain SIC codes: power laundries, family and commercial; garment pressing and cleaner's agents; linen supply; coin-operated laundries and cleaning; drycleaning plants, except rugs; carpet and upholster cleaning; industrial launderers; laundry and garment services.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 42
Source: Department of Toxic Substance Control
Telephone: 916-327-4498
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Annually

EMI: Emissions Inventory Data
Toxics and criteria pollutant emissions data collected by the ARB and local air pollution agencies.

Date of Government Version: 12/31/2014
Date Data Arrived at EDR: 09/23/2016
Date Made Active in Reports: 10/24/2016
Number of Days to Update: 31
Source: California Air Resources Board
Telephone: 916-322-2990
Last EDR Contact: 03/21/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: Varies

ENF: Enforcement Action Listing

A listing of Water Board Enforcement Actions. Formal is everything except Oral/Verbal Communication, Notice of Violation, Expedited Payment Letter, and Staff Enforcement Letter.

Date of Government Version: 01/23/2017
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 118

Source: State Water Resoruces Control Board
Telephone: 916-445-9379
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

Financial Assurance 1: Financial Assurance Information Listing

Financial Assurance information

Date of Government Version: 04/25/2016
Date Data Arrived at EDR: 04/29/2016
Date Made Active in Reports: 06/21/2016
Number of Days to Update: 53

Source: Department of Toxic Substances Control
Telephone: 916-255-3628
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

Financial Assurance 2: Financial Assurance Information Listing

A listing of financial assurance information for solid waste facilities. Financial assurance is intended to ensure that resources are available to pay for the cost of closure, post-closure care, and corrective measures if the owner or operator of a regulated facility is unable or unwilling to pay.

Date of Government Version: 02/14/2017
Date Data Arrived at EDR: 02/17/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 97

Source: California Integrated Waste Management Board
Telephone: 916-341-6066
Last EDR Contact: 05/15/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: Varies

HAZNET: Facility and Manifest Data

Facility and Manifest Data. The data is extracted from the copies of hazardous waste manifests received each year by the DTSC. The annual volume of manifests is typically 700,000 - 1,000,000 annually, representing approximately 350,000 - 500,000 shipments. Data are from the manifests submitted without correction, and therefore many contain some invalid values for data elements such as generator ID, TSD ID, waste category, and disposal method. This database begins with calendar year 1993.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 10/12/2016
Date Made Active in Reports: 12/15/2016
Number of Days to Update: 64

Source: California Environmental Protection Agency
Telephone: 916-255-1136
Last EDR Contact: 04/14/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Annually

ICE: ICE

Contains data pertaining to the Permitted Facilities with Inspections / Enforcements sites tracked in Envirostor.

Date of Government Version: 11/21/2016
Date Data Arrived at EDR: 11/22/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 62

Source: Department of Toxic Subsances Control
Telephone: 877-786-9427
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Quarterly

HIST CORTESE: Hazardous Waste & Substance Site List

The sites for the list are designated by the State Water Resource Control Board [LUST], the Integrated Waste Board [SWF/LS], and the Department of Toxic Substances Control [CALSITES]. This listing is no longer updated by the state agency.

Date of Government Version: 04/01/2001
Date Data Arrived at EDR: 01/22/2009
Date Made Active in Reports: 04/08/2009
Number of Days to Update: 76

Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 01/22/2009
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

HWP: EnviroStor Permitted Facilities Listing
Detailed information on permitted hazardous waste facilities and corrective action ("cleanups") tracked in EnviroStor.

Date of Government Version: 11/21/2016
Date Data Arrived at EDR: 11/22/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 62
Source: Department of Toxic Substances Control
Telephone: 916-323-3400
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Quarterly

HWT: Registered Hazardous Waste Transporter Database
A listing of hazardous waste transporters. In California, unless specifically exempted, it is unlawful for any person to transport hazardous wastes unless the person holds a valid registration issued by DTSC. A hazardous waste transporter registration is valid for one year and is assigned a unique registration number.

Date of Government Version: 04/11/2017
Date Data Arrived at EDR: 04/13/2017
Date Made Active in Reports: 04/26/2017
Number of Days to Update: 13
Source: Department of Toxic Substances Control
Telephone: 916-440-7145
Last EDR Contact: 04/13/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Quarterly

MINES: Mines Site Location Listing
A listing of mine site locations from the Office of Mine Reclamation.

Date of Government Version: 09/12/2016
Date Data Arrived at EDR: 09/14/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 30
Source: Department of Conservation
Telephone: 916-322-1080
Last EDR Contact: 03/13/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Varies

MWMP: Medical Waste Management Program Listing
The Medical Waste Management Program (MWMP) ensures the proper handling and disposal of medical waste by permitting and inspecting medical waste Offsite Treatment Facilities (PDF) and Transfer Stations (PDF) throughout the state. MWMP also oversees all Medical Waste Transporters.

Date of Government Version: 12/02/2016
Date Data Arrived at EDR: 12/06/2016
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 86
Source: Department of Public Health
Telephone: 916-558-1784
Last EDR Contact: 03/07/2017
Next Scheduled EDR Contact: 06/19/2017
Data Release Frequency: Varies

NPDES: NPDES Permits Listing
A listing of NPDES permits, including stormwater.

Date of Government Version: 11/14/2016
Date Data Arrived at EDR: 11/15/2016
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 107
Source: State Water Resources Control Board
Telephone: 916-445-9379
Last EDR Contact: 05/17/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: Quarterly

PEST LIC: Pesticide Regulation Licenses Listing
A listing of licenses and certificates issued by the Department of Pesticide Regulation. The DPR issues licenses and/or certificates to: Persons and businesses that apply or sell pesticides; Pest control dealers and brokers; Persons who advise on agricultural pesticide applications.

Date of Government Version: 12/06/2016
Date Data Arrived at EDR: 12/06/2016
Date Made Active in Reports: 03/03/2017
Number of Days to Update: 87
Source: Department of Pesticide Regulation
Telephone: 916-445-4038
Last EDR Contact: 03/07/2017
Next Scheduled EDR Contact: 06/19/2017
Data Release Frequency: Quarterly

PROC: Certified Processors Database
A listing of certified processors.

Date of Government Version: 03/13/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 50
Source: Department of Conservation
Telephone: 916-323-3836
Last EDR Contact: 03/14/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

NOTIFY 65: Proposition 65 Records
Listings of all Proposition 65 incidents reported to counties by the State Water Resources Control Board and the Regional Water Quality Control Board. This database is no longer updated by the reporting agency.

Date of Government Version: 12/16/2016
Date Data Arrived at EDR: 12/22/2016
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 70
Source: State Water Resources Control Board
Telephone: 916-445-3846
Last EDR Contact: 04/03/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: No Update Planned

UIC: UIC Listing
A listing of wells identified as underground injection wells, in the California Oil and Gas Wells database.

Date of Government Version: 01/20/2017
Date Data Arrived at EDR: 03/14/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 50
Source: Deaprtment of Conservation
Telephone: 916-445-2408
Last EDR Contact: 03/14/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Varies

WASTEWATER PITS: Oil Wastewater Pits Listing
Water officials discovered that oil producers have been dumping chemical-laden wastewater into hundreds of unlined pits that are operating without proper permits. Inspections completed by the Central Valley Regional Water Quality Control Board revealed the existence of previously unidentified waste sites. The water board?s review found that more than one-third of the region?s active disposal pits are operating without permission.

Date of Government Version: 04/15/2015
Date Data Arrived at EDR: 04/17/2015
Date Made Active in Reports: 06/23/2015
Number of Days to Update: 67
Source: RWQCB, Central Valley Region
Telephone: 559-445-5577
Last EDR Contact: 04/14/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Varies

WDS: Waste Discharge System
Sites which have been issued waste discharge requirements.

Date of Government Version: 06/19/2007
Date Data Arrived at EDR: 06/20/2007
Date Made Active in Reports: 06/29/2007
Number of Days to Update: 9
Source: State Water Resources Control Board
Telephone: 916-341-5227
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Quarterly

WIP: Well Investigation Program Case List
Well Investigation Program case in the San Gabriel and San Fernando Valley area.

Date of Government Version: 07/03/2009
Date Data Arrived at EDR: 07/21/2009
Date Made Active in Reports: 08/03/2009
Number of Days to Update: 13
Source: Los Angeles Water Quality Control Board
Telephone: 213-576-6726
Last EDR Contact: 03/24/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Varies

GOVERNMENT RECORDS SEARCHED / DATA CURRENCY TRACKING

EDR HIGH RISK HISTORICAL RECORDS

EDR Exclusive Records

EDR MGP: EDR Proprietary Manufactured Gas Plants

The EDR Proprietary Manufactured Gas Plant Database includes records of coal gas plants (manufactured gas plants) compiled by EDR's researchers. Manufactured gas sites were used in the United States from the 1800's to 1950's to produce a gas that could be distributed and used as fuel. These plants used whale oil, rosin, coal, or a mixture of coal, oil, and water that also produced a significant amount of waste. Many of the byproducts of the gas production, such as coal tar (oily waste containing volatile and non-volatile chemicals), sludges, oils and other compounds are potentially hazardous to human health and the environment. The byproduct from this process was frequently disposed of directly at the plant site and can remain or spread slowly, serving as a continuous source of soil and groundwater contamination.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: No Update Planned

EDR Hist Auto: EDR Exclusive Historic Gas Stations

EDR has searched selected national collections of business directories and has collected listings of potential gas station/filling station/service station sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include gas station/filling station/service station establishments. The categories reviewed included, but were not limited to gas, gas station, gasoline station, filling station, auto, automobile repair, auto service station, service station, etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR Hist Cleaner: EDR Exclusive Historic Dry Cleaners

EDR has searched selected national collections of business directories and has collected listings of potential dry cleaner sites that were available to EDR researchers. EDR's review was limited to those categories of sources that might, in EDR's opinion, include dry cleaning establishments. The categories reviewed included, but were not limited to dry cleaners, cleaners, laundry, laundromat, cleaning/laundry, wash & dry etc. This database falls within a category of information EDR classifies as "High Risk Historical Records", or HRHR. EDR's HRHR effort presents unique and sometimes proprietary data about past sites and operations that typically create environmental concerns, but may not show up in current government records searches.

Date of Government Version: N/A
Date Data Arrived at EDR: N/A
Date Made Active in Reports: N/A
Number of Days to Update: N/A

Source: EDR, Inc.
Telephone: N/A
Last EDR Contact: N/A
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

EDR RECOVERED GOVERNMENT ARCHIVES

Exclusive Recovered Govt. Archives

RGA LF: Recovered Government Archive Solid Waste Facilities List

The EDR Recovered Government Archive Landfill database provides a list of landfills derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the Department of Resources Recycling and Recovery in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 01/13/2014
Number of Days to Update: 196

Source: Department of Resources Recycling and Recovery
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

RGA LUST: Recovered Government Archive Leaking Underground Storage Tank

The EDR Recovered Government Archive Leaking Underground Storage Tank database provides a list of LUST incidents derived from historical databases and includes many records that no longer appear in current government lists. Compiled from Records formerly available from the State Water Resources Control Board in California.

Date of Government Version: N/A
Date Data Arrived at EDR: 07/01/2013
Date Made Active in Reports: 12/30/2013
Number of Days to Update: 182

Source: State Water Resources Control Board
Telephone: N/A
Last EDR Contact: 06/01/2012
Next Scheduled EDR Contact: N/A
Data Release Frequency: Varies

COUNTY RECORDS

ALAMEDA COUNTY:

Contaminated Sites

A listing of contaminated sites overseen by the Toxic Release Program (oil and groundwater contamination from chemical releases and spills) and the Leaking Underground Storage Tank Program (soil and ground water contamination from leaking petroleum USTs).

Date of Government Version: 04/10/2017
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 31

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Semi-Annually

Underground Tanks

Underground storage tank sites located in Alameda county.

Date of Government Version: 04/10/2017
Date Data Arrived at EDR: 04/11/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 21

Source: Alameda County Environmental Health Services
Telephone: 510-567-6700
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 04/24/2047
Data Release Frequency: Semi-Annually

AMADOR COUNTY:

CUPA Facility List

Cupa Facility List

Date of Government Version: 03/06/2017
Date Data Arrived at EDR: 03/08/2017
Date Made Active in Reports: 04/14/2017
Number of Days to Update: 37

Source: Amador County Environmental Health
Telephone: 209-223-6439
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Varies

BUTTE COUNTY:

CUPA Facility Listing

Cupa facility list.

Date of Government Version: 01/31/2017
Date Data Arrived at EDR: 02/07/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 94

Source: Public Health Department
Telephone: 530-538-7149
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: No Update Planned

CALVERAS COUNTY:

CUPA Facility Listing
Cupa Facility Listing

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50

Source: Calveras County Environmental Health
Telephone: 209-754-6399
Last EDR Contact: 03/27/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Quarterly

COLUSA COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 02/23/2017
Date Data Arrived at EDR: 02/24/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 77

Source: Health & Human Services
Telephone: 530-458-0396
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Varies

CONTRA COSTA COUNTY:

Site List
List includes sites from the underground tank, hazardous waste generator and business plan/2185 programs.

Date of Government Version: 11/17/2016
Date Data Arrived at EDR: 11/22/2016
Date Made Active in Reports: 01/26/2017
Number of Days to Update: 65

Source: Contra Costa Health Services Department
Telephone: 925-646-2286
Last EDR Contact: 05/01/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Semi-Annually

DEL NORTE COUNTY:

CUPA Facility List
Cupa Facility list

Date of Government Version: 01/31/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 04/14/2017
Number of Days to Update: 70

Source: Del Norte County Environmental Health Division
Telephone: 707-465-0426
Last EDR Contact: 05/01/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

EL DORADO COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/24/2017
Date Data Arrived at EDR: 02/28/2017
Date Made Active in Reports: 05/12/2017
Number of Days to Update: 73

Source: El Dorado County Environmental Management Department
Telephone: 530-621-6623
Last EDR Contact: 05/01/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

FRESNO COUNTY:

CUPA Resources List

Certified Unified Program Agency. CUPA's are responsible for implementing a unified hazardous materials and hazardous waste management regulatory program. The agency provides oversight of businesses that deal with hazardous materials, operate underground storage tanks or aboveground storage tanks.

Date of Government Version: 04/06/2017
Date Data Arrived at EDR: 04/07/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 40

Source: Dept. of Community Health
Telephone: 559-445-3271
Last EDR Contact: 03/31/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Semi-Annually

GLENN COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 12/02/2016
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 111

Source: Glenn County Air Pollution Control District
Telephone: 830-934-6500
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

HUMBOLDT COUNTY:

CUPA Facility List

CUPA facility list.

Date of Government Version: 03/20/2017
Date Data Arrived at EDR: 03/21/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 57

Source: Humboldt County Environmental Health
Telephone: N/A
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

IMPERIAL COUNTY:

CUPA Facility List

Cupa facility list.

Date of Government Version: 01/23/2017
Date Data Arrived at EDR: 01/25/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 36

Source: San Diego Border Field Office
Telephone: 760-339-2777
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

INYO COUNTY:

CUPA Facility List
Cupa facility list.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/09/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 77

Source: Inyo County Environmental Health Services
Telephone: 760-878-0238
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

KERN COUNTY:

Underground Storage Tank Sites & Tank Listing
Kern County Sites and Tanks Listing.

Date of Government Version: 02/07/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 81

Source: Kern County Environment Health Services Department
Telephone: 661-862-8700
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

KINGS COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 03/06/2017
Date Data Arrived at EDR: 03/07/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 71

Source: Kings County Department of Public Health
Telephone: 559-584-1411
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

LAKE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/18/2017
Date Data Arrived at EDR: 01/20/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 41

Source: Lake County Environmental Health
Telephone: 707-263-1164
Last EDR Contact: 04/17/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Varies

LASSEN COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 11/30/2016
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 111

Source: Lassen County Environmental Health
Telephone: 530-251-8528
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

LOS ANGELES COUNTY:

San Gabriel Valley Areas of Concern
San Gabriel Valley areas where VOC contamination is at or above the MCL as designated by region 9 EPA office.

Date of Government Version: 03/30/2009
Date Data Arrived at EDR: 03/31/2009
Date Made Active in Reports: 10/23/2009
Number of Days to Update: 206
Source: EPA Region 9
Telephone: 415-972-3178
Last EDR Contact: 03/20/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: No Update Planned

HMS: Street Number List
Industrial Waste and Underground Storage Tank Sites.

Date of Government Version: 11/14/2016
Date Data Arrived at EDR: 11/18/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 66
Source: Department of Public Works
Telephone: 626-458-3517
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Semi-Annually

List of Solid Waste Facilities
Solid Waste Facilities in Los Angeles County.

Date of Government Version: 04/17/2017
Date Data Arrived at EDR: 04/18/2017
Date Made Active in Reports: 05/02/2017
Number of Days to Update: 14
Source: La County Department of Public Works
Telephone: 818-458-5185
Last EDR Contact: 04/18/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Varies

City of Los Angeles Landfills
Landfills owned and maintained by the City of Los Angeles.

Date of Government Version: 01/01/2016
Date Data Arrived at EDR: 01/26/2016
Date Made Active in Reports: 03/22/2016
Number of Days to Update: 56
Source: Engineering & Construction Division
Telephone: 213-473-7869
Last EDR Contact: 04/17/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Varies

Site Mitigation List
Industrial sites that have had some sort of spill or complaint.

Date of Government Version: 03/29/2016
Date Data Arrived at EDR: 04/06/2016
Date Made Active in Reports: 06/13/2016
Number of Days to Update: 68
Source: Community Health Services
Telephone: 323-890-7806
Last EDR Contact: 04/17/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Annually

City of El Segundo Underground Storage Tank
Underground storage tank sites located in El Segundo city.

Date of Government Version: 01/17/2017
Date Data Arrived at EDR: 01/18/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 112
Source: City of El Segundo Fire Department
Telephone: 310-524-2236
Last EDR Contact: 04/17/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Semi-Annually

City of Long Beach Underground Storage Tank
Underground storage tank sites located in the city of Long Beach.

Date of Government Version: 03/09/2017
Date Data Arrived at EDR: 03/10/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 54
Source: City of Long Beach Fire Department
Telephone: 562-570-2563
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Annually

City of Torrance Underground Storage Tank
Underground storage tank sites located in the city of Torrance.

Date of Government Version: 01/10/2017
Date Data Arrived at EDR: 01/13/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 110

Source: City of Torrance Fire Department
Telephone: 310-618-2973
Last EDR Contact: 04/10/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Semi-Annually

MADERA COUNTY:

CUPA Facility List
A listing of sites included in the county's Certified Unified Program Agency database. California's Secretary for Environmental Protection established the unified hazardous materials and hazardous waste regulatory program as required by chapter 6.11 of the California Health and Safety Code. The Unified Program consolidates the administration, permits, inspections, and enforcement activities.

Date of Government Version: 03/03/2017
Date Data Arrived at EDR: 03/07/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 71

Source: Madera County Environmental Health
Telephone: 559-675-7823
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

MARIN COUNTY:

Underground Storage Tank Sites
Currently permitted USTs in Marin County.

Date of Government Version: 03/31/2017
Date Data Arrived at EDR: 04/06/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 27

Source: Public Works Department Waste Management
Telephone: 415-499-6647
Last EDR Contact: 03/31/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Semi-Annually

MERCED COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/22/2017
Date Data Arrived at EDR: 02/23/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 83

Source: Merced County Environmental Health
Telephone: 209-381-1094
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

MONO COUNTY:

CUPA Facility List
CUPA Facility List

Date of Government Version: 02/21/2017
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 76

Source: Mono County Health Department
Telephone: 760-932-5580
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Varies

MONTEREY COUNTY:

CUPA Facility Listing
CUPA Program listing from the Environmental Health Division.

Date of Government Version: 06/24/2016
Date Data Arrived at EDR: 06/27/2016
Date Made Active in Reports: 08/09/2016
Number of Days to Update: 43
Source: Monterey County Health Department
Telephone: 831-796-1297
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

NAPA COUNTY:

Sites With Reported Contamination
A listing of leaking underground storage tank sites located in Napa county.

Date of Government Version: 01/09/2017
Date Data Arrived at EDR: 01/11/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 50
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: No Update Planned

Closed and Operating Underground Storage Tank Sites
Underground storage tank sites located in Napa county.

Date of Government Version: 03/15/2017
Date Data Arrived at EDR: 03/16/2017
Date Made Active in Reports: 05/09/2017
Number of Days to Update: 54
Source: Napa County Department of Environmental Management
Telephone: 707-253-4269
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: No Update Planned

NEVADA COUNTY:

CUPA Facility List
CUPA facility list.

Date of Government Version: 02/09/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 05/17/2017
Number of Days to Update: 96
Source: Community Development Agency
Telephone: 530-265-1467
Last EDR Contact: 05/01/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

ORANGE COUNTY:

List of Industrial Site Cleanups
Petroleum and non-petroleum spills.

Date of Government Version: 02/06/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 04/21/2017
Number of Days to Update: 70
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/08/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Annually

List of Underground Storage Tank Cleanups
Orange County Underground Storage Tank Cleanups (LUST).

Date of Government Version: 11/04/2016
Date Data Arrived at EDR: 11/11/2016
Date Made Active in Reports: 01/23/2017
Number of Days to Update: 73
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/08/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

List of Underground Storage Tank Facilities
Orange County Underground Storage Tank Facilities (UST).

Date of Government Version: 02/06/2017
Date Data Arrived at EDR: 02/07/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 85
Source: Health Care Agency
Telephone: 714-834-3446
Last EDR Contact: 05/09/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

PLACER COUNTY:

Master List of Facilities
List includes aboveground tanks, underground tanks and cleanup sites.

Date of Government Version: 09/02/2016
Date Data Arrived at EDR: 09/06/2016
Date Made Active in Reports: 10/14/2016
Number of Days to Update: 38
Source: Placer County Health and Human Services
Telephone: 530-745-2363
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Semi-Annually

PLUMAS COUNTY:

CUPA Facility List
Plumas County CUPA Program facilities.

Date of Government Version: 01/31/2017
Date Data Arrived at EDR: 02/03/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 111
Source: Plumas County Environmental Health
Telephone: 530-283-6355
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

RIVERSIDE COUNTY:

Listing of Underground Tank Cleanup Sites
Riverside County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 04/18/2017
Date Data Arrived at EDR: 04/20/2017
Date Made Active in Reports: 04/21/2017
Number of Days to Update: 1
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/20/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: Quarterly

Underground Storage Tank Tank List
Underground storage tank sites located in Riverside county.

Date of Government Version: 01/19/2017
Date Data Arrived at EDR: 01/25/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 98
Source: Department of Environmental Health
Telephone: 951-358-5055
Last EDR Contact: 03/20/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: Quarterly

SACRAMENTO COUNTY:

Toxic Site Clean-Up List
List of sites where unauthorized releases of potentially hazardous materials have occurred.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 56

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Quarterly

Master Hazardous Materials Facility List

Any business that has hazardous materials on site - hazardous material storage sites, underground storage tanks, waste generators.

Date of Government Version: 11/08/2016
Date Data Arrived at EDR: 01/05/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 56

Source: Sacramento County Environmental Management
Telephone: 916-875-8406
Last EDR Contact: 04/04/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Quarterly

SAN BENITO COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 11/30/2016
Date Data Arrived at EDR: 02/09/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 105

Source: San Benito County Environmental Health
Telephone: N/A
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Varies

SAN BERNARDINO COUNTY:

Hazardous Material Permits

This listing includes underground storage tanks, medical waste handlers/generators, hazardous materials handlers, hazardous waste generators, and waste oil generators/handlers.

Date of Government Version: 12/09/2016
Date Data Arrived at EDR: 12/13/2016
Date Made Active in Reports: 03/03/2017
Number of Days to Update: 80

Source: San Bernardino County Fire Department Hazardous Materials Division
Telephone: 909-387-3041
Last EDR Contact: 05/08/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

SAN DIEGO COUNTY:

Hazardous Materials Management Division Database

The database includes: HE58 - This report contains the business name, site address, business phone number, establishment 'H' permit number, type of permit, and the business status. HE17 - In addition to providing the same information provided in the HE58 listing, HE17 provides inspection dates, violations received by the establishment, hazardous waste generated, the quantity, method of storage, treatment/disposal of waste and the hauler, and information on underground storage tanks. Unauthorized Release List - Includes a summary of environmental contamination cases in San Diego County (underground tank cases, non-tank cases, groundwater contamination, and soil contamination are included.)

Date of Government Version: 10/05/2016
Date Data Arrived at EDR: 12/06/2016
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 86

Source: Hazardous Materials Management Division
Telephone: 619-338-2268
Last EDR Contact: 03/10/2017
Next Scheduled EDR Contact: 06/19/2017
Data Release Frequency: Quarterly

Solid Waste Facilities
San Diego County Solid Waste Facilities.

Date of Government Version: 10/31/2015
Date Data Arrived at EDR: 11/07/2015
Date Made Active in Reports: 01/04/2016
Number of Days to Update: 58
Source: Department of Health Services
Telephone: 619-338-2209
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

Environmental Case Listing
The listing contains all underground tank release cases and projects pertaining to properties contaminated with hazardous substances that are actively under review by the Site Assessment and Mitigation Program.

Date of Government Version: 03/23/2010
Date Data Arrived at EDR: 06/15/2010
Date Made Active in Reports: 07/09/2010
Number of Days to Update: 24
Source: San Diego County Department of Environmental Health
Telephone: 619-338-2371
Last EDR Contact: 06/05/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: No Update Planned

SAN FRANCISCO COUNTY:

Local Oversite Facilities
A listing of leaking underground storage tank sites located in San Francisco county.

Date of Government Version: 09/19/2008
Date Data Arrived at EDR: 09/19/2008
Date Made Active in Reports: 09/29/2008
Number of Days to Update: 10
Source: Department Of Public Health San Francisco County
Telephone: 415-252-3920
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

Underground Storage Tank Information
Underground storage tank sites located in San Francisco county.

Date of Government Version: 02/28/2017
Date Data Arrived at EDR: 03/02/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 62
Source: Department of Public Health
Telephone: 415-252-3920
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Quarterly

SAN JOAQUIN COUNTY:

San Joaquin Co. UST
A listing of underground storage tank locations in San Joaquin county.

Date of Government Version: 03/21/2017
Date Data Arrived at EDR: 03/23/2017
Date Made Active in Reports: 05/09/2017
Number of Days to Update: 47
Source: Environmental Health Department
Telephone: N/A
Last EDR Contact: 03/20/2017
Next Scheduled EDR Contact: 07/03/2017
Data Release Frequency: Semi-Annually

SAN LUIS OBISPO COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 02/21/2017
Date Data Arrived at EDR: 02/21/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 91
Source: San Luis Obispo County Public Health Department
Telephone: 805-781-5596
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

SAN MATEO COUNTY:

Business Inventory
List includes Hazardous Materials Business Plan, hazardous waste generators, and underground storage tanks.

Date of Government Version: 03/15/2017
Date Data Arrived at EDR: 04/07/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 33
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/09/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Annually

Fuel Leak List
A listing of leaking underground storage tank sites located in San Mateo county.

Date of Government Version: 03/15/2017
Date Data Arrived at EDR: 04/07/2017
Date Made Active in Reports: 04/21/2017
Number of Days to Update: 14
Source: San Mateo County Environmental Health Services Division
Telephone: 650-363-1921
Last EDR Contact: 03/27/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Semi-Annually

SANTA BARBARA COUNTY:

CUPA Facility Listing
CUPA Program Listing from the Environmental Health Services division.

Date of Government Version: 09/08/2011
Date Data Arrived at EDR: 09/09/2011
Date Made Active in Reports: 10/07/2011
Number of Days to Update: 28
Source: Santa Barbara County Public Health Department
Telephone: 805-686-8167
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

SANTA CLARA COUNTY:

Cupa Facility List
Cupa facility list

Date of Government Version: 02/22/2017
Date Data Arrived at EDR: 02/23/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 89
Source: Department of Environmental Health
Telephone: 408-918-1973
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

HIST LUST - Fuel Leak Site Activity Report
A listing of open and closed leaking underground storage tanks. This listing is no longer updated by the county. Leaking underground storage tanks are now handled by the Department of Environmental Health.

Date of Government Version: 03/29/2005
Date Data Arrived at EDR: 03/30/2005
Date Made Active in Reports: 04/21/2005
Number of Days to Update: 22
Source: Santa Clara Valley Water District
Telephone: 408-265-2600
Last EDR Contact: 03/23/2009
Next Scheduled EDR Contact: 06/22/2009
Data Release Frequency: No Update Planned

LOP Listing
A listing of leaking underground storage tanks located in Santa Clara county.

Date of Government Version: 03/03/2014
Date Data Arrived at EDR: 03/05/2014
Date Made Active in Reports: 03/18/2014
Number of Days to Update: 13
Source: Department of Environmental Health
Telephone: 408-918-3417
Last EDR Contact: 05/24/2017
Next Scheduled EDR Contact: 09/11/2017
Data Release Frequency: Annually

Hazardous Material Facilities
Hazardous material facilities, including underground storage tank sites.

Date of Government Version: 11/07/2016
Date Data Arrived at EDR: 11/10/2016
Date Made Active in Reports: 01/24/2017
Number of Days to Update: 75

Source: City of San Jose Fire Department
Telephone: 408-535-7694
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Annually

SANTA CRUZ COUNTY:

CUPA Facility List
CUPA facility listing.

Date of Government Version: 01/21/2017
Date Data Arrived at EDR: 02/22/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 90

Source: Santa Cruz County Environmental Health
Telephone: 831-464-2761
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

SHASTA COUNTY:

CUPA Facility List
Cupa Facility List.

Date of Government Version: 03/14/2017
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 67

Source: Shasta County Department of Resource Management
Telephone: 530-225-5789
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Varies

SOLANO COUNTY:

Leaking Underground Storage Tanks
A listing of leaking underground storage tank sites located in Solano county.

Date of Government Version: 11/29/2016
Date Data Arrived at EDR: 12/21/2016
Date Made Active in Reports: 12/22/2016
Number of Days to Update: 1

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/09/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

Underground Storage Tanks
Underground storage tank sites located in Solano county.

Date of Government Version: 03/15/2017
Date Data Arrived at EDR: 03/17/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 47

Source: Solano County Department of Environmental Management
Telephone: 707-784-6770
Last EDR Contact: 03/09/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

SONOMA COUNTY:

Cupa Facility List
Cupa Facility list

Date of Government Version: 03/01/2017
Date Data Arrived at EDR: 03/30/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 54

Source: County of Sonoma Fire & Emergency Services Department
Telephone: 707-565-1174
Last EDR Contact: 03/27/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Varies

Leaking Underground Storage Tank Sites

A listing of leaking underground storage tank sites located in Sonoma county.

Date of Government Version: 01/04/2017
Date Data Arrived at EDR: 01/06/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 55

Source: Department of Health Services
Telephone: 707-565-6565
Last EDR Contact: 03/27/2017
Next Scheduled EDR Contact: 07/10/2017
Data Release Frequency: Quarterly

STANISLAUS COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/20/2017
Date Data Arrived at EDR: 01/24/2017
Date Made Active in Reports: 05/18/2017
Number of Days to Update: 114

Source: Stanislaus County Department of Ennvironmental Protection
Telephone: 209-525-6751
Last EDR Contact: 11/30/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Varies

SUTTER COUNTY:

Underground Storage Tanks

Underground storage tank sites located in Sutter county.

Date of Government Version: 12/02/2016
Date Data Arrived at EDR: 12/06/2016
Date Made Active in Reports: 01/10/2017
Number of Days to Update: 35

Source: Sutter County Department of Agriculture
Telephone: 530-822-7500
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 09/18/2017
Data Release Frequency: Semi-Annually

TEHAMA COUNTY:

CUPA Facility List

Cupa facilities

Date of Government Version: 01/05/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 104

Source: Tehama County Department of Environmental Health
Telephone: 530-527-8020
Last EDR Contact: 05/05/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Varies

TRINITY COUNTY:

CUPA Facility List

Cupa facility list

Date of Government Version: 01/23/2017
Date Data Arrived at EDR: 01/25/2017
Date Made Active in Reports: 05/18/2017
Number of Days to Update: 113

Source: Department of Toxic Substances Control
Telephone: 760-352-0381
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

TULARE COUNTY:

CUPA Facility List
Cupa program facilities

Date of Government Version: 01/05/2017
Date Data Arrived at EDR: 02/10/2017
Date Made Active in Reports: 05/25/2017
Number of Days to Update: 104

Source: Tulare County Environmental Health Services Division
Telephone: 559-624-7400
Last EDR Contact: 06/02/2017
Next Scheduled EDR Contact: 08/21/2017
Data Release Frequency: Varies

TUOLUMNE COUNTY:

CUPA Facility List
Cupa facility list

Date of Government Version: 01/25/2017
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 03/02/2017
Number of Days to Update: 34

Source: Divison of Environmental Health
Telephone: 209-533-5633
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Varies

VENTURA COUNTY:

Business Plan, Hazardous Waste Producers, and Operating Underground Tanks
The BWT list indicates by site address whether the Environmental Health Division has Business Plan (B), Waste Producer (W), and/or Underground Tank (T) information.

Date of Government Version: 12/27/2016
Date Data Arrived at EDR: 01/27/2017
Date Made Active in Reports: 05/10/2017
Number of Days to Update: 103

Source: Ventura County Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Quarterly

Inventory of Illegal Abandoned and Inactive Sites
Ventura County Inventory of Closed, Illegal Abandoned, and Inactive Sites.

Date of Government Version: 12/01/2011
Date Data Arrived at EDR: 12/01/2011
Date Made Active in Reports: 01/19/2012
Number of Days to Update: 49

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/31/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Annually

Listing of Underground Tank Cleanup Sites
Ventura County Underground Storage Tank Cleanup Sites (LUST).

Date of Government Version: 05/29/2008
Date Data Arrived at EDR: 06/24/2008
Date Made Active in Reports: 07/31/2008
Number of Days to Update: 37

Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 05/15/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: Quarterly

Medical Waste Program List
To protect public health and safety and the environment from potential exposure to disease causing agents, the Environmental Health Division Medical Waste Program regulates the generation, handling, storage, treatment and disposal of medical waste throughout the County.

Date of Government Version: 09/26/2016
Date Data Arrived at EDR: 10/27/2016
Date Made Active in Reports: 01/24/2017
Number of Days to Update: 89

Source: Ventura County Resource Management Agency
Telephone: 805-654-2813
Last EDR Contact: 04/24/2017
Next Scheduled EDR Contact: 08/07/2017
Data Release Frequency: Quarterly

Underground Tank Closed Sites List
Ventura County Operating Underground Storage Tank Sites (UST)/Underground Tank Closed Sites List.

Date of Government Version: 02/27/2017
Date Data Arrived at EDR: 03/15/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 49
Source: Environmental Health Division
Telephone: 805-654-2813
Last EDR Contact: 03/15/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Quarterly

YOLO COUNTY:

Underground Storage Tank Comprehensive Facility Report
Underground storage tank sites located in Yolo county.

Date of Government Version: 03/31/2017
Date Data Arrived at EDR: 04/06/2017
Date Made Active in Reports: 05/03/2017
Number of Days to Update: 27
Source: Yolo County Department of Health
Telephone: 530-666-8646
Last EDR Contact: 03/31/2017
Next Scheduled EDR Contact: 07/17/2017
Data Release Frequency: Annually

YUBA COUNTY:

CUPA Facility List
CUPA facility listing for Yuba County.

Date of Government Version: 01/30/2017
Date Data Arrived at EDR: 01/31/2017
Date Made Active in Reports: 05/23/2017
Number of Days to Update: 112
Source: Yuba County Environmental Health Department
Telephone: 530-749-7523
Last EDR Contact: 05/01/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Varies

OTHER DATABASE(S)

Depending on the geographic area covered by this report, the data provided in these specialty databases may or may not be complete. For example, the existence of wetlands information data in a specific report does not mean that all wetlands in the area covered by the report are included. Moreover, the absence of any reported wetlands information does not necessarily mean that wetlands do not exist in the area covered by the report.

CT MANIFEST: Hazardous Waste Manifest Data
Facility and manifest data. Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a tsd facility.

Date of Government Version: 07/30/2013
Date Data Arrived at EDR: 08/19/2013
Date Made Active in Reports: 10/03/2013
Number of Days to Update: 45
Source: Department of Energy & Environmental Protection
Telephone: 860-424-3375
Last EDR Contact: 05/15/2017
Next Scheduled EDR Contact: 08/28/2017
Data Release Frequency: No Update Planned

NJ MANIFEST: Manifest Information
Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 09/29/2016
Date Made Active in Reports: 01/03/2017
Number of Days to Update: 96
Source: Department of Environmental Protection
Telephone: N/A
Last EDR Contact: 04/11/2017
Next Scheduled EDR Contact: 07/24/2017
Data Release Frequency: Annually

NY MANIFEST: Facility and Manifest Data

Manifest is a document that lists and tracks hazardous waste from the generator through transporters to a TSD facility.

Date of Government Version: 01/30/2017
Date Data Arrived at EDR: 02/01/2017
Date Made Active in Reports: 02/13/2017
Number of Days to Update: 12

Source: Department of Environmental Conservation
Telephone: 518-402-8651
Last EDR Contact: 05/03/2017
Next Scheduled EDR Contact: 08/14/2017
Data Release Frequency: Annually

PA MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 07/22/2016
Date Made Active in Reports: 11/22/2016
Number of Days to Update: 123

Source: Department of Environmental Protection
Telephone: 717-783-8990
Last EDR Contact: 04/18/2017
Next Scheduled EDR Contact: 07/31/2017
Data Release Frequency: Annually

RI MANIFEST: Manifest information

Hazardous waste manifest information

Date of Government Version: 12/31/2013
Date Data Arrived at EDR: 06/19/2015
Date Made Active in Reports: 07/15/2015
Number of Days to Update: 26

Source: Department of Environmental Management
Telephone: 401-222-2797
Last EDR Contact: 05/22/2017
Next Scheduled EDR Contact: 09/04/2017
Data Release Frequency: Annually

WI MANIFEST: Manifest Information

Hazardous waste manifest information.

Date of Government Version: 12/31/2015
Date Data Arrived at EDR: 04/14/2016
Date Made Active in Reports: 06/03/2016
Number of Days to Update: 50

Source: Department of Natural Resources
Telephone: N/A
Last EDR Contact: 03/13/2017
Next Scheduled EDR Contact: 06/26/2017
Data Release Frequency: Annually

Oil/Gas Pipelines

Source: PennWell Corporation

Petroleum Bundle (Crude Oil, Refined Products, Petrochemicals, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)) N = Natural Gas Bundle (Natural Gas, Gas Liquids (LPG/NGL), and Specialty Gases (Miscellaneous)). This map includes information copyrighted by PennWell Corporation. This information is provided on a best effort basis and PennWell Corporation does not guarantee its accuracy nor warrant its fitness for any particular purpose. Such information has been reprinted with the permission of PennWell.

Electric Power Transmission Line Data

Source: PennWell Corporation

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Sensitive Receptors: There are individuals deemed sensitive receptors due to their fragile immune systems and special sensitivity to environmental discharges. These sensitive receptors typically include the elderly, the sick, and children. While the location of all sensitive receptors cannot be determined, EDR indicates those buildings and facilities - schools, daycares, hospitals, medical centers, and nursing homes - where individuals who are sensitive receptors are likely to be located.

AHA Hospitals:

Source: American Hospital Association, Inc.
Telephone: 312-280-5991

The database includes a listing of hospitals based on the American Hospital Association's annual survey of hospitals.

Medical Centers: Provider of Services Listing

Source: Centers for Medicare & Medicaid Services
Telephone: 410-786-3000

A listing of hospitals with Medicare provider number, produced by Centers of Medicare & Medicaid Services, a federal agency within the U.S. Department of Health and Human Services.

Nursing Homes
Source: National Institutes of Health
Telephone: 301-594-6248
Information on Medicare and Medicaid certified nursing homes in the United States.

Public Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on elementary and secondary public education in the United States. It is a comprehensive, annual, national statistical database of all public elementary and secondary schools and school districts, which contains data that are comparable across all states.

Private Schools
Source: National Center for Education Statistics
Telephone: 202-502-7300
The National Center for Education Statistics' primary database on private school locations in the United States.

Daycare Centers: Licensed Facilities
Source: Department of Social Services
Telephone: 916-657-4041

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

STREET AND ADDRESS INFORMATION

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GEOCHECK ®- PHYSICAL SETTING SOURCE ADDENDUM

TARGET PROPERTY ADDRESS

ALEXAN MONROVIA
1625 S. MAGNOLIA AVENUE
MONROVIA, CA 91016

TARGET PROPERTY COORDINATES

Latitude (North):	34.134246 - 34° 8' 3.29''
Longitude (West):	118.005792 - 118° 0' 20.85''
Universal Tranverse Mercator:	Zone 11
UTM X (Meters):	407259.8
UTM Y (Meters):	3777303.0
Elevation:	438 ft. above sea level

USGS TOPOGRAPHIC MAP

Target Property Map:	5636853 MOUNT WILSON, CA
Version Date:	2012
Northeast Map:	5630601 AZUSA, CA
Version Date:	2012
Southeast Map:	5619056 BALDWIN PARK, CA
Version Date:	2012
Southwest Map:	5630799 EL MONTE, CA
Version Date:	2012

EDR's GeoCheck Physical Setting Source Addendum is provided to assist the environmental professional in forming an opinion about the impact of potential contaminant migration.

Assessment of the impact of contaminant migration generally has two principal investigative components:

1. Groundwater flow direction, and
2. Groundwater flow velocity.

Groundwater flow direction may be impacted by surface topography, hydrology, hydrogeology, characteristics of the soil, and nearby wells. Groundwater flow velocity is generally impacted by the nature of the geologic strata.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW DIRECTION INFORMATION

Groundwater flow direction for a particular site is best determined by a qualified environmental professional using site-specific well data. If such data is not reasonably ascertainable, it may be necessary to rely on other sources of information, such as surface topographic information, hydrologic information, hydrogeologic data collected on nearby properties, and regional groundwater flow information (from deep aquifers).

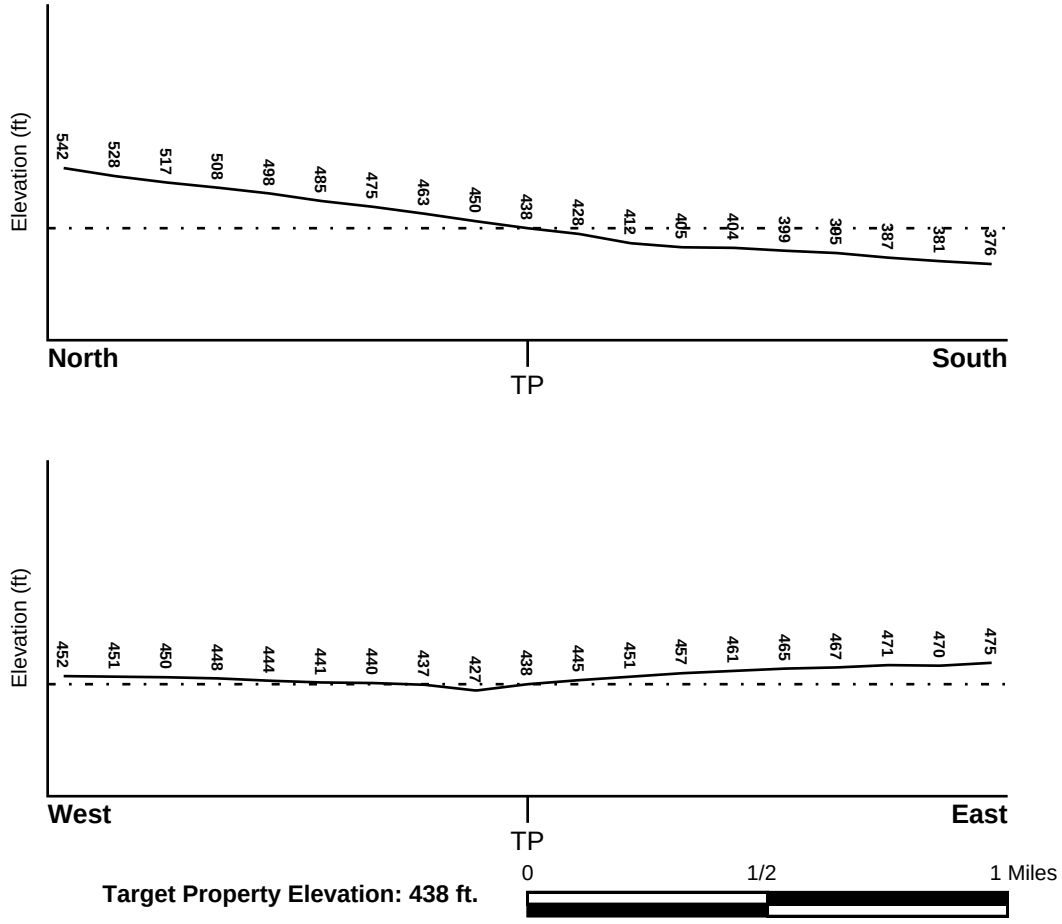
TOPOGRAPHIC INFORMATION

Surface topography may be indicative of the direction of surficial groundwater flow. This information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

TARGET PROPERTY TOPOGRAPHY

General Topographic Gradient: General SSW

SURROUNDING TOPOGRAPHY: ELEVATION PROFILES



Source: Topography has been determined from the USGS 7.5' Digital Elevation Model and should be evaluated on a relative (not an absolute) basis. Relative elevation information between sites of close proximity should be field verified.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

HYDROLOGIC INFORMATION

Surface water can act as a hydrologic barrier to groundwater flow. Such hydrologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Refer to the Physical Setting Source Map following this summary for hydrologic information (major waterways and bodies of water).

FEMA FLOOD ZONE

Flood Plain Panel at Target Property	FEMA Source Type
06037C1400F	FEMA FIRM Flood data

Additional Panels in search area:	FEMA Source Type
06037C1415F	FEMA FIRM Flood data
06037C1675F	FEMA FIRM Flood data
06037C1700F	FEMA FIRM Flood data

NATIONAL WETLAND INVENTORY

NWI Quad at Target Property	NWI Electronic Data Coverage
MOUNT WILSON	YES - refer to the Overview Map and Detail Map

HYDROGEOLOGIC INFORMATION

Hydrogeologic information obtained by installation of wells on a specific site can often be an indicator of groundwater flow direction in the immediate area. Such hydrogeologic information can be used to assist the environmental professional in forming an opinion about the impact of nearby contaminated properties or, should contamination exist on the target property, what downgradient sites might be impacted.

Site-Specific Hydrogeological Data*:

Search Radius:	1.25 miles
Status:	Not found

AQUIFLOW®

Search Radius: 1.000 Mile.

EDR has developed the AQUIFLOW Information System to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted by environmental professionals to regulatory authorities at select sites and has extracted the date of the report, groundwater flow direction as determined hydrogeologically, and the depth to water table.

MAP ID	LOCATION FROM TP	GENERAL DIRECTION GROUNDWATER FLOW
Not Reported		

* ©1996 Site−specific hydrogeological data gathered by CERCLIS Alerts, Inc., Bainbridge Island, WA. All rights reserved. All of the information and opinions presented are those of the cited EPA report(s), which were completed under a Comprehensive Environmental Response Compensation and Liability Information System (CERCLIS) investigation.

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

GROUNDWATER FLOW VELOCITY INFORMATION

Groundwater flow velocity information for a particular site is best determined by a qualified environmental professional using site specific geologic and soil strata data. If such data are not reasonably ascertainable, it may be necessary to rely on other sources of information, including geologic age identification, rock stratigraphic unit and soil characteristics data collected on nearby properties and regional soil information. In general, contaminant plumes move more quickly through sandy-gravelly types of soils than silty-clayey types of soils.

GEOLOGIC INFORMATION IN GENERAL AREA OF TARGET PROPERTY

Geologic information can be used by the environmental professional in forming an opinion about the relative speed at which contaminant migration may be occurring.

ROCK STRATIGRAPHIC UNIT

Era:	Cenozoic
System:	Quaternary
Series:	Quaternary
Code:	Q *(decoded above as Era, System & Series)*

GEOLOGIC AGE IDENTIFICATION

Category: Stratifed Sequence

Geologic Age and Rock Stratigraphic Unit Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - a digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

DOMINANT SOIL COMPOSITION IN GENERAL AREA OF TARGET PROPERTY

The U.S. Department of Agriculture's (USDA) Soil Conservation Service (SCS) leads the National Cooperative Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps. The following information is based on Soil Conservation Service STATSGO data.

Soil Component Name: URBAN LAND

Soil Surface Texture: variable

Hydrologic Group: Not reported

Soil Drainage Class: Not reported

Hydric Status: Soil does not meet the requirements for a hydric soil.

Corrosion Potential - Uncoated Steel: Not Reported

Depth to Bedrock Min: > 10 inches

Depth to Bedrock Max: > 10 inches

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

Soil Layer Information							
	Boundary			Classification			
Layer	Upper	Lower	Soil Texture Class	AASHTO Group	Unified Soil	Permeability Rate (in/hr)	Soil Reaction (pH)
1	0 inches	6 inches	variable	Not reported	Not reported	Max: 0.00 Min: 0.00	Max: 0.00 Min: 0.00

OTHER SOIL TYPES IN AREA

Based on Soil Conservation Service STATSGO data, the following additional subordinant soil types may appear within the general area of target property.

Soil Surface Textures:
sandy loam
gravelly - sandy loam
silt loam
clay
fine sand
gravelly - sand
sand
fine sandy loam

Surficial Soil Types:
sandy loam
gravelly - sandy loam
silt loam
clay
fine sand
gravelly - sand
sand
fine sandy loam

Shallow Soil Types:
fine sandy loam
gravelly - loam
sandy clay
sandy clay loam
clay
silty clay
sand

Deeper Soil Types:
gravelly - sandy loam
sandy loam
very gravelly - sandy loam
stratified
very fine sandy loam
weathered bedrock
sand
gravelly - fine sandy loam
silty clay loam
clay loam

GEOCHECK® - PHYSICAL SETTING SOURCE SUMMARY

LOCAL / REGIONAL WATER AGENCY RECORDS

EDR Local/Regional Water Agency records provide water well information to assist the environmental professional in assessing sources that may impact ground water flow direction, and in forming an opinion about the impact of contaminant migration on nearby drinking water wells.

WELL SEARCH DISTANCE INFORMATION

DATABASE	SEARCH DISTANCE (miles)
Federal USGS	1.000
Federal FRDS PWS	Nearest PWS within 0.001 miles
State Database	1.000

FEDERAL USGS WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
3	USGS40000141627	1/2 - 1 Mile South

FEDERAL FRDS PUBLIC WATER SUPPLY SYSTEM INFORMATION

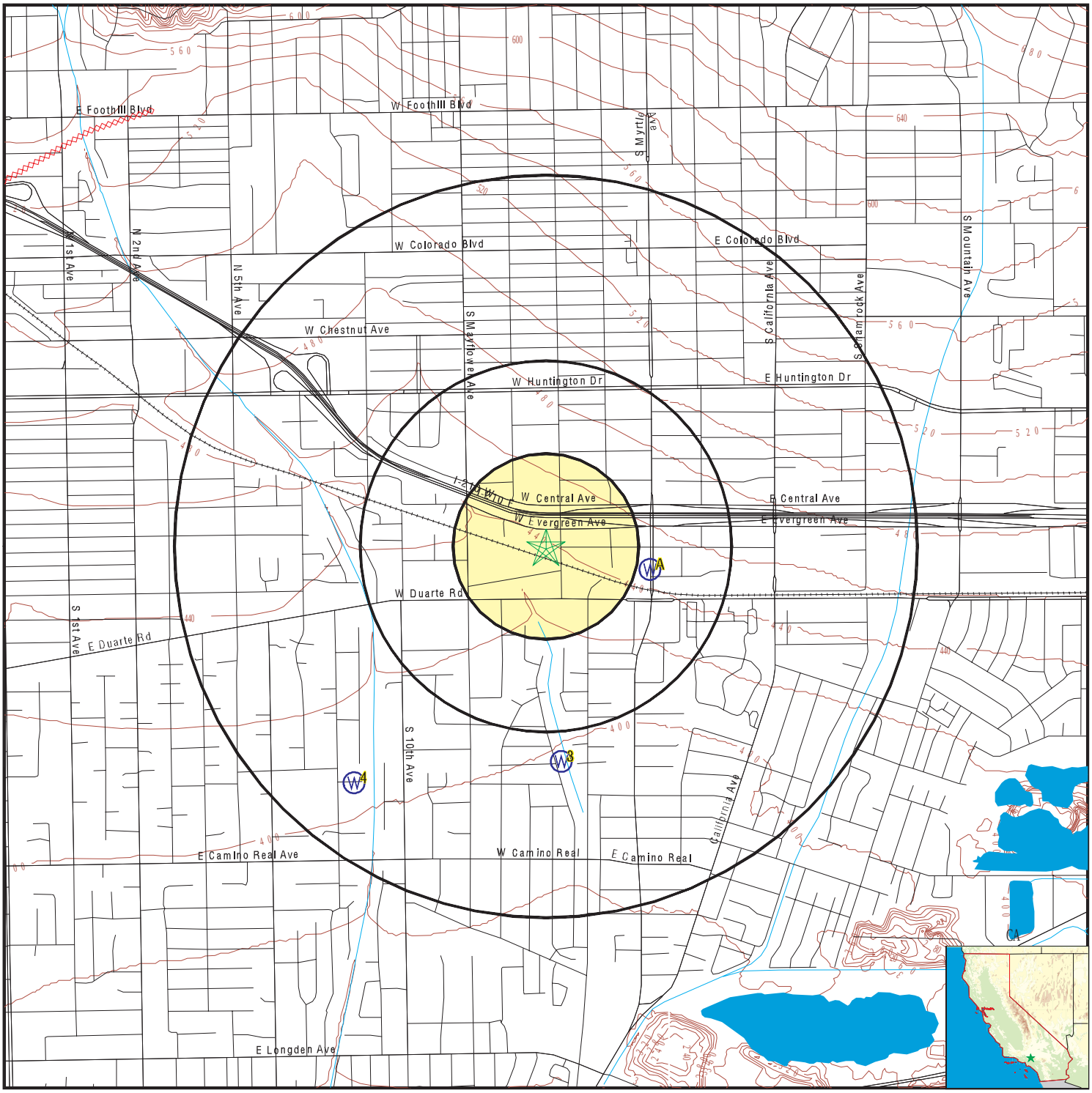
MAP ID	WELL ID	LOCATION FROM TP
No PWS System Found		

Note: PWS System location is not always the same as well location.

STATE DATABASE WELL INFORMATION

MAP ID	WELL ID	LOCATION FROM TP
A1	436	1/4 - 1/2 Mile ESE
A2	435	1/4 - 1/2 Mile ESE
4	1339	1/2 - 1 Mile SW

PHYSICAL SETTING SOURCE MAP - 4958658.2s



0 1/4 1/2 1 Miles

- County Boundary
- Major Roads
- Contour Lines
- Earthquake Fault Lines
- Earthquake epicenter, Richter 5 or greater
- Water Wells
- Public Water Supply Wells
- Cluster of Multiple Icons
- Groundwater Flow Direction
- GI Indeterminate Groundwater Flow at Location
- GV Groundwater Flow Varies at Location
- HD Closest Hydrogeological Data
- Oil, gas or related wells

SITE NAME:	Alexan Monrovia	CLIENT:	Frey Environmental
ADDRESS:	1625 S. Magnolia Avenue Monrovia CA 91016	CONTACT:	Ed Rands
		INQUIRY #:	4958658.2s
LAT/LONG:	34.134246 / 118.005792	DATE:	June 06, 2017 11:50 pm

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GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS

Map ID
Direction
Distance
Elevation | Database | EDR ID Number

A1
ESE **CA WELLS** **436**
1/4 - 1/2 Mile
Higher

Water System Information:

Prime Station Code:	01N/11W-35L02 S	User ID:	MET
FRDS Number:	1910212010	County:	Los Angeles
District Number:	15	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Inactive Raw
Source Lat/Long:	340800.0 1180000.0	Precision:	Undefined
Source Name:	GRAYDON WELL 02 - INACTIVE, HIGH NO3		
System Number:	1910212		
System Name:	SCWC-SOUTH ARCADIA		
Organization That Operates System:			
	P.O. BOX 9016		
	SAN DIMAS, CA 91773		
Pop Served:	23034	Connections:	6980
Area Served:	Not Reported		

A2
ESE **CA WELLS** **435**
1/4 - 1/2 Mile
Higher

Water System Information:

Prime Station Code:	01N/11W-35L01 S	User ID:	MET
FRDS Number:	1910212009	County:	Los Angeles
District Number:	15	Station Type:	WELL/AMBNT/MUN/INTAKE/SUPPLY
Water Type:	Well/Groundwater	Well Status:	Inactive Raw
Source Lat/Long:	340800.0 1180000.0	Precision:	Undefined
Source Name:	GRAYDON WELL 01 - INACTIVE, HIGH NO3		
System Number:	1910212		
System Name:	SCWC-SOUTH ARCADIA		
Organization That Operates System:			
	P.O. BOX 9016		
	SAN DIMAS, CA 91773		
Pop Served:	23034	Connections:	6980
Area Served:	Not Reported		

3
South **FED USGS** **USGS40000141627**
1/2 - 1 Mile
Lower

Org. Identifier:	USGS-CA		
Formal name:	USGS California Water Science Center		
Monloc Identifier:	USGS-340733118001501		
Monloc name:	001S011W02C001S		
Monloc type:	Well		
Monloc desc:	Not Reported		
Huc code:	18070106	Drainagearea value:	Not Reported
Drainagearea Units:	Not Reported	Contrib drainagearea:	Not Reported
Contrib drainagearea units:	Not Reported	Latitude:	34.1258407
Longitude:	-118.005066	Sourcemap scale:	24000

Horiz Acc measure:	1	Horiz Acc measure units:	seconds
Horiz Collection method:	Interpolated from map		
Horiz coord refsys:	NAD83	Vert measure val:	Not Reported
Vert measure units:	Not Reported	Vertacc measure val:	Not Reported
Vert accmeasure units:	Not Reported		
Vertcollection method:	Not Reported		
Vert coord refsys:	Not Reported	Countrycode:	US
Aquifername:	California Coastal Basin aquifers		
Formation type:	Not Reported		
Aquifer type:	Not Reported		
Construction date:	Not Reported	Welldepth:	654
Welldepth units:	ft	Wellholedepth:	654
Wellholedepth units:	ft		

Ground-water levels, Number of Measurements: 0

4
SW **CA WELLS** **1339**
1/2 - 1 Mile
Lower

Water System Information:

Prime Station Code:	01S/11W-03G07 S	User ID:	4TH
FRDS Number:	1910003007	County:	Los Angeles
District Number:	07	Station Type:	WELL/AMBNT/MUN/INTAKE
Water Type:	Well/Groundwater	Well Status:	Active Raw
Source Lat/Long:	340730.0 1180050.0	Precision:	1,000 Feet (10 Seconds)
Source Name:	LIVE OAK WELL		
System Number:	1910003		
System Name:	ARCADIA-CITY, WATER DIVISION		
Organization That Operates System:			
	240 W HUNTINGTON DRIVE ARCADIA, CA 91006		
Pop Served:	48290	Connections:	12901
Area Served:	ARCADIA		
Sample Collected:	01-SEP-11	Findings:	1.2 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	12-MAR-12	Findings:	0.9 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	11-JUN-12	Findings:	1.1 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	11-JUN-12	Findings:	13. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04-SEP-12	Findings:	1.3 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	04-SEP-12	Findings:	280. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	03-DEC-12	Findings:	1.1 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	05-MAR-13	Findings:	1.9 UG/L
Chemical:	TRICHLOROETHYLENE		

Sample Collected:	11-JUN-13	Findings:	22. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	11-JUN-13	Findings:	2.5 PCI/L
Chemical:	URANIUM (PCI/L)		
Sample Collected:	11-JUN-13	Findings:	2. UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	11-JUN-13	Findings:	23. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	05-SEP-13	Findings:	2.2 UG/L
Chemical:	CHROMIUM, HEXAVALENT		
Sample Collected:	05-SEP-13	Findings:	1.4 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	05-SEP-13	Findings:	290. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	02-DEC-13	Findings:	2.6 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	13-JAN-14	Findings:	3. UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	13-JAN-14	Findings:	26. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	19-MAY-14	Findings:	3.3 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	19-MAY-14	Findings:	29. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	28-MAY-14	Findings:	0.48 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	28-MAY-14	Findings:	0.56 UG/L
Chemical:	TETRACHLOROETHYLENE		
Sample Collected:	28-MAY-14	Findings:	2.9 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	28-MAY-14	Findings:	26. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10-JUN-14	Findings:	0.462 PCI/L
Chemical:	RADIUM 228 COUNTING ERROR		
Sample Collected:	10-JUN-14	Findings:	0.253 PCI/L
Chemical:	RADIUM 228 MDA95		
Sample Collected:	10-JUN-14	Findings:	0.156 PCI/L
Chemical:	RA-226 OR TOTAL RA BY 903.0 C.E.		
Sample Collected:	10-JUN-14	Findings:	0.363 PCI/L
Chemical:	RADIUM, TOTAL, MDA95-NTNC ONLY, BY 903.0		
Sample Collected:	10-JUN-14	Findings:	490. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	10-JUN-14	Findings:	7.66
Chemical:	PH, LABORATORY		

Sample Collected:	10-JUN-14	Findings:	190. MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	10-JUN-14	Findings:	240. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	10-JUN-14	Findings:	210. MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	10-JUN-14	Findings:	58. MG/L
Chemical:	CALCIUM		
Sample Collected:	10-JUN-14	Findings:	15. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	10-JUN-14	Findings:	18. MG/L
Chemical:	SODIUM		
Sample Collected:	10-JUN-14	Findings:	2.1 MG/L
Chemical:	POTASSIUM		
Sample Collected:	10-JUN-14	Findings:	18. MG/L
Chemical:	CHLORIDE		
Sample Collected:	10-JUN-14	Findings:	31. MG/L
Chemical:	SULFATE		
Sample Collected:	10-JUN-14	Findings:	0.47 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	10-JUN-14	Findings:	0.225 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	10-JUN-14	Findings:	2.4 PCI/L
Chemical:	URANIUM (PCI/L)		
Sample Collected:	10-JUN-14	Findings:	5.5e-002 MG/L
Chemical:	FOAMING AGENTS (MBAS)		
Sample Collected:	10-JUN-14	Findings:	2.2 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	10-JUN-14	Findings:	300. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	10-JUN-14	Findings:	0.803
Chemical:	LANGELIER INDEX @ 60 C		
Sample Collected:	10-JUN-14	Findings:	0.264
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	10-JUN-14	Findings:	21. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10-JUN-14	Findings:	12.1
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	10-JUN-14	Findings:	1.6e-002 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	10-JUL-14	Findings:	2. UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	10-JUL-14	Findings:	19. MG/L
Chemical:	NITRATE (AS NO3)		

Sample Collected:	09-OCT-14	Findings:	2.8 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	09-OCT-14	Findings:	19. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10-FEB-15	Findings:	5.6 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	10-FEB-15	Findings:	30. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	17-FEB-15	Findings:	5.6 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	17-FEB-15	Findings:	6. UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	17-FEB-15	Findings:	30. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	10-MAR-15	Findings:	5.4 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	14-APR-15	Findings:	3.2 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	14-APR-15	Findings:	30. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	01-MAY-15	Findings:	4.6 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	01-MAY-15	Findings:	31. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	02-JUN-15	Findings:	4.4 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	07-JUL-15	Findings:	3.2 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	14-JUL-15	Findings:	3.7 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	14-JUL-15	Findings:	29. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	04-AUG-15	Findings:	3.4 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	21-OCT-15	Findings:	6. MG/L
Chemical:	NITRATE (AS N)		
Sample Collected:	21-OCT-15	Findings:	3.9 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	21-OCT-15	Findings:	300. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	20-JAN-16	Findings:	5.3 MG/L
Chemical:	NITRATE (AS N)		
Sample Collected:	20-JAN-16	Findings:	4.1 UG/L
Chemical:	TRICHLOROETHYLENE		

Sample Collected:	14-APR-16	Findings:	5.3 MG/L
Chemical:	NITRATE (AS N)		
Sample Collected:	14-APR-16	Findings:	0.179 PCI/L
Chemical:	GROSS ALPHA COUNTING ERROR		
Sample Collected:	14-APR-16	Findings:	2.3 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	14-APR-16	Findings:	1.e-002 PCI/L
Chemical:	GROSS ALPHA MDA95		
Sample Collected:	11-JUL-16	Findings:	5.3 MG/L
Chemical:	NITRATE (AS N)		
Sample Collected:	11-JUL-16	Findings:	4. UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	11-JUL-16	Findings:	250. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	14-JUN-11	Findings:	17. C
Chemical:	SOURCE TEMPERATURE C		
Sample Collected:	14-JUN-11	Findings:	470. US
Chemical:	SPECIFIC CONDUCTANCE		
Sample Collected:	14-JUN-11	Findings:	7.6
Chemical:	PH, LABORATORY		
Sample Collected:	14-JUN-11	Findings:	180. MG/L
Chemical:	ALKALINITY (TOTAL) AS CACO3		
Sample Collected:	14-JUN-11	Findings:	220. MG/L
Chemical:	BICARBONATE ALKALINITY		
Sample Collected:	14-JUN-11	Findings:	200. MG/L
Chemical:	HARDNESS (TOTAL) AS CACO3		
Sample Collected:	14-JUN-11	Findings:	54. MG/L
Chemical:	CALCIUM		
Sample Collected:	14-JUN-11	Findings:	15. MG/L
Chemical:	MAGNESIUM		
Sample Collected:	14-JUN-11	Findings:	18. MG/L
Chemical:	SODIUM		
Sample Collected:	14-JUN-11	Findings:	1.9 MG/L
Chemical:	POTASSIUM		
Sample Collected:	14-JUN-11	Findings:	17. MG/L
Chemical:	CHLORIDE		
Sample Collected:	14-JUN-11	Findings:	30. MG/L
Chemical:	SULFATE		
Sample Collected:	14-JUN-11	Findings:	0.55 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	14-JUN-11	Findings:	290. MG/L
Chemical:	TOTAL DISSOLVED SOLIDS		
Sample Collected:	14-JUN-11	Findings:	0.77
Chemical:	LANGELIER INDEX @ 60 C		

Sample Collected:	14-JUN-11	Findings:	0.12
Chemical:	LANGELIER INDEX AT SOURCE TEMP.		
Sample Collected:	14-JUN-11	Findings:	12. MG/L
Chemical:	NITRATE (AS NO3)		
Sample Collected:	14-JUN-11	Findings:	11.98
Chemical:	AGGRSSIVE INDEX (CORROSIVITY)		
Sample Collected:	16-JUN-11	Findings:	0.51 MG/L
Chemical:	FLUORIDE (F) (NATURAL-SOURCE)		
Sample Collected:	16-JUN-11	Findings:	1.6 UG/L
Chemical:	TRICHLOROETHYLENE		
Sample Collected:	16-JUN-11	Findings:	13. MG/L
Chemical:	NITRATE (AS NO3)		

GEOCHECK® - PHYSICAL SETTING SOURCE MAP FINDINGS
RADON

AREA RADON INFORMATION

State Database: CA Radon

Radon Test Results

Zipcode	Num Tests	> 4 pCi/L
91016	22	0

Federal EPA Radon Zone for LOS ANGELES County: 2

Note: Zone 1 indoor average level > 4 pCi/L.
: Zone 2 indoor average level >= 2 pCi/L and <= 4 pCi/L.
: Zone 3 indoor average level < 2 pCi/L.

Federal Area Radon Information for LOS ANGELES COUNTY, CA

Number of sites tested: 63

Area	Average Activity	% <4 pCi/L	% 4-20 pCi/L	% >20 pCi/L
Living Area - 1st Floor	0.711 pCi/L	98%	2%	0%
Living Area - 2nd Floor	Not Reported	Not Reported	Not Reported	Not Reported
Basement	0.933 pCi/L	100%	0%	0%

PHYSICAL SETTING SOURCE RECORDS SEARCHED

TOPOGRAPHIC INFORMATION

USGS 7.5' Digital Elevation Model (DEM)
Source: United States Geologic Survey
EDR acquired the USGS 7.5' Digital Elevation Model in 2002 and updated it in 2006. The 7.5 minute DEM corresponds to the USGS 1:24,000- and 1:25,000-scale topographic quadrangle maps. The DEM provides elevation data with consistent elevation units and projection.

Current USGS 7.5 Minute Topographic Map
Source: U.S. Geological Survey

HYDROLOGIC INFORMATION

Flood Zone Data: This data was obtained from the Federal Emergency Management Agency (FEMA). It depicts 100-year and 500-year flood zones as defined by FEMA. It includes the National Flood Hazard Layer (NFHL) which incorporates Flood Insurance Rate Map (FIRM) data and Q3 data from FEMA in areas not covered by NFHL.
Source: FEMA
Telephone: 877-336-2627
Date of Government Version: 2003, 2015

NWI: National Wetlands Inventory. This data, available in select counties across the country, was obtained by EDR in 2002, 2005 and 2010 from the U.S. Fish and Wildlife Service.

State Wetlands Data: Wetland Inventory
Source: Department of Fish & Game
Telephone: 916-445-0411

HYDROGEOLOGIC INFORMATION

AQUIFLOW^{R} Information System
Source: EDR proprietary database of groundwater flow information
EDR has developed the AQUIFLOW Information System (AIS) to provide data on the general direction of groundwater flow at specific points. EDR has reviewed reports submitted to regulatory authorities at select sites and has extracted the date of the report, hydrogeologically determined groundwater flow direction and depth to water table information.

GEOLOGIC INFORMATION

Geologic Age and Rock Stratigraphic Unit
Source: P.G. Schruben, R.E. Arndt and W.J. Bawiec, Geology of the Conterminous U.S. at 1:2,500,000 Scale - A digital representation of the 1974 P.B. King and H.M. Beikman Map, USGS Digital Data Series DDS - 11 (1994).

STATSGO: State Soil Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
The U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS) leads the national Conservation Soil Survey (NCSS) and is responsible for collecting, storing, maintaining and distributing soil survey information for privately owned lands in the United States. A soil map in a soil survey is a representation of soil patterns in a landscape. Soil maps for STATSGO are compiled by generalizing more detailed (SSURGO) soil survey maps.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Service (NRCS)
Telephone: 800-672-5559
SSURGO is the most detailed level of mapping done by the Natural Resources Conservation Service, mapping scales generally range from 1:12,000 to 1:63,360. Field mapping methods using national standards are used to construct the soil maps in the Soil Survey Geographic (SSURGO) database. SSURGO digitizing duplicates the original soil survey maps. This level of mapping is designed for use by landowners, townships and county natural resource planning and management.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

LOCAL / REGIONAL WATER AGENCY RECORDS

FEDERAL WATER WELLS

PWS: Public Water Systems
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Public Water System data from the Federal Reporting Data System. A PWS is any water system which provides water to at least 25 people for at least 60 days annually. PWSs provide water from wells, rivers and other sources.

PWS ENF: Public Water Systems Violation and Enforcement Data
Source: EPA/Office of Drinking Water
Telephone: 202-564-3750
Violation and Enforcement data for Public Water Systems from the Safe Drinking Water Information System (SDWIS) after August 1995. Prior to August 1995, the data came from the Federal Reporting Data System (FRDS).

USGS Water Wells: USGS National Water Inventory System (NWIS)
This database contains descriptive information on sites where the USGS collects or has collected data on surface water and/or groundwater. The groundwater data includes information on wells, springs, and other sources of groundwater.

STATE RECORDS

Water Well Database
Source: Department of Water Resources
Telephone: 916-651-9648

California Drinking Water Quality Database
Source: Department of Public Health
Telephone: 916-324-2319
The database includes all drinking water compliance and special studies monitoring for the state of California since 1984. It consists of over 3,200,000 individual analyses along with well and water system information.

OTHER STATE DATABASE INFORMATION

California Oil and Gas Well Locations
Source: Department of Conservation
Telephone: 916-323-1779
Oil and Gas well locations in the state.

RADON

State Database: CA Radon
Source: Department of Health Services
Telephone: 916-324-2208
Radon Database for California

Area Radon Information
Source: USGS
Telephone: 703-356-4020
The National Radon Database has been developed by the U.S. Environmental Protection Agency (USEPA) and is a compilation of the EPA/State Residential Radon Survey and the National Residential Radon Survey. The study covers the years 1986 - 1992. Where necessary data has been supplemented by information collected at private sources such as universities and research institutions.

EPA Radon Zones
Source: EPA
Telephone: 703-356-4020
Sections 307 & 309 of IRAA directed EPA to list and identify areas of U.S. with the potential for elevated indoor radon levels.

PHYSICAL SETTING SOURCE RECORDS SEARCHED

OTHER

Airport Landing Facilities: Private and public use landing facilities
Source: Federal Aviation Administration, 800-457-6656

Epicenters: World earthquake epicenters, Richter 5 or greater
Source: Department of Commerce, National Oceanic and Atmospheric Administration

California Earthquake Fault Lines: The fault lines displayed on EDR's Topographic map are digitized quaternary fault lines, prepared in 1975 by the United State Geological Survey. Additional information (also from 1975) regarding activity at specific fault lines comes from California's Preliminary Fault Activity Map prepared by the California Division of Mines and Geology.

STREET AND ADDRESS INFORMATION

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APPENDIX E

PORTION OF 2011 PHASE II ESA REPORT
(TEXT, FIGURES, TABLES)

PARTNER
Engineering and Science, Inc.



PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

INDUSTRIAL COMPLEX
1625/1625B, 1631 South Magnolia Avenue,
and 410 West Evergreen Avenue,
Monrovia, California 91016

July 22, 2011
Partner Project Number 11-76495.9



Prepared for

SIERRA AUTOCARS, INC.
1450 South Shamrock Avenue
Monrovia, California 91016

PARTNER
Engineering and Science, Inc.

July 22, 2011

Mr. Peter Hoffman
Sierra Autocars, Inc.
1450 South Shamrock Avenue
Monrovia, California 91016

Subject: **Phase II Environmental Site Assessment**
Industrial Complex
1625/1625B, 1631 South Magnolia Avenue, and 410 West Evergreen Avenue
Monrovia, California 91016
Partner Project Number 11-76495.9

Dear Mr. Hoffman:

The following letter report details the field activities, methods, and findings of the Phase II Environmental Site Assessment (ESA) conducted by Partner Engineering and Science, Inc. (Partner) at the above-referenced property ("site" or "subject property"). The purpose of the investigation was to determine the presence or absence of soil and/or soil-vapor contamination from the former and potentially current industrial use of the subject property. Sierra Autocars, Inc., provided project authorization through a signed copy of Partner Proposal Number P11-76495.9.

Site Description

The Site is located on the southwest corner of the intersection of West Evergreen Avenue and South Magnolia Avenue. The Site is comprised of three parcels: 1625/1625 B South Magnolia Avenue parcel which consists of 2.09 acres; the 1631 South Magnolia Avenue parcel which consists of 0.79 acre; and the 410 West Evergreen Avenue parcel which consists of 1.3 acres. Adjacent properties consist of a church to the north, vacant land to the east across South Magnolia Avenue, railroad track to the south, and residences to the west across South Dale Drive. Please see Figure 1 for a site vicinity map.

The parcel located at 1625/1625 B South Magnolia Avenue is developed with two industrial buildings (Building A constructed in 1954 and Building B constructed in 1962), a single family residence constructed in 1950, and two metal sheds. Building A is currently occupied by Vioski Manufacturing for the manufacturing of furniture. Building B is currently occupied by an unnamed tenant for the storage of various gym equipment, as well as by AeroVironment for the warehousing of military drone equipment.

The parcel located at 1631 South Magnolia Avenue is developed with two buildings, including a multi-tenant industrial building and a small office building constructed in 1966. The multi-tenant industrial building is occupied by The Classic Garden for pottery warehousing and distribution operations; by Andersen Woodworks for woodworking operations; and an unnamed pottery tenant for garden pot/planter making operations.

The parcel located at 410 West Evergreen Avenue is developed with one industrial building constructed in 1977. The subject property is currently occupied by California Theaming Company for industrial use. Onsite operations consist of the manufacturing of theme-park fixtures and props, including silicone and plaster molding, welding, spray painting, sanding, cutting, and typical office and administrative activities.

The remainder of the Site consists of asphalt-paved parking spaces and associated landscaping. Please see Figure 2 for a site plan.

Site History

According to an April 2011 Partner Phase I Environmental Site Assessment (Phase I) Report, the parcel located at:

- 1625/1625 B South Magnolia Avenue was developed for industrial use from 1954 to the present. Historical operations included furniture manufacturing and upholstering, woodworking, structural manufacturing, and the development of scientific machinery (prototypes). From 1966 to 1976, the subject property was occupied by STD/Standard Research Company for the development of scientific machinery (prototypes). Building records indicated that STD Research Company utilized detergents and "common organic solvents" for cleaning purposes and mercury for operations. From 1973 to 1990, the subject property was occupied by Calcraft for structural manufacturing. Calcraft operated a spray booth and utilized solvents during this period of time. Based on the duration of industrial operation, the nature of industrial activities including spray painting operations and solvent usage; and the absence of subsurface investigations to account for these concerns, the historical industrial operations at the subject property was considered to constitute a recognized environmental condition (REC).

- 1631 South Magnolia Avenue was developed for industrial use from 1965 to the present. Historical operations included sheet metal work and manufacturing, electronics operations, wood-working, and structural manufacturing. Calcraft occupied the subject property in 1972. Calcraft operated a spray booth and utilized solvents as part of day-to-day operations. Metric Machining Co. occupied the subject property in 1988 and operated as a metal machining company and fabricated metallic parts, utilizing oils, lubricants, cutting fluids, and solvents as part of day-to-day operations. Based on the duration of industrial operation, the nature of industrial activities including spray painting and metal manufacturing operations and solvent usage, and the absence of subsurface investigations to account for these concerns, the historical industrial use of the subject property was considered to constitute a REC. In addition, the adjacent railroad tracks also constitute a potential environmental concern. Railroad spurs represent environmental concerns due to the historical application of oils containing polychlorinated biphenyls (PCBs), herbicides, and arsenic for pest and weed control, as well as, the potential presence of creosote on the rail ties, and the historical common practice of using coal cinders for track fill material.

- 410 West Evergreen Avenue has been developed for industrial use as early as 1968 to present-day. Former operations on the subject property included sheet metal work. The absence of information regarding historical operations and regulatory agency records, and the absence of subsurface investigations to determine whether former operations have impacted the subject property constitute a REC. In addition to the environmental concern of the historical industrial operations, the adjacent railroad tracks also pose a concern. Railroad spurs represent environmental concerns due to the historical application of oils containing polychlorinated biphenyls (PCBs), herbicides, and arsenic for pest and weed control, as well as the potential presence of creosote on the rail ties, and the historical common practice of using coal cinders for track fill material.

Field Activities

To provisionally investigate the potential impact of petroleum/chlorinated hydrocarbons, PCBs, pesticides, and metals to soil as a consequence of a release or releases from historical and current industrial activities, Partner conducted a Phase II Environmental Site Assessment. The assessment scope included 34 soil/soil gas borings (B1 through B34).

Utility Clearance

Partner delineated the work area with white spray paint and notified Underground Services Alert (USA) to clear public utility lines as required by law at least 48 hours prior to drilling activities. USA issued ticket number A11720332 for the project.

Geophysical Survey

On June 29, 2011, Ground Penetrating Radar Systems, Inc. (GPRS) conducted a Geophysical Survey under the supervision of Partner. The purpose of the Geophysical Survey was to scan for underground utilities at the proposed boring locations, as well as to try and locate a drywell/cess pool associated with the 410 West Evergreen parcel. The investigation focused on the accessible exterior areas surrounding the Site.

The Geophysical Survey was conducted with a GSSI (model SIR-3000) in conjunction with a 400 megahertz (MHz) antenna ground penetrating radar (GPR) unit, and radio detection equipment (model#RD 7000).

GPRS systematically free-traversed the investigation area with the aforementioned equipment. The equipment readouts were interpreted in real time and compiled as necessary in order to identify subsurface anomalies consistent with piping trenches, utility lines, and/or other subsurface conduits/features.

In addition, GPRS systematically free-traversed each Partner-proposed boring location with the aforementioned equipment and the equipment readouts were interpreted in real time for evidence of utility lines and/or other subsurface features of potential concern. Boring placement was

modified as necessary based on the Geophysical Survey results to avoid conflicts with underground features.

Please see Appendix A for a copy of the Geophysical Survey Report, which provides additional details regarding the Geophysical Survey equipment and methodology.

Health and Safety Plan

Partner reviewed the site-specific Health and Safety Plan with all on-site personnel involved in the project prior to the commencement of drilling activities. Please see Appendix B for a copy of the signed Health and Safety Plan.

Drilling Equipment

On June 30, July 1, and July 6, 2011, Partner subcontracted with Kehoe Testing and Engineering (KTE) (State of California C57 Water Well Drilling Contractor License Number 786163) to provide and operate drilling equipment. KTE, under the direction of Partner, advanced soil borings B1 through B3, B10 through B13, B16 through B18, B21, B22, and B25, with a direct-push truck-mounted Geoprobe Model 5400 drill rig; borings B4, B5 and B23 with a limited-access direct-push Geoprobe drill rig; borings B6 through B9, B14, B15, B19, B20 and B24 with a direct-push, track-mounted Geoprobe drill rig; and borings B26 through B34 with a hand auger. All drilling rods and/or sampling equipment were decontaminated between samples and/or boreholes to prevent cross-contamination.

Boring Locations

Soil borings B1 through B15 were drilled at the parcel located at 1625/1625 B South Magnolia Avenue, borings B16 through B20 were drilled at the parcel located at 1631 South Magnolia Avenue, borings B21 through B25 were drilled at the parcel located at 410 West Evergreen Avenue, and borings B26 through B34 were drilled in the vicinity of the railroad track located along the southern Site boundary. Boring placement was limited due to the subject property boundary and parked cars. Please see Figure 3 for a map indicating boring locations.

Sampling Depths

Borings B1, B6, B11, B12, and B16 were advanced to a terminal depth of 5 feet below ground surface (bgs). Soil samples were collected for lithology purposes only at 5 feet bgs.

Borings B2 and B3 were advanced to a terminal depth of 30 feet bgs. Borings B4, B5, B7 through B10, B13 through B15, and B17 through B25 were advanced to a terminal depth of 20 feet bgs. Soil samples were collected from each boring at 5-foot intervals to terminal depth.

Borings B26 through B34 were advanced to a terminal depth of 4 feet bgs. Soil samples were collected from each boring at 1-foot and 4-foot intervals.

Soil gas samples were collected from borings B1 through B6, B8, B10 through B17, B19 through B22, B24, and B25 at 5 feet bgs.

Soil Sampling Methodology

Borings B1 through B3, B6 through B8, B10 through B13, B16 through B18, and B26 through B33 were overlain by asphalt, which was penetrated using the punch bit attachment advanced by the direct-push drill rig. Borings B4, B5, B14, B15, B19, B20, B23, B24, and B25 were overlain by concrete, which was penetrated using a concrete coring attachment advanced by the direct-push rig. Borings B9, B21, B22, and B34 were overlain by soil.

Soil was manually excavated from the upper 5 feet of each boring with a hand-auger equipped with a 3.5-inch diameter auger bucket to clear for underground utilities. At the desired sampling depth, soil was transferred from the auger bucket into a 1¾-inch diameter by 2-foot long acetate liner/or 4-ounce glass jar.

The remaining soil samples were collected using a 2-foot long by 1¾-inch diameter sampler with a 2-foot long acetate liner and sampling point. The sampler was advanced by the direct-push drill rig using 3-foot long by 1.5-inch diameter hollow rods with the inner rods in place to prevent soil from entering the sampler. At approximately 1 foot above the desired sampling depth, an inner rod was removed and the sampler was advanced to the desired sampling depth to allow undisturbed soil to enter the sampling liner. The sampler was retrieved from the subsurface and the soil-filled liner was removed.

Each acetate liner was cut using a hacksaw. A sample was collected from the lower half of the liner using a disposable plastic syringe in accordance with Environmental Protection Agency (EPA) Method 5035 sampling protocol. The remainder of the lower half of the liner was capped on either end with Teflon tape and plastic caps. The capped liners and syringes were labeled for identification and stored in an iced cooler. The soil in the upper half of the liner was visually inspected for discoloration, monitored for odors, classified in accordance with the Unified Soil Classification System (USCS), placed in a sealable plastic bag, and field-screened with a photoionization detector (PID) calibrated to isobutylene. None of the samples exhibited discoloration or an odor and none of the PID readings suggested the presence of significantly elevated volatile organics concentrations.

Soil Gas Probe Construction

Soil gas probes screened at 5 feet bgs were constructed within soil borings B1 through B6, B8, B10 through B17, B19 through B22, B24, and B25 upon completion of soil sampling. New ¼-inch diameter polyethylene tubing with a ¼-inch diameter polypropylene filter at the terminal end was inserted into a borehole to the desired sampling depth. One-inch diameter polyvinyl chloride (PVC) casing was used as a guide for the tubing to ensure that the desired sampling depth was achieved. Sand was poured into the boring annulus to form an

approximately 1-foot long sand pack around the polypropylene filter, at which time the PVC piping was withdrawn and approximately 1 foot of dry, granular bentonite was placed atop the sand pack. The borehole was backfilled with hydrated bentonite to the ground surface to form a seal. The sampling end of the tubing was fitted with a valve and the probe was labeled for identification.

Soil Gas Sampling Methodology

Soil gas samples were collected in general accordance with the February 1997 Los Angeles Regional Water Quality Control Board (LARWQCB) "Interim Guidance for Active Soil Gas Investigation" and the January 2003 Department of Toxic Substances Control (DTSC) and LARWQCB "Advisory – Active Soil Gas Investigations."

The mobile laboratory was calibrated at the beginning of the day prior to the first analysis. Each probe was allowed to equilibrate for at least 30 minutes after installation prior to sampling with gas-tight glass syringes. A purge test was conducted on the first probe to determine the optimal purge volume. The optimal purge volume based on the purge test was three purge volumes, which was then purged from the remaining probes. Each day, one soil vapor sample was collected as a duplicate to assess the precision (repeatability) of the laboratory analysis.

Tracer gas n-propanol was placed around each probe at the ground surface while sampling to detect ambient air intrusion. The tracer gas was not detected in any sample, indicating that the integrity of the bentonite seal was maintained. In addition, recovery of all surrogate compounds included with each analysis was within acceptable limits, indicating that the sampling containers and analysis equipment did not leak.

The probes were removed from the subsurface and the boreholes were backfilled with hydrated bentonite chips and capped with concrete or asphalt to match existing ground cover upon completion of sampling.

No significant amounts of derived wastes were generated during this investigation.

Soil Gas Sample Laboratory Analyses

Jones Environmental, Inc. (JEI), a state-certified mobile laboratory [California Department of Public Health (CDPH) Environmental Laboratory Accreditation Program (ELAP) certificate number 6C73103] was present on-site and collected 21 soil gas samples (plus three duplicate samples) on June 30, July 1, and July 6, 2011. The soil gas samples were immediately loaded into the gas chromatograph/mass spectrometer (GC/MS) for analysis. Each sample was analyzed for volatile organic compounds (VOCs) via EPA Method 8260B.

Soil Sample Laboratory Analyses

Partner collected 32 soil samples on June 30, 2011, 32 soil samples on July 1, 2011 and 38 soil samples on July 6, 2011, for analysis using the JEI mobile lab. A total of 25 soil samples were analyzed for VOCs via EPA Method 8260B and total petroleum hydrocarbon chain speciation (TPH-cc) via EPA Method 8015M.

Discrete soil samples collected along the southern property boundary in the vicinity of the railroad tracks were composited by the laboratory into a composite sample (three samples total) and analyzed for TPH-cc via EPA Method 8015M, and VOCs via EPA Method 8260B.

Partner collected eight soil samples on June 30, 2011, eight soil samples on July 1, 2011 and 22 soil samples on July 6, 2011, for analysis by SunStar Laboratories, Inc. (SunStar), a state-certified laboratory [California Department of Health Services (DHS) ELAP certificate number 2250] in Lake Forest, California. The samples on the day that they were collected were transported in an iced cooler under proper chain-of-custody protocol to SunStar laboratory for analyisis.

Based on field-screening results, a total of 23 soil samples were analyzed for California Administrative Manual (CAM) 17 Metals via EPA Method 6010B/7471A, nine soil samples were analyzed for semi-volatile organic compounds (SVOCs) via EPA Method 8270C, and six soil samples were analyzed for polychlorinated biphenyls (PCBs) via EPA Method 8081B.

The discrete composite soil samples collected along the southern property boundary in the vicinity of the railroad tracks, discussed above, were analyzed for CAM 17 Metals via EPA Method 6010B/7471A, PCBs via EPA Method 8081B, and for organochlorine pesticides (OCPs) via EPA Method 8081B.

Investigation Scope Summary

Please see Table 1 for a summary of the borings, sampling schedule, and laboratory analyses for this investigation. Please see Table 2 for a summary of the laboratory analyses schedule for the soil samples composited by the laboratory during this investigation.

Table 1: Summary of Investigation Scope

Boring Identification	Location	Terminal Depth (feet bgs)	Matrix Sampled	Sampling Depths* (feet bgs)	Target Contaminants
B1	Exterior, Southeast of Building A	5	Soil Gas	**5**	VOCs
B2	Exterior, Southeast of Building A	30	Soil	**5**, 10, 15, 20, 25, 30	VOCs, SVOCs, TPH-cc, PCBs, Metals
			Soil Gas	**5**	VOCs
B3	Exterior, Southeast Corner of Building A	30	Soil	**5**, 10, 15, 20, 25, 30	VOCs, SVOCs, TPH-cc, PCBs, Metals
			Soil Gas	**5**	VOCs
B4	Interior, Northeast Corner of Building A	20	Soil	**5**, 10, 15, 20	VOCs, SVOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B5	Interior, West Portion of Building A	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B6	Exterior, Northeast of Building A	5	Soil Gas	**5**	VOCs

B7	Exterior, North of Building A	20	Soil	**5**, 10, 15, 20	VOCs, SVOCs, TPH-cc, Metals
B8	Exterior, East of Building B	20	Soil	**5**, 10, 15, **20**	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B9	Exterior, Northeast of Building B	20	Soil	**5**, 10, 15, **20**	VOCs, SVOCs, TPH-cc, Metals
B10	Exterior, South of Building B	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B11	Exterior, Southwest of Building B	5	Soil Gas	**5**	VOCs
B12	Exterior, West of Building B	5	Soil Gas	**5**	VOCs
B13	Exterior, Northwest of Building B	20	Soil	**5**, 10, 15, 20	VOCs, SVOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B14	Interior, Southwest Corner of Building B	20	Soil	**5**, 10, 15, 20	VOCs, SVOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B15	Interior, Northeast Corner of Building B	20	Soil	**5**, 10, 15, 20	VOCs, SVOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B16	Exterior, West of Outside Storage Area	5	Soil Gas	**5**	VOCs

B17	Exterior, Southwest of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B18	Exterior, Southeast Corner of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
B19	Interior, Eastern Portion of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, SVOCs, TPH-cc, PCBs, Metals
			Soil Gas	**5**	VOCs
B20	Interior, West Portion of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B21	Exterior, Southeast of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B22	Exterior, Southwest of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B23	Exterior, Center of Storage Compound, South of Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
B24	Interior, South Portion of Industrial	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs

B25	Interior, North Portion of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B26	Exterior, Southeast Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B27	Exterior, Southeast Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B28	Exterior, Southeast Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B29	Exterior, South Central Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B30	Exterior, South Central Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B31	Exterior, Southwest Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B32	Exterior, Southwest Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs

B33	Exterior, Southwest Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B34	Exterior, Southwest Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs

Notes:
*Depths in **bold** analyzed for target contaminants: volatile organic compounds (VOCs) via EPA Method 8260B. Total petroleum hydrocarbons carbon chain speciation (TPH-cc) via EPA Method 8015M. Semi volatile organic compounds (SVOCs) via EPA Method 8270C. Polynuclear aromatic hydrocarbons (PAHs) via EPA Method 8270C. Polychlorinated biphenyls (PCBs) via EPA Method 8081B. California Administrative Manual (CAM) 17 Metals via EPA Method 6010B/7471A. Depths underlined analyzed for VOCs via EPA Method 8260B and TPH-cc via EPA Method 8015M. Depths *italicized* composited in the laboratory and analyzed for target contaminants: Organochlorine pesticides (OCPs) via EPA Method 8081B. VOCs via EPA Method 8260B. TPH-cc via EPA Method 8015M. CAM 17 Metals via EPA Method 6010B/7471A. PCBs via EPA Method 8081B. See Table 2 for more information on composite sample schedule.
bgs = below ground surface

Table 2: Summary of Composite Soil Sampling Investigation Scope

Composite Sample Identification*	Discrete Samples Composition	Target Contaminants
COMPOSITE 1; B26:28-1***	B26, B27, B28	VOCs, TPH-cc, Metals, PCBs, OCPs
COMPOSITE 2; B29:31-1***	B29, B30, B31	VOCs, TPH-cc, Metals, PCBs, OCPs
COMPOSITE 3; B32:34-1***	B32, B33, B34	VOCs, TPH-cc, Metals, PCBs, OCPs

Notes:
*Each composite sample analyzed for organochlorine pesticides (OCPs) via Environmental Protection Agency (EPA) Method 8081A. PCBs via EPA Method 8081B. CAM 17 Metals via EPA Method 6010B/7471A. TPH-cc via EPA Method 8015M. VOCs via EPA Method 8260B.
** SunStar Laboratories composite sample identification
*** Jones Environmental Laboratories composite sample identification

Geology and Hydrogeology

Based on a review of the United States Geological Survey (USGS) Mount Wilson Quadrangle topographic map, the subject property is situated approximately 440 feet above mean sea level (amsl), and the local topography is sloping gently to the south-southwest.

The Site is located in the eastern San Gabriel Valley within the Main San Gabriel Hydrogeologic-Basin. The basin is bounded by the San Gabriel Mountains to the north, the San Jose Hills and subsurface bedrock high to the east; the Puente, Repetto and Merced hills to the south and west; and the Raymond Fault to the northwest. Local geology is characterized by recent age younger alluvium and Pleistocene age older alluvium consisting of poorly consolidated continental sediments. These sediments consist of interbedded sand, silt, and clay in variable proportions with lenses of gravel. They were deposited in large part by coalescing alluvial fans emanating from canyons exiting the southern San Gabriel Mountains north of the site. In the site vicinity, older alluvium occurs at grade to a depth of approximately 700 feet, and comprises a more youthful portion of the alluvial fan which has accumulated at the mouth of Monrovia Canyon. The dominant structural feature in the vicinity of the site is the Sierra Madre fault zone. Elements of this fault zone occur approximately 1.0 mile northeast of the subject site and include the Duarte and Sierra Madre faults.

Based on borings advanced during this investigation, the underlying subsurface consists predominantly of dark brown, dry to slightly moist sand (SP) with silt from the ground surface to 30 feet bgs. Please see Appendix C for boring logs from this investigation.

Hydrogeologically, the Site is located in the eastern San Gabriel Valley within the Main San Gabriel Hydrogeologic Basin. The San Gabriel and the Rio Hondo rivers, and their tributaries flow from the San Gabriel Valley. The rivers have their headwaters in the San Gabriel Mountains and have a common exit from the southern portion of the valley at Whittier Narrows between the Merced and Puente hills. The site is approximately 3 miles west of the San Gabriel River. Percolation of direct rainfall and run-off water from the mountains is the major source of natural recharge of the San Gabriel Hydrogeologic Basin. Imported water and return flow from applied water also supply recharge water to the basin. The alluvial deposits, which contain the major aquifer in the basin, attain a maximum thickness of greater than 4,000 feet. The average thickness of water-bearing deposits in the center of the basin is 900 to 1,000 feet. The alluvium is underlain by Miocene-age Puente and Topanga formations that yield only limited quantities of water. The elevation of the groundwater ranges from 100 feet to greater than 500 feet amsl.

Regionally, groundwater flows from the perimeter of the basin in a southerly direction toward Whittier Narrows, where it exits the basin. Locally, the groundwater flow is towards the west. Los Angeles County Water District records indicate that groundwater occurs at approximately 280 feet bgs in the area of the subject property; however, shallower, perched groundwater may also occur. According to the Los Angeles County Department of Public Works (LACDPW) Hydrologic Unit, the nearest well is #4197. Well #4197 is located approximately 4,800 feet

southwest of the Site. Depth to groundwater was reported as 191.5 feet bgs on May 5, 2002. Groundwater was not encountered during this investigation.

Laboratory Analysis Results

JEI reported the laboratory results on July 6 and July 11, 2011. SunStar reported the laboratory results on July 8, July 11, and July 13, 2011. Please see Tables 3 through 9 for a summary of the soil gas VOCs, soil VOCs, soil TPH-cc, soil CAM 17 metals, soil SVOCs, soil PCBs, and soil OCPs laboratory analysis results, respectively.

Table 3: Soil Gas Sample VOCs Laboratory Results (µg/L)

Sample Identification*	PCE	TCE	T-Methane	All Other VOCs
PES-B1-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B2-SV5	< 0.020	< 0.020	**0.190**	ND
PES-B3-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B4-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B5-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B6-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B8-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B10-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B11-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B12-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B13-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B14-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B15-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B16-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B17-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B19-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B20-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B21-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B22-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B24-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B25-SV5	< 0.020	< 0.020	< 0.020	ND

Notes:
VOCs = volatile organic compounds; µg/L = micrograms per liter; PCE = tetrachloroethene; TCE=trichloroethene; T-Methane = Trichlorofluoromethane; < = not detected above indicated laboratory Practical Quantitation Limit (PQL); ND = not detected above laboratory PQLs

Table 4: Soil Sample VOCs Laboratory Results (µg/kg)

Sample Identification	PCE	TCE	TBA	Benzene	All Other VOCs
B2-5	< 1	< 1	< 5	< 1	ND
B3-5	< 1	< 1	< 5	< 1	ND
B4-5	< 1	< 1	< 5	< 1	ND
B5-5	< 1	< 1	< 5	< 1	ND
B7-5	< 1	< 1	< 5	< 1	ND
B8-5	< 1	< 1	< 5	< 1	ND
B9-5	< 1	< 1	< 5	< 1	ND
B10-5	< 1	< 1	< 5	< 1	ND
B13-5	< 1	< 1	< 5	< 1	ND
B14-5	< 1	< 1	**33.4**	< 1	ND
B14-10	< 1	< 1	< 5	< 1	ND
B15-5	< 1	< 1	< 5	< 1	ND
B17-5	< 1	< 1	< 5	< 1	ND
B18-5	< 1	< 1	< 5	< 1	ND
B19-5	< 1	< 1	< 5	< 1	ND
B20-5	< 1	< 1	< 5	< 1	ND
B21-5	< 1	< 1	< 5	< 1	ND
B22-5	< 1	< 1	< 5	< 1	ND
B23-5	< 1	< 1	< 5	< 1	ND
B24-5	< 1	< 1	< 5	< 1	ND
B25-5	< 1	< 1	< 5	< 1	ND
B26:28-1	< 1	< 1	< 5	< 1	ND
B29:31-1	< 1	< 1	< 5	< 1	ND
B32:34-1	< 1	< 1	< 5	< 1	ND

Notes:
VOCs = volatile organic compounds
µg/kg = micrograms per kilogram
PCE = tetrachloroethene
TCE = trichloroethene
TBA = tertiary butyl alcohol
< = not detected above indicated laboratory Method Detection Limit (MDL)
ND = not detected above laboratory MDLs

Table 5: Soil Sample TPH-cc Laboratory Results (mg/kg)

Sample Identification	TPH-g	TPH-d	TPH-o
B2-5	< 10	< 10	< 10
B3-5	< 10	< 10	< 10
B4-5	< 10	< 10	< 10
B5-5	< 10	< 10	< 10
B7-5	< 10	< 10	< 10
B8-5	< 10	< 10	< 10
B9-5	< 10	< 10	< 10
B10-5	< 10	< 10	< 10
B13-5	< 10	< 10	< 10
B14-5	< 10	< 10	< 10
B14-10	< 10	< 10	< 10
B15-5	< 10	< 10	< 10
B17-5	< 10	< 10	< 10
B18-5	< 10	< 10	< 10
B19-5	< 10	< 10	< 10
B20-5	< 10	< 10	< 10
B21-5	< 10	< 10	< 10
B22-5	< 10	< 10	< 10
B23-5	< 10	< 10	< 10
B24-5	< 10	< 10	< 10
B25-5	< 10	< 10	< 10
B26:28-1	< 10	< 10	< 10
B29:31-1	< 10	< 10	< 10
B32:34-1	< 10	< 10	< 10

Notes:
TPH-cc = carbon chain total petroleum hydrocarbons
mg/kg = milligrams per kilogram
TPH-g = total petroleum hydrocarbons as gasoline
TPH-d = total petroleum hydrocarbons as diesel
TPH-o = total petroleum hydrocarbons as oil
< = not detected above indicated laboratory Practical Quantitation Limit (PQL)

Table 6: Soil Sample CAM 17 Metals Laboratory Results (mg/kg)

Element	B2-5	B3-5	B4-5	B5-5	B7-5	Background Concentrations*
Antimony (Sb)	< 3	< 3	< 3	< 3	< 3	0.6 ± 0.39
Arsenic (As)	< 5	< 5	< 5	< 5	< 5	3.5 ± 2.5
Barium (Ba)	110	100	67	84	110	509 ± 210
Beryllium (Be)	< 1	< 1	< 1	< 1	< 1	1.28 ± 0.52
Cadmium (Cd)	< 2	< 2	< 2	< 2	< 2	0.36 ± 0.31
Chromium (Cr)	22	21	17	16	16	122 ± 223
Cobalt (Co)	17	16	12	13	11	14.9 ± 9.2
Copper (Cu)	30	27	20	22	20	28.7 ± 19.3
Lead (Pb)	< 3	< 3	< 3	< 3	4.2	23.9 ± 13.8
Mercury (Hg)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.26 ± 0.21
Molybdenum (Mo)	< 1	< 1	< 1	< 1	< 1	1.3 ± 1.5
Nickel (Ni)	18	18	13	13	13	57 ± 80
Selenium (Se)	< 5	< 5	< 5	< 5	< 5	0.058 ± 0.084
Silver (Ag)	< 2	< 2	< 2	< 2	< 2	0.80 ± 1.43
Thallium (Tl)	< 2	< 2	< 2	< 2	< 2	0.56 ± 0.19
Vanadium (V)	51	48	36	39	36	112 ± 53
Zinc (Zn)	68	64	49	61	49	149 ± 32

Notes:
CAM = California Administrative Manual
*From Kearney Foundation of Soil Science March 1996 report *Background Concentrations of Trace and Major Elements in California Soils.* Background concentrations of metals are considered to be within one standard deviation from the mean metal concentrations determined by the study.
mg/kg = milligrams per kilograms
< = not detected above indicated laboratory Reporting Limit (RL)

Table 6 Continued: Soil Sample CAM 17 Metals Laboratory Results (mg/kg)

Element	B8-5	B9-5	B10-5	B13-5	B14-5	Background Concentrations*
Antimony (Sb)	< 3	< 3	< 3	< 3	< 3	0.6 ± 0.39
Arsenic (As)	< 5	< 5	< 5	< 5	< 5	3.5 ± 2.5
Barium (Ba)	99	81	81	90	91	509 ± 210
Beryllium (Be)	< 1	< 1	< 1	< 1	< 1	1.28 ± 0.52
Cadmium (Cd)	< 2	< 2	< 2	< 2	< 2	0.36 ± 0.31
Chromium (Cr)	21	17	19	19	20	122 ± 223
Cobalt (Co)	15	13	14	14	15	14.9 ± 9.2
Copper (Cu)	26	23	24	24	27	28.7 ± 19.3
Lead (Pb)	< 3	4.8	< 3	5.1	< 3	23.9 ± 13.8
Mercury (Hg)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.26 ± 0.21
Molybdenum (Mo)	< 1	< 1	< 1	< 1	< 1	1.3 ± 1.5
Nickel (Ni)	16	14	16	15	17	57 ± 80
Selenium (Se)	< 5	< 5	< 5	< 5	< 5	0.058 ± 0.084
Silver (Ag)	< 2	< 2	< 2	< 2	< 2	0.80 ± 1.43
Thallium (Tl)	< 2	< 2	< 2	< 2	< 2	0.56 ± 0.19
Vanadium (V)	49	40	42	43	47	112 ± 53
Zinc (Zn)	66	63	58	61	64	149 ± 32

Notes:
CAM = California Administrative Manual
*From Kearney Foundation of Soil Science March 1996 report *Background Concentrations of Trace and Major Elements in California Soils.* Background concentrations of metals are considered to be within one standard deviation from the mean metal concentrations determined by the study.
mg/kg = milligrams per kilograms
< = not detected above indicated laboratory Reporting Limit (RL)

Table 6 Continued: Soil Sample CAM 17 Metals Laboratory Results (mg/kg)

Element	B15-5	B17-5	B18-5	B19-5	B20-5	Background Concentrations*
Antimony (Sb)	< 3	< 3	< 3	< 3	< 3	0.6 ± 0.39
Arsenic (As)	< 5	< 5	< 5	< 5	< 5	3.5 ± 2.5
Barium (Ba)	65	100	140	65	100	509 ± 210
Beryllium (Be)	< 1	< 1	< 1	< 1	< 1	1.28 ± 0.52
Cadmium (Cd)	< 2	< 2	< 2	< 2	< 2	0.36 ± 0.31
Chromium (Cr)	14	22	21	15	22	122 ± 223
Cobalt (Co)	11	16	16	12	16	14.9 ± 9.2
Copper (Cu)	17	27	28	19	28	28.7 ± 19.3
Lead (Pb)	< 3	< 3	< 3	< 3	< 3	23.9 ± 13.8
Mercury (Hg)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.26 ± 0.21
Molybdenum (Mo)	< 1	< 1	< 1	< 1	< 1	1.3 ± 1.5
Nickel (Ni)	11	18	18	12	18	57 ± 80
Selenium (Se)	< 5	< 5	< 5	< 5	< 5	0.058 ± 0.084
Silver (Ag)	< 2	< 2	< 2	< 2	< 2	0.80 ± 1.43
Thallium (Tl)	< 2	< 2	< 2	< 2	< 2	0.56 ± 0.19
Vanadium (V)	33	50	50	36	51	112 ± 53
Zinc (Zn)	45	64	63	48	73	149 ± 32

Notes:
CAM = California Administrative Manual
*From Kearney Foundation of Soil Science March 1996 report *Background Concentrations of Trace and Major Elements in California Soils.* Background concentrations of metals are considered to be within one standard deviation from the mean metal concentrations determined by the study.
mg/kg = milligrams per kilograms
< = not detected above indicated laboratory Reporting Limit (RL)

Table 6 Continued: Soil Sample CAM 17 Metals Laboratory Results (mg/kg)

Element	B21-5	B22-5	B23-5	B24-5	B25-5	Background Concentrations*
Antimony (Sb)	< 3	< 3	< 3	< 3	< 3	0.6 ± 0.39
Arsenic (As)	< 5	< 5	< 5	< 5	< 5	3.5 ± 2.5
Barium (Ba)	61	100	120	88	110	509 ± 210
Beryllium (Be)	< 1	< 1	< 1	< 1	< 1	1.28 ± 0.52
Cadmium (Cd)	< 2	< 2	< 2	< 2	< 2	0.36 ± 0.31
Chromium (Cr)	14	22	26	20	25	122 ± 223
Cobalt (Co)	11	15	18	12	18	14.9 ± 9.2
Copper (Cu)	17	30	35	24	31	28.7 ± 19.3
Lead (Pb)	< 3	22	12	32	< 3	23.9 ± 13.8
Mercury (Hg)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.26 ± 0.21
Molybdenum (Mo)	< 1	< 1	< 1	1.1	< 1	1.3 ± 1.5
Nickel (Ni)	12	18	21	15	20	57 ± 80
Selenium (Se)	< 5	< 5	< 5	< 5	< 5	0.058 ± 0.084
Silver (Ag)	< 2	< 2	< 2	< 2	< 2	0.80 ± 1.43
Thallium (Tl)	< 2	< 2	< 2	< 2	< 2	0.56 ± 0.19
Vanadium (V)	33	48	55	38	57	112 ± 53
Zinc (Zn)	45	90	100	97	76	149 ± 32

Notes:
CAM = California Administrative Manual
*From Kearney Foundation of Soil Science March 1996 report *Background Concentrations of Trace and Major Elements in California Soils.* Background concentrations of metals are considered to be within one standard deviation from the mean metal concentrations determined by the study.
mg/kg = milligrams per kilograms
< = not detected above indicated laboratory Reporting Limit (RL)

Table 6 Continued: Soil Sample CAM 17 Metals Laboratory Results (mg/kg)

Element	Composite 1	Composite 2	Composite 3	Background Concentrations*
Antimony (Sb)	< 3	< 3	< 3	0.6 ± 0.39
Arsenic (As)	< 5	< 5	< 5	3.5 ± 2.5
Barium (Ba)	110	85	96	509 ± 210
Beryllium (Be)	< 1	< 1	< 1	1.28 ± 0.52
Cadmium (Cd)	< 2	< 2	< 2	0.36 ± 0.31
Chromium (Cr)	23	15	19	122 ± 223
Cobalt (Co)	17	13	14	14.9 ± 9.2
Copper (Cu)	31	21	29	28.7 ± 19.3
Lead (Pb)	17	9.6	27	23.9 ± 13.8
Mercury (Hg)	< 0.10	< 0.10	< 0.10	0.26 ± 0.21
Molybdenum (Mo)	< 1	< 1	< 1	1.3 ± 1.5
Nickel (Ni)	19	12	16	57 ± 80
Selenium (Se)	< 5	< 5	< 5	0.058 ± 0.084
Silver (Ag)	< 2	< 2	< 2	0.80 ± 1.43
Thallium (Tl)	< 2	< 2	< 2	0.56 ± 0.19
Vanadium (V)	50	39	42	112 ± 53
Zinc (Zn)	93	67	98	149 ± 32

Notes:
CAM = California Administrative Manual
*From Kearney Foundation of Soil Science March 1996 report *Background Concentrations of Trace and Major Elements in California Soils.* Background concentrations of metals are considered to be within one standard deviation from the mean metal concentrations determined by the study.
mg/kg = milligrams per kilograms
< = not detected above indicated laboratory Reporting Limit (RL)

Table 7: Soil Sample SVOCs Laboratory Results (µg/kg)

Sample Identification	Aniline	Anthracene	Phenol	Pyrene	All Other SVOCs
B2-5	< 300	< 300	< 1000	< 300	ND
B3-5	< 300	< 300	< 1000	< 300	ND
B4-5	< 300	< 300	< 1000	< 300	ND
B7-5	< 300	< 300	< 1000	< 300	ND
B9-5	< 300	< 300	< 1000	< 300	ND
B13-5	< 300	< 300	< 1000	< 300	ND
B14-5	< 300	< 300	< 1000	< 300	ND
B15-5	< 300	< 300	< 1000	< 300	ND
B19-5	< 300	< 300	< 1000	< 300	ND

Notes:
SVOCs = semi-volatile organic compounds
µg/kg = micrograms per kilogram
< = not detected above indicated laboratory Reporting Limit (RL)
ND = not detected above laboratory RLs

Table 8: Soil Sample PCBs Laboratory Results (µg/kg)

Sample Identification	PCB-1016	PCB-1221	PCB-1232	PCB-1242	All Other PCBs
B2-5	< 10	< 10	< 10	< 10	ND
B3-5	< 10	< 10	< 10	< 10	ND
B19-5	< 10	< 10	< 10	< 10	ND
Composite 1	< 10	< 10	< 10	< 10	ND
Composite 2	< 10	< 10	< 10	< 10	ND
Composite 3	< 10	< 10	< 10	< 10	ND

Notes:
PCBs = polychlorinated biphenyls
µg/kg = micrograms per kilogram
< = not detected above indicated laboratory Reporting Limit (RL)
ND = not detected above laboratory RLs

Table 9: Soil Sample OCPs Laboratory Results (µg/kg)

Sample Identification	alpha-Chlordane	Endosulfan I	4,4'-DDE	4,4'-DDT	All Other OCPs
Composite 1	< 5	< 5	< 5	< 5	ND
Composite 2	< 5	< 5	< 5	< 5	ND
Composite 3	< 5	**5.5**	< 5	< 5	ND

Notes:
OCPs = organochlorine pesticides
µg/kg = micrograms per kilogram
DDE = dichlorodiphenyldichloroethylene
DDT = dichlorodiphenyltrichloroethane
ND = not detected above laboratory Reporting Limits

Please see Appendix D for the full laboratory analysis reports, which include chain-of-custody and laboratory quality assurance/quality control (QA/QC) documentation. All laboratory QA/QC data were within acceptable limits.

Discussion

One soil gas sample (PES-B2-SV5) contained a detectable concentration of trichlorofluoromethane at 0.190 micrograms per liter (µg/L). None of the soil gas samples indicated detectable concentrations of one or more other VOCs.

One soil sample (B14-5) contained a detectable concentration of tertiary-butyl alcohol (TBA) at 33.4 micrograms per kilogram (µg/kg). None of the soil samples indicated detectable concentrations of one or more other VOCs.

One composite soil sample (Composite 3) contained a detectable concentration of the OCP Endosulfan I at 5.5 µg/kg. None of the soil samples indicated detectable concentrations of one or more other OCPs.

None of the analyzed soil samples contained a detectable concentration of SVOCs or PCBs.

Most of the analyzed detected soil sample results did not exceed the background concentrations for typical California soils as based on the Kearney Foundation of Soil Science March 1996 Background Concentrations of Trace and Major Elements in California Soils Report.

Regional Screening Levels

Regional Screening Levels (RSLs) [formerly Preliminary Remediation Goals (PRGs)] are generic, risk-based chemical concentrations developed by the EPA Region 9 for use in initial screening-level evaluations. RSLs combine human health toxicity values with standard exposure factors to estimate contaminant concentrations that are considered to be health protective of human exposures over a lifetime through direct-contact exposure pathways (e.g., via inhalation and/or ingestion of and/or dermal contact with impacted soil). RSLs are not legally enforceable

standards, but rather are considered guidelines to determine if potential risks associated with encountered contamination may warrant further evaluation.

Please see Table 10 for a comparison of detected soil contaminant concentrations and available residential and industrial soil RSLs. Only contaminants detected above laboratory Practical Quantitation Limits (PQLs) are included in the table.

Table 10: RSLs and Detected Soil Contaminant Concentrations (µg/kg)

Detected Contaminants	Number of Samples with Detectable Concentrations*	Sample with Peak Concentration	Peak Concentration	Residential Soil RSL	Industrial Soil RSL	Number of Samples Exceeding RSLs
Endosulfan I	1 of 3	Composite 3	5.5	370,000	3,700,000	0 / 0

Notes:
*Exceeding the laboratory Practical Quantitation Limit (PQL)
RSLs = Regional Screening Levels
µg/kg = micrograms per kilogram

None of the contaminants detected in the analyzed soil samples exceeded the residential or industrial soil RSLs.

Summary and Conclusions

Partner completed an Environmental Site Assessment at the subject property to determine the presence or absence of soil and/or soil-vapor contamination from the former and potentially current industrial use of the subject property. The scope of the investigation included the installation of 34 soil/soil gas borings. Twenty-one soil gas samples were analyzed for VOCs. Twenty-two soil samples were analyzed for VOCs and TPH-cc. Nine soil samples were analyzed for SVOCs. Three soil samples were analyzed for PCBs. Twenty soil samples were analyzed for CAM 17 Metals. Three composite soil samples were analyzed for VOCs, TPH-cc, PCBs, OCPs, and CAM 17 Metals.

Trichlorofluoromethane was detected in one soil gas sample. No soil gas regulatory guidelines are currently established for the detected refrigerant. The VOC TBA was detected in one soil sample collected at a depth of 5 feet bgs. The 10-foot soil sample collected from the same boring had non-detectable concentrations of all VOCs including TBA, suggesting a very limited localized TBA impact and very limited vertical migration of this contaminant. No soil regulatory guidelines are currently established for TBA and impacts to the deep ground water are very unlikely. The OCP Endosulfan I was detected in one composite soil sample at concentrations below available regulatory guidelines.

Metal were detected in soil samples, however concentrations were below applicable regulatory guidelines. No other elevated concentrations of target contaminants, other than the suspected very localized low concentration of the refrigerant, were detected in soil gas or soil during this investigation.

Given the findings of this investigation, Partner recommends no further investigation with respect to the industrial complex at this time.

Limitations

This Report presents a summary of work completed by Partner. The completed work includes observations of site conditions encountered and the analytical results provided by an independent third party laboratory of samples collected during the course of the project. The number and location of samples were selected to provide the required information. However, it cannot be assumed that the limited available data are representative of subsurface conditions in areas not sampled.

All conclusions and/or recommendations are based on the observations, laboratory analyses, and the governing regulations. Conclusions and/or recommendations beyond those stated and reported herein should not be inferred from this document.

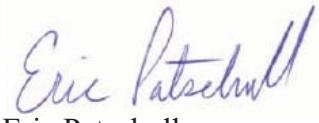
Partner warrants that the environmental consulting services contained herein were accomplished in accordance with generally accepted practices in the environmental engineering, geology, and hydrogeology fields that existed at the time and location of work. No other warranties are implied or expressed.

All reports, both verbal and written, as they pertain to the property located at 1625/1625 B, 1631 South Magnolia Avenue, and 410 West Evergreen Avenue in the City of Monrovia, California, are for the sole use and benefit of Sierra Autocars, Inc. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of Partner.

Signatures of Participating Professionals

Thank you for the opportunity to be of service. If you have any questions regarding this investigation, please contact the undersigned at (310) 615-4500.

Sincerely,



Eric Patschull
Project Geologist



Joseph P. Derhake, PE
President

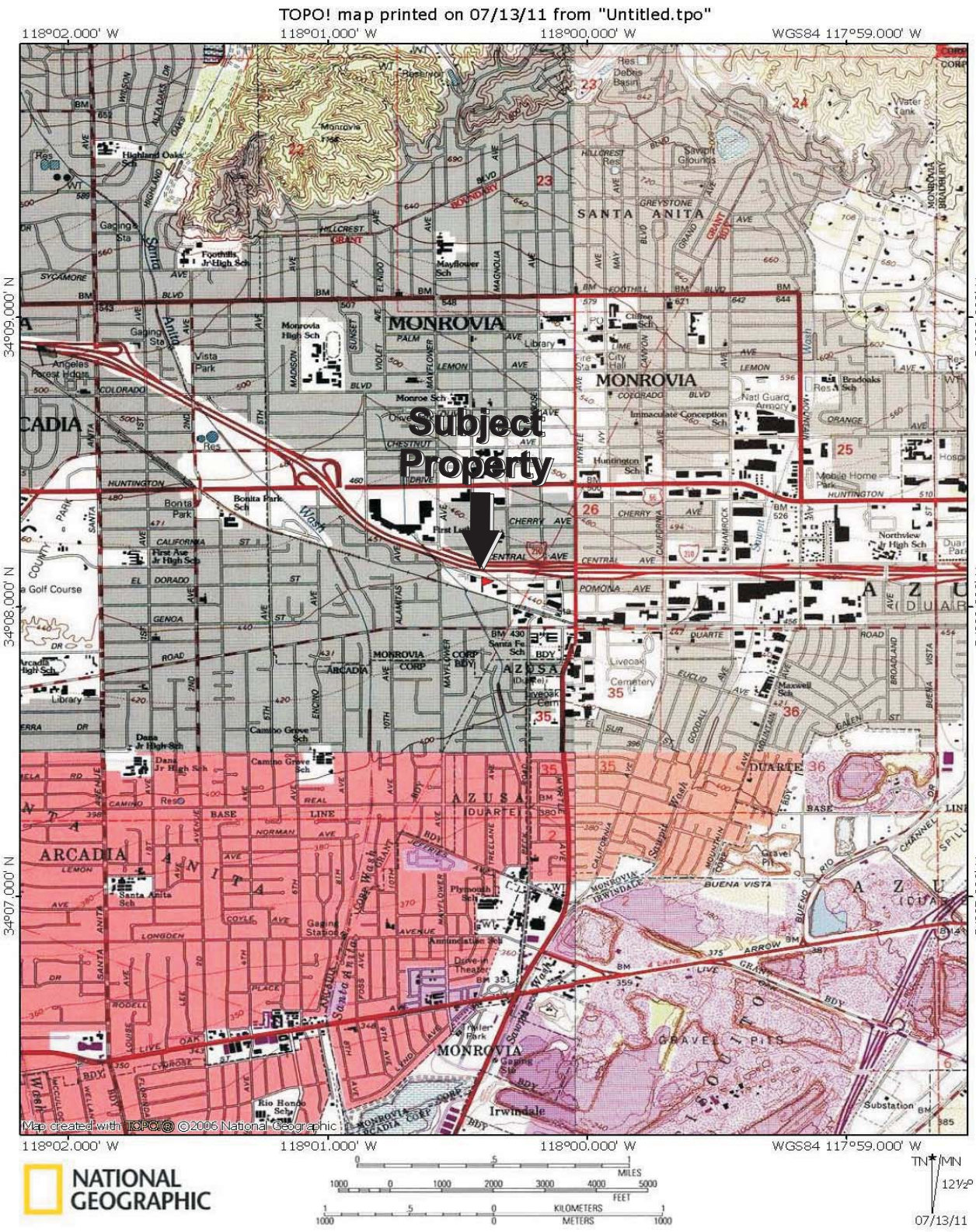


Attachments:

Figures
1. Site Vicinity Map
2. Site Plan
3. Boring Locations

Appendices
A. Geophysical Survey Report
B. Health and Safety Plan
C. Boring Logs
D. Laboratory Reports

Figures



PARTNER
Engineering and Science, Inc.
1990 East Grand Avenue, Suite 100
El Segundo, California 90245

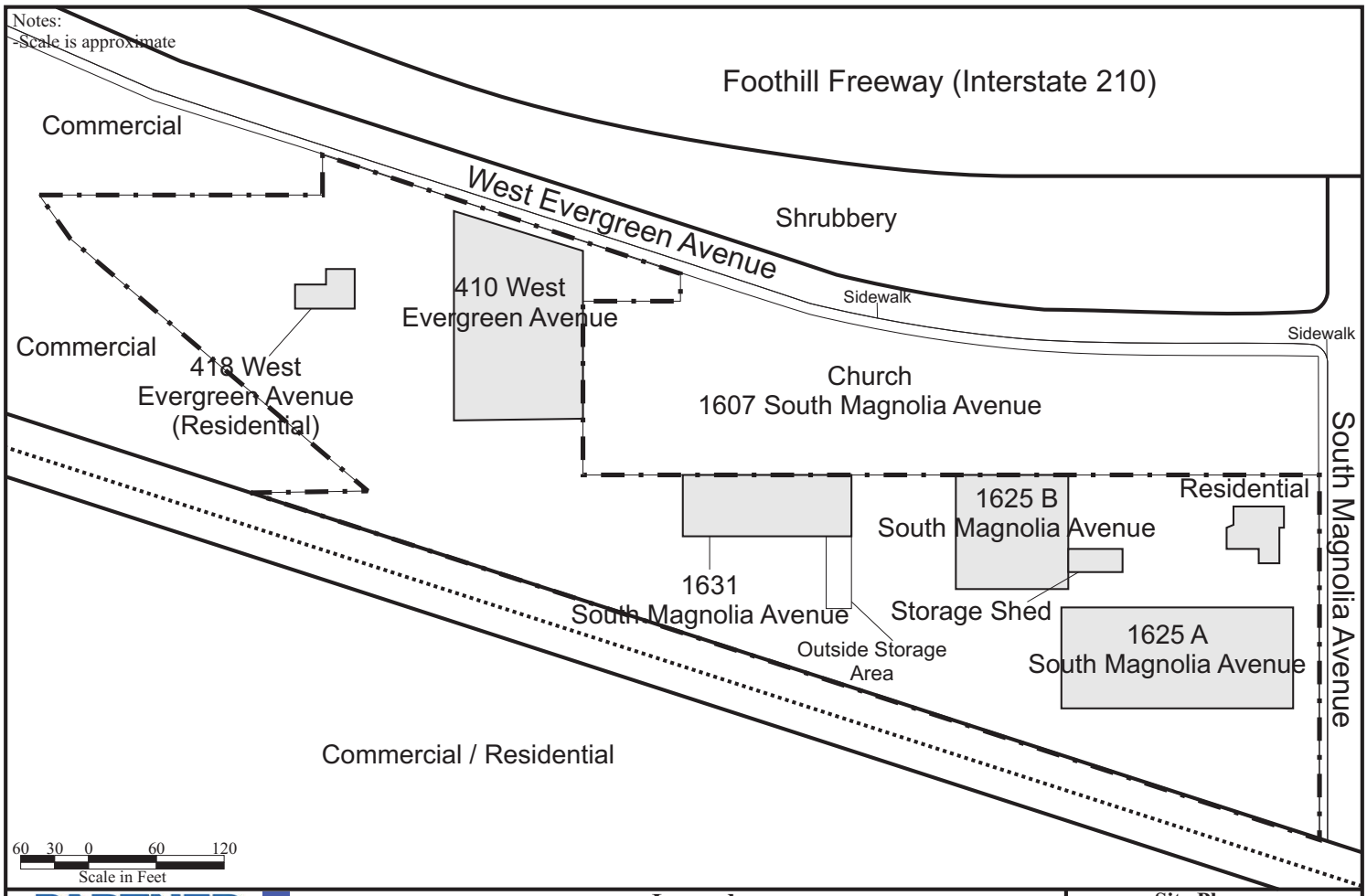
Project Number: 11-76495.9

USGS 7.5 Minute Mount Wilson, California Quadrangle
Version: 1966 Current as of: 1988

Site Vicinity Map

Figure	Prepared By	Date
1	E. Patschull	July 2011

W. Evergreen and S. Magnolia
Monrovia, California 91016



Legend

Subject Site

Railroad Track

N

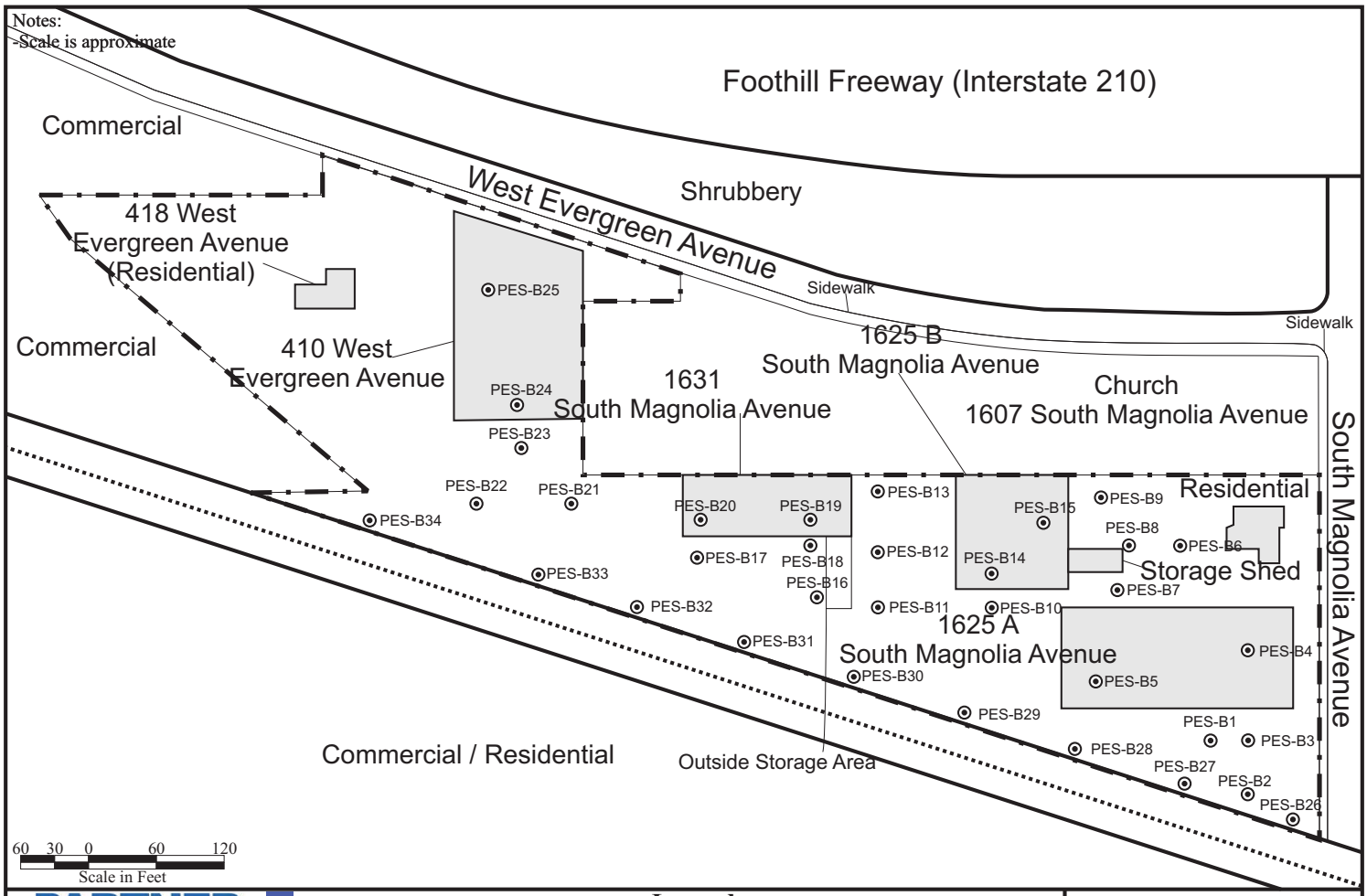
PARTNER
Engineering and Science, Inc.
1990 East Grand Avenue, Suite 100
El Segundo, California 90245

Project Number: 11-76495.9

Site Plan

Figure	Prepared By	Date
2	K. Mooman	July 2011

1625 A & 1625 B South Magnolia Avenue
Monrovia, California 91016



Legend

Subject Site

Boring Location

Railroad Track

N

PARTNER
Engineering and Science, Inc.
1990 East Grand Avenue, Suite 100
El Segundo, California 90245

Project Number: 11-76495.9

Boring Locations

Figure	Prepared By	Date
3	K. Mooman	July 2011

1625 A & 1625 B South Magnolia Avenue
Monrovia, California 91016

APPENDIX G2
PHASE II ENVIRONMENTAL SITE ASSESSMENT

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PARTNER
Engineering and Science, Inc.



PHASE II ENVIRONMENTAL SITE ASSESSMENT REPORT

INDUSTRIAL COMPLEX
1625/1625B, 1631 South Magnolia Avenue,
and 410 West Evergreen Avenue,
Monrovia, California 91016

July 22, 2011
Partner Project Number 11-76495.9



Prepared for

SIERRA AUTOCARS, INC.
1450 South Shamrock Avenue
Monrovia, California 91016

PARTNER
Engineering and Science, Inc.

July 22, 2011

Mr. Peter Hoffman
Sierra Autocars, Inc.
1450 South Shamrock Avenue
Monrovia, California 91016

Subject: **Phase II Environmental Site Assessment**
Industrial Complex
1625/1625B, 1631 South Magnolia Avenue, and 410 West Evergreen Avenue
Monrovia, California 91016
Partner Project Number 11-76495.9

Dear Mr. Hoffman:

The following letter report details the field activities, methods, and findings of the Phase II Environmental Site Assessment (ESA) conducted by Partner Engineering and Science, Inc. (Partner) at the above-referenced property ("site" or "subject property"). The purpose of the investigation was to determine the presence or absence of soil and/or soil-vapor contamination from the former and potentially current industrial use of the subject property. Sierra Autocars, Inc., provided project authorization through a signed copy of Partner Proposal Number P11-76495.9.

Site Description

The Site is located on the southwest corner of the intersection of West Evergreen Avenue and South Magnolia Avenue. The Site is comprised of three parcels: 1625/1625 B South Magnolia Avenue parcel which consists of 2.09 acres; the 1631 South Magnolia Avenue parcel which consists of 0.79 acre; and the 410 West Evergreen Avenue parcel which consists of 1.3 acres. Adjacent properties consist of a church to the north, vacant land to the east across South Magnolia Avenue, railroad track to the south, and residences to the west across South Dale Drive. Please see Figure 1 for a site vicinity map.

The parcel located at 1625/1625 B South Magnolia Avenue is developed with two industrial buildings (Building A constructed in 1954 and Building B constructed in 1962), a single family residence constructed in 1950, and two metal sheds. Building A is currently occupied by Vioski Manufacturing for the manufacturing of furniture. Building B is currently occupied by an unnamed tenant for the storage of various gym equipment, as well as by AeroVironment for the warehousing of military drone equipment.

The parcel located at 1631 South Magnolia Avenue is developed with two buildings, including a multi-tenant industrial building and a small office building constructed in 1966. The multi-tenant industrial building is occupied by The Classic Garden for pottery warehousing and distribution operations; by Andersen Woodworks for woodworking operations; and an unnamed pottery tenant for garden pot/planter making operations.

The parcel located at 410 West Evergreen Avenue is developed with one industrial building constructed in 1977. The subject property is currently occupied by California Theaming Company for industrial use. Onsite operations consist of the manufacturing of theme-park fixtures and props, including silicone and plaster molding, welding, spray painting, sanding, cutting, and typical office and administrative activities.

The remainder of the Site consists of asphalt-paved parking spaces and associated landscaping. Please see Figure 2 for a site plan.

Site History

According to an April 2011 Partner Phase I Environmental Site Assessment (Phase I) Report, the parcel located at:

- 1625/1625 B South Magnolia Avenue was developed for industrial use from 1954 to the present. Historical operations included furniture manufacturing and upholstering, woodworking, structural manufacturing, and the development of scientific machinery (prototypes). From 1966 to 1976, the subject property was occupied by STD/Standard Research Company for the development of scientific machinery (prototypes). Building records indicated that STD Research Company utilized detergents and "common organic solvents" for cleaning purposes and mercury for operations. From 1973 to 1990, the subject property was occupied by Calcraft for structural manufacturing. Calcraft operated a spray booth and utilized solvents during this period of time. Based on the duration of industrial operation, the nature of industrial activities including spray painting operations and solvent usage; and the absence of subsurface investigations to account for these concerns, the historical industrial operations at the subject property was considered to constitute a recognized environmental condition (REC).

- 1631 South Magnolia Avenue was developed for industrial use from 1965 to the present. Historical operations included sheet metal work and manufacturing, electronics operations, wood-working, and structural manufacturing. Calcraft occupied the subject property in 1972. Calcraft operated a spray booth and utilized solvents as part of day-to-day operations. Metric Machining Co. occupied the subject property in 1988 and operated as a metal machining company and fabricated metallic parts, utilizing oils, lubricants, cutting fluids, and solvents as part of day-to-day operations. Based on the duration of industrial operation, the nature of industrial activities including spray painting and metal manufacturing operations and solvent usage, and the absence of subsurface investigations to account for these concerns, the historical industrial use of the subject property was considered to constitute a REC. In addition, the adjacent railroad tracks also constitute a potential environmental concern. Railroad spurs represent environmental concerns due to the historical application of oils containing polychlorinated biphenyls (PCBs), herbicides, and arsenic for pest and weed control, as well as, the potential presence of creosote on the rail ties, and the historical common practice of using coal cinders for track fill material.

- 410 West Evergreen Avenue has been developed for industrial use as early as 1968 to present-day. Former operations on the subject property included sheet metal work. The absence of information regarding historical operations and regulatory agency records, and the absence of subsurface investigations to determine whether former operations have impacted the subject property constitute a REC. In addition to the environmental concern of the historical industrial operations, the adjacent railroad tracks also pose a concern. Railroad spurs represent environmental concerns due to the historical application of oils containing polychlorinated biphenyls (PCBs), herbicides, and arsenic for pest and weed control, as well as the potential presence of creosote on the rail ties, and the historical common practice of using coal cinders for track fill material.

Field Activities

To provisionally investigate the potential impact of petroleum/chlorinated hydrocarbons, PCBs, pesticides, and metals to soil as a consequence of a release or releases from historical and current industrial activities, Partner conducted a Phase II Environmental Site Assessment. The assessment scope included 34 soil/soil gas borings (B1 through B34).

Utility Clearance

Partner delineated the work area with white spray paint and notified Underground Services Alert (USA) to clear public utility lines as required by law at least 48 hours prior to drilling activities. USA issued ticket number A11720332 for the project.

Geophysical Survey

On June 29, 2011, Ground Penetrating Radar Systems, Inc. (GPRS) conducted a Geophysical Survey under the supervision of Partner. The purpose of the Geophysical Survey was to scan for underground utilities at the proposed boring locations, as well as to try and locate a drywell/cess pool associated with the 410 West Evergreen parcel. The investigation focused on the accessible exterior areas surrounding the Site.

The Geophysical Survey was conducted with a GSSI (model SIR-3000) in conjunction with a 400 megahertz (MHz) antenna ground penetrating radar (GPR) unit, and radio detection equipment (model#RD 7000).

GPRS systematically free-traversed the investigation area with the aforementioned equipment. The equipment readouts were interpreted in real time and compiled as necessary in order to identify subsurface anomalies consistent with piping trenches, utility lines, and/or other subsurface conduits/features.

In addition, GPRS systematically free-traversed each Partner-proposed boring location with the aforementioned equipment and the equipment readouts were interpreted in real time for evidence of utility lines and/or other subsurface features of potential concern. Boring placement was

modified as necessary based on the Geophysical Survey results to avoid conflicts with underground features.

Please see Appendix A for a copy of the Geophysical Survey Report, which provides additional details regarding the Geophysical Survey equipment and methodology.

Health and Safety Plan

Partner reviewed the site-specific Health and Safety Plan with all on-site personnel involved in the project prior to the commencement of drilling activities. Please see Appendix B for a copy of the signed Health and Safety Plan.

Drilling Equipment

On June 30, July 1, and July 6, 2011, Partner subcontracted with Kehoe Testing and Engineering (KTE) (State of California C57 Water Well Drilling Contractor License Number 786163) to provide and operate drilling equipment. KTE, under the direction of Partner, advanced soil borings B1 through B3, B10 through B13, B16 through B18, B21, B22, and B25, with a direct-push truck-mounted Geoprobe Model 5400 drill rig; borings B4, B5 and B23 with a limited-access direct-push Geoprobe drill rig; borings B6 through B9, B14, B15, B19, B20 and B24 with a direct-push, track-mounted Geoprobe drill rig; and borings B26 through B34 with a hand auger. All drilling rods and/or sampling equipment were decontaminated between samples and/or boreholes to prevent cross-contamination.

Boring Locations

Soil borings B1 through B15 were drilled at the parcel located at 1625/1625 B South Magnolia Avenue, borings B16 through B20 were drilled at the parcel located at 1631 South Magnolia Avenue, borings B21 through B25 were drilled at the parcel located at 410 West Evergreen Avenue, and borings B26 through B34 were drilled in the vicinity of the railroad track located along the southern Site boundary. Boring placement was limited due to the subject property boundary and parked cars. Please see Figure 3 for a map indicating boring locations.

Sampling Depths

Borings B1, B6, B11, B12, and B16 were advanced to a terminal depth of 5 feet below ground surface (bgs). Soil samples were collected for lithology purposes only at 5 feet bgs.

Borings B2 and B3 were advanced to a terminal depth of 30 feet bgs. Borings B4, B5, B7 through B10, B13 through B15, and B17 through B25 were advanced to a terminal depth of 20 feet bgs. Soil samples were collected from each boring at 5-foot intervals to terminal depth.

Borings B26 through B34 were advanced to a terminal depth of 4 feet bgs. Soil samples were collected from each boring at 1-foot and 4-foot intervals.

Soil gas samples were collected from borings B1 through B6, B8, B10 through B17, B19 through B22, B24, and B25 at 5 feet bgs.

Soil Sampling Methodology

Borings B1 through B3, B6 through B8, B10 through B13, B16 through B18, and B26 through B33 were overlain by asphalt, which was penetrated using the punch bit attachment advanced by the direct-push drill rig. Borings B4, B5, B14, B15, B19, B20, B23, B24, and B25 were overlain by concrete, which was penetrated using a concrete coring attachment advanced by the direct-push rig. Borings B9, B21, B22, and B34 were overlain by soil.

Soil was manually excavated from the upper 5 feet of each boring with a hand-auger equipped with a 3.5-inch diameter auger bucket to clear for underground utilities. At the desired sampling depth, soil was transferred from the auger bucket into a 1¾-inch diameter by 2-foot long acetate liner/or 4-ounce glass jar.

The remaining soil samples were collected using a 2-foot long by 1¾-inch diameter sampler with a 2-foot long acetate liner and sampling point. The sampler was advanced by the direct-push drill rig using 3-foot long by 1.5-inch diameter hollow rods with the inner rods in place to prevent soil from entering the sampler. At approximately 1 foot above the desired sampling depth, an inner rod was removed and the sampler was advanced to the desired sampling depth to allow undisturbed soil to enter the sampling liner. The sampler was retrieved from the subsurface and the soil-filled liner was removed.

Each acetate liner was cut using a hacksaw. A sample was collected from the lower half of the liner using a disposable plastic syringe in accordance with Environmental Protection Agency (EPA) Method 5035 sampling protocol. The remainder of the lower half of the liner was capped on either end with Teflon tape and plastic caps. The capped liners and syringes were labeled for identification and stored in an iced cooler. The soil in the upper half of the liner was visually inspected for discoloration, monitored for odors, classified in accordance with the Unified Soil Classification System (USCS), placed in a sealable plastic bag, and field-screened with a photoionization detector (PID) calibrated to isobutylene. None of the samples exhibited discoloration or an odor and none of the PID readings suggested the presence of significantly elevated volatile organics concentrations.

Soil Gas Probe Construction

Soil gas probes screened at 5 feet bgs were constructed within soil borings B1 through B6, B8, B10 through B17, B19 through B22, B24, and B25 upon completion of soil sampling. New ¼-inch diameter polyethylene tubing with a ¼-inch diameter polypropylene filter at the terminal end was inserted into a borehole to the desired sampling depth. One-inch diameter polyvinyl chloride (PVC) casing was used as a guide for the tubing to ensure that the desired sampling depth was achieved. Sand was poured into the boring annulus to form an

approximately 1-foot long sand pack around the polypropylene filter, at which time the PVC piping was withdrawn and approximately 1 foot of dry, granular bentonite was placed atop the sand pack. The borehole was backfilled with hydrated bentonite to the ground surface to form a seal. The sampling end of the tubing was fitted with a valve and the probe was labeled for identification.

Soil Gas Sampling Methodology

Soil gas samples were collected in general accordance with the February 1997 Los Angeles Regional Water Quality Control Board (LARWQCB) "Interim Guidance for Active Soil Gas Investigation" and the January 2003 Department of Toxic Substances Control (DTSC) and LARWQCB "Advisory – Active Soil Gas Investigations."

The mobile laboratory was calibrated at the beginning of the day prior to the first analysis. Each probe was allowed to equilibrate for at least 30 minutes after installation prior to sampling with gas-tight glass syringes. A purge test was conducted on the first probe to determine the optimal purge volume. The optimal purge volume based on the purge test was three purge volumes, which was then purged from the remaining probes. Each day, one soil vapor sample was collected as a duplicate to assess the precision (repeatability) of the laboratory analysis.

Tracer gas n-propanol was placed around each probe at the ground surface while sampling to detect ambient air intrusion. The tracer gas was not detected in any sample, indicating that the integrity of the bentonite seal was maintained. In addition, recovery of all surrogate compounds included with each analysis was within acceptable limits, indicating that the sampling containers and analysis equipment did not leak.

The probes were removed from the subsurface and the boreholes were backfilled with hydrated bentonite chips and capped with concrete or asphalt to match existing ground cover upon completion of sampling.

No significant amounts of derived wastes were generated during this investigation.

Soil Gas Sample Laboratory Analyses

Jones Environmental, Inc. (JEI), a state-certified mobile laboratory [California Department of Public Health (CDPH) Environmental Laboratory Accreditation Program (ELAP) certificate number 6C73103] was present on-site and collected 21 soil gas samples (plus three duplicate samples) on June 30, July 1, and July 6, 2011. The soil gas samples were immediately loaded into the gas chromatograph/mass spectrometer (GC/MS) for analysis. Each sample was analyzed for volatile organic compounds (VOCs) via EPA Method 8260B.

Soil Sample Laboratory Analyses

Partner collected 32 soil samples on June 30, 2011, 32 soil samples on July 1, 2011 and 38 soil samples on July 6, 2011, for analysis using the JEI mobile lab. A total of 25 soil samples were analyzed for VOCs via EPA Method 8260B and total petroleum hydrocarbon chain speciation (TPH-cc) via EPA Method 8015M.

Discrete soil samples collected along the southern property boundary in the vicinity of the railroad tracks were composited by the laboratory into a composite sample (three samples total) and analyzed for TPH-cc via EPA Method 8015M, and VOCs via EPA Method 8260B.

Partner collected eight soil samples on June 30, 2011, eight soil samples on July 1, 2011 and 22 soil samples on July 6, 2011, for analysis by SunStar Laboratories, Inc. (SunStar), a state-certified laboratory [California Department of Health Services (DHS) ELAP certificate number 2250] in Lake Forest, California. The samples on the day that they were collected were transported in an iced cooler under proper chain-of-custody protocol to SunStar laboratory for analyisis.

Based on field-screening results, a total of 23 soil samples were analyzed for California Administrative Manual (CAM) 17 Metals via EPA Method 6010B/7471A, nine soil samples were analyzed for semi-volatile organic compounds (SVOCs) via EPA Method 8270C, and six soil samples were analyzed for polychlorinated biphenyls (PCBs) via EPA Method 8081B.

The discrete composite soil samples collected along the southern property boundary in the vicinity of the railroad tracks, discussed above, were analyzed for CAM 17 Metals via EPA Method 6010B/7471A, PCBs via EPA Method 8081B, and for organochlorine pesticides (OCPs) via EPA Method 8081B.

Investigation Scope Summary

Please see Table 1 for a summary of the borings, sampling schedule, and laboratory analyses for this investigation. Please see Table 2 for a summary of the laboratory analyses schedule for the soil samples composited by the laboratory during this investigation.

Table 1: Summary of Investigation Scope

Boring Identification	Location	Terminal Depth (feet bgs)	Matrix Sampled	Sampling Depths* (feet bgs)	Target Contaminants
B1	Exterior, Southeast of Building A	5	Soil Gas	**5**	VOCs
B2	Exterior, Southeast of Building A	30	Soil	**5**, 10, 15, 20, 25, 30	VOCs, SVOCs, TPH-cc, PCBs, Metals
			Soil Gas	**5**	VOCs
B3	Exterior, Southeast Corner of Building A	30	Soil	**5**, 10, 15, 20, 25, 30	VOCs, SVOCs, TPH-cc, PCBs, Metals
			Soil Gas	**5**	VOCs
B4	Interior, Northeast Corner of Building A	20	Soil	**5**, 10, 15, 20	VOCs, SVOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B5	Interior, West Portion of Building A	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B6	Exterior, Northeast of Building A	5	Soil Gas	**5**	VOCs

B7	Exterior, North of Building A	20	Soil	**5**, 10, 15, 20	VOCs, SVOCs, TPH-cc, Metals
B8	Exterior, East of Building B	20	Soil	**5**, 10, 15, **20**	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B9	Exterior, Northeast of Building B	20	Soil	**5**, 10, 15, **20**	VOCs, SVOCs, TPH-cc, Metals
B10	Exterior, South of Building B	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B11	Exterior, Southwest of Building B	5	Soil Gas	**5**	VOCs
B12	Exterior, West of Building B	5	Soil Gas	**5**	VOCs
B13	Exterior, Northwest of Building B	20	Soil	**5**, 10, 15, 20	VOCs, SVOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B14	Interior, Southwest Corner of Building B	20	Soil	**5**, 10, 15, 20	VOCs, SVOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B15	Interior, Northeast Corner of Building B	20	Soil	**5**, 10, 15, 20	VOCs, SVOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B16	Exterior, West of Outside Storage Area	5	Soil Gas	**5**	VOCs

B17	Exterior, Southwest of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B18	Exterior, Southeast Corner of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
B19	Interior, Eastern Portion of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, SVOCs, TPH-cc, PCBs, Metals
			Soil Gas	**5**	VOCs
B20	Interior, West Portion of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B21	Exterior, Southeast of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B22	Exterior, Southwest of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B23	Exterior, Center of Storage Compound, South of Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
B24	Interior, South Portion of Industrial	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs

B25	Interior, North Portion of Industrial Building	20	Soil	**5**, 10, 15, 20	VOCs, TPH-cc, Metals
			Soil Gas	**5**	VOCs
B26	Exterior, Southeast Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B27	Exterior, Southeast Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B28	Exterior, Southeast Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B29	Exterior, South Central Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B30	Exterior, South Central Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B31	Exterior, Southwest Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B32	Exterior, Southwest Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs

B33	Exterior, Southwest Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs
B34	Exterior, Southwest Property Boundary Near Railroad	4	Soil	*1*, 4	VOCs, TPH-cc, Metals, PCBs, OCPs

Notes:
*Depths in **bold** analyzed for target contaminants: volatile organic compounds (VOCs) via EPA Method 8260B. Total petroleum hydrocarbons carbon chain speciation (TPH-cc) via EPA Method 8015M. Semi volatile organic compounds (SVOCs) via EPA Method 8270C. Polynuclear aromatic hydrocarbons (PAHs) via EPA Method 8270C. Polychlorinated biphenyls (PCBs) via EPA Method 8081B. California Administrative Manual (CAM) 17 Metals via EPA Method 6010B/7471A. Depths underlined analyzed for VOCs via EPA Method 8260B and TPH-cc via EPA Method 8015M. Depths *italicized* composited in the laboratory and analyzed for target contaminants: Organochlorine pesticides (OCPs) via EPA Method 8081B. VOCs via EPA Method 8260B. TPH-cc via EPA Method 8015M. CAM 17 Metals via EPA Method 6010B/7471A. PCBs via EPA Method 8081B. See Table 2 for more information on composite sample schedule.
bgs = below ground surface

Table 2: Summary of Composite Soil Sampling Investigation Scope

Composite Sample Identification*	Discrete Samples Composition	Target Contaminants
COMPOSITE 1; B26:28-1***	B26, B27, B28	VOCs, TPH-cc, Metals, PCBs, OCPs
COMPOSITE 2; B29:31-1***	B29, B30, B31	VOCs, TPH-cc, Metals, PCBs, OCPs
COMPOSITE 3; B32:34-1***	B32, B33, B34	VOCs, TPH-cc, Metals, PCBs, OCPs

Notes:
*Each composite sample analyzed for organochlorine pesticides (OCPs) via Environmental Protection Agency (EPA) Method 8081A. PCBs via EPA Method 8081B. CAM 17 Metals via EPA Method 6010B/7471A. TPH-cc via EPA Method 8015M. VOCs via EPA Method 8260B.
** SunStar Laboratories composite sample identification
*** Jones Environmental Laboratories composite sample identification

Geology and Hydrogeology

Based on a review of the United States Geological Survey (USGS) Mount Wilson Quadrangle topographic map, the subject property is situated approximately 440 feet above mean sea level (amsl), and the local topography is sloping gently to the south-southwest.

The Site is located in the eastern San Gabriel Valley within the Main San Gabriel Hydrogeologic-Basin. The basin is bounded by the San Gabriel Mountains to the north, the San Jose Hills and subsurface bedrock high to the east; the Puente, Repetto and Merced hills to the south and west; and the Raymond Fault to the northwest. Local geology is characterized by recent age younger alluvium and Pleistocene age older alluvium consisting of poorly consolidated continental sediments. These sediments consist of interbedded sand, silt, and clay in variable proportions with lenses of gravel. They were deposited in large part by coalescing alluvial fans emanating from canyons exiting the southern San Gabriel Mountains north of the site. In the site vicinity, older alluvium occurs at grade to a depth of approximately 700 feet, and comprises a more youthful portion of the alluvial fan which has accumulated at the mouth of Monrovia Canyon. The dominant structural feature in the vicinity of the site is the Sierra Madre fault zone. Elements of this fault zone occur approximately 1.0 mile northeast of the subject site and include the Duarte and Sierra Madre faults.

Based on borings advanced during this investigation, the underlying subsurface consists predominantly of dark brown, dry to slightly moist sand (SP) with silt from the ground surface to 30 feet bgs. Please see Appendix C for boring logs from this investigation.

Hydrogeologically, the Site is located in the eastern San Gabriel Valley within the Main San Gabriel Hydrogeologic Basin. The San Gabriel and the Rio Hondo rivers, and their tributaries flow from the San Gabriel Valley. The rivers have their headwaters in the San Gabriel Mountains and have a common exit from the southern portion of the valley at Whittier Narrows between the Merced and Puente hills. The site is approximately 3 miles west of the San Gabriel River. Percolation of direct rainfall and run-off water from the mountains is the major source of natural recharge of the San Gabriel Hydrogeologic Basin. Imported water and return flow from applied water also supply recharge water to the basin. The alluvial deposits, which contain the major aquifer in the basin, attain a maximum thickness of greater than 4,000 feet. The average thickness of water-bearing deposits in the center of the basin is 900 to 1,000 feet. The alluvium is underlain by Miocene-age Puente and Topanga formations that yield only limited quantities of water. The elevation of the groundwater ranges from 100 feet to greater than 500 feet amsl.

Regionally, groundwater flows from the perimeter of the basin in a southerly direction toward Whittier Narrows, where it exits the basin. Locally, the groundwater flow is towards the west. Los Angeles County Water District records indicate that groundwater occurs at approximately 280 feet bgs in the area of the subject property; however, shallower, perched groundwater may also occur. According to the Los Angeles County Department of Public Works (LACDPW) Hydrologic Unit, the nearest well is #4197. Well #4197 is located approximately 4,800 feet

southwest of the Site. Depth to groundwater was reported as 191.5 feet bgs on May 5, 2002. Groundwater was not encountered during this investigation.

Laboratory Analysis Results

JEI reported the laboratory results on July 6 and July 11, 2011. SunStar reported the laboratory results on July 8, July 11, and July 13, 2011. Please see Tables 3 through 9 for a summary of the soil gas VOCs, soil VOCs, soil TPH-cc, soil CAM 17 metals, soil SVOCs, soil PCBs, and soil OCPs laboratory analysis results, respectively.

Table 3: Soil Gas Sample VOCs Laboratory Results (µg/L)

Sample Identification*	PCE	TCE	T-Methane	All Other VOCs
PES-B1-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B2-SV5	< 0.020	< 0.020	**0.190**	ND
PES-B3-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B4-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B5-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B6-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B8-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B10-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B11-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B12-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B13-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B14-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B15-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B16-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B17-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B19-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B20-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B21-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B22-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B24-SV5	< 0.020	< 0.020	< 0.020	ND
PES-B25-SV5	< 0.020	< 0.020	< 0.020	ND

Notes:
VOCs = volatile organic compounds; µg/L = micrograms per liter; PCE = tetrachloroethene; TCE=trichloroethene; T-Methane = Trichlorofluoromethane; < = not detected above indicated laboratory Practical Quantitation Limit (PQL); ND = not detected above laboratory PQLs

Table 4: Soil Sample VOCs Laboratory Results (µg/kg)

Sample Identification	PCE	TCE	TBA	Benzene	All Other VOCs
B2-5	< 1	< 1	< 5	< 1	ND
B3-5	< 1	< 1	< 5	< 1	ND
B4-5	< 1	< 1	< 5	< 1	ND
B5-5	< 1	< 1	< 5	< 1	ND
B7-5	< 1	< 1	< 5	< 1	ND
B8-5	< 1	< 1	< 5	< 1	ND
B9-5	< 1	< 1	< 5	< 1	ND
B10-5	< 1	< 1	< 5	< 1	ND
B13-5	< 1	< 1	< 5	< 1	ND
B14-5	< 1	< 1	**33.4**	< 1	ND
B14-10	< 1	< 1	< 5	< 1	ND
B15-5	< 1	< 1	< 5	< 1	ND
B17-5	< 1	< 1	< 5	< 1	ND
B18-5	< 1	< 1	< 5	< 1	ND
B19-5	< 1	< 1	< 5	< 1	ND
B20-5	< 1	< 1	< 5	< 1	ND
B21-5	< 1	< 1	< 5	< 1	ND
B22-5	< 1	< 1	< 5	< 1	ND
B23-5	< 1	< 1	< 5	< 1	ND
B24-5	< 1	< 1	< 5	< 1	ND
B25-5	< 1	< 1	< 5	< 1	ND
B26:28-1	< 1	< 1	< 5	< 1	ND
B29:31-1	< 1	< 1	< 5	< 1	ND
B32:34-1	< 1	< 1	< 5	< 1	ND

Notes:
VOCs = volatile organic compounds
µg/kg = micrograms per kilogram
PCE = tetrachloroethene
TCE = trichloroethene
TBA = tertiary butyl alcohol
< = not detected above indicated laboratory Method Detection Limit (MDL)
ND = not detected above laboratory MDLs

Table 5: Soil Sample TPH-cc Laboratory Results (mg/kg)

Sample Identification	TPH-g	TPH-d	TPH-o
B2-5	< 10	< 10	< 10
B3-5	< 10	< 10	< 10
B4-5	< 10	< 10	< 10
B5-5	< 10	< 10	< 10
B7-5	< 10	< 10	< 10
B8-5	< 10	< 10	< 10
B9-5	< 10	< 10	< 10
B10-5	< 10	< 10	< 10
B13-5	< 10	< 10	< 10
B14-5	< 10	< 10	< 10
B14-10	< 10	< 10	< 10
B15-5	< 10	< 10	< 10
B17-5	< 10	< 10	< 10
B18-5	< 10	< 10	< 10
B19-5	< 10	< 10	< 10
B20-5	< 10	< 10	< 10
B21-5	< 10	< 10	< 10
B22-5	< 10	< 10	< 10
B23-5	< 10	< 10	< 10
B24-5	< 10	< 10	< 10
B25-5	< 10	< 10	< 10
B26:28-1	< 10	< 10	< 10
B29:31-1	< 10	< 10	< 10
B32:34-1	< 10	< 10	< 10

Notes:
TPH-cc = carbon chain total petroleum hydrocarbons
mg/kg = milligrams per kilogram
TPH-g = total petroleum hydrocarbons as gasoline
TPH-d = total petroleum hydrocarbons as diesel
TPH-o = total petroleum hydrocarbons as oil
< = not detected above indicated laboratory Practical Quantitation Limit (PQL)

Table 6: Soil Sample CAM 17 Metals Laboratory Results (mg/kg)

Element	B2-5	B3-5	B4-5	B5-5	B7-5	Background Concentrations*
Antimony (Sb)	< 3	< 3	< 3	< 3	< 3	0.6 ± 0.39
Arsenic (As)	< 5	< 5	< 5	< 5	< 5	3.5 ± 2.5
Barium (Ba)	110	100	67	84	110	509 ± 210
Beryllium (Be)	< 1	< 1	< 1	< 1	< 1	1.28 ± 0.52
Cadmium (Cd)	< 2	< 2	< 2	< 2	< 2	0.36 ± 0.31
Chromium (Cr)	22	21	17	16	16	122 ± 223
Cobalt (Co)	17	16	12	13	11	14.9 ± 9.2
Copper (Cu)	30	27	20	22	20	28.7 ± 19.3
Lead (Pb)	< 3	< 3	< 3	< 3	4.2	23.9 ± 13.8
Mercury (Hg)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.26 ± 0.21
Molybdenum (Mo)	< 1	< 1	< 1	< 1	< 1	1.3 ± 1.5
Nickel (Ni)	18	18	13	13	13	57 ± 80
Selenium (Se)	< 5	< 5	< 5	< 5	< 5	0.058 ± 0.084
Silver (Ag)	< 2	< 2	< 2	< 2	< 2	0.80 ± 1.43
Thallium (Tl)	< 2	< 2	< 2	< 2	< 2	0.56 ± 0.19
Vanadium (V)	51	48	36	39	36	112 ± 53
Zinc (Zn)	68	64	49	61	49	149 ± 32

Notes:
CAM = California Administrative Manual
*From Kearney Foundation of Soil Science March 1996 report *Background Concentrations of Trace and Major Elements in California Soils.* Background concentrations of metals are considered to be within one standard deviation from the mean metal concentrations determined by the study.
mg/kg = milligrams per kilograms
< = not detected above indicated laboratory Reporting Limit (RL)

Table 6 Continued: Soil Sample CAM 17 Metals Laboratory Results (mg/kg)

Element	B8-5	B9-5	B10-5	B13-5	B14-5	Background Concentrations*
Antimony (Sb)	< 3	< 3	< 3	< 3	< 3	0.6 ± 0.39
Arsenic (As)	< 5	< 5	< 5	< 5	< 5	3.5 ± 2.5
Barium (Ba)	99	81	81	90	91	509 ± 210
Beryllium (Be)	< 1	< 1	< 1	< 1	< 1	1.28 ± 0.52
Cadmium (Cd)	< 2	< 2	< 2	< 2	< 2	0.36 ± 0.31
Chromium (Cr)	21	17	19	19	20	122 ± 223
Cobalt (Co)	15	13	14	14	15	14.9 ± 9.2
Copper (Cu)	26	23	24	24	27	28.7 ± 19.3
Lead (Pb)	< 3	4.8	< 3	5.1	< 3	23.9 ± 13.8
Mercury (Hg)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.26 ± 0.21
Molybdenum (Mo)	< 1	< 1	< 1	< 1	< 1	1.3 ± 1.5
Nickel (Ni)	16	14	16	15	17	57 ± 80
Selenium (Se)	< 5	< 5	< 5	< 5	< 5	0.058 ± 0.084
Silver (Ag)	< 2	< 2	< 2	< 2	< 2	0.80 ± 1.43
Thallium (Tl)	< 2	< 2	< 2	< 2	< 2	0.56 ± 0.19
Vanadium (V)	49	40	42	43	47	112 ± 53
Zinc (Zn)	66	63	58	61	64	149 ± 32

Notes:
CAM = California Administrative Manual
*From Kearney Foundation of Soil Science March 1996 report *Background Concentrations of Trace and Major Elements in California Soils.* Background concentrations of metals are considered to be within one standard deviation from the mean metal concentrations determined by the study.
mg/kg = milligrams per kilograms
< = not detected above indicated laboratory Reporting Limit (RL)

Table 6 Continued: Soil Sample CAM 17 Metals Laboratory Results (mg/kg)

Element	B15-5	B17-5	B18-5	B19-5	B20-5	Background Concentrations*
Antimony (Sb)	< 3	< 3	< 3	< 3	< 3	0.6 ± 0.39
Arsenic (As)	< 5	< 5	< 5	< 5	< 5	3.5 ± 2.5
Barium (Ba)	65	100	140	65	100	509 ± 210
Beryllium (Be)	< 1	< 1	< 1	< 1	< 1	1.28 ± 0.52
Cadmium (Cd)	< 2	< 2	< 2	< 2	< 2	0.36 ± 0.31
Chromium (Cr)	14	22	21	15	22	122 ± 223
Cobalt (Co)	11	16	16	12	16	14.9 ± 9.2
Copper (Cu)	17	27	28	19	28	28.7 ± 19.3
Lead (Pb)	< 3	< 3	< 3	< 3	< 3	23.9 ± 13.8
Mercury (Hg)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.26 ± 0.21
Molybdenum (Mo)	< 1	< 1	< 1	< 1	< 1	1.3 ± 1.5
Nickel (Ni)	11	18	18	12	18	57 ± 80
Selenium (Se)	< 5	< 5	< 5	< 5	< 5	0.058 ± 0.084
Silver (Ag)	< 2	< 2	< 2	< 2	< 2	0.80 ± 1.43
Thallium (Tl)	< 2	< 2	< 2	< 2	< 2	0.56 ± 0.19
Vanadium (V)	33	50	50	36	51	112 ± 53
Zinc (Zn)	45	64	63	48	73	149 ± 32

Notes:
CAM = California Administrative Manual
*From Kearney Foundation of Soil Science March 1996 report *Background Concentrations of Trace and Major Elements in California Soils.* Background concentrations of metals are considered to be within one standard deviation from the mean metal concentrations determined by the study.
mg/kg = milligrams per kilograms
< = not detected above indicated laboratory Reporting Limit (RL)

Table 6 Continued: Soil Sample CAM 17 Metals Laboratory Results (mg/kg)

Element	B21-5	B22-5	B23-5	B24-5	B25-5	Background Concentrations*
Antimony (Sb)	< 3	< 3	< 3	< 3	< 3	0.6 ± 0.39
Arsenic (As)	< 5	< 5	< 5	< 5	< 5	3.5 ± 2.5
Barium (Ba)	61	100	120	88	110	509 ± 210
Beryllium (Be)	< 1	< 1	< 1	< 1	< 1	1.28 ± 0.52
Cadmium (Cd)	< 2	< 2	< 2	< 2	< 2	0.36 ± 0.31
Chromium (Cr)	14	22	26	20	25	122 ± 223
Cobalt (Co)	11	15	18	12	18	14.9 ± 9.2
Copper (Cu)	17	30	35	24	31	28.7 ± 19.3
Lead (Pb)	< 3	22	12	32	< 3	23.9 ± 13.8
Mercury (Hg)	< 0.10	< 0.10	< 0.10	< 0.10	< 0.10	0.26 ± 0.21
Molybdenum (Mo)	< 1	< 1	< 1	1.1	< 1	1.3 ± 1.5
Nickel (Ni)	12	18	21	15	20	57 ± 80
Selenium (Se)	< 5	< 5	< 5	< 5	< 5	0.058 ± 0.084
Silver (Ag)	< 2	< 2	< 2	< 2	< 2	0.80 ± 1.43
Thallium (Tl)	< 2	< 2	< 2	< 2	< 2	0.56 ± 0.19
Vanadium (V)	33	48	55	38	57	112 ± 53
Zinc (Zn)	45	90	100	97	76	149 ± 32

Notes:
CAM = California Administrative Manual
*From Kearney Foundation of Soil Science March 1996 report *Background Concentrations of Trace and Major Elements in California Soils.* Background concentrations of metals are considered to be within one standard deviation from the mean metal concentrations determined by the study.
mg/kg = milligrams per kilograms
< = not detected above indicated laboratory Reporting Limit (RL)

Table 6 Continued: Soil Sample CAM 17 Metals Laboratory Results (mg/kg)

Element	Composite 1	Composite 2	Composite 3	Background Concentrations*
Antimony (Sb)	< 3	< 3	< 3	0.6 ± 0.39
Arsenic (As)	< 5	< 5	< 5	3.5 ± 2.5
Barium (Ba)	110	85	96	509 ± 210
Beryllium (Be)	< 1	< 1	< 1	1.28 ± 0.52
Cadmium (Cd)	< 2	< 2	< 2	0.36 ± 0.31
Chromium (Cr)	23	15	19	122 ± 223
Cobalt (Co)	17	13	14	14.9 ± 9.2
Copper (Cu)	31	21	29	28.7 ± 19.3
Lead (Pb)	17	9.6	27	23.9 ± 13.8
Mercury (Hg)	< 0.10	< 0.10	< 0.10	0.26 ± 0.21
Molybdenum (Mo)	< 1	< 1	< 1	1.3 ± 1.5
Nickel (Ni)	19	12	16	57 ± 80
Selenium (Se)	< 5	< 5	< 5	0.058 ± 0.084
Silver (Ag)	< 2	< 2	< 2	0.80 ± 1.43
Thallium (Tl)	< 2	< 2	< 2	0.56 ± 0.19
Vanadium (V)	50	39	42	112 ± 53
Zinc (Zn)	93	67	98	149 ± 32

Notes:
CAM = California Administrative Manual
*From Kearney Foundation of Soil Science March 1996 report *Background Concentrations of Trace and Major Elements in California Soils.* Background concentrations of metals are considered to be within one standard deviation from the mean metal concentrations determined by the study.
mg/kg = milligrams per kilograms
< = not detected above indicated laboratory Reporting Limit (RL)

Table 7: Soil Sample SVOCs Laboratory Results (µg/kg)

Sample Identification	Aniline	Anthracene	Phenol	Pyrene	All Other SVOCs
B2-5	< 300	< 300	< 1000	< 300	ND
B3-5	< 300	< 300	< 1000	< 300	ND
B4-5	< 300	< 300	< 1000	< 300	ND
B7-5	< 300	< 300	< 1000	< 300	ND
B9-5	< 300	< 300	< 1000	< 300	ND
B13-5	< 300	< 300	< 1000	< 300	ND
B14-5	< 300	< 300	< 1000	< 300	ND
B15-5	< 300	< 300	< 1000	< 300	ND
B19-5	< 300	< 300	< 1000	< 300	ND

Notes:
SVOCs = semi-volatile organic compounds
µg/kg = micrograms per kilogram
< = not detected above indicated laboratory Reporting Limit (RL)
ND = not detected above laboratory RLs

Table 8: Soil Sample PCBs Laboratory Results (µg/kg)

Sample Identification	PCB-1016	PCB-1221	PCB-1232	PCB-1242	All Other PCBs
B2-5	< 10	< 10	< 10	< 10	ND
B3-5	< 10	< 10	< 10	< 10	ND
B19-5	< 10	< 10	< 10	< 10	ND
Composite 1	< 10	< 10	< 10	< 10	ND
Composite 2	< 10	< 10	< 10	< 10	ND
Composite 3	< 10	< 10	< 10	< 10	ND

Notes:
PCBs = polychlorinated biphenyls
µg/kg = micrograms per kilogram
< = not detected above indicated laboratory Reporting Limit (RL)
ND = not detected above laboratory RLs

Table 9: Soil Sample OCPs Laboratory Results (µg/kg)

Sample Identification	alpha-Chlordane	Endosulfan I	4,4'-DDE	4,4'-DDT	All Other OCPs
Composite 1	< 5	< 5	< 5	< 5	ND
Composite 2	< 5	< 5	< 5	< 5	ND
Composite 3	< 5	**5.5**	< 5	< 5	ND

Notes:
OCPs = organochlorine pesticides
µg/kg = micrograms per kilogram
DDE = dichlorodiphenyldichloroethylene
DDT = dichlorodiphenyltrichloroethane
ND = not detected above laboratory Reporting Limits

Please see Appendix D for the full laboratory analysis reports, which include chain-of-custody and laboratory quality assurance/quality control (QA/QC) documentation. All laboratory QA/QC data were within acceptable limits.

Discussion

One soil gas sample (PES-B2-SV5) contained a detectable concentration of trichlorofluoromethane at 0.190 micrograms per liter (µg/L). None of the soil gas samples indicated detectable concentrations of one or more other VOCs.

One soil sample (B14-5) contained a detectable concentration of tertiary-butyl alcohol (TBA) at 33.4 micrograms per kilogram (µg/kg). None of the soil samples indicated detectable concentrations of one or more other VOCs.

One composite soil sample (Composite 3) contained a detectable concentration of the OCP Endosulfan I at 5.5 µg/kg. None of the soil samples indicated detectable concentrations of one or more other OCPs.

None of the analyzed soil samples contained a detectable concentration of SVOCs or PCBs.

Most of the analyzed detected soil sample results did not exceed the background concentrations for typical California soils as based on the Kearney Foundation of Soil Science March 1996 Background Concentrations of Trace and Major Elements in California Soils Report.

Regional Screening Levels

Regional Screening Levels (RSLs) [formerly Preliminary Remediation Goals (PRGs)] are generic, risk-based chemical concentrations developed by the EPA Region 9 for use in initial screening-level evaluations. RSLs combine human health toxicity values with standard exposure factors to estimate contaminant concentrations that are considered to be health protective of human exposures over a lifetime through direct-contact exposure pathways (e.g., via inhalation and/or ingestion of and/or dermal contact with impacted soil). RSLs are not legally enforceable

standards, but rather are considered guidelines to determine if potential risks associated with encountered contamination may warrant further evaluation.

Please see Table 10 for a comparison of detected soil contaminant concentrations and available residential and industrial soil RSLs. Only contaminants detected above laboratory Practical Quantitation Limits (PQLs) are included in the table.

Table 10: RSLs and Detected Soil Contaminant Concentrations (µg/kg)

Detected Contaminants	Number of Samples with Detectable Concentrations*	Sample with Peak Concentration	Peak Concentration	Residential Soil RSL	Industrial Soil RSL	Number of Samples Exceeding RSLs
Endosulfan I	1 of 3	Composite 3	5.5	370,000	3,700,000	0 / 0

Notes:
*Exceeding the laboratory Practical Quantitation Limit (PQL)
RSLs = Regional Screening Levels
µg/kg = micrograms per kilogram

None of the contaminants detected in the analyzed soil samples exceeded the residential or industrial soil RSLs.

Summary and Conclusions

Partner completed an Environmental Site Assessment at the subject property to determine the presence or absence of soil and/or soil-vapor contamination from the former and potentially current industrial use of the subject property. The scope of the investigation included the installation of 34 soil/soil gas borings. Twenty-one soil gas samples were analyzed for VOCs. Twenty-two soil samples were analyzed for VOCs and TPH-cc. Nine soil samples were analyzed for SVOCs. Three soil samples were analyzed for PCBs. Twenty soil samples were analyzed for CAM 17 Metals. Three composite soil samples were analyzed for VOCs, TPH-cc, PCBs, OCPs, and CAM 17 Metals.

Trichlorofluoromethane was detected in one soil gas sample. No soil gas regulatory guidelines are currently established for the detected refrigerant. The VOC TBA was detected in one soil sample collected at a depth of 5 feet bgs. The 10-foot soil sample collected from the same boring had non-detectable concentrations of all VOCs including TBA, suggesting a very limited localized TBA impact and very limited vertical migration of this contaminant. No soil regulatory guidelines are currently established for TBA and impacts to the deep ground water are very unlikely. The OCP Endosulfan I was detected in one composite soil sample at concentrations below available regulatory guidelines.

Metal were detected in soil samples, however concentrations were below applicable regulatory guidelines. No other elevated concentrations of target contaminants, other than the suspected very localized low concentration of the refrigerant, were detected in soil gas or soil during this investigation.

Given the findings of this investigation, Partner recommends no further investigation with respect to the industrial complex at this time.

Limitations

This Report presents a summary of work completed by Partner. The completed work includes observations of site conditions encountered and the analytical results provided by an independent third party laboratory of samples collected during the course of the project. The number and location of samples were selected to provide the required information. However, it cannot be assumed that the limited available data are representative of subsurface conditions in areas not sampled.

All conclusions and/or recommendations are based on the observations, laboratory analyses, and the governing regulations. Conclusions and/or recommendations beyond those stated and reported herein should not be inferred from this document.

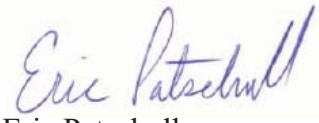
Partner warrants that the environmental consulting services contained herein were accomplished in accordance with generally accepted practices in the environmental engineering, geology, and hydrogeology fields that existed at the time and location of work. No other warranties are implied or expressed.

All reports, both verbal and written, as they pertain to the property located at 1625/1625 B, 1631 South Magnolia Avenue, and 410 West Evergreen Avenue in the City of Monrovia, California, are for the sole use and benefit of Sierra Autocars, Inc. This report has no other purpose and may not be relied upon by any other person or entity without the written consent of Partner.

Signatures of Participating Professionals

Thank you for the opportunity to be of service. If you have any questions regarding this investigation, please contact the undersigned at (310) 615-4500.

Sincerely,



Eric Patschull
Project Geologist



Joseph P. Derhake, PE
President

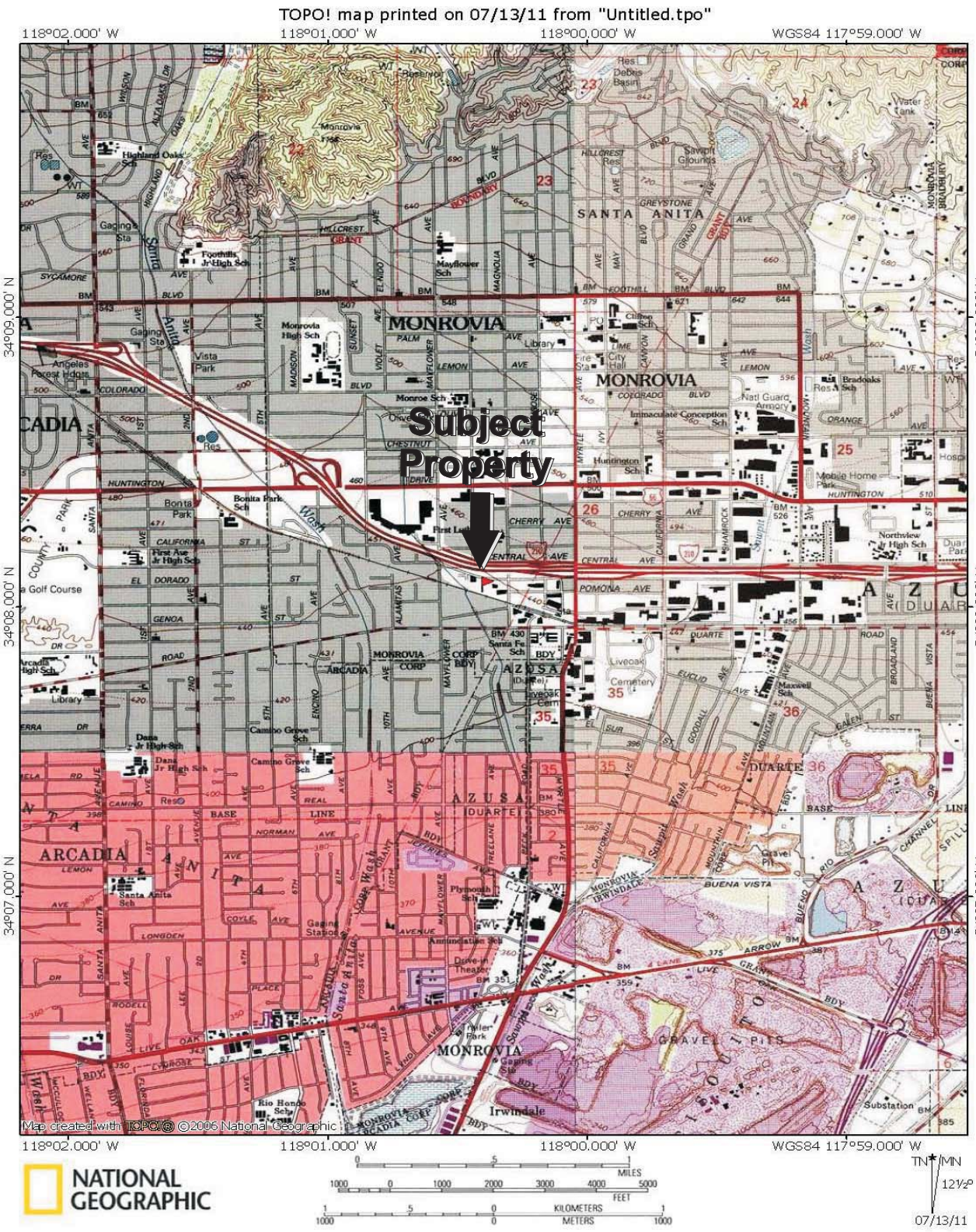


Attachments:

Figures
1. Site Vicinity Map
2. Site Plan
3. Boring Locations

Appendices
A. Geophysical Survey Report
B. Health and Safety Plan
C. Boring Logs
D. Laboratory Reports

Figures



PARTNER
Engineering and Science, Inc.
1990 East Grand Avenue, Suite 100
El Segundo, California 90245

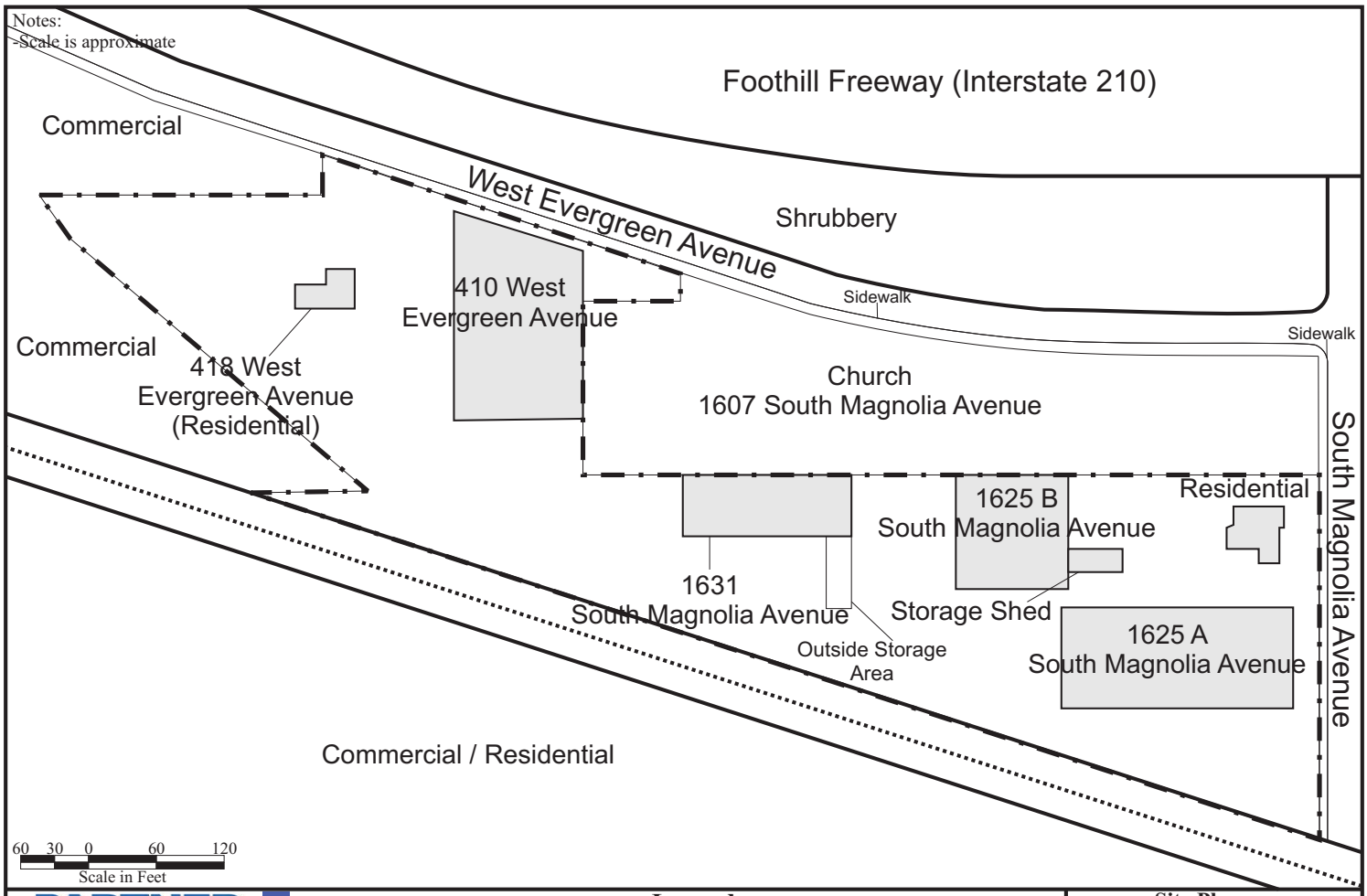
Project Number: 11-76495.9

USGS 7.5 Minute Mount Wilson, California Quadrangle
Version: 1966 Current as of: 1988

Site Vicinity Map

Figure	Prepared By	Date
1	E. Patschull	July 2011

W. Evergreen and S. Magnolia
Monrovia, California 91016



Legend

Subject Site

Railroad Track

N

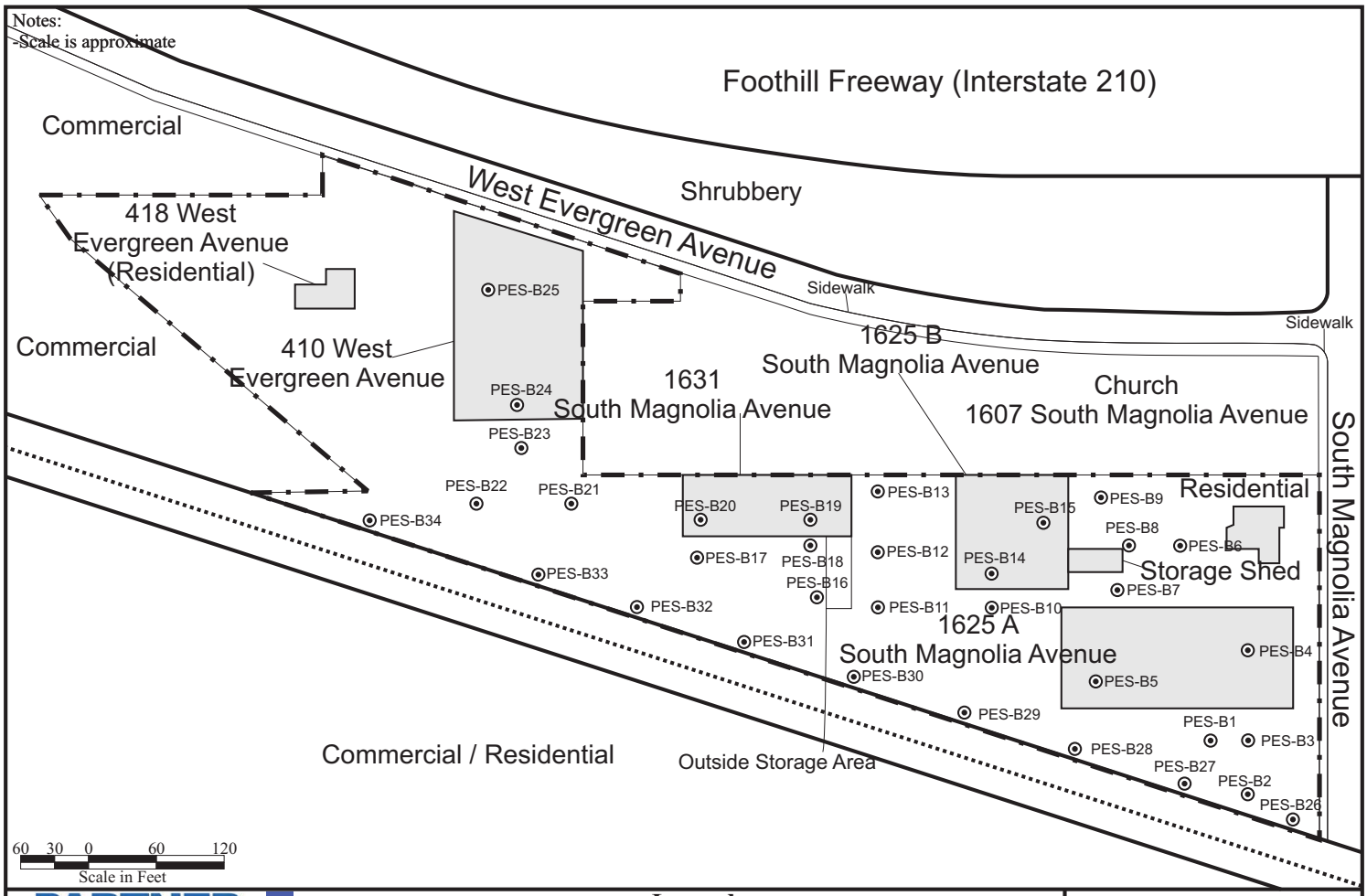
PARTNER
Engineering and Science, Inc.
1990 East Grand Avenue, Suite 100
El Segundo, California 90245

Project Number: 11-76495.9

Site Plan

Figure	Prepared By	Date
2	K. Mooman	July 2011

1625 A & 1625 B South Magnolia Avenue
Monrovia, California 91016



Legend

Subject Site

Boring Location

Railroad Track

N

PARTNER
Engineering and Science, Inc.
1990 East Grand Avenue, Suite 100
El Segundo, California 90245

Project Number: 11-76495.9

Boring Locations

Figure	Prepared By	Date
3	K. Mooman	July 2011

1625 A & 1625 B South Magnolia Avenue
Monrovia, California 91016

Appendix A:

Geophysical Survey Report

May 1, 2011

Eric Patschull
Partner Engineering

Eric,

Ground Penetrating Radar Systems, Inc recently completed a GPR project at 1625 & 1631 S. Magnolia Ave, as well as 410 West Evergreen in Vernon, CA. The GPR scanning took place on June 29, 2011. The purpose of the GPR survey was to scan for underground utilities prior to soil boring in 34 locations, as well as scan for possible drywells/cess pools. The following is information concerning the GPR work.

Equipment Used

GPRS used ground penetrating radar equipment manufactured by GSSI (model SIR-3000) in conjunction with a 400MHz antenna. The 400MHz antenna is capable at scanning up to 8 feet in depth; however, the maximum depth penetration of this antenna is determined by the soil conditions at the site.

Additionally, radio detection equipment (model # RD 7000) was used to locate live power/data signals. This equipment can also clamp onto exposed pipes and send a tone through them to help in the location process.

GPR Scanning Methods

The 400MHz antenna is mounted on to a baby stroller frame and is pushed across the surface. The information from the 400MHz antenna is real time, which allows us to mark all findings directly on the surface with spray paint, or chalk.

GPRS was able to scan approximately 4.5 - 5 feet in depth in this area.

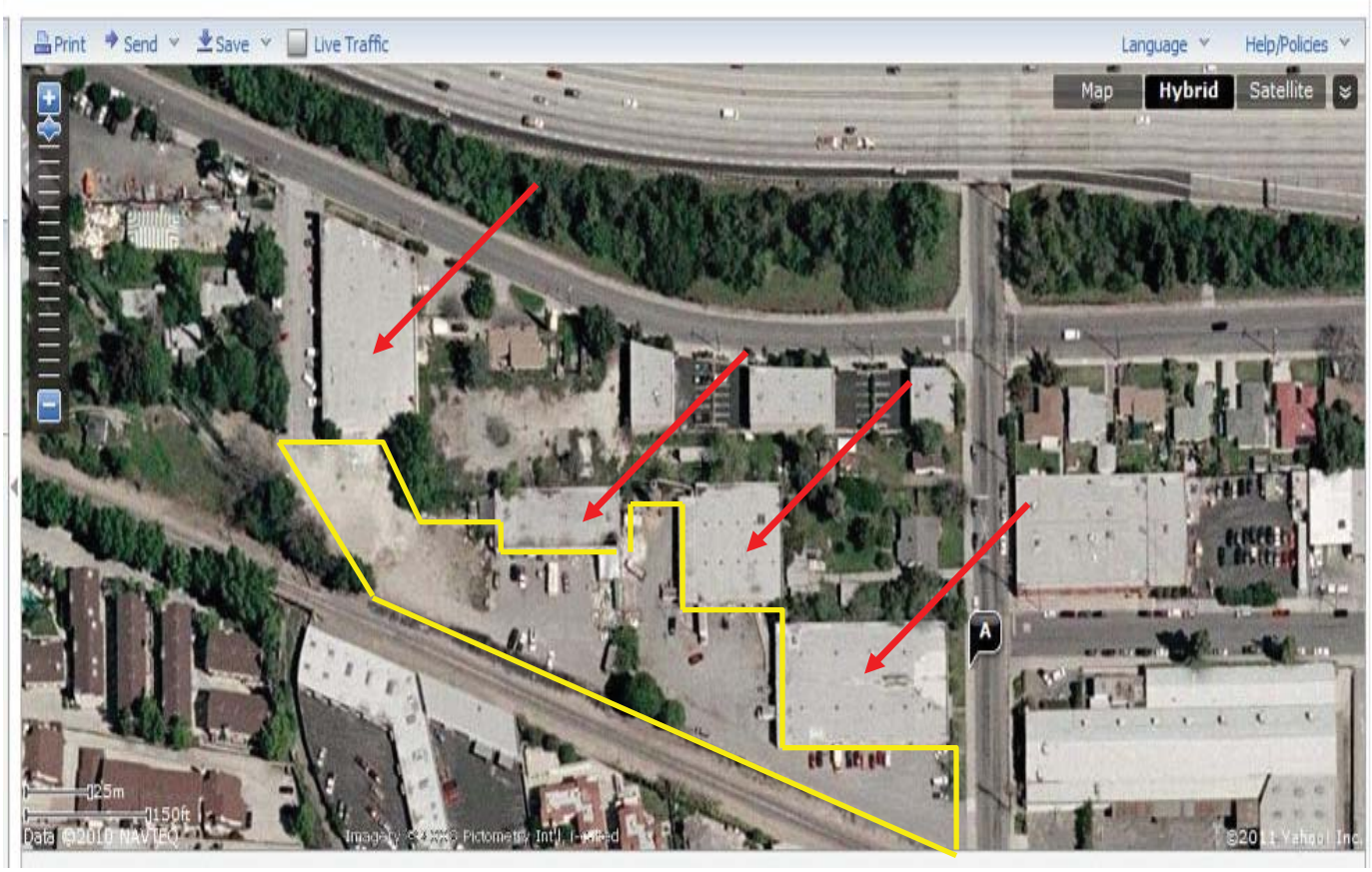
The GPR scanning process was done with scans approximately 12" on center throughout the area. Additionally, diagonal scans are done to ensure the path was scanned thoroughly. The bottom of the antenna must maintain contact with the surface for the antenna to work optimum capability.

Findings

During the entire scanning process, GPRS not locate any underground drywells/cess pools.

However, GPRS did locate numerous utilities near the soil boring locations. All of these findings were marked directly on the surface and discussed with the customer onsite.

Area Scanned



Here is an aerial image with the approximate location of the GPR work highlighted with yellow lines. Additionally, there were 4 buildings where GPRS scanned inside of the structures, indicated with the red arrows.

Photos



Prior to arriving onsite, the soil boring locations had been marked out. If there were no utilities in the vacinity, they were marked "OK" by GPRS.

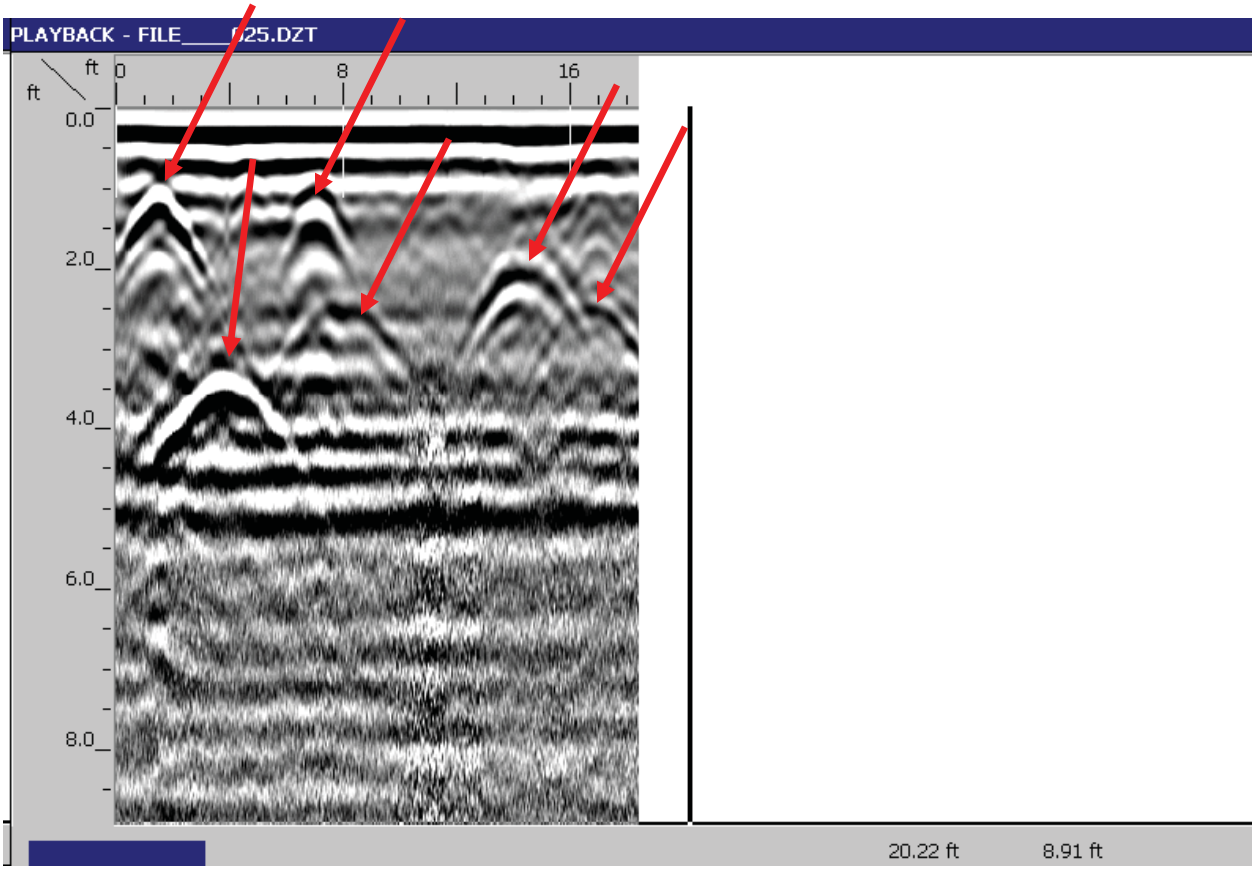


Here is a photo from an area scanned. In this photo you can see that there was a live electrical conduit running directly in the path of the original soil boring location.

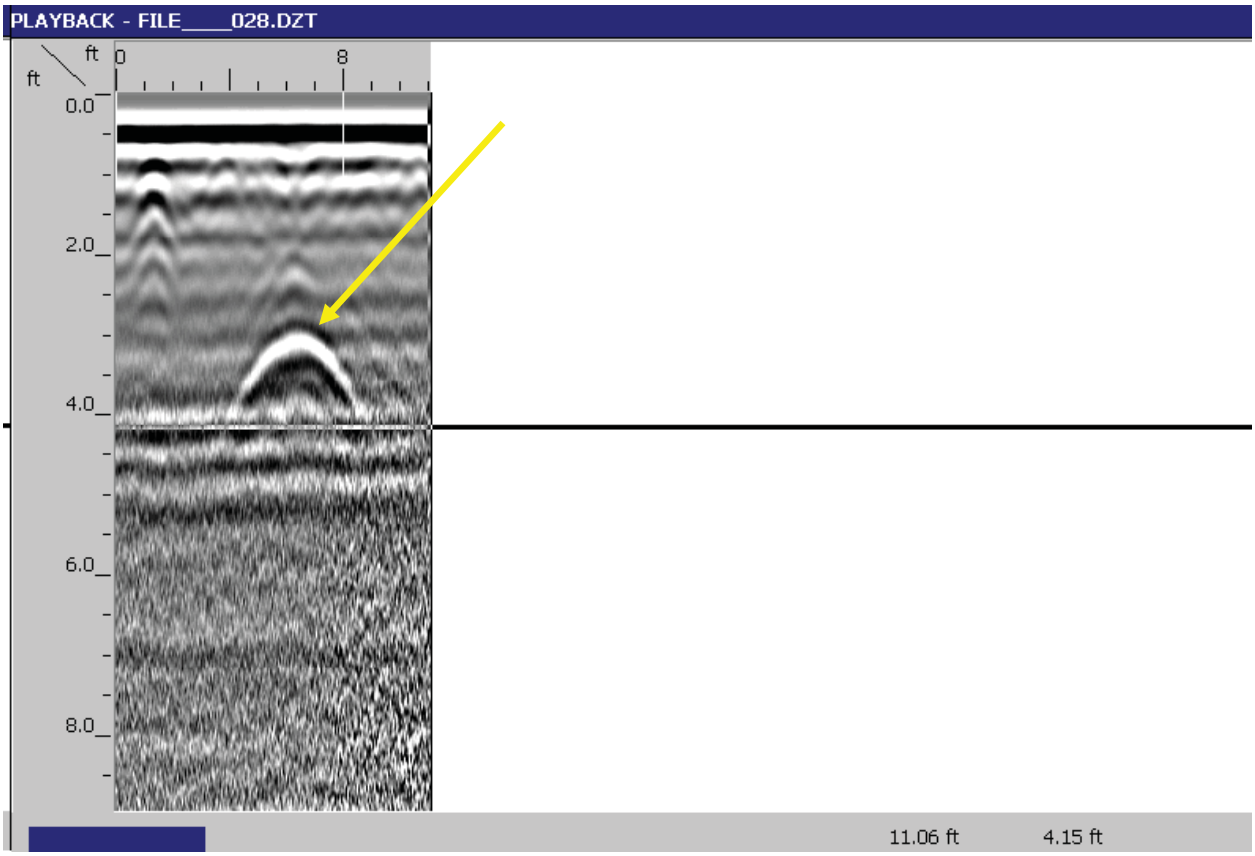


Here is another photo of an area where there were multiple lines located near the original soil boring location.

Data



Here is the image received from the GPR equipment from an area scanned in the property. The red arrows are indicating the location of underground utilities.



Here is anther image from the GPR system. This image is of the gas line that was running on the perimeter of the property. The gas line was marked out near all intended soil boring locations.

Please feel free to contact me if you have any questions.

Regards,

Jason Wachter
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Appendix B:

Health And Safety Plan

Partner Site-Specific Health and Safety Plan

Introduction

Partner Engineering and Science, Inc. (Partner) has been retained by Sierra Autocars, Inc. to conduct a Phase II Environmental Site Assessment at the subject property. This Health and Safety Plan (HASP) document identifies the Health and Safety procedures that are intended to guide the field activities at the site. The details of this plan apply to employees of Partner and its subcontractors. Regulatory agencies are expected to observe the safety rules and regulations established by their respective organizations in addition to the requirements of this document.

This plan must be reviewed and acknowledged by all personnel prior to entering the exclusion zone. In general, a "Tailgate Safety Meeting" is conducted at the initiation of on-site activities and at the beginning of each day thereafter until the completion of the project. However, the actual briefing may be conducted off-site (e.g., in the office) if conditions preclude or render impractical its completion on-site.

This HASP will be a living document in that it will be continually updated and/or revised as the site conditions and knowledge of the operations develop further. The development and preparation of the HASP has been based on past experiences and site specific information at the time of preparation. If actual site conditions or operations vary from the data used to prepare this HASP, amendments shall be made to reflect those changes.

This HASP has been developed with consideration to current safety standards, health effects, and standards for known contaminants and procedures designed to account for potential hazards from known and/or suspected substances. In preparing this document, Partner has specifically reviewed Occupational Safety & Health Administration (OSHA) Title 29 Code of Federal Regulations (CFR) 1910 & 1926, California Occupational Safety & Health Administration (Cal/OSHA) Title 8 California Code of Regulations (CCR) 5192, the National Institute of Occupational Safety & Health (NIOSH)/OSHA/United States Coast Guard (USCG)/Environmental Protection Agency (EPA) Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities, NIOSH Pocket Guide to Chemical Hazards, and the American Conference of Governmental Industrial Hygienists, Inc. (ACGIH) Threshold Limit Values for Chemical Substances and Chemical Agents.

Project Information

Project Type:	Phase II Environmental Site Assessment (ESA)
Site Name:	Industrial Complex
Address:	1625/1625B, 1631 South Magnolia Avenue and 410 W. Evergreen Ave. Monrovia, California 91016
Partner Project Number:	11-76495.9

Project Scope of Work

Conduct Phase II ESA in order to determine the presence or absence of soil and/or soil-vapor contamination from the former and potentially current industrial use of the subject property.

Utility Clearance

Have necessary underground utility notifications for subsurface work been made? ☒ Yes ☐ Not Applicable

Specify clearance dates, ticket confirmation number, and other relevant information:

June 21, 2011 at 910 am. Ticket Number A11720332

Site Safety Officers

The Site Safety Officer (SSO) is the individual who is capable of identifying existing and predictable hazards in surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. The SSO is designated on a site-by-site basis based on the site conditions, scope-of-work, and the individual's ability to recognize site-specific hazards and take appropriate corrective actions. It is the responsibility of all employees to work in a manner that will prevent injury and exposure to themselves and to other employees. Every employee is responsible for obeying safety rules and regulations, and reporting unsafe conditions or acts to their supervisors.

Partner Contacts

SSO: Rodolfo Nadres, EIT
Staff Engineer
Telephone: (310) 617-8948

Alt. SSO: Kerran Pender
Staff Geologist
Telephone: (917) 710-2770

Responsible Personnel: Joe Derhake
Principal Engineer
Telephone: (310) 880-3299

Project Contact Information

Responsible Party: Sierra Autocars, Inc.
1450 South Shamrock Ave.
Monrovia, CA 91016
Contact Person: Peter Hoffman
Telephone: 626-359-8291

Oversight Agency: N/A

List of Potential Hazardous Materials

According to preliminary site information including evaluation of the hazards at the site and Partner's experience, the following potential hazardous materials may be present at the subject property:

- Gasoline, including BTEX compounds and fuel oxygenates (e.g., MTBE)
- Chlorinated solvents, including PCE and TCE
- Metals

Please refer to the Chemical Hazards Section for more information related to the above listed materials, including chemical information, potential health effects, and exposure limits.

EMERGENCY CONTINGENCY INFORMATION

Evacuation Routes and Procedures

In case of evacuation, all vehicles/equipment should be turned off and personnel should immediately leave the work area. Personnel should reconnoiter at the specified meeting area located upwind of the affected area, such as the building exterior, site field office, property boundary, or other pre-designated location, where all personnel will be accounted for.

IF AN EMERGENCY ARISES, THE DESIGNATED RECONNOITER LOCATION FOR THIS PROJECT IS THE SOUTHWEST CORNER OF WEST EVERGREEN AVENUE AND SOUTH MAGNOLIA AVENUE, NORTH OF THE SUBJECT PROPERTY, AT THE PARTNER FIELD OFFICE (VEHICLE).

This location is located up-wind of the subject property, but is subject to change if prevailing weather conditions alter typical wind direction. Personnel should not reenter the work area following evacuation until 1.) the

condition causing the emergency has been corrected, 2.) all hazards have been assessed, 3.) the HASP has been reviewed, and 4.) personnel have been oriented on any changes in the HASP. All emergencies should be promptly reported to the SSO.

Emergency Response Facilities

Fire Station: Monrovia Fire Department
141 East Lemon Avenue
Monrovia, California 91016
Telephone: **911** or (626) 256-8181

Police: Monrovia Police Department
140 East Lime Avenue
Monrovia, California 91016
Telephone: **911** or (626) 256-8000

Ambulance: Santa Teresita Hospital
819 Buena Vista Street
Duarte, California 91010
Telephone: **911** or (626)359-3243

Hospital: Santa Teresita Hospital
819 Buena Vista Street
Duarte, California 91010
Telephone: **911** or (626)359-3243

Poison Control: Santa Teresita Hospital
819 Buena Vista Street
Duarte, California 91010
Telephone: **911** or (626)359-3243

DIRECTIONS TO HOSPITAL EMERGENCY ROOM ATTACHED IN APPENDIX A

Air Monitoring

Air quality in the breathing zone will be monitored continuously with a MiniRae2000 photoionization detector (PID) calibrated to isobutylene. Work will proceed in Level D while PID readings are between 0 and 10 parts per million (ppm). In the event that breathing zone readings exceed 100 ppm, all personnel will discontinue work at the location and withdraw from the work area. The appropriate vapor control measures will be implemented (e.g., application of vapor suppression), the necessary emergency response authorities will be notified, and/or the work area will be re-sampled until vapor levels are within acceptable levels prior to reentering the work zone.

Please refer to the table below for the Operational Action Levels.

Contaminants	Action Level	Action to Take
VOCs (PID)	**1 to 10 PPM** Above background at the breathing zone and sustained for 5 minutes	Level D, continuous air monitoring
	10 to 100 PPM Above background at the breathing zone and sustained for 5 minutes	Upgrade to Level C, continuous air monitoring and ventilate space
	100 to 300 PPM Above background at the breathing zone and sustained for 1 minute	Upgrade to Level B, continuous air monitoring and ventilate space, or stop work and ventilate
	>300 PPM Above background at the breathing zone and sustained for 1 minute	Stop work, Evacuate work zones
Combustible Gas in Air (LEL meter)	Less than 10% lower explosive limit (LEL)	Continue with caution and air monitoring (combustible gas monitoring)
	Greater than 10% LEL	Stop work, immediately withdrawal personnel, and ventilate space with manhole blower
Oxygen in Air (O2 Meter)	Less than 19.5%	Stop work and ventilate or upgrade to Level B
	19.5 to 21.5%	Level D, continue work with air monitoring
	Greater than 21.5%	Stop work, immediately withdrawal personnel, and evaluate

The PID will be calibrated daily by Partner personnel prior to use. Calibration will be performed in accordance with the manufacturer specifications and recorded in a log book kept with the instrument. Ambient breathing space measurements should be collected every 15 minutes.

Personal Protection Equipment

Based on the preliminary site information including evaluation of the hazards at the site and Partner's experience, personal protective equipment (PPE) will be required for all personnel and visitors entering the controlled portion of the site. PPE for each potential level of protection is described below. Both Level C and D PPE should be available on-site during all phases of the project, as conditions may change and require additional PPE. Work should be conducted in Level D and no breathing protection will be required as long as monitored breathing zone vapor concentrations remain in the nominal operation action level.

If on-site personnel find that breathing zone concentrations remain above nominal operation action level for more than 5 minutes, then the SSO or PM will make a determination if breathing protection is needed. At this time, all work in the affected area should be suspended until a decision is made. Implementation of Level C PPE will be required if work continues during elevated breathing zone concentrations. Donning and use of respirators shall be performed in accordance with manufacturer specifications. Replacement of respirator cartridges shall be performed in accordance with manufacturer specifications. All respirators and cartridges shall be stored in air tight bags while not in use.

Please refer to the PPE Levels of Protection for a detailed description of the equipment associated for each level of PPE.

PPE Levels of Protection

Level D (to be used at all times) is as follows:

- Full-length pants and shirt;
- Sturdy steel-toe work boots;
- Hard hat;
- Safety glasses.

Modified Level D (used as appropriate) is as follows:

- Regular Tyvek coveralls;
- Outer gloves: leather, cotton, or nitrile;
- Inner gloves: latex or nitrile;
- Sturdy steel-toe work boots;
- Hard hat;
- Safety glasses.

Level C (used as appropriate) is as follows:

- Half-face air purifying, canister equipped respirator (NIOSH-approved) equipped with Organic Vapor/HEPA cartridges/filters;
- Regular Tyvek coveralls;
- Outer gloves: leather, cotton, or nitrile;
- Inner gloves: latex or nitrile;
- Sturdy steel-toe work boots;
- Hard hat;
- Safety glasses.

Level B (used as appropriate) is as follows:

- Positive-pressure, full-face piece, self-contained breathing apparatus (SCBA) or positive-pressure supplied air respirator with escape SCBA (NIOSH-approved);
- Disposable chemical-resistant coveralls (Polycoated Tyvek);
- Outer gloves: neoprene or nitrile;
- Inner gloves: latex or nitrile;
- Sturdy steel-toe work boots;
- Petroleum-resistant covers over work boots;
- Hard hat.

Decontamination Procedures

Drilling and sampling equipment will arrive decontaminated and clean. All downhole soil and groundwater sampling equipment (e.g., sampling tubes, split spoons, hand augers, Hydropunch, etc.), tools, purge pumps, water level indicators, etc. will be decontaminated before, between, and after use with Alconox or an equivalent phosphate-free detergent solution to reduce the risk of cross-contamination. Decontamination of all sampling equipment will consist of submerging the equipment in a detergent solution bath and scrubbing it with dedicated brushes. The equipment will then be placed in a rinse bath and agitated. A second rinse bath should occur if needed. All drilling equipment such as augers and drilling rods should be thoroughly steam cleaned and rinsed.

Nitrile outer gloves will be worn whenever handling samples, equipment, or any other potentially contaminated items. Skin exposed to direct contact with contaminants of concern will be immediately flushed with water.

Work Zone Delineation

A 15-foot exclusion zone will be delineated with caution cones as necessary to denote the work zone and area restricted to authorized project personnel.

Traffic Control

Traffic control is not anticipated to be required for this project.

Adverse Weather

The work area will be secured and all personnel will discontinue work at the location and withdraw from the work area in the event that adverse weather is encountered (e.g., heavy rain, lightning).

Emergency Equipment

A first aid kit and fire extinguisher will be located in the work vehicle in a location that is easily accessible and highly visible. The SSO will be responsible for knowing the location of and accessing the emergency equipment as needed.

Hazard Assessment

(☒ = Applies, or required item(s) available. ☐ = Not Applicable.)

Hazard Assessment: Physical Hazards and Related Concerns

☐ **Confined Space Entry (CSE)**. Confined space entry means the potentially hazardous entry into any space which, by design, has limited openings for entry and exit and unfavorable natural ventilation that could contain or produce dangerous air contaminants and is not intended for continuous employee occupancy. Confined spaces include, but are not limited to, storage tanks, compartments of ships, process vessels, pits, silos, vats, degreasers, reaction vessels, boilers, ventilation and exhaust ducts, sewers, tunnels, underground utility vaults, and pipelines. Other environments which must be treated as confined spaces include test pits, basements, garages, warehouses, and other indoor areas where mechanical (i.e., diesel, propane, gasoline or similarly powered) equipment must be operated for drilling or excavation purposes. Confined space entry should be allowed only when absolutely necessary.

☒ **Construction Hazards, Drill Rigs, Backhoes, etc.** The use of drill rigs, backhoes, and other heavy equipment represent potentially serious construction hazards. Whenever such equipment is used, personnel in the vicinity should be limited to those who must be there to complete their assigned duties. All personnel must avoid standing within the turning radius of the equipment or below any suspended load. Job sites must be kept as clean, orderly, and sanitary as possible. When water is used, care must be taken to avoid creating muddy or slippery conditions. If slippery conditions are unavoidable, barriers and warning signs must be used to warn of these dangers.

Never turn your back to operating machinery. Never wear loose clothing jewelry, hair, or other personal items around rotating equipment or other equipment that could catch or ensnare personal items. Always stand far enough away from operating machinery to prevent accidental contact, which may result from mechanical or human error.

Additionally, the following basic personal protective measures must be observed: **Hardhats** must be worn to protect against bumps or falling objects. **Safety glasses** must be worn by all workers in the vicinity of drill rigs or other sources of flying objects. **Goggles,** face shields, or other forms of eye protection must be worn when necessary to protect against chemicals or other hazards. **Steel-toed safety shoes or boots** are also required. The shoes must be chemically resistant or protected with appropriately selected boots/coverings where necessary. Unless otherwise specified, normal **work clothes** must be worn. Long sleeves and gloves are also required whenever necessary to protect against hazardous contact, cuts, abrasions or other possible skin hazards.

☐ **Electrical**. OSHA regulations require that employees who may be exposed to electrical equipment be trained to recognize the associated hazards and the appropriate control methods. All **extension cords** used for portable tools or other equipment must be designed for hard or extra usage and be (three-wire) grounded. All 120-volt, single-phase 15- and 20-ampere receptacle outlets on construction sites and other locations where moisture/water contact may occur must be equipped with **ground-fault circuit interrupters (GFCI)** units. GFCI units must be attached directly to or as close as possible to the receptacle. GFCI located away from the receptacle will not protect any wiring between the receptacle and the GFCI unit. Only the wiring plugged into the GFCI and outward will be protected by the GFCI. All **(temporary lighting)** lamps for general illumination must be protected from accidental breakage. Metal case sockets must be grounded. Portable lighting in wet or conductive locations should be 12 volts or less.

☐ **Drums and Buried Drums**. As a precautionary measure, personnel must assume that labeled and unlabeled drums encountered during field activities contain hazardous materials until their contents can be confirmed and characterized. Personnel should recognize that drums are frequently mislabeled, particularly drums that are reused.

Only trained and authorized personnel should be allowed to perform drum handling. Prior to any handling, drums must be visually inspected to gain as much information as possible about their contents. Trained field personnel must look for signs of deterioration such as corrosion, rust or leaks, and for signs that the drum is under pressure such as swelling or bulging. Drum-type and drumhead configuration may provide the observer with information about the type of material inside (e.g., a removable lid is designed to contain solids, while the presence of a bung indicates liquid storage).

Although not usually anticipated, buried drums can be encountered when digging test pits. Therefore, the following provisions must be observed if drums are encountered: Machine excavation (e.g., backhoe) should cease immediately anytime a drum is encountered. The appropriate management personnel should be notified immediately. All personnel should be instructed to immediately leave the work area.

Even authorized personnel must not enter an excavation where drums have been uncovered, even for monitoring purposes, unless all provisions of OSHA's trenching and excavation standard have been met and the appropriate level of PPE is utilized. Sampling of unknown drums usually requires Level B protection. Buried drums must not be moved unless it can be accomplished in a safe manner and overpack drums are available.

☒ **Fire and Explosion**. The possibility of flammable materials being encountered during field activities must be recognized and the appropriate steps necessary to minimize fire and explosion must be observed. This includes situations where excessive organic vapors or free product are encountered. When this occurs, monitoring with a combustible gas indicator (CGI) is required.

Excessive organic vapors, for the purposes of initiating the use of a CGI, are defined as sustained readings (i.e., continuous for at least 5 minutes) at or above 250 units or as an instantaneous reading at or above 1,000 units on the PID or FID, in close proximity (within 1 foot or less) of the borehole, test pit, sampling location, or other area of potential exposure.

In situations where hexane and/or methanol are needed for field activities, the following precautions must be observed: Keep flammable and combustible materials away from heat, sparks and open flames; do not smoke around flammable or combustible materials; and keep all flammable and combustible liquids in approved and properly labeled safety containers.

☐ **Landfill/Methane Hazards**. Fire and explosion should be regarded as one of, if not the, most significant potential hazards associated with drilling operations and other intrusive work conducted at a landfill. Accordingly, all sources of ignition must be fully controlled. Failure to control ignition sources could result in fire, explosion, and pose a serious threat to life and health. Control methods may include forced ventilation and/or filling the borehole with enough water to inhibit the release of methane and other gases that would otherwise escape through the top of the borehole.

If forced (mechanical) ventilation is to be used, all such equipment must be approved for Class I, Division I hazardous atmospheres. The blower must be positioned to blow across the top of the borehole so that gases and vapors may be diluted as they exit the borehole. Do not attempt to suck out the gases or vapors. Blowers, all other mechanical equipment, and tools taht could release sparks or static electricity must be bonded and grounded.

Regardless of the gas/vapor control method used, the atmosphere surrounding the borehole must be frequently monitored using direct reading instruments approved for Class I, Division I hazardous atmospheres. Monitoring should be conducted within 1 to 2 feet of the top of the borehole. Do not insert sampling devices into the borehole. Never approach the auger or drill shaft while it is in operation.

Regardless of actual instrument readings, if all sources of ignition cannot be controlled, operations should be immediately shut down and the area evacuated if readings equal or exceed 10% of LEL until ignition sources have been eliminated. Ignition sources include, but are not limited to, smoking, static electricity, lighting, open flames, spontaneously ignitable substances, frictional heat or sparks, hot surfaces, radiant heat, electrical sparks, stray currents, cutting and welding, ovens, furnaces, and heating equipment.

☐ **Heat and Cold Stress**. Overexposure to temperature extremes can represent significant risks to personnel if simple precautions are not observed. Typical control measures designed to prevent **heat stress** include dressing properly, drinking plenty of the right fluids, and establishing an appropriate work/break regimen. Typical control measures designed to prevent **cold stress** also include dressing properly, and establishing an appropriate work/break regimen.

☒ **Moving Vehicles, Traffic Safety**. All vehicular traffic routes that could impact worker safety must be identified and communicated. Whenever necessary, barriers or other methods must be established to prevent injury from moving vehicles. This is particularly important when field activities are conducted in parking lots, driveways, ramps or roadways. OSHA 1926.201 specifies that when signs, signals or barricades do not provide adequate protection from highway or street traffic, flagmen must be utilized. Flagmen must wear red or orange garments. Garments worn at night must be reflective.

☒ **Noise**. Noise exposure can be affected by many factors including the number and types of noise sources (continuous vs. intermittent or impact) and the proximity to noise intensifying structures (e.g., walls or buildings) that cause noise to bounce back or echo. The single most important factor effecting total noise exposure is distance from the source. The closer one is to the source, the louder the noise. The operation of a drill rig, backhoe, or other mechanical equipment can be sources of significant noise exposure. In order to reduce the exposure to this noise, personnel working in areas of excessive noise must use hearing protectors (e.g., ear plugs, ear muffs).

Rule-of-Thumb: Wherever actual data from sound level meters or noise dosimeters is unavailable and it is necessary to raise one's voice above a normal conversational level to communicate with others within 3 to 5 feet away, hearing protection should be worn.

☒ **Overhead Utilities and Hazards**. Overhead hazards can include low hanging structures that can cause injury due to bumping into them. Other overhead hazards include falling objects, suspended loads, swinging loads, and rotating equipment. Hardhats must be worn by personnel in areas were these types of physical hazards may be encountered. Barriers or other methods must also be used to exclude personnel from these areas where appropriate. Electrical wires are another significant overhead hazard. According to OSHA (29 CFR 1926.550), the minimum clearance that must be maintained from overhead electrical wires is 10 feet from an electrical source rated $\leq$ 50 kV. Sources rated $>$ 50 kV require a minimum clearance of 10 feet plus 0.4 inch per kV above 50 kV.

☒ **Pedestrian Traffic**. The uncontrolled presence of pedestrians on a drilling or excavation site can be hazardous to both pedestrians and site workers. Prior to the initiation of site activities, the site should be surveyed to determine if, when, and where pedestrian may gain access. This includes walkways, parking lots, gates, and doorways. Barriers or caution tape should be used to exclude all pedestrian traffic. Exclusion of pedestrian traffic is intended to prevent injury to the pedestrians and eliminate distractions that could cause injury to Partner personnel or other site workers.

☐ **Test Pit and/or other Excavations**. All provisions of the OSHA trenching and excavation standard (29 CFR 1926.650-652) must be followed during excavation activities. This includes all test pit excavation and sampling activities. The estimated location of utility installations such as sewer, telephone, electric, water lines, and other underground installations that may reasonably be expected to be encountered during excavation work, must be determined prior to opening an excavation.

Excavations in contaminated or potentially contaminated areas must be tested for confined spaces atmospheric hazards prior to entry. Excavations should not be entered if other means are available to perform the task requiring entry. If entry into an excavation is required, the atmosphere within the space must be monitored by a trained person to assure that oxygen concentrations are at greater than or equal to 19.5 percent, that combustible gas levels are less than 10 percent, and that vapor levels are within applicable safe exposure (PEL and TLV) limits.

A ladder or similar means of egress must be located in excavations greater than 4 feet in depth so as to require no more than 25 feet of lateral travel for employees. No person should be allowed to enter an excavation greater than 5 feet in depth unless the walls of the excavation have been protected using an approved shield (trench box), an approved shoring system, or the walls have been sloped back an appropriate angle, the excavation is free of accumulated water, and the excavation has been tested for hazardous atmospheres as noted previously. If personnel enter an excavation, the spoils pile and all materials must be placed at least 2 feet from the edge of the excavation to prevent the materials from rolling into the excavation. Personnel must remain at least 2 feet away from the edge of the excavation at all times. Upon completion of a test pit exploration, the excavation should be backfilled and graded. Excavations should never be left open unless absolutely necessary, and then only with proper barricading and controls to prevent accidental injury.

☒ **Underground Utilities and Hazards**. The identification of underground storage tanks (USTs), pipes, utilities, and other underground hazards is critically important prior to all drilling, excavating and other intrusive activities. In accordance with OSHA 29 CFR 1926.650, the estimated location of utility installations, such as sewer, telephone, electric, water lines and other underground installations that may reasonably be expected to be encountered during excavation work, must be determined prior to opening an excavation. The same requirements apply to drilling operations and the use of soil-gas probes. Where public utilities may exist, the utility agencies or operators must be contacted directly or through a utility-sponsored service such as Dig-Safe. Where other underground hazards may exist, reasonable attempts must be made to identify their locations as well. Failure to identify underground hazards can lead to fire, explosion, flooding, electrocution, or other life threatening accidents.

☐ **Water Hazards and Boat Sampling**. The collection of water or sediment samples on or immediately adjacent to a body of water can pose significant hazards. In addition to the slip, trip, and fall hazards associated with wet surfaces, the potential for drowning accidents must be recognized. These hazards can be intensified by the use of some PPE, particularly if respiratory protection is worn. OSHA 29 CFR 1926.106 requires that all employees working over or near water, where the danger of drowning exists, must wear a U.S. Coast Guard-approved life jacket or buoyant work vest. Ring buoys and emergency standby personnel must also be in place.

Hazard Assessment: Chemical Hazards and Related Concerns

☒ **Chemicals Subject to OSHA Hazard Communication**. All chemicals used in field activities such as solvents, reagents, decontamination solutions, or any other hazardous chemical must be accompanied by the required labels, Material Safety Data Sheets (MSDS), and employee training documentation (OSHA 1910.1200).

☐ **Asbestos**. Disturbance of building materials in buildings built prior to 1980 must be evaluated for the presence of asbestos-containing materials by an accredited Partner inspector. The inspection and/or removal of asbestos-based or asbestos-containing building materials is regulated by some major cities and several states. Regulations require individuals who conduct building inspections for the presence of asbestos or collect samples of asbestos containing materials to be licensed or certified. Partner employees must determine the applicability of these regulations prior to any activities involving asbestos. The primary health effects of asbestos exposure include asbestosis (a scarring of the lungs), lung cancer, mesothelioma, and other forms of cancer. Exposure to asbestos is regulated by a comprehensive OSHA standard (29 CFR 1910.1001).

☒ **BTEX Compounds**. Exposure to the vapors of **benzene, ethyl benzene, toluene,** and **xylenes** above their respective permissible exposure limits (PELs), as defined by OSHA, may produce irritation of the mucous membranes of the upper respiratory tract, nose, and mouth. Overexposure may also result in the depression of the central nervous system. Symptoms of such exposure include drowsiness, headache, fatigue, and drunken-like behavior. Benzene has been determined to be carcinogenic, targeting blood-forming organs and bone marrow. The odor threshold for benzene is higher than the PEL and employees may be overexposed to benzene without sensing its presence; therefore, detector tubes must be utilized to evaluate airborne concentrations.

The vapor pressures of these compounds are high enough to generate significant quantities of airborne vapor. On sites where high concentrations of these compounds are present, a potential inhalation hazard to the field team during subsurface investigations can result. However, if the site is open and the anticipated quantities of BTEX contamination are small (e.g., part per million concentrations in the soil or groundwater), overexposure potential will also be small.

☒ **Carbon Monoxide**. Carbon monoxide (CO) is a gas usually formed by the incomplete combustion of various fuels. Welding, cutting, and the operation of internal combustion engines can produce significant quantities of CO. Amounts of CO can quickly rise to hazardous levels in poorly ventilated areas. CO is odorless and colorless. It cannot be detected without appropriate monitoring equipment. LEL/O_2 meters and H-Nu/PID are <u>not</u> appropriate for the detection of CO. A direct reading instrument, calibrated for CO, should be used. Common symptoms of overexposure include pounding of the heart, a dull headache, flashes before the eyes, dizziness, ringing in the ears, and nausea. These symptoms must not be relied upon in place of an appropriately calibrated monitoring instrument. Exposures should not exceed 15 ppm. Exposures above 15 ppm require the use of supplied air respirators. Air purifying respirators are not approved for protection against CO.

☐ **Chlorinated Organic Compounds**. Exposure to the vapors of many chlorinated organic compounds such as vinyl chloride; tetrachloroethene; 1,1,1-trichloroethane; trichloroethene; and 1,2-dichloroethene above their respective PELs will result in similar symptoms. The actual PELs as set by OSHA vary depending on the specific compound.

Overexposure to the vapor of these compounds can cause irritation of the eyes, nose, and throat. The liquid, if splashed in the eyes, may cause burning irritation and damage. Repeated or prolonged skin contact with the liquid may cause dermatitis. Acute overexposure to chlorinated hydrocarbons depresses the central nervous system exhibiting such symptoms as drowsiness, dizziness, headache, blurred vision, in-coordination, mental confusion, flushed skin, tremors, nausea, vomiting, fatigue, and cardiac arrhythmia. Alcohol may make symptoms of overexposure worse. If alcohol has been consumed, the overexposed worker may become flushed. Some of these compounds are considered to be potential human carcinogens. Exposure to vinyl chloride is regulated by a comprehensive OSHA standard (29 CFR 1910.1017).

☒ **Chromium Compounds**. Hexavalent chromium compounds, upon contact with the skin, can cause ulceration and possibly an allergic reaction. Inhalation of hexavalent chromium dusts is irritating and corrosive to the mucous membranes of the upper respiratory tract. Chrome ulcers and chrome dermatitis are common occupational health effects from prolonged and repeated exposure to hexavalent chromium compounds. Acute exposures to hexavalent chromium dusts may cause coughing or wheezing, pain on deep inspiration, tearing, inflammation of the conjunctiva, nasal itch, and soreness or ulceration of the nasal septum. Certain forms of hexavalent chromium have been found to cause increased respiratory cancer among workers.

Trivalent chromium compounds (chromic oxide) are generally considered to be of lower toxicity, although dermatitis may occur as a result of direct handling.

☐ **Cutting Oils**. Cutting oils may produce a condition known as "cutting oil acne," a specific dermatosis associated with prolonged and repeated direct contact. Other problems associated with continued occupational exposure to cutting fluids include allergic skin sensitization, folliculitis, and squamous cell carcinoma due to the presence of nitrosamines.

☒ **Fuel Oil**. See Petroleum Hydrocarbons (PHC)

☒ **Gasoline**. See BTEX Compounds, and Tetraethyl and Tetramethyl Lead.

☐ **Herbicides**. Some of the commonly used herbicides present a low toxicity to man. However, other herbicides pose more serious problems. Organophosphorus and carbamate herbicides, if inhaled or ingested, can interfere with the functioning of the central nervous system. Many herbicides can be readily absorbed through the skin to cause systemic effects. In addition to being absorbed through the skin, many herbicides, upon contact with the skin, may cause discoloring, skin irritation, or dermatitis. Contaminants of commercial preparations of chlorinated phenoxy herbicides such as 2,4,5-T include 2,3,7,8-tetrachlorodibenzo-p-dioxin (dioxin). Dioxin is a known mutagen and a suspect carcinogen.

☐ **Hydrogen Sulfide (H_2S)**. H_2S, characterized by its "rotten egg" odor, is produced by the decomposition of sulfur-containing organic matter. It is found in many of the same areas where methane is found such as landfills, swamps, sewers, and sewer treatment facilities. An important characteristic of H_2S is its ability to cause a decrease in one's ability to detect its presence by smell. So although one may no longer be able to smell it, it could still be present in harmful concentrations.

The symptoms of overexposure include headache, dizziness, staggering, and nausea. Severe overexposure can cause respiratory failure, coma, and death. The current OSHA PEL is 10 ppm as an 8-hour time-weighted average (TWA). The ACGIH TLV is the same.

☐ **Lead Paint**. The inspection and/or removal, sanding, grinding, etc. of lead-based or lead-containing paints is now strictly regulated by OSHA. States may require individuals who conduct lead paint inspections or collect samples of lead paint to be licensed or certified. Partner employees must determine the applicability of these regulations prior to any activities involving lead paint. For additional health information, see Metal Compounds.

☒ **Metal Compounds**. Overexposure to metal compounds has been associated with a variety of local and systemic health hazards, both acute and chronic in nature, with chronic effects being most significant. Direct contact with the dusts of some metal compounds can result in contact or allergic dermatitis. Repeated contact with arsenic compounds may result in hyperpigmentation. Cases of skin cancer due to the trivalent inorganic arsenic compounds have been documented. The moist mucous membranes, particularly the conjunctivae, are most sensitive to the irritating effects of arsenic. Copper particles embedded in the eye result in a pronounced foreign body reaction with a characteristic discoloration of eye tissue.

Inhalation of copper and zinc dusts and fumes above their established PELs may result in flu-like symptoms known as "metal fume fever." Prolonged and repeated inhalation of the dusts of inorganic arsenic compounds above the established PEL may result in weakness, loss of appetite, a sense of heaviness in the stomach, and vomiting. Respiratory problems such as cough, hoarseness, and chest pain usually precede the gastrointestinal problems. Chronic overexposure to the dusts of inorganic arsenic may result in lung cancer.

The early symptoms of lead poisoning are usually nonspecific. Symptoms include sleep disturbances, decreased physical fitness, headache, decreased appetite, and abdominal pains. Chronic overexposure may result in severe colic and severe abdominal cramping. The central nervous system (CNS) may also be adversely effected when lead is either inhaled or ingested in large quantities for extended periods of time. The peripheral nerve is usually affected. "Wrist drop" is peculiar to such CNS damage. Lead has also been characterized as a male and female reproductive toxin as well as a fetotoxin. Exposure to lead (Pb) is regulated by a comprehensive OSHA standard (29 CFR 1910.1025).

☐ **Methane**. Methane is an odorless, colorless, tasteless, gas that cannot be detected by an H-Nu/PID. When present in high concentrations in air, methane acts primarily as a simple asphyxiant without other significant physiologic effects. Simple asphyxiants dilute or displace oxygen below that required to maintain blood levels sufficient for normal tissue respiration.

Methane has a LEL of 5 percent and an upper explosive limit (UEL) of 15 percent. The LEL of a substance is the minimum concentration of gas or vapor in air below which the substance will not burn when exposed to a source of ignition. This concentration is expressed in percent by volume. Below this concentration, the mixture is "too lean" to burn or explode. The UEL of a substance is the maximum concentration of gas or vapor in air above which the substance will not burn when exposed to a source of ignition. Above this concentration, the mixture is "too rich" to burn or explode. The explosive range is the range of concentrations between the LEL and UEL where the gas-air mixture will support combustion. For methane this range is 5 to 15 percent.

☒ **Pesticides**. Pesticides can be grouped into three major categories: organophosphates, carbamate, and organochlorates. The actual PELs as set by the OSHA vary depending on the specific compound. Organophosphates, including diazinon, malathion and parathion, are quickly absorbed into the body by inhalation, ingestion, and direct skin contact. The symptoms of exposure include headache, fatigue, dizziness, blurred vision, sweating, cramps, nausea, and vomiting. More severe symptoms can include tightness of the chest, muscle spasms, seizures, and unconsciousness. It should also be noted that the malathion and parathion PELs both carry the Skin notation, indicating that these compounds adversely affect or penetrate the skin. OSHA specifies that skin exposure to substances carrying this designation should be prevented or reduced through the use of the appropriate PPE.

Organochlorates such as chlordane, DDT and heptachlor can cause dizziness, nausea, abdominal pain, and vomiting. The more severe symptoms include epileptic-like seizures, rapid heartbeat, coma, and death. These compounds also carry the OSHA Skin notation. The symptoms of exposure to carbamate such carbaryl (also known as sevin) is similar to those described for the organophosphates. However, the OSHA exposure limit for carbaryl does not carry the Skin notation.

☒ **Petroleum Hydrocarbons (PHCs)**. Petroleum hydrocarbons such as fuel oil are generally considered to be of low toxicity. Recommended airborne exposure limits have not been established for these vapors. However, inhalation of low concentrations of the vapor may cause mucous membrane irritation. Inhalation of high concentrations of the vapor may cause pulmonary edema. Repeated or prolonged direct skin contact with the oil may produce skin irritation as a result of defatting. Protective measures, such as the wearing of chemically resistant gloves, to minimize contact are addressed elsewhere in this plan. Because of the relatively low vapor pressures associated with PHCs, an inhalation hazard in the outdoor environment is not likely.

☒ **Polychlorinated Biphenyls (PCBs)**. Prolonged skin contact with PCBs may cause the formation of comedones, sebaceous cysts, and/or pustules (a condition known as chloracne). PCBs are considered to be suspect carcinogens and may also cause reproductive damage.

The OSHA PELs for PCBs are as follows:

Compound	*PEL (8-hour TWA)*
Chlorodiphenyl (42% Chlorine)	1 mg/m^3-Skin
Chlorodiphenyl (54% Chlorine)	0.5 mg/m^3 -Skin

It should be noted that PCBs have extremely low vapor pressures (0.001 millimeters of mercury (mm Hg) at 42% Chlorine and 0.00008 mm Hg at 54% Chlorine). This makes it unlikely that any significant vapor concentration (i.e., exposures above the OSHA PEL) will be created in the ambient environment. This minimizes the potential for any health hazards to arise due to inhalation unless the source is heated or generates an airborne mist. If generated, vapor or mists above the PEL may cause irritation of the eyes, nose, and throat. The exposure limits noted above are considered low enough to prevent systemic effects, but it is not known if these levels will prevent local effects. It should also be noted that both PELs carry the Skin notation, indicating that these compounds adversely affect or penetrate the skin. OSHA specifies that skin exposure to substances carrying this designation be prevented or reduced through the use of the appropriate PPE.

☒ **Polycyclic Aromatic Hydrocarbons (PAHs)**. Due to the relatively low vapor pressure of PAH compounds, vapor hazards at ambient temperatures are not expected to occur. However, if site conditions are dry, the generation of contaminated dusts may pose a potential inhalation hazard. Therefore, dust levels should be controlled with wetting, if necessary. Repeated contact with certain PAH compounds has been associated with the development of skin cancer. Contact of PAH compounds with the skin may cause photosensitization of the skin, producing skin burns after subsequent exposure to ultraviolet radiation. Protective measures, such as the wearing of chemically resistant gloves, are appropriate when handling PAH-contaminated materials.

☐ **Tetraethyl and Tetramethyl Lead**. Both compounds are used as anti-knock ingredients in gasoline. The inhalation of tetraethyl lead dusts may result in irritation of the respiratory tract. This dust, when in contact with moist skin or eye membranes, may cause itching, burning, and transient redness.

The direct absorption of a sufficient quantity of tetraethyl lead, whether briefly at a high rate, or for prolonged periods at a low rate, may cause acute intoxication of the central nervous system. Mild degrees of intoxication may cause headache, anxiety, insomnia, nervous excitation, and minor gastrointestinal disturbances.

☒ **Volatile Organic Compounds (VOCs)**. See BTEX compounds and Chlorinated Organic Compounds.

☒ **Waste Oil**. See Petroleum Hydrocarbons (PHCs) and Cutting Oil.

Hazard Assessment: Biological Hazards and Related Concerns

☒ **Insects**. Insects represent significant sources (vectors) of disease transmission. Therefore, precautions to avoid or minimize potential contact should be considered prior to all field activities. Disease or harmful effects can be transmitted through bites, stings, direct contact with insects, or ingestion of foods contaminated by certain insects. Examples of diseases transmitted by insect bites include encephalitis and malaria from contaminated mosquitoes and Lyme disease and spotted fever from contaminated ticks. Stinging insects, such as bees and wasps, are prevalent throughout the country, particularly during the warmer months. The stings of these insects can be painful and cause serious allergic reactions to some individuals.

☐ **Lyme Disease**. Lyme disease is an infection caused by the bite of certain ticks, primarily deer, dog and wood ticks. The symptoms of Lyme disease usually start out as a skin rash then progress to more serious symptoms. The more serious symptoms can include lesions, headaches, arthritis, and permanent damage to the neurological system. If detected early, the disease can be treated successfully with antibiotics. The following steps are recommended for prevention of Lyme disease and other diseases transmitted by ticks: a) Beware of tall grass, bushes, woods, and other areas where ticks may live; b) Wear good shoes, long pants tucked into socks, a shirt with a snug collar, good cuffs around the wrists, and tails tucked into the pants. Insect/tick repellents may also be useful; c) Carefully monitor for the presence of ticks. Carefully inspect clothes and skin when undressing. If a tick is attached to the skin, it should be removed with fine-tipped tweezers. You should be alert for early symptoms over the next month or so. If you suspect that you have been bitten by a tick, you should contact a physician for medical advice.

☐ **Medical Wastes and Bloodborne Diseases**. Any field activity where exposure to medical wastes or other sources of bloodborne pathogens can be reasonably anticipated must be conducted in accordance with the OSHA (29 CFR 1910.1030) Bloodborne Pathogens

standard. According to the OSHA definition, Bloodborne Pathogens mean pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV). Wherever there is a potential for employee skin, eye, mucous membrane, or parenteral (skin or membrane piercing) contact with blood or other potentially infectious sources, employers must develop a Written Exposure Control Plan.

☐ **Poisonous Plants**. The possible presence of poisonous plants should be anticipated for field activities in wooded or heavily vegetated areas. Poison ivy is a climbing plant with alternate green to red leaves (arranged in threes) and white berries. Poison oak is similar to poison ivy and sumac, but its leaves are oak-like in form. The leaves of these poisonous plants produce irritating oil that causes an intensely itching skin rash and characteristic blister-like lesions. Contact with these plants should be avoided.

☐ **Rats, Snakes and Other Vermin**. Certain animals, particularly those that feed on garbage and other wastes, can represent significant sources (vectors) of disease transmission. Therefore, precautions to avoid or minimize potential contact with (biting) animals (such as rats) or animal waste (such as pigeon droppings) should be considered prior to all field activities. Rats, snakes, and other wild animals can inflict painful bites. The bites can poisonous (as in the case of some snakes) or disease causing (as in the case of rabid animals). Avoidance of these animals is the best protection.

☐ **Waste Water and Sewage**. Sewage and waste water contaminated with raw, untreated sewage can represent significant sources of bacterial, viral, or fungal contamination. Adverse effects due to contact can range from mild skin reactions or rashes to life threatening diseases. Diseases are easily transmitted by accidental ingestion or through skin contact, particularly if the skin is broken. Avoidance of direct contact and good personal hygiene are the best protection from these hazards.

SITE INSPECTION LOG/HASP SIGNATURE PAGE

PROJECT NAME: Industrial Complex	LOCATION: 1625 and 1631 S. Magnolia Ave. and 410 W. Evergreen Ave, Monrovia
PROJECT NUMBER: 11-76495.9	DATE:
PROJECT MANAGER: Eric Patschull	COMPLETED BY:
SITE DESCRIPTION AND NATURE OF WORK: Phase II ESA	

HAZARD COMMUNICATION
[ ]Chemical hazards identified
[ ]All containers properly labeled
[ ]MSDS/workplace notebook on-site
[ ]Site safety briefing completed and documented

ACCIDENTS/EMERGENCY INFO
[ ]First aid personnel identified
[ ]Hospital location identified
[ ]Police/fire/ambulance phone numbers available
[ ]Fire extinguisher present

STORAGE
[ ]Tools/drill equipment/supplies safely stacked to prevent rolling or collapse
[ ]Work areas and passage ways kept clear

UNDERGROUND HAZARDS
[ ]All underground hazards identified and communicated to workers on-site
[ ]Utility/USA clearance confirmed
[ ]Clearance dates: _____
[ ]Clearance ID#: _____

OVERHEAD HAZARDS
[ ]15-foot minimum clearance maintained
[ ]All sources of falling objects/swinging loads/ rotating equipment identified
[ ]Barriers or other methods in place to prevent injury due to overhead hazards

EXCAVATIONS and TRENCHES
[ ]All personnel and storage at least 2 feet from top edge of excavation
[ ]Ladder in place
[ ]Guarding/barriers in place

VEHICULAR TRAFFIC
[ ]All vehicular traffic routes which could impact worker safety identified and communicated
[ ]Barriers or other methods established to prevent injury from moving vehicles

PEDESTRIAN TRAFFIC/SITE CONTROL
[ ]All walkways which could be impacted by site activities identified and communicated
[ ]Barriers or other methods established to prevent pedestrian injury from site activities

AIR MONITORING
[ ]PID on-site for air monitoring of work breathing space
[ ]PID calibrated daily and recorded in log book
[ ]Operational action levels communicated and PPE present for use, if required

COMMENTS/OTHER HAZARDS _____

x = OK *NA = Not Applicable*

Signing below indicates that the individual understands the hazards involved with the project and the necessary procedures in the event of an emergency.

Name	Signature	Company	Date
ERIC PATSCHULL	Eric Patschull	Partner	6-30-11
SHARIDAN ASHCROFT	Sharidan Ashcroft	KTE	6/30/11
JOE TARANTINO		KTE	6/30/11
7-1-11 ERIC PATSCHULL	Eric Patschull	Partner	7/1/11
SHARIDAN ASHCROFT	Sharidan Ashcroft	KTE	7/1/11
JOE TARANTINO		KTE	7/1/11
7-6-11 ERIC PATSCHULL	Eric Patschull	Partner	7-6-11

Additional Signature Page

Signing below indicates that the individual understands the hazards involved with the project and the necessary procedures in the event of an emergency.

Name 7-6-11	Signature	Company	Date
Eric Patschull	Eric Patschull	Partner	7-6-11
Joe Treantino		KTE	7/6/11
Tony Rico		KTE	7/6/11

APPENDIX A

HOSPITAL EMERGENCY ROOM MAP & DIRECTIONS

Bing Maps

1625 S Magnolia Ave, Monrovia, CA 91016-4509
(Directions to approximate location.)
819 Buena Vista St, Duarte, CA 91010-1703

Route: **2.2 mi, 5 min**

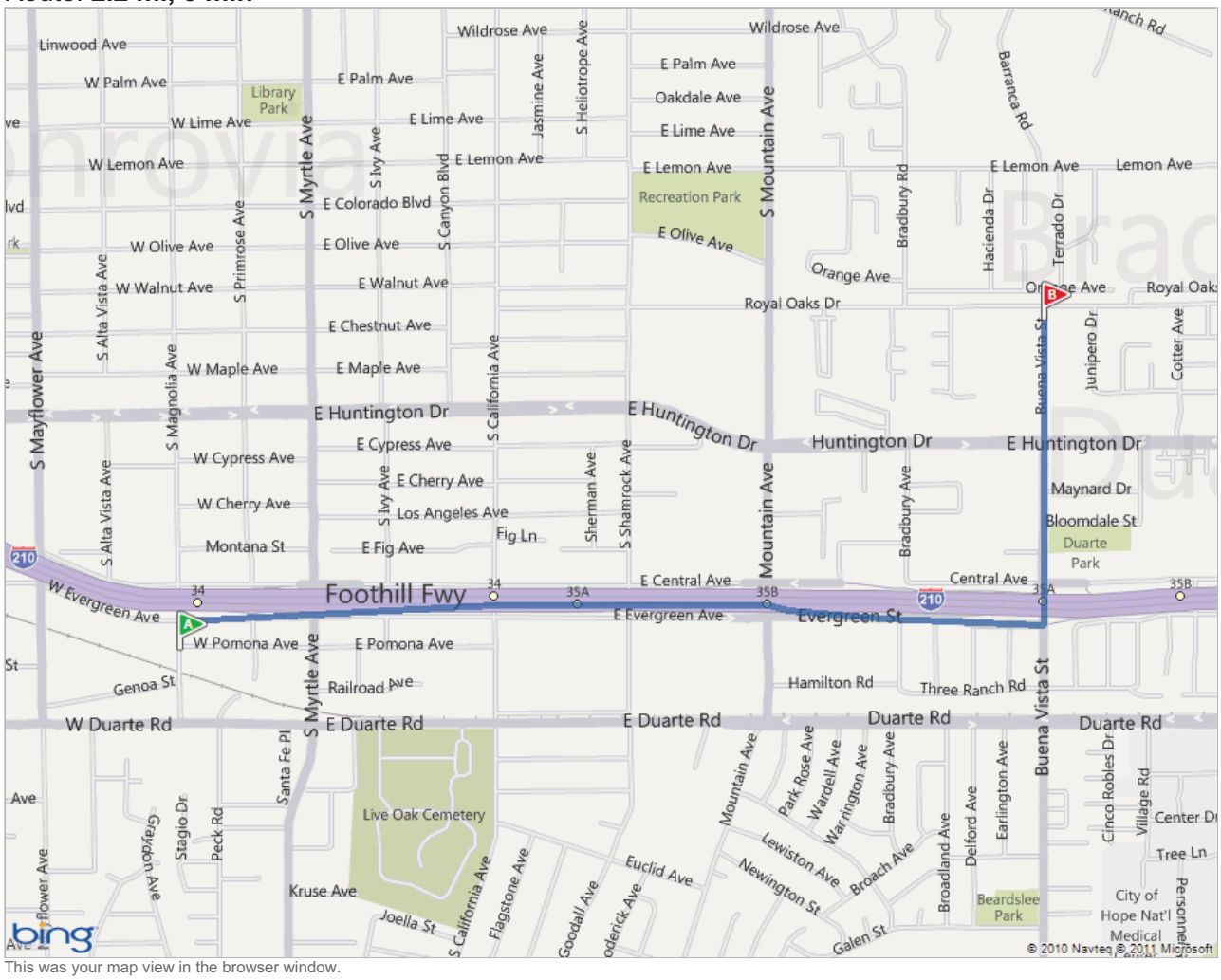
Santa Terista Hospital
(626) 359-3243

FREE! Use **Bing 411** to find movies, businesses & more: **800-BING-411**

	1625 S Magnolia Ave, Monrovia, CA 91016-4509	**A–B: 2.2 mi** 5 min
	1. Depart **S Magnolia Ave** toward W Evergreen Ave	< 0.1 mi
	2. Turn **right** onto **W Evergreen Ave**	0.2 mi
	3. Road name changes to **E Evergreen Ave**	< 0.1 mi
	4. Take ramp **left** and follow signs for **I-210 East / Foothill Fwy**	0.8 mi
	5. At exit **35B**, take ramp **right** for **Evergreen St** toward **Buena Vista St**	0.5 mi
	6. Turn **left** onto **Buena Vista St**	0.6 mi
	7. Arrive at **819 Buena Vista St, Duarte, CA 91010-1703** on the left *If you reach Royal Oaks Dr, you've gone too far*	

These directions are subject to the Microsoft®: Service Agreement and for informational purposes only. No guarantee is made regarding their completeness or accuracy. Construction projects, traffic, or other events may cause actual conditions to differ from these results. Map and traffic data © 2010 NAVTEQ™.

Route: **2.2 mi, 5 min**

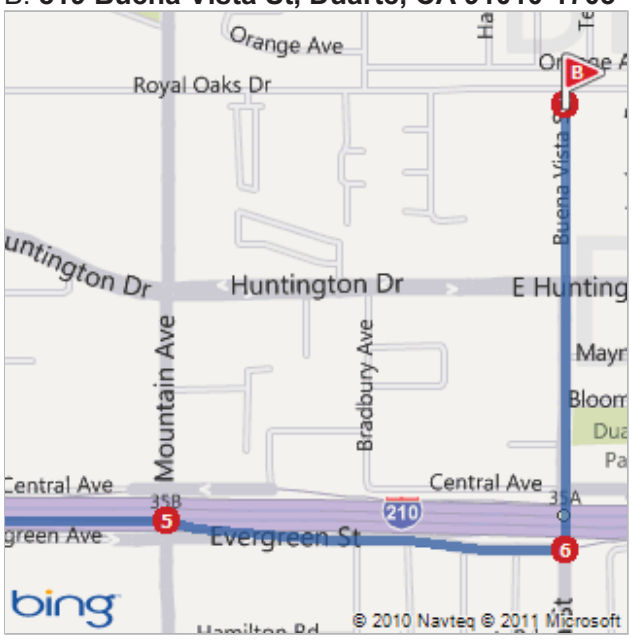


This was your map view in the browser window.

A: **1625 S Magnolia Ave, Monrovia, CA 91016-...**



B: **819 Buena Vista St, Duarte, CA 91010-1703**



Appendix C:

Boring Logs

Boring Number:	B-1				Page 1 of 1
Location:	Exterior, Southeast of Building A			Date Started:	7/6/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Mounted Rig			**Partner Engineering and Science**	
Sampling Equipment:	N/A			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Asphalt Hand Auger to 5'
2					
3					
4					
5	N/A	0.0	SP	Dark Brown fine grained SAND, traces of Silt, slightly moist	Set vapor probe at 5'
6					Total Depth = 5' below ground surface, backfilled with bentonite chips capped with asphalt
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-2				Page 1 of 2
Location:	Exterior, Southeast Corner of Building A			Date Started:	7/6/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Mounted Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Asphalt Hand Auger to 5'
2					
3					
4					
5	B2-5	0.4	SP	Dark Brown fine grained SAND, traces of Silt, slightly moist	Set vapor probe at 5'
6					
7					
8					
9					
10	B2-10	0.0	SP	Dark Brown fine to medium grained SAND, traces of Silit, traces of fine to medium Gravel, dry	
11					
12					
13					
14					
15	B2-15	0.5	SP	Dark Brown fine graned SAND with Silt, slightly moist	
16					
17					
18					
19					
20	B2-20	0.9	SP	Light Brown fine to coarse SAND, traces of fine to coarse Gravel, slightly moist, subangular	
21					
22					
23					
24					
25	B-25	2.0	SP	Dark Brown fine to coarse grained SAND, traces of Silt, traces of cobbles, slightly moist	

Boring Number:	B-2				Page 2 of 2
Location:	Exterior, Southeast of Building A			Date Started:	7/6/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Mounted Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
26					
27					
28					
29				Light Brown to gray / white fine to coarse grained sand with traces of Silt and Cobbles, slightly moist	
30	B2-30	2.7	SP		
31					Total Depth = 30' below ground surface, backfilled with bentonite chips capped with asphalt
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					

Boring Number:	B-3				Page 1 of 2
Location:	Exterior, Southeast corner of Building A			Date Started:	7/6/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Mounted Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					5" of Asphalt Hand Auger to 5'
2					
3					
4					
5	B3-5	0.0	SP	Dark Brown fine grained SAND with Silt, slightly moist	Set vapor probe at 5'
6					
7					
8					
9					
10	B3-10	0.0	SP	Dark Brown fine grained SAND with Silt, slightly moist	
11					
12					
13					
14					
15	B3-15	1.2	SM	Dark Brown fine grained SAND, slightly moist	
16					
17					
18					
19					
20	B3-20	0.6	SP	Brown fine grained SAND, with silt, slightly moist	
21					
22					
23					
24					
25	B3-25	1.0	SP	Brown fine to coarse grained SAND, traces of fine to medium gravel, dry	

Boring Number:	B-3				Page 2 of 2
Location:	Exterior, Southeast corner of Building A			Date Started:	7/6/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Mounted Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
26					
27					
28					
29					
30	B3-30	0.4	SP	Brown fine to coarse grained SAND, traces of fine to medium gravel, dry	
31					Total Depth = 30' below ground surface, backfilled with bentonite chips capped with asphalt
32					
33					
34					
35					
36					
37					
38					
39					
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					
50					

Boring Number:	B-4				Page 1 of 1
Location:	Interior, Northeast Corner of Building A			Date Started:	7/1/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/1/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Limited Access Direct Push Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Concrete Surface Hand Auger to 5'
2					
3					
4					
5	B4-5	0.0	SP	Brown fine grained SAND with Silt, dry	Set vapor probe at 5'
6					
7					
8					
9					
10	B4-10	0.0	SM	Brown Silty fine grained SAND, slightly moist	
11					
12					
13					
14					
15	B4-15	0.0	SM	Brown Silty fine grained SAND, slightly moist	
16					
17					
18					
19					
20	B4-20	0.0	SM	Brown Silty fine grained SAND, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with concrete
22					
23					
24					
25					

Boring Number:	B-5				Page 1 of 1
Location:	Interior West Portion of Building A			Date Started:	7/1/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/1/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Limited Access Direct Push Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Concrete Surface Hand Auger to 5'
2					
3					
4					
5	B5-5	0.0	SP	Brown fine grained SAND with Silt, dry	Set vapor probe at 5'
6					
7					
8					
9					
10	B5-10	0.0	SM	Brown Silty fine grained SAND, slightly moist	
11					
12					
13					
14					
15	B5-15	0.0	SM	Brown Silty fine grained SAND, slightly moist	
16					
17					
18					
19					
20	B5-20	0.0	SP	Brown fine grained SAND with Silt, dry	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with concrete
22					
23					
24					
25					

Boring Number:	B-6				Page 1 of 1
Location:	Exterior Northeast of Building A			Date Started:	6/30/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	6/30/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Rig			**Partner Engineering and Science**	
Sampling Equipment:	N/A			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Asphalt Surface Hand Auger to 5'
2					
3					
4					
5	N/A	0.0	SP	Dark Brown fine to medium grained SAND with Silt, slightly moist	Set vapor probe at 5'
6					Total Depth = 5' below ground surface, backfilled with bentonite chips capped with asphalt
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-7				Page 1 of 1
Location:	Exterior North of Building A			Date Started:	6/30/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	6/30/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Asphalt Surface Hand Auger to 5'
2					
3					
4					
5	B7-5	0.0	SP	Dark Brown fine to medium grained SAND with Silt, slightly moist	
6					
7					
8					
9					
10	B7-10	0.7	SM	Dark Brown Silty fine grained SAND, trace clay, slightly moist	
11					
12					
13					
14					
15	B7-15	0.0	SP	Brown fine grained SAND with Silt, slightly moist	
16					
17					
18					
19					
20	B7-20	0.0	SP	Light Reddish Brown fine to coarse grained SAND with fine gravel, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with concrete
22					
23					
24					
25					

Boring Number:	B-8				Page 1 of 1
Location:	Exterior, East of Building B			Date Started:	6/30/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	6/30/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Asphalt Surface Hand Auger to 5'
2					
3					
4					
5	B8-5	0.0	SP	Dark Brown fine to medium grained SAND with Silt, fine to medium gravel, slightly moist	Set vapor probe at 5'
6					
7					
8					
9					
10	B8-10	0.0	SM	Dark Brown fine grained Silty SAND with traces of Clay, slightly moist	
11					
12					
13					
14					
15	B8-15	1.7	SP	Brown fine grained SAND with Silt, slightly moist	
16					
17					
18					
19					
20	B8-20	2.5	SP	Light Brown fine to coarse grained SAND with fine Gravel, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with asphalt
22					
23					
24					
25					

Boring Number:	B-9				Page 1 of 1
Location:	Exterior, Northeast of Building B			Date Started:	6/30/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	6/30/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					Surface Soil / Vegitation Hand Auger to 5'
2					
3					
4					
5	B9-5	0.0	SP	Dark Brown fine to medium grained SAND with Silt, slightly moist	
6					
7					
8					
9					
10	B9-10	0.2	SP	Dark Brown fine to medium grained SAND with Silt, slightly moist	
11					
12					
13					
14					
15	B9-15	2.5	SP	Dark Brown fine to medium grained SAND with Silt, slightly moist	
16					
17					
18					
19					
20	B9-20	3.0	SP	Dark Brown fine to medium grained SAND with Silt, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with top soil
22					
23					
24					
25					

Boring Number:	B-10				Page 1 of 1
Location:	Exterior South of Building B			Date Started:	7/1/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/1/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Asphalt Surface Hand Auger to 5'
2					
3					
4					
5	B10-5	0.0	SP	Brown fine grained SAND with Silt, dry	Set vapor probe at 5'
6					
7					
8					
9					
10	B10-10	0.0	SP	Brown fine grained SAND with Silt, dry	
11					
12					
13					
14					
15	B10-15	0.0	SM	Brown Silty fine grained SAND, slightly moist	
16					
17					
18					
19					
20	B10-20	0.0	SM	Brown Silty fine grained SAND, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with asphalt
22					
23					
24					
25					

Boring Number:	B-11				Page 1 of 1
Location:	Exterior Southwest of Building B			Date Started:	7/1/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/1/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Mounted Rig			**Partner Engineering and Science**	
Sampling Equipment:	N/A			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Asphalt Surface Hand Auger to 5'
2					
3					
4					
5	N/A	0.0	SP	Brown fine grained SAND with Silt, dry	Set vapor probe at 5'
6					Total Depth = 5' below ground surface, backfilled with bentonite chips capped with asphalt
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-12	Page 1 of 1	
Location:	Exterior West of Building B	Date Started:	7/1/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue	Date Completed:	7/1/2011
	Monrovia, California 91016	Depth to Groundwater:	N/A
Project Number:	11-76495.9	Field Technician:	EP
Drill Rig Type:	Direct Push Truck Rig	**Partner Engineering and Science**	
Sampling Equipment:	N/A	1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch	El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					3" Aspalt Hand Auger to 5'
2					
3					
4					
5	N/A	0.0	SP	Brown find grained SAND with Silt, dry	Set vapor probe at 5'
6					Total Depth = 5' below ground surface, backfilled with bentonite chips capped with asphalt
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-13				Page 1 of 1
Location:	Exterior Northwest of Building B			Date Started:	7/1/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/1/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					3" Aspalt Hand Auger to 5'
2					
3					
4					
5	B13-5	0.0	SP	Dark Brown fine grained SAND with Silt, slightly moist	Set vapor probe at 5'
6					
7					
8					
9					
10	B13-10	0.0	SP	Dark Brown fine grained SAND with Silt, slightly moist	
11					
12					
13					
14					
15	B13-15	0.0	SM	Brown Silty fine grained SAND, slightly moist	
16					
17					
18					
19					
20	B13-20	0.0	SM	Brown Silty fine grained SAND, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with asphalt
22					
23					
24					
25					

Boring Number:	B-14				Page 1 of 1
Location:	Interior Southwest Corner of Building B			Date Started:	6/30/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	6/30/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Track Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					3" Concrete Surface Hand Auger to 5'
2					
3					
4					
5	B14-5	0.0	SP	Dark Brown fine grained SAND with Silt, slightly moist	Set vapor probe at 5'
6					
7					
8					
9					
10	B14-10	0.5	SP	Dark Brown fine grained SAND with Silt, slightly moist	
11					
12					
13					
14					
15	B14-15	1.6	SP	Dark Brown fine grained SAND with Silt, slightly moist	
16					
17					
18					
19					
20	B14-20	2.3	SP	Dark Brown fine grained SAND with Silt, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with concrete
22					
23					
24					
25					

Boring Number:	B-15				Page 1 of 1
Location:	Interior, Northeast Corner of Building B			Date Started:	6/30/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	6/30/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Track Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					3" Concrete Surface Hand Auger to 5'
2					
3					
4					
5	B15-5	0.0	SP	Dark Brown fine grained SAND with Silt, slightly moist	Set vapor probe at 5'
6					
7					
8					
9					
10	B15-10	1.1	SM	Dark Brown fine grained Silty SAND with traces of Clay, slightly moist	
11					
12					
13					
14					
15	B15-15	1.1	SM	Dark Brown fine grained Silty SAND with traces of Clay, slightly moist	
16					
17					
18					
19					
20	B15-20	2.4	SM	Dark Brown fine grained Silty SAND with traces of Clay, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with concrete
22					
23					
24					
25					

Boring Number:	B-16			Page 1 of 1	
Location:	Exterior, West of Outside Storage Area			Date Started:	7/6/2011
Site Address:	1631 South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Track Rig			**Partner Engineering and Science**	
Sampling Equipment:	N/A			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4'' asphalt surface
2					
3					
4					
5	N/A	0.0	SM	Dark Brown Silty fine grained SAND, slightly moist	Set vapor probe at 5'
6					Total Depth = 5' below ground surface, backfilled with bentonite chips capped with asphalt
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-17				Page 1 of 1
Location:	Exterior Southwest of Industrial Building			Date Started:	7/6/2011
Site Address:	1631 South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Track Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Asphalt Surface Hand Auger to 5'
2					
3					
4					
5	B17-5	0.0	SP	Dark Brown fine grained SAND with Silt, slightly moist	Set vapor probe at 5'
6					
7					
8					
9					
10	B17-10	0.6	SP	Dark Brown fine grained SAND with Silt, slightly moist	
11					
12					
13					
14					
15	B17-15	2.5	SM	Dark Brown fine grained Silty SAND, slightly moist	
16					
17					
18					
19					
20	B17-20	2.5	SP	Brown fine to coarse SAND with fine to medium subangular Gravel, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with concrete
22					
23					
24					
25					

Boring Number:	B-18				Page 1 of 1
Location:	Exterior Southwest corner of Industrial Building			Date Started:	7/6/2011
Site Address:	1631 South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Track Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Asphalt Surface Hand Auger to 5'
2					
3					
4					
5	B18-5	0.0	SM	Dark Brown Silty fine grained SAND, slightly moist	
6					
7					
8					
9					
10	B18-10	0.0	SM	Dark Brown Silty fine grained SAND, slightly moist	
11					
12					
13					
14					
15	B18-15	0.0	SM	Dark Brown Silty fine grained SAND, slightly moist	
16					
17					
18					
19					
20	B18-20	0.0	SM	Dark Brown Silty fine grained SAND, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with asphalt
22					
23					
24					
25					

Boring Number:	B-19				Page 1 of 1
Location:	Interior Eastern portion of Industrial Building			Date Started:	6/30/2011
Site Address:	1631 South Magnolia Avenue			Date Completed:	6/30/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Track Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					3" Concrete Surface Hand Auger to 5'
2					
3					
4					
5	B19-5	0.3	SP	Brown fine to medium grained SAND with Silt, dry	Vapor probe set at 5'
6					
7					
8					
9					
10	B19-10	2.6	SP	Brown fine to medium grained SAND with Silt, dry	
11					
12					
13					
14					
15	B19-15	2.6	SM	Brown Silty fine grained SAND, slightly moist	
16					
17					
18					
19					
20	B19-20	1.3	SP	Brown fine to coarse grained SAND, traces of Silt, dry	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with concrete
22					
23					
24					
25					

Boring Number:	B-20				Page 1 of 1
Location:	Interior West portion of Industrial Building			Date Started:	6/30/2011
Site Address:	1631 South Magnolia Avenue			Date Completed:	6/30/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Track Mounted Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, VOAs, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					3" Concrete Surface Hand Auger to 5'
2					
3					
4					
5	B20-5	0.0	SP	Brown fine grained SAND with Silt, slightly moist	Set vapor probe at 5'
6					
7					
8					
9					
10	B20-10	0.0	SP	Brown fine grained SAND with Silt, slightly moist	
11					
12					
13					
14					
15	B20-15	0.0	SP	Brown fine grained SAND with Silt, slightly moist	
16					
17					
18					
19					
20	B20-20	0.0	SP	Brown fine grained SAND with Silt, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with concrete
22					
23					
24					
25					

Boring Number:	B-21				Page 1 of 1
Location:	Exterior Southeast of Industrial Building			Date Started:	7/1/2011
Site Address:	410 West Evergreen Avenue			Date Completed:	7/1/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					Soil at Surface Hand Auger to 5"
2					
3					
4					
5	B21-5	0.0	SM	Dark Brown Silty fine grained SAND, slightly moist	Set vapor probe at 5'
6					
7					
8					
9					
10	B21-10	0.0	SM	Dark Brown Silty fine grained SAND, slightly moist	
11					
12					
13					
14					
15	B21-15	0.0	SP	Brown fine grained SAND with Silt, slightly moist	
16					
17					
18					
19					
20	B21-20	0.0	SP	Brown fine grained SAND with Silt, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with top soil
22					
23					
24					
25					

Boring Number:	B-22				Page 1 of 1
Location:	Exterior Southwest of Industrial Building			Date Started:	7/1/2011
Site Address:	410 West Evergreen Avenue			Date Completed:	7/1/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Mounted Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					Soil at Surface Hand Auger to 5"
2					
3					
4					
5	B22-5	0.0	SM	Dark Brown Silty fine grained SAND, slightly moist	Set vapor probe at 5'
6					
7					
8					
9					
10	B22-10	0.0	SM	Dark Brown Silty fine grained SAND, slightly moist	
11					
12					
13					
14					
15	B22-15	0.0	SP	Brown fine grained SAND with Silt, slightly moist	
16					
17					
18					
19					
20	B22-20	0.0	SP	Brown fine grained SAND with Silt, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with top soil
22					
23					
24					
25					

Boring Number:	B-23				Page 1 of 1
Location:	Exterior Center of Storage Compoound, S. of Bldg			Date Started:	7/1/2011
Site Address:	410 West Evergreen Avenue			Date Completed:	7/1/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Limited Access Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Concrete Surface Hand Auger to 5'
2					
3					
4					
5	B23-5	0.0	SP	Dark Brown fine to coarse graind SAND with Silt, dry	
6					
17					
8					
9					
10	B23-10	0.0	SM	Brown fine grained Silty SAND, slightly moist	
11					
17					
13					
14					
15	B23-15	0.0	SP	Brown fine to medium grained SAND with Silt, slightly moist	
16					
17					
18					
19					
20	B23-20	0.0	SM	Dark Brown fine grained Silty SAND, traces of Clay, moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with concrete
22					
23					
24					
25					

Boring Number:	B-24				Page 1 of 1
Location:	Interior South Portion of Industrial Building			Date Started:	6/30/2011
Site Address:	410 West Evergreen Avenue			Date Completed:	6/30/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Track Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Concrete Surface Hand Auger to 5'
2					
3					
4					
5	B24-5	0.0	SP	Dark Brown fine to medium grained SAND with Silt, Slightly moist	Set vapor probe at 5'
6					
7					
8					
9					
10	B24-10	0.0	SP	Dark Brown fine to medium grained SAND with Silt, Slightly moist	
11					
12					
13					
14					
15	B24-15	0.0	SP	Dark Brown fine to medium grained SAND with Silt, Slightly moist	
16					
17					
18					
19					
20	B24-20	0.5	SP	Dark Brown fine to medium grained SAND with Silt, Slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with concrete
22					
23					
24					
25					

Boring Number:	B-25				Page 1 of 1
Location:	Interior North portion of Industrial Building			Date Started:	7/1/2011
Site Address:	410 West Evergreen Avenue			Date Completed:	7/1/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Direct Push Truck Mounted Rig			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1					4" Concrete Surface Hand Auger to 5'
2					
3					
4					
5	B25-5	0.0	SP	Brown fine grained SAND with Silt, dry	Set vapor probe at 5'
6					
17					
8					
9					
10	B25-10	0.0	SM	Brown fine grained Silty SAND, slightly moist	
11					
17					
13					
14					
15	B25-15	0.0	SP	Brown fine grained SAND with Silt, slightly moist	
16					
17					
18					
19					
20	B25-20	0.0	SM	Dark Brown fine grained Silty SAND, traces of Clay, slightly moist	
21					Total Depth = 20' below ground surface, backfilled with bentonite chips capped with concrete
22					
23					
24					
25					

Boring Number:	B-26				Page 1 of 1
Location:	Exterior SE property boundary near Railroad			Date Started:	7/6/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Hand Auger			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1	B26-1	0.0	SP	Brown fine grained SAND traces of Clay, dry	4" Asphalt Surface
2					
3					
4	B26-4	0.0	SP	Brown fine grainid SAND traces of Clay, dry	
5					Total Depth = 4' below ground surface, backfilled with bentonite chips capped with asphalt
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-27				Page 1 of 1
Location:	Exterior SE property boundary near Railroad			Date Started:	7/6/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Hand Auger			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1	B27-1	0.0	SP	Brown fine grained SAND with traces of Silt, dry	4" Asphalt Surface
2					
3					
4	B27-4	0.0	SP	Brown fine grained SAND with traces of Silt, dry	
5					Total Depth = 4' below ground surface, backfilled with bentonite chips capped with asphalt
6					
7					
8					
9					
10					
11					
12					
13					
14					
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16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-28			Page 1 of 1	
Location:	Exterior SE property boundary near Railroad			Date Started:	7/6/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Hand Auger			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1	B28-1	0.0	SP	Brown find grained SAND with Silt, dry	4" Asphalt Surface
2					
3					
4	B28-4	0.0	SP	Brown find grained SAND with Silt, dry	
5					Total Depth = 4' below ground surface, backfilled with bentonite chips capped with asphalt
6					
7					
8					
9					
10					
11					
12					
13					
14					
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16					
17					
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19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-29				Page 1 of 1
Location:	Exterior South property boundary near Railroad			Date Started:	7/6/2011
Site Address:	1625 A & 1625 B South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Hand Auger			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1	B29-1	0.0	SP	Brown fine grained SAND with traces of Silt, dry	4" Asphalt Surface
2					
3					
4	B29-4	0.0	SP	Brown fine grained SAND with traces of Silt, dry	
5					Total Depth = 4' below ground surface, backfilled with bentonite chips capped with asphalt
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-30				Page 1 of 1
Location:	Exterior South property boundary near Railroad			Date Started:	7/6/2011
Site Address:	1631 South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Hand Auger			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1	B30-1	0.0	SP	Brown find grained SAND with Slit, dry	4" Asphalt Surface
2					
3					
4	B30-4	0.0	SP	Brown find grained SAND with Slit, dry	
5					Total Depth = 4' below ground surface, backfilled with bentonite chips capped with asphalt
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-31				Page 1 of 1
Location:	Exterior SW property boundary near Railroad			Date Started:	7/6/2011
Site Address:	1631 South Magnolia Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Hand Auger			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1	B31-1	0.0	SP	Brown fine grained SAND with Silt, dry	4" Asphalt Surface
2					
3					
4	B31-4	0.0	SP	Brown fine grained SAND with Silt, dry	
5					Total Depth = 4' below ground surface, backfilled with bentonite chips capped with asphalt
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-32				Page 1 of 1
Location:	Exterior SW property boundary near Railroad			Date Started:	7/6/2011
Site Address:	410 West Evergreen Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Hand Auger			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1	B32-1	0.0	SP	Brown find graind SAND with Silt, dry	4" Asphalt Surface
2					
3					
4	B32-4	0.0	SP	Brown find graind SAND with Silt, dry	
5					Total Depth = 4' below ground surface, backfilled with bentonite chips capped with asphalt
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-33				Page 1 of 1
Location:	Exterior SW property boundary near Railroad			Date Started:	7/6/2011
Site Address:	410 West Evergreen Avenue			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Hand Auger			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1	B33-1	0.0	SP	Brown fine grained SAND with Silt, dry	4" Asphalt Surface
2					
3					
4	B33-4	0.0	SP	Brown fine grained SAND with Silt, dry	
5					Total Depth = 4' below ground surface, backfilled with bentonite chips capped with asphalt
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					

Boring Number:	B-34				Page 1 of 1
Location:	Exterior SW property boundary near Railroad			Date Started:	7/6/2011
Site Address:	1541 South Dale Drive			Date Completed:	7/6/2011
	Monrovia, California 91016			Depth to Groundwater:	N/A
Project Number:	11-76495.9			Field Technician:	EP
Drill Rig Type:	Hand Auger			**Partner Engineering and Science**	
Sampling Equipment:	Acetate, Syringes			1990 East Grand Avenue, Suite 100	
Borehole Diameter:	3-Inch			El Segundo, California 90245	

Depth	Sample	PID	USCS	Description	Notes
1	B34-1	0.0	SP	Brown fine grained SAND with Silt, dry	Surface Soil
2					
3					
4	B34-4	0.0	SP	Brown fine grained SAND with Silt, dry	
5					Total Depth = 4' below ground surface, backfilled with bentonite chips capped with soil
6					
7					
8					
9					
10					
11					
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14					
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Appendix D:

Laboratory Reports

Jones Environmental, Inc.
Testing Laboratories
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(714) 449-9937 • FAX (714) 4499685

JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report Date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:**	B-5183B
		Client Ref. No.:	11-76495.9
		Date Sampled:	6/30-7/1/2011 & 7/6/2011
Attn:	Eric Patschull	**Date Received:**	6/30-7/1/2011 & 7/6/2011
Project	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Date Analyzed:**	6/30-7/1/2011 & 7/6/2011
		Physical State:	Soil Gas

ANALYSES REQUESTED

1. EPA 8260B - Volatile Organics by GC/MS + Oxygenates

Sampling – Soil Gas samples were collected in glass gas-tight syringes equipped with Teflon plungers. Tubing placed in the ground for soil gas sampling was purged three different times as recommended by DTSC/RWQCB regulations. This purge test determined how many purges of the soil gas tubing were needed throughout the project. One, three and seven purge volumes were analyzed to make this determination.

A tracer gas, n-Propanol, was placed at the tubing-surface interface before sampling. This compound was analyzed during the 8260B analytical run to determine if there were surface leaks into the subsurface due to improper installation of the probe. No n-Propanol was found in any of the samples reported herein.

The sampling rate was approximately 200 cc/min except when noted differently on the chain of custody record using a gas tight syringe. 3 purge volumes were used since this purging level gave the highest results for the compound(s) of greatest interest.

Prior to purging and sampling of soil gas at each point, a shut-in test was conducted to check for leaks in the above ground fittings. The shut-in test was performed on the above ground apparatus by evacuating the line to a vacuum of 100 inches of water, sealing the entire system and watching the vacuum for some length of time. A vacuum gauge attached in parallel to the apparatus measured the vacuum. If there was any observable loss of vacuum, the fittings were adjusted as needed until the vacuum did not change noticeably. The soil gas sample was then taken.

Analytical – Soil Gas samples were analyzed using EPA Method 8260 that includes extra compounds required by DTSC/RWQCB (such as Freon 113). Instrument Continuing Calibration Verification, QC Reference Standards, Instrument Blanks and Ambient Air Blanks were analyzed every 12 hours as prescribed by the method. In addition, Matrix Spike (MS) and Matrix Spike Duplicates (MSD) were analyzed with each batch of Soil Gas samples. A duplicate sample was analyzed each day of the sampling activity.

All samples were analyzed within 30 minutes of sampling.

Approval: 

Steve Jones, Ph.D.
Laboratory Manager

Jones Environmental, Inc.
Testing Laboratories
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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	6/30/2011 6/30/2011
Project:	Industrial Complex	**Date Analyzed:**	6/30/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: / Analytes:	PES-B8-SV5 1P	PES-B8-SV5 3P	PES-B8-SV5 7P	PES-B6-SV5	PES-B14-SV5	Practical Quantitation Limit	Units
Benzene	ND	ND	ND	ND	ND	0.020	µg/L
Bromobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Bromodichloromethane	ND	ND	ND	ND	ND	0.020	µg/L
Bromoform	ND	ND	ND	ND	ND	0.020	µg/L
n-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
sec-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
tert-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Carbon tetrachloride	ND	ND	ND	ND	ND	0.020	µg/L
Chlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Chloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Chloroform	ND	ND	ND	ND	ND	0.020	µg/L
Chloromethane	ND	ND	ND	ND	ND	0.020	µg/L
2-Chlorotoluene	ND	ND	ND	ND	ND	0.020	µg/L
4-Chlorotoluene	ND	ND	ND	ND	ND	0.020	µg/L
Dibromochloromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	0.020	µg/L
Dibromomethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Dichlorodifluoromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	6/30/2011 6/30/2011
Project:	Industrial Complex	**Date Analyzed:**	6/30/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: Analytes:	PES-B8-SV5 1P	PES-B8-SV5 3P	PES-B8-SV5 7P	PES-B6-SV5	PES-B14-SV5	Practical Quantitation Limit	Units
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,3-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
2,2-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
Ethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Freon 113	ND	ND	ND	ND	ND	0.020	µg/L
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.020	µg/L
Isopropylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
4-Isopropyltoluene	ND	ND	ND	ND	ND	0.020	µg/L
Methylene chloride	ND	ND	ND	ND	ND	0.020	µg/L
Naphthalene	ND	ND	ND	ND	ND	0.020	µg/L
n-Propylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Styrene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Tetrachloroethylene	ND	ND	ND	ND	ND	0.020	µg/L
Toluene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Trichloroethylene	ND	ND	ND	ND	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	6/30/2011 6/30/2011
Project:	Industrial Complex	**Date Analyzed:**	6/30/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: **Analytes:**	**PES-B8-SV5 1P**	**PES-B8-SV5 3P**	**PES-B8-SV5 7P**	**PES-B6-SV5**	**PES-B14-SV5**	**Practical Quantitation Limit**	**Units**
Trichlorofluoromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Vinyl chloride	ND	ND	ND	ND	ND	0.020	µg/L
Xylenes	ND	ND	ND	ND	ND	0.020	µg/L
MTBE	ND	ND	ND	ND	ND	0.020	µg/L
Ethyl-tert-butylether	ND	ND	ND	ND	ND	0.020	µg/L
Di-isopropylether	ND	ND	ND	ND	ND	0.020	µg/L
tert-amylmethylether	ND	ND	ND	ND	ND	0.020	µg/L
tert-Butylalcohol	ND	ND	ND	ND	ND	0.100	µg/L
TIC:							
n-propanol	ND	ND	ND	ND	ND	0.020	µg/L
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	97%	109%	110%	109%	102%	75 - 125	
Toluene-d_8	103%	100%	98%	102%	99%	75 - 125	
4-Bromofluorobenzene	104%	107%	106%	107%	105%	75 - 125	
	B1-063011-CHECKS_1	B1-063011-CHECKS_1	B1-063011-CHECKS_1	B1-063011-CHECKS_1	B1-063011-CHECKS_1		

ND= Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	6/30/2011-7/1/2011 6/30/2011-7/1/2011
Project:	Industrial Complex	**Date Analyzed:**	6/30/2011-7/1/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: **Analytes:**	**PES-B15-SV5**	**PES-B15-SV5 DUP**	**PES-B19-SV5**	**PES-B20-SV5**	**PES-B24-SV5**	**Practical Quantitation Limit**	**Units**
Benzene	ND	ND	ND	ND	ND	0.020	µg/L
Bromobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Bromodichloromethane	ND	ND	ND	ND	ND	0.020	µg/L
Bromoform	ND	ND	ND	ND	ND	0.020	µg/L
n-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
sec-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
tert-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Carbon tetrachloride	ND	ND	ND	ND	ND	0.020	µg/L
Chlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Chloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Chloroform	ND	ND	ND	ND	ND	0.020	µg/L
Chloromethane	ND	ND	ND	ND	ND	0.020	µg/L
2-Chlorotoluene	ND	ND	ND	ND	ND	0.020	µg/L
4-Chlorotoluene	ND	ND	ND	ND	ND	0.020	µg/L
Dibromochloromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	0.020	µg/L
Dibromomethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Dichlorodifluoromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	6/30/2011-7/1/2011 6/30/2011-7/1/2011
Project:	Industrial Complex	**Date Analyzed:**	6/30/2011-7/1/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: **Analytes:**	**PES-B15-SV5**	**PES-B15-SV5 DUP**	**PES-B19-SV5**	**PES-B20-SV5**	**PES-B24-SV5**	**Practical Quantitation Limit**	**Units**
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,3-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
2,2-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
Ethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Freon 113	ND	ND	ND	ND	ND	0.020	µg/L
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.020	µg/L
Isopropylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
4-Isopropyltoluene	ND	ND	ND	ND	ND	0.020	µg/L
Methylene chloride	ND	ND	ND	ND	ND	0.020	µg/L
Naphthalene	ND	ND	ND	ND	ND	0.020	µg/L
n-Propylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Styrene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Tetrachloroethylene	ND	ND	ND	ND	ND	0.020	µg/L
Toluene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Trichloroethylene	ND	ND	ND	ND	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	6/30/2011-7/1/2011 6/30/2011-7/1/2011
Project:	Industrial Complex	**Date Analyzed:**	6/30/2011-7/1/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: **Analytes:**	**PES-B15-SV5**	**PES-B15-SV5 DUP**	**PES-B19-SV5**	**PES-B20-SV5**	**PES-B24-SV5**	**Practical Quantitation Limit**	**Units**
Trichlorofluoromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Vinyl chloride	ND	ND	ND	ND	ND	0.020	µg/L
Xylenes	ND	ND	ND	ND	ND	0.020	µg/L
MTBE	ND	ND	ND	ND	ND	0.020	µg/L
Ethyl-tert-butylether	ND	ND	ND	ND	ND	0.020	µg/L
Di-isopropylether	ND	ND	ND	ND	ND	0.020	µg/L
tert-amylmethylether	ND	ND	ND	ND	ND	0.020	µg/L
tert-Butylalcohol	ND	ND	ND	ND	ND	0.100	µg/L
TIC:							
n-propanol	ND	ND	ND	ND	ND	0.020	µg/L
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	93%	107%	114%	108%	112%	75 - 125	
Toluene-d_8	103%	105%	104%	107%	103%	75 - 125	
4-Bromofluorobenzene	104%	103%	108%	106%	105%	75 - 125	
	B1-063011-CHECKS_1	B1-063011-CHECKS_1	B1-063011-CHECKS_1	B1-063011-CHECKS_1	B1-070111-CHECKS_1		

ND= Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/1/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/1/2011
		Date Received:	7/1/2011
Project:	Industrial Complex	**Date Analyzed:**	7/1/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: / **Analytes:**	**PES-B11-SV5**	**PES-B12-SV5**	**PES-B13-SV5**	**PES-B10-SV5**	**PES-B10-SV5 DUP**	**Practical Quantitation Limit**	**Units**
Benzene	ND	ND	ND	ND	ND	0.020	µg/L
Bromobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Bromodichloromethane	ND	ND	ND	ND	ND	0.020	µg/L
Bromoform	ND	ND	ND	ND	ND	0.020	µg/L
n-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
sec-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
tert-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Carbon tetrachloride	ND	ND	ND	ND	ND	0.020	µg/L
Chlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Chloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Chloroform	ND	ND	ND	ND	ND	0.020	µg/L
Chloromethane	ND	ND	ND	ND	ND	0.020	µg/L
2-Chlorotoluene	ND	ND	ND	ND	ND	0.020	µg/L
4-Chlorotoluene	ND	ND	ND	ND	ND	0.020	µg/L
Dibromochloromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	0.020	µg/L
Dibromomethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Dichlorodifluoromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/1/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/1/2011
		Date Received:	7/1/2011
Project:	Industrial Complex	**Date Analyzed:**	7/1/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: / **Analytes:**	**PES-B11-SV5**	**PES-B12-SV5**	**PES-B13-SV5**	**PES-B10-SV5**	**PES-B10-SV5 DUP**	**Practical Quantitation Limit**	**Units**
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,3-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
2,2-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
Ethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Freon 113	ND	ND	ND	ND	ND	0.020	µg/L
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.020	µg/L
Isopropylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
4-Isopropyltoluene	ND	ND	ND	ND	ND	0.020	µg/L
Methylene chloride	ND	ND	ND	ND	ND	0.020	µg/L
Naphthalene	ND	ND	ND	ND	ND	0.020	µg/L
n-Propylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Styrene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Tetrachloroethylene	ND	ND	ND	ND	ND	0.020	µg/L
Toluene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Trichloroethylene	ND	ND	ND	ND	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/1/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/1/2011
		Date Received:	7/1/2011
Project:	Industrial Complex	**Date Analyzed:**	7/1/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: / **Analytes:**	**PES-B11-SV5**	**PES-B12-SV5**	**PES-B13-SV5**	**PES-B10-SV5**	**PES-B10-SV5 DUP**	**Practical Quantitation Limit**	**Units**
Trichlorofluoromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Vinyl chloride	ND	ND	ND	ND	ND	0.020	µg/L
Xylenes	ND	ND	ND	ND	ND	0.020	µg/L
MTBE	ND	ND	ND	ND	ND	0.020	µg/L
Ethyl-tert-butylether	ND	ND	ND	ND	ND	0.020	µg/L
Di-isopropylether	ND	ND	ND	ND	ND	0.020	µg/L
tert-amylmethylether	ND	ND	ND	ND	ND	0.020	µg/L
tert-Butylalcohol	ND	ND	ND	ND	ND	0.100	µg/L
TIC:							
n-propanol	ND	ND	ND	ND	ND	0.020	µg/L
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	113%	118%	115%	111%	117%	75 - 125	
Toluene-d_8	106%	104%	105%	104%	106%	75 - 125	
4-Bromofluorobenzene	103%	103%	103%	105%	104%	75 - 125	
	B1-070111-CHECKS_1	B1-070111-CHECKS_1	B1-070111-CHECKS_1	B1-070111-CHECKS_1	B1-070111-CHECKS_1		

ND= Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/1/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/1/2011
		Date Received:	7/1/2011
Project:	Industrial Complex	**Date Analyzed:**	7/1/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: / Analytes:	PES-B5-SV5	PES-B4-SV5	PES-B25-SV5	PES-B22-SV5	PES-B21-SV5	Practical Quantitation Limit	Units
Benzene	ND	ND	ND	ND	ND	0.020	µg/L
Bromobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Bromodichloromethane	ND	ND	ND	ND	ND	0.020	µg/L
Bromoform	ND	ND	ND	ND	ND	0.020	µg/L
n-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
sec-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
tert-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Carbon tetrachloride	ND	ND	ND	ND	ND	0.020	µg/L
Chlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Chloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Chloroform	ND	ND	ND	ND	ND	0.020	µg/L
Chloromethane	ND	ND	ND	ND	ND	0.020	µg/L
2-Chlorotoluene	ND	ND	ND	ND	ND	0.020	µg/L
4-Chlorotoluene	ND	ND	ND	ND	ND	0.020	µg/L
Dibromochloromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	0.020	µg/L
Dibromomethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Dichlorodifluoromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/1/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/1/2011
		Date Received:	7/1/2011
Project:	Industrial Complex	**Date Analyzed:**	7/1/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: / Analytes:	PES-B5-SV5	PES-B4-SV5	PES-B25-SV5	PES-B22-SV5	PES-B21-SV5	Practical Quantitation Limit	Units
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,3-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
2,2-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
Ethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Freon 113	ND	ND	ND	ND	ND	0.020	µg/L
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.020	µg/L
Isopropylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
4-Isopropyltoluene	ND	ND	ND	ND	ND	0.020	µg/L
Methylene chloride	ND	ND	ND	ND	ND	0.020	µg/L
Naphthalene	ND	ND	ND	ND	ND	0.020	µg/L
n-Propylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Styrene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Tetrachloroethylene	ND	ND	ND	ND	ND	0.020	µg/L
Toluene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Trichloroethylene	ND	ND	ND	ND	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/1/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/1/2011
		Date Received:	7/1/2011
Project:	Industrial Complex	**Date Analyzed:**	7/1/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: / **Analytes:**	PES-B5-SV5	PES-B4-SV5	PES-B25-SV5	PES-B22-SV5	PES-B21-SV5	Practical Quantitation Limit	Units
Trichlorofluoromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Vinyl chloride	ND	ND	ND	ND	ND	0.020	µg/L
Xylenes	ND	ND	ND	ND	ND	0.020	µg/L
MTBE	ND	ND	ND	ND	ND	0.020	µg/L
Ethyl-tert-butylether	ND	ND	ND	ND	ND	0.020	µg/L
Di-isopropylether	ND	ND	ND	ND	ND	0.020	µg/L
tert-amylmethylether	ND	ND	ND	ND	ND	0.020	µg/L
tert-Butylalcohol	ND	ND	ND	ND	ND	0.100	µg/L
TIC:							
n-propanol	ND	ND	ND	ND	ND	0.020	µg/L
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	104%	115%	104%	114%	111%	75 - 125	
Toluene-d_8	106%	104%	101%	103%	97%	75 - 125	
4-Bromofluorobenzene	106%	105%	110%	105%	109%	75 - 125	
	B1-070111-CHECKS_1	B1-070111-CHECKS_1	B1-070111-CHECKS_1	B1-070111-CHECKS_1	B1-070111-CHECKS_1		

ND= Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/6/2011
		Date Received:	7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	7/6/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: / Analytes:	PES-B3-SV5	PES-B2-SV5	PES-B1-SV5	PES-B18-SV5	PES-B17-SV5	Practical Quantitation Limit	Units
Benzene	ND	ND	ND	ND	ND	0.020	µg/L
Bromobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Bromodichloromethane	ND	ND	ND	ND	ND	0.020	µg/L
Bromoform	ND	ND	ND	ND	ND	0.020	µg/L
n-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
sec-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
tert-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Carbon tetrachloride	ND	ND	ND	ND	ND	0.020	µg/L
Chlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Chloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Chloroform	ND	ND	ND	ND	ND	0.020	µg/L
Chloromethane	ND	ND	ND	ND	ND	0.020	µg/L
2-Chlorotoluene	ND	ND	ND	ND	ND	0.020	µg/L
4-Chlorotoluene	ND	ND	ND	ND	ND	0.020	µg/L
Dibromochloromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	0.020	µg/L
Dibromomethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Dichlorodifluoromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L

ND = Not Detected

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Testing Laboratories
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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/6/2011
		Date Received:	7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	7/6/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: / Analytes:	PES-B3-SV5	PES-B2-SV5	PES-B1-SV5	PES-B18-SV5	PES-B17-SV5	Practical Quantitation Limit	Units
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,3-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
2,2-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
Ethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Freon 113	ND	ND	ND	ND	ND	0.020	µg/L
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.020	µg/L
Isopropylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
4-Isopropyltoluene	ND	ND	ND	ND	ND	0.020	µg/L
Methylene chloride	ND	ND	ND	ND	ND	0.020	µg/L
Naphthalene	ND	ND	ND	ND	ND	0.020	µg/L
n-Propylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Styrene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Tetrachloroethylene	ND	ND	ND	ND	ND	0.020	µg/L
Toluene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Trichloroethylene	ND	ND	ND	ND	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/6/2011
		Date Received:	7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	7/6/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: / **Analytes:**	PES-B3-SV5	PES-B2-SV5	PES-B1-SV5	PES-B18-SV5	PES-B17-SV5	Practical Quantitation Limit	Units
Trichlorofluoromethane	ND	**0.190**	ND	ND	ND	0.020	µg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Vinyl chloride	ND	ND	ND	ND	ND	0.020	µg/L
Xylenes	ND	ND	ND	ND	ND	0.020	µg/L
MTBE	ND	ND	ND	ND	ND	0.020	µg/L
Ethyl-tert-butylether	ND	ND	ND	ND	ND	0.020	µg/L
Di-isopropylether	ND	ND	ND	ND	ND	0.020	µg/L
tert-amylmethylether	ND	ND	ND	ND	ND	0.020	µg/L
tert-Butylalcohol	ND	ND	ND	ND	ND	0.100	µg/L
TIC:							
n-propanol	ND	ND	ND	ND	ND	0.020	µg/L
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	107%	106%	105%	110%	104%	75 - 125	
Toluene-d_8	98%	100%	100%	98%	101%	75 - 125	
4-Bromofluorobenzene	103%	104%	106%	106%	110%	75 - 125	
	B1-070611-CHECKS_1	B1-070611-CHECKS_1	B1-070611-CHECKS_1	B1-070611-CHECKS_1	B1-070611-CHECKS_1		

ND= Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	7/6/2011 7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	7/6/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**PES-B17-SV5 DUP**	**Practical Quantitation Limit**	**Units**
Analytes:			
Benzene	ND	0.020	µg/L
Bromobenzene	ND	0.020	µg/L
Bromodichloromethane	ND	0.020	µg/L
Bromoform	ND	0.020	µg/L
n-Butylbenzene	ND	0.020	µg/L
sec-Butylbenzene	ND	0.020	µg/L
tert-Butylbenzene	ND	0.020	µg/L
Carbon tetrachloride	ND	0.020	µg/L
Chlorobenzene	ND	0.020	µg/L
Chloroethane	ND	0.020	µg/L
Chloroform	ND	0.020	µg/L
Chloromethane	ND	0.020	µg/L
2-Chlorotoluene	ND	0.020	µg/L
4-Chlorotoluene	ND	0.020	µg/L
Dibromochloromethane	ND	0.020	µg/L
1,2-Dibromo-3-chloropropane	ND	0.020	µg/L
1,2-Dibromoethane (EDB)	ND	0.020	µg/L
Dibromomethane	ND	0.020	µg/L
1,2- Dichlorobenzene	ND	0.020	µg/L
1,3-Dichlorobenzene	ND	0.020	µg/L
1,4-Dichlorobenzene	ND	0.020	µg/L
Dichlorodifluoromethane	ND	0.020	µg/L
1,1-Dichloroethane	ND	0.020	µg/L
1,2-Dichloroethane	ND	0.020	µg/L
1,1-Dichloroethene	ND	0.020	µg/L

ND = Not Detected

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LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	7/6/2011 7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	7/6/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**PES-B17-SV5 DUP**	**Practical Quantitation Limit**	**Units**
Analytes:			
cis-1,2-Dichloroethene	ND	0.020	µg/L
trans-1,2-Dichloroethene	ND	0.020	µg/L
1,2-Dichloropropane	ND	0.020	µg/L
1,3-Dichloropropane	ND	0.020	µg/L
2,2-Dichloropropane	ND	0.020	µg/L
1,1-Dichloropropene	ND	0.020	µg/L
cis-1,3-Dichloropropene	ND	0.020	µg/L
trans-1,3-Dichloropropene	ND	0.020	µg/L
Ethylbenzene	ND	0.020	µg/L
Freon 113	ND	0.020	µg/L
Hexachlorobutadiene	ND	0.020	µg/L
Isopropylbenzene	ND	0.020	µg/L
4-Isopropyltoluene	ND	0.020	µg/L
Methylene chloride	ND	0.020	µg/L
Naphthalene	ND	0.020	µg/L
n-Propylbenzene	ND	0.020	µg/L
Styrene	ND	0.020	µg/L
1,1,1,2-Tetrachloroethane	ND	0.020	µg/L
1,1,2,2-Tetrachloroethane	ND	0.020	µg/L
Tetrachloroethylene	ND	0.020	µg/L
Toluene	ND	0.020	µg/L
1,2,3-Trichlorobenzene	ND	0.020	µg/L
1,2,4-Trichlorobenzene	ND	0.020	µg/L
1,1,1-Trichloroethane	ND	0.020	µg/L
1,1,2-Trichloroethane	ND	0.020	µg/L
Trichloroethylene	ND	0.020	µg/L

ND = Not Detected

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	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/6/2011
		Date Received:	7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	7/6/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**PES-B17-SV5 DUP**	**Practical Quantitation Limit**	**Units**
Analytes:			
Trichlorofluoromethane	ND	0.020	µg/L
1,2,3-Trichloropropane	ND	0.020	µg/L
1,2,4-Trimethylbenzene	ND	0.020	µg/L
1,3,5-Trimethylbenzene	ND	0.020	µg/L
Vinyl chloride	ND	0.020	µg/L
Xylenes	ND	0.020	µg/L
MTBE	ND	0.020	µg/L
Ethyl-tert-butylether	ND	0.020	µg/L
Di-isopropylether	ND	0.020	µg/L
tert-amylmethylether	ND	0.020	µg/L
tert-Butylalcohol	ND	0.100	µg/L
TIC:			
n-propanol	ND	0.020	µg/L
Dilution Factor	1		
Surrogate Recoveries:		**QC Limits**	
Dibromofluoromethane	111%	75 - 125	
Toluene-d_8	100%	75 - 125	
4-Bromofluorobenzene	104%	75 - 125	
	B1-070611-CHECKS_1		

ND= Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	6/30/2011-7/1/2011&7/6/2011 6/30/2011-7/1/2011&7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	6/30/2011-7/1/2011&7/6/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID:	METHOD BLANK	AMBIENT AIR	METHOD BLANK	AMBIENT AIR	METHOD BLANK	Practical Quantitation Limit	Units
Analytes:							
Benzene	ND	ND	ND	ND	ND	0.020	µg/L
Bromobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Bromodichloromethane	ND	ND	ND	ND	ND	0.020	µg/L
Bromoform	ND	ND	ND	ND	ND	0.020	µg/L
n-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
sec-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
tert-Butylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Carbon tetrachloride	ND	ND	ND	ND	ND	0.020	µg/L
Chlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Chloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Chloroform	ND	ND	ND	ND	ND	0.020	µg/L
Chloromethane	ND	ND	ND	ND	ND	0.020	µg/L
2-Chlorotoluene	ND	ND	ND	ND	ND	0.020	µg/L
4-Chlorotoluene	ND	ND	ND	ND	ND	0.020	µg/L
Dibromochloromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	0.020	µg/L
Dibromomethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
Dichlorodifluoromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	6/30/2011-7/1/2011&7/6/2011 6/30/2011-7/1/2011&7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	6/30/2011-7/1/2011&7/6/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID:	METHOD BLANK	AMBIENT AIR	METHOD BLANK	AMBIENT AIR	METHOD BLANK	Practical Quantitation Limit	Units
Analytes:							
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	0.020	µg/L
1,2-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,3-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
2,2-Dichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,1-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	0.020	µg/L
Ethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Freon 113	ND	ND	ND	ND	ND	0.020	µg/L
Hexachlorobutadiene	ND	ND	ND	ND	ND	0.020	µg/L
Isopropylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
4-Isopropyltoluene	ND	ND	ND	ND	ND	0.020	µg/L
Methylene chloride	ND	ND	ND	ND	ND	0.020	µg/L
Naphthalene	ND	ND	ND	ND	ND	0.020	µg/L
n-Propylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Styrene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Tetrachloroethylene	ND	ND	ND	ND	ND	0.020	µg/L
Toluene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	0.020	µg/L
Trichloroethylene	ND	ND	ND	ND	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	6/30/2011-7/1/2011&7/6/2011
		Date Received:	6/30/2011-7/1/2011&7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	6/30/2011-7/1/2011&7/6/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID: / **Analytes:**	METHOD BLANK	AMBIENT AIR	METHOD BLANK	AMBIENT AIR	METHOD BLANK	Practical Quantitation Limit	Units
Trichlorofluoromethane	ND	ND	ND	ND	ND	0.020	µg/L
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	0.020	µg/L
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	0.020	µg/L
Vinyl chloride	ND	ND	ND	ND	ND	0.020	µg/L
Xylenes	ND	ND	ND	ND	ND	0.020	µg/L
MTBE	ND	ND	ND	ND	ND	0.020	µg/L
Ethyl-tert-butylether	ND	ND	ND	ND	ND	0.020	µg/L
Di-isopropylether	ND	ND	ND	ND	ND	0.020	µg/L
tert-amylmethylether	ND	ND	ND	ND	ND	0.020	µg/L
tert-Butylalcohol	ND	ND	ND	ND	ND	0.100	µg/L
TIC:							
n-propanol	ND	ND	ND	ND	ND	0.020	µg/L
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	114%	105%	86%	96%	100%	75 - 125	
Toluene-d_8	100%	105%	102%	104%	104%	75 - 125	
4-Bromofluorobenzene	109%	106%	103%	109%	110%	75 - 125	
	B1-063011-CHECKS_1	B1-063011-CHECKS_1	B1-070111-CHECKS_1	B1-070111-CHECKS_1	B1-070611-CHECKS_1		

ND= Not Detected

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Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/6/2011
		Date Received:	7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	7/6/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**AMBIENT AIR**	**Practical Quantitation Limit**	**Units**
Analytes:			
Benzene	ND	0.020	µg/L
Bromobenzene	ND	0.020	µg/L
Bromodichloromethane	ND	0.020	µg/L
Bromoform	ND	0.020	µg/L
n-Butylbenzene	ND	0.020	µg/L
sec-Butylbenzene	ND	0.020	µg/L
tert-Butylbenzene	ND	0.020	µg/L
Carbon tetrachloride	ND	0.020	µg/L
Chlorobenzene	ND	0.020	µg/L
Chloroethane	ND	0.020	µg/L
Chloroform	ND	0.020	µg/L
Chloromethane	ND	0.020	µg/L
2-Chlorotoluene	ND	0.020	µg/L
4-Chlorotoluene	ND	0.020	µg/L
Dibromochloromethane	ND	0.020	µg/L
1,2-Dibromo-3-chloropropane	ND	0.020	µg/L
1,2-Dibromoethane (EDB)	ND	0.020	µg/L
Dibromomethane	ND	0.020	µg/L
1,2- Dichlorobenzene	ND	0.020	µg/L
1,3-Dichlorobenzene	ND	0.020	µg/L
1,4-Dichlorobenzene	ND	0.020	µg/L
Dichlorodifluoromethane	ND	0.020	µg/L
1,1-Dichloroethane	ND	0.020	µg/L
1,2-Dichloroethane	ND	0.020	µg/L
1,1-Dichloroethene	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/6/2011
		Date Received:	7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	7/6/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**AMBIENT AIR**	**Practical Quantitation Limit**	**Units**
Analytes:			
cis-1,2-Dichloroethene	ND	0.020	µg/L
trans-1,2-Dichloroethene	ND	0.020	µg/L
1,2-Dichloropropane	ND	0.020	µg/L
1,3-Dichloropropane	ND	0.020	µg/L
2,2-Dichloropropane	ND	0.020	µg/L
1,1-Dichloropropene	ND	0.020	µg/L
cis-1,3-Dichloropropene	ND	0.020	µg/L
trans-1,3-Dichloropropene	ND	0.020	µg/L
Ethylbenzene	ND	0.020	µg/L
Freon 113	ND	0.020	µg/L
Hexachlorobutadiene	ND	0.020	µg/L
Isopropylbenzene	ND	0.020	µg/L
4-Isopropyltoluene	ND	0.020	µg/L
Methylene chloride	ND	0.020	µg/L
Naphthalene	ND	0.020	µg/L
n-Propylbenzene	ND	0.020	µg/L
Styrene	ND	0.020	µg/L
1,1,1,2-Tetrachloroethane	ND	0.020	µg/L
1,1,2,2-Tetrachloroethane	ND	0.020	µg/L
Tetrachloroethylene	ND	0.020	µg/L
Toluene	ND	0.020	µg/L
1,2,3-Trichlorobenzene	ND	0.020	µg/L
1,2,4-Trichlorobenzene	ND	0.020	µg/L
1,1,1-Trichloroethane	ND	0.020	µg/L
1,1,2-Trichloroethane	ND	0.020	µg/L
Trichloroethylene	ND	0.020	µg/L

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183B
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/6/2011
		Date Received:	7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	7/6/2011
Project Address:	1625-1631 S. Magnolia Ave.	**Physical State:**	Soil Gas
	Monrovia, CA 91016		

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**AMBIENT AIR**	**Practical Quantitation Limit**	**Units**
Analytes:			
Trichlorofluoromethane	ND	0.020	µg/L
1,2,3-Trichloropropane	ND	0.020	µg/L
1,2,4-Trimethylbenzene	ND	0.020	µg/L
1,3,5-Trimethylbenzene	ND	0.020	µg/L
Vinyl chloride	ND	0.020	µg/L
Xylenes	ND	0.020	µg/L
MTBE	ND	0.020	µg/L
Ethyl-tert-butylether	ND	0.020	µg/L
Di-isopropylether	ND	0.020	µg/L
tert-amylmethylether	ND	0.020	µg/L
tert-Butylalcohol	ND	0.100	µg/L
TIC:			
n-propanol	ND	0.020	µg/L
Dilution Factor	1		
Surrogate Recoveries:		**QC Limits**	
Dibromofluoromethane	105%	75 - 125	
Toluene-d_8	92%	75 - 125	
4-Bromofluorobenzene	103%	75 - 125	
	B1-070611-CHECKS_1		

ND= Not Detected

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JONES ENVIRONMENTAL
QUALITY CONTROL INFORMATION

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	6/30/2011 6/30/2011
Project:	Industrial Complex	**Date Analyzed:**	6/30/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample Spiked: Ambient Air **GC#:** B1-063011-CHECKS_1

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)	LCS	Acceptability Range (%)
1,1-Dichloroethylene	86%	88%	2.0%	70-130	97%	70-130
Benzene	106%	107%	0.9%	70-130	106%	70-130
Trichloroethylene	93%	97%	4.0%	70-130	112%	70-130
Toluene	99%	102%	3.2%	70-130	104%	70-130
Chlorobenzene	99%	98%	1.3%	70-130	111%	70-130
Surrogate Recovery:						
Dibromofluoromethane	111%	103%		75-125	95%	75-125
Toluene-d_8	98%	100%		75-125	104%	75-125
4-Bromofluorobenzene	104%	105%		75-125	97%	75-125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

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JONES ENVIRONMENTAL
QUALITY CONTROL INFORMATION

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	6/30/2011 6/30/2011
Project:	Industrial Complex	**Date Analyzed:**	6/30/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample Spiked: Ambient Air **GC#:** B1-070111-CHECKS_1

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)	LCS	Acceptability Range (%)
1,1-Dichloroethylene	88%	91%	3.8%	70-130	93%	70-130
Benzene	104%	107%	3.0%	70-130	119%	70-130
Trichloroethylene	93%	96%	2.9%	70-130	109%	70-130
Toluene	95%	106%	11%	70-130	108%	70-130
Chlorobenzene	103%	102%	1.1%	70-130	114%	70-130
Surrogate Recovery:						
Dibromofluoromethane	94%	106%		75-125	105%	75-125
Toluene-d_8	101%	100%		75-125	103%	75-125
4-Bromofluorobenzene	111%	106%		75-125	115%	75-125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

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JONES ENVIRONMENTAL
QUALITY CONTROL INFORMATION

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/6/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183B 11-76495.9
Attn:	Eric Patschull	**Date Sampled:** **Date Received:**	7/6/2011 7/6/2011
Project:	Industrial Complex	**Date Analyzed:**	7/6/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil Gas

EPA 8260B-Volatile Organics by GC/MS + Oxygenates

Sample Spiked: Ambient Air **GC#:** B1-070611-CHECKS_1

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)	LCS	Acceptability Range (%)
1,1-Dichloroethylene	81%	89%	10%	70-130	91%	70-130
Benzene	99%	102%	3.8%	70-130	119%	70-130
Trichloroethylene	89%	93%	4.4%	70-130	116%	70-130
Toluene	89%	97%	8.8%	70-130	110%	70-130
Chlorobenzene	92%	97%	4.9%	70-130	112%	70-130
Surrogate Recovery:						
Dibromofluoromethane	106%	102%		75-125	104%	75-125
Toluene-d_8	97%	99%		75-125	100%	75-125
4-Bromofluorobenzene	103%	102%		75-125	107%	75-125

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

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Chain-of-Custody Record

Client Partners

Project Name

Project Address 1625 S Magnolia Ave

Monrovia, CA

Project Contact Eric Patschull

Date 06/30/2011 (7/01/11)

Client Project # 11-76495.9

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☒ 3P ☐ 7P ☐ 10P
Tracer: N propanol
Purge Rate: ~200 cc/min
Shut in Test (Y) N

JEL Project # B-5183B

Page 1 of 3

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☒ yes ☐ no

Analysis Requested: 8260B (VOCs)

Sample ID	Purge Number	Purge Volume (cc)	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	8260B (VOCs)	Magnehelic Pressure (in/H_2O)	Number of Containers	Remarks/Special Instructions
PES-B8-SVS 1P	1	350	6/30/11	09:30		B-5183B-1	SG	X	0	1	Glass, Gas-tight Syr
PES-B8-SVS 3P	3	1140	"	09:48		B-5183B 2	SG	X	0	1	" "
PES-B8-SVS 7P	7	2660	"	10 10		B-5183B-3	SG	X	0	1	" "
PES-B6-SVS	3	1140	"	10:30		B-5183B-4	SG	X	0	1	" "
PES-B14-SVS	3	1140	"	12:30		B-5183B-5	SG	X	0	1	" "
PES-B15-SVS	3	1140	"	12:55		B-5183B-6	SG	X	0	1	" "
PES-B15-SVS DUP	3	1140	"	12:56		B-5183B-7	SG	X	0	1	" "
PES-B19-SVS	3	1140	"	14:25		B-5183B-8	SG	X	0	1	" "
PES B20 SVS	3	1140	"	15:15		B-5183B-9	SG	X	0	1	" "
PES-B24-SVS	3	1140	7/1/11	09:55		B-5183B-10	SG	X	0	1	" "

❶ Relinquished by (signature) Eric Patschull	Date 7-1-11	❷ Received by (signature)	Date		**Total Number of Containers**
Company PARTNERS	Time	Company JEL	Time		
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date		The delivery of samples and the signature on this Chain of Custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.
Company	Time	Company	Time		

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Chain-of-Custody Record

Client: Partners
Project Name:
Project Address: 1625 S Magnolia Ave, Monrovia, CA
Project Contact: Eric Patschull

Date: 07/01/2011
Client Project #: 11-764a5.9

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☑ 3P ☐ 7P ☐ 10P
Tracer: Isopropanol
Purge Rate: ~200 cc/min
Shut in Test (Y) / N

JEL Project #: B-5183B
Page 2 of 3

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☒ yes ☐ no

Sample ID	Purge Number	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	Analysis Requested: 8260B (VOCs)	Analysis Requested:	Analysis Requested:	Analysis Requested:	Magnehelic Pressure (In/H_2O)	Number of Containers	Remarks/Special Instructions
PES-B11-SV5			7/1/11	10:13		B-5183B-11	SG	X				0	1	Glass, Gas-tight Syr
PES-B12-SV5				10:32		B-5183B-12	SG	X				0	1	" "
PES-B13-SV5				10:50		B-5183B-13	SG	X				0	1	" "
PES-B10-SV5				11:09		B-5183B-14	SG	X				0	1	" "
PES-B10-SV5DUP				11:10		B-5183B-15	SG	X				0	1	" "
PES-B5-SV5				11:45		B-5183B-16	SG	X				0	1	" "
PES-B4-SV5				11:56		B-5183B-17	SG	X				0	1	" "
PES-B25-SV5				13:30		B-5183B-18	SG	X				0	1	" "
PES-B22-SV5				14:00		B-5183B-19	SG	X				0	1	" "
PES-B21-SV5				14:20		B-5183B-20	SG	X				0	1	" "

❶ Relinquished by (signature): Eric Patschull	Date: 7-1-11	❷ Received by (signature):	Date: 7/1/11	Total Number of Containers:
Company: PARTNER	Time:	Company: JEL	Time:	
❸ Relinquished by (signature):	Date:	❹ Received by Laboratory (signature):	Date:	
Company:	Time:	Company:	Time:	

The delivery of samples and the signature on this Chain of Custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

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Chain-of-Custody Record

Client: Parker
Project Name:
Project Address: 1625 S. Magnolia Ave, Monrovia, CA
Project Contact: Eric Patschull

Date: 07/06/2011
Client Project #: 11-76495.9

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☒ 3P ☐ 7P ☐ 10P
Tracer: Isopropanol
Purge Rate: ~200 cc/min
Shut in Test ☐ N

JEL Project #: B-51838
Page: 3 of 3

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☒ yes ☐ no

Sample ID	Purge Number	Purge Volume (mL)	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	Analysis Requested: 8260B (VOCs)	Magnehelic Pressure ($In H_2O$)	Number of Containers	Remarks/Special Instructions
PES-B3-SV5	3	1140	7/6/11	10:38		B-51838-21	SG	X	10	1	Glass, Gastight Syr
PES-B2-SV5	3	1140		10:55		B-51838-22	SG	X	0	1	" "
PES-B1-SV5	3	1140		11:13		B-51838-23	SG	X	0	1	" "
PES-B18-SV5	3	1140		11:30		B-51838-24	SG	X	0	1	" "
PES-B17-SV5	3	1140		11:50		B-51838-25	SG	X	0	1	" "
PES-B17-SV5 DUP	3	1140		11:50		B-51838-26	SG	X	0	1	" "

❶ Relinquished by (signature): Eric Patschull	Date: 7-6-11	❷ Received by (signature): Eppa dv	Date: 7/6/11	Total Number of Containers
Company: Parker	Time:	Company: JEL	Time:	
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date	
Company	Time	Company	Time	

The delivery of samples and the signature on this Chain of Custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:**	B-5183A
		Client Ref. No:	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	6/30-7/1/2011 & 7/6/2011
		Date Received:	6/30-7/1/2011 & 7/6/2011
		Date Analyzed:	6/30-7/1/2011, 7/5/2011 - 7/8/2011
Project:	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

ANALYSES REQUESTED

1. EPA 8015 - Extended Range Hydrocarbons (ASTM 2887)
2. EPA 8260B by 5035- Volatile Organics by GC/MS + Oxygenates

Approval: _____

Steve Jones, Ph.D.
Laboratory Manager

Jones Environmental, Inc.
Testing Laboratories
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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:**	B-5183A
		Client Ref. No:	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	6/30-7/1/2011 & 7/6/2011
		Date Received:	6/30-7/1/2011 & 7/6/2011
		Date Analyzed:	6/30-7/1/2011, 7/5/2011 - 7/8/2011
Project:	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8015 - Extended Range Hydrocarbons (ASTM 2887)

	Sample ID Concentration (mg/Kg)					
Carbon Chain Range	B7-5	B8-5	B8-20	B9-5	B9-20	B14-5
C6-C7	ND	ND	ND	ND	ND	ND
C8-C9	ND	ND	ND	ND	ND	ND
C10-C11	ND	ND	ND	ND	ND	ND
C12-C13	ND	ND	ND	ND	ND	ND
C14-C15	ND	ND	ND	ND	ND	ND
C16-C17	ND	ND	ND	ND	ND	ND
C18-C19	ND	ND	ND	ND	ND	ND
C20-C23	ND	ND	ND	ND	ND	ND
C24-C27	ND	ND	ND	ND	ND	ND
C28-C31	ND	ND	ND	ND	ND	ND
C32-C35	ND	ND	ND	ND	ND	ND
C36-C39	ND	ND	ND	ND	ND	ND
C40-C43	ND	ND	ND	ND	ND	ND
C44+	ND	ND	ND	ND	ND	ND
Total	ND	ND	ND	ND	ND	ND
Surrogate Recovery Hexacosane %						
Acceptance Range: 65% - 125%	106%	99%	101%	101%	106%	100%
Dilution Factor	1	1	1	1	1	1
Practical Quantitation limits	10	10	10	10	10	10

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:**	B-5183A
		Client Ref. No:	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	6/30-7/1/2011 & 7/6/2011
		Date Received:	6/30-7/1/2011 & 7/6/2011
		Date Analyzed:	6/30-7/1/2011, 7/5/2011 - 7/8/2011
Project:	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8015 - Extended Range Hydrocarbons (ASTM 2887)

	Sample ID Concentration (mg/Kg)					
Carbon Chain Range	B15-5	B19-5	B20-5	B24-5	B4-5	B10-5
C6-C7	ND	ND	ND	ND	ND	ND
C8-C9	ND	ND	ND	ND	ND	ND
C10-C11	ND	ND	ND	ND	ND	ND
C12-C13	ND	ND	ND	ND	ND	ND
C14-C15	ND	ND	ND	ND	ND	ND
C16-C17	ND	ND	ND	ND	ND	ND
C18-C19	ND	ND	ND	ND	ND	ND
C20-C23	ND	ND	ND	ND	ND	ND
C24-C27	ND	ND	ND	ND	ND	ND
C28-C31	ND	ND	ND	ND	ND	ND
C32-C35	ND	ND	ND	ND	ND	ND
C36-C39	ND	ND	ND	ND	ND	ND
C40-C43	ND	ND	ND	ND	ND	ND
C44+	ND	ND	ND	ND	ND	ND
Total	ND	ND	ND	ND	ND	ND
Surrogate Recovery Hexacosane %						
Acceptance Range: 65% - 125%	86%	80%	83%	88%	111%	89%
Dilution Factor	1	1	1	1	1	1
Practical Quantitation limits	10	10	10	10	10	10

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:**	B-5183A
		Client Ref. No:	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	6/30-7/1/2011 & 7/6/2011
		Date Received:	6/30-7/1/2011 & 7/6/2011
		Date Analyzed:	6/30-7/1/2011, 7/5/2011 - 7/8/2011
Project:	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8015 - Extended Range Hydrocarbons (ASTM 2887)

	Sample ID Concentration (mg/Kg)					
Carbon Chain Range	B5-5	B13-5	B25-5	B22-5	B23-5	B21-5
C6-C7	ND	ND	ND	ND	ND	ND
C8-C9	ND	ND	ND	ND	ND	ND
C10-C11	ND	ND	ND	ND	ND	ND
C12-C13	ND	ND	ND	ND	ND	ND
C14-C15	ND	ND	ND	ND	ND	ND
C16-C17	ND	ND	ND	ND	ND	ND
C18-C19	ND	ND	ND	ND	ND	ND
C20-C23	ND	ND	ND	ND	ND	ND
C24-C27	ND	ND	ND	ND	ND	ND
C28-C31	ND	ND	ND	ND	ND	ND
C32-C35	ND	ND	ND	ND	ND	ND
C36-C39	ND	ND	ND	ND	ND	ND
C40-C43	ND	ND	ND	ND	ND	ND
C44+	ND	ND	ND	ND	ND	ND
Total	ND	ND	ND	ND	ND	ND
Surrogate Recovery Hexacosane %						
Acceptance Range: 65% - 125%	86%	105%	81%	82%	96%	98%
Dilution Factor	1	1	1	1	1	1
Practical Quantitation limits	10	10	10	10	10	10

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:**	B-5183A
		Client Ref. No:	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	6/30-7/1/2011 & 7/6/2011
		Date Received:	6/30-7/1/2011 & 7/6/2011
		Date Analyzed:	6/30-7/1/2011, 7/5/2011 - 7/8/2011
Project:	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8015 - Extended Range Hydrocarbons (ASTM 2887)

	Sample ID Concentration (mg/Kg)					
Carbon Chain Range	B3-5	B2-5	B17-5	B18-5	B26:28-1	B29:31-1
C6-C7	ND	ND	ND	ND	ND	ND
C8-C9	ND	ND	ND	ND	ND	ND
C10-C11	ND	ND	ND	ND	ND	ND
C12-C13	ND	ND	ND	ND	ND	ND
C14-C15	ND	ND	ND	ND	ND	ND
C16-C17	ND	ND	ND	ND	ND	ND
C18-C19	ND	ND	ND	ND	ND	ND
C20-C23	ND	ND	ND	ND	ND	ND
C24-C27	ND	ND	ND	ND	ND	ND
C28-C31	ND	ND	ND	ND	ND	ND
C32-C35	ND	ND	ND	ND	ND	ND
C36-C39	ND	ND	ND	ND	ND	ND
C40-C43	ND	ND	ND	ND	ND	ND
C44+	ND	ND	ND	ND	ND	ND
Total	ND	ND	ND	ND	ND	ND
Surrogate Recovery Hexacosane %						
Acceptance Range: 65% - 125%	97%	104%	102%	100%	107%	91%
Dilution Factor	1	1	1	1	1	1
Practical Quantitation limits	10	10	10	10	10	10

ND = Not Detected

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Attn:	Eric Patschull	**Date Sampled:**	6/30-7/1/2011 & 7/6/2011
		Date Received:	6/30-7/1/2011 & 7/6/2011
		Date Analyzed:	6/30-7/1/2011, 7/5/2011 - 7/8/2011
Project:	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8015 - Extended Range Hydrocarbons (ASTM 2887)

	Sample ID Concentration (mg/Kg)	
Carbon Chain Range	B32:34-1	B14-10
C6-C7	ND	ND
C8-C9	ND	ND
C10-C11	ND	ND
C12-C13	ND	ND
C14-C15	ND	ND
C16-C17	ND	ND
C18-C19	ND	ND
C20-C23	ND	ND
C24-C27	ND	ND
C28-C31	ND	ND
C32-C35	ND	ND
C36-C39	ND	ND
C40-C43	ND	ND
C44+	ND	ND
Total	ND	ND
Surrogate Recovery Hexacosane %		
Acceptance Range: 65% - 125%	93%	94%
Dilution Factor	1	1
Practical Quantitation limits	10	10

ND = Not Detected

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Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	6/30-7/1/2011 & 7/6/2011
		Date Received:	6/30-7/1/2011 & 7/6/2011
		Date Analyzed:	6/30-7/1/2011, 7/5/2011 - 7/8/2011
Project:	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8015 - Extended Range Hydrocarbons (ASTM 2887)

	Sample ID Concentration (mg/Kg)				
Carbon Chain Range	METHOD BLANK 6/30/2011	METHOD BLANK 7/1/2011	METHOD BLANK 7/5/2011	METHOD BLANK 7/7/2011	METHOD BLANK 7/8/2011
C6-C7	ND	ND	ND	ND	ND
C8-C9	ND	ND	ND	ND	ND
C10-C11	ND	ND	ND	ND	ND
C12-C13	ND	ND	ND	ND	ND
C14-C15	ND	ND	ND	ND	ND
C16-C17	ND	ND	ND	ND	ND
C18-C19	ND	ND	ND	ND	ND
C20-C23	ND	ND	ND	ND	ND
C24-C27	ND	ND	ND	ND	ND
C28-C31	ND	ND	ND	ND	ND
C32-C35	ND	ND	ND	ND	ND
C36-C39	ND	ND	ND	ND	ND
C40-C43	ND	ND	ND	ND	ND
C44+	ND	ND	ND	ND	ND
Total	ND	ND	ND	ND	ND
Surrogate Recovery Hexacosane %					
Acceptance Range: 65% - 125%	103%	107%	78%	83%	82%
Dilution Factor	1	1	1	1	1
Practical Quantitation limits	10	10	10	10	10

ND = Not Detected

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Attn:	Eric Patschull	**Date Sampled:**	6/30-7/1/2011 & 7/6/2011
		Date Received:	6/30-7/1/2011 & 7/6/2011
		Date Analyzed:	6/30-7/1/2011, 7/5/2011 - 7/8/2011
Project:	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8015 - Extended Range Hydrocarbons (ASTM 2887)

Sample Spiked: CLEAN SOIL (06/30/2011)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	110%	107%	3.2%	70-130

Continuing Calibration Verification

Parameter	CCV Recovery (%)	Acceptability Range (%)
Diesel	91%	85-115

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:**	B-5183A
		Client Ref. No:	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	6/30-7/1/2011 & 7/6/2011
		Date Received:	6/30-7/1/2011 & 7/6/2011
		Date Analyzed:	6/30-7/1/2011, 7/5/2011 - 7/8/2011
Project:	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8015 - Extended Range Hydrocarbons (ASTM 2887)

Sample Spiked: CLEAN SOIL (07/01/2011)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	99%	90%	9.2%	70-130

Continuing Calibration Verification

Parameter	CCV Recovery (%)	Acceptability Range (%)
Diesel	107%	85-115

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:**	B-5183A
		Client Ref. No:	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	6/30-7/1/2011 & 7/6/2011
		Date Received:	6/30-7/1/2011 & 7/6/2011
		Date Analyzed:	6/30-7/1/2011, 7/5/2011 - 7/8/2011
Project:	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8015 - Extended Range Hydrocarbons (ASTM 2887)

Sample Spiked: CLEAN SOIL (07/05/11)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	100%	98%	2.3%	70-130

Continuing Calibration Verification

Parameter	CCV Recovery (%)	Acceptability Range (%)
Diesel	93%	85-115

Method Blank = Not Detected

MS = Matrix Spike
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RPD = Relative Percent Difference

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LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:**	B-5183A
		Client Ref. No:	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	6/30-7/1/2011 & 7/6/2011
		Date Received:	6/30-7/1/2011 & 7/6/2011
		Date Analyzed:	6/30-7/1/2011, 7/5/2011 - 7/8/2011
Project:	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8015 - Extended Range Hydrocarbons (ASTM 2887)

Sample Spiked: CLEAN SOIL (07/07/2011)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	93%	93%	0.7%	70-130

Continuing Calibration Verification

Parameter	CCV Recovery (%)	Acceptability Range (%)
Diesel	96%	85-115

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:**	B-5183A
		Client Ref. No:	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	6/30-7/1/2011 & 7/6/2011
		Date Received:	6/30-7/1/2011 & 7/6/2011
		Date Analyzed:	6/30-7/1/2011, 7/5/2011 - 7/8/2011
Project:	Industrial Complex		
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8015 - Extended Range Hydrocarbons (ASTM 2887)

Sample Spiked: CLEAN SOIL (07/08/2011)

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)
Diesel	108%	107%	0.9%	70-130

Continuing Calibration Verification

Parameter	CCV Recovery (%)	Acceptability Range (%)
Diesel	108%	85-115

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference

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LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183A
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave.		
	Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B7-5**	**B8-5**	**B8-20**	**B9-5**	**B9-20**	**Practical Quantitation Limit**	**Units**
Analytes:							
Benzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
Bromoform	ND	ND	ND	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	ND	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroform	ND	ND	ND	ND	ND	1.0	µg/kg
Chloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Dichlorodifluoromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	B7-5	B8-5	B8-20	B9-5	B9-20	Practical Quantitation Limit	Units
Analytes:							
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
Ethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Freon 113	ND	ND	ND	ND	ND	1.0	µg/kg
Hexachlorobutadiene	ND	ND	ND	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Isopropyltoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Methylene chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Naphthalene	ND	ND	ND	ND	ND	1.0	µg/kg
n-Propylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Styrene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Tetrachloroethylene	ND	ND	ND	ND	ND	1.0	µg/kg
Toluene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Trichloroethylene	ND	ND	ND	ND	ND	1.0	µg/kg

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B7-5**	**B8-5**	**B8-20**	**B9-5**	**B9-20**	**Practical Quantitation Limit**	**Units**
Analytes:							
Trichlorofluoromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Vinyl chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Xylenes	ND	ND	ND	ND	ND	1.0	µg/kg
MTBE	ND	ND	ND	ND	ND	1.0	µg/kg
Ethyl-tert-butylether	ND	ND	ND	ND	ND	1.0	µg/kg
Di-isopropylether	ND	ND	ND	ND	ND	1.0	µg/kg
tert-amylmethylether	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylalcohol	ND	ND	ND	ND	ND	5.0	µg/kg
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	90%	95%	97%	98%	83%	60-140	
Toluene-d_8	107%	85%	88%	92%	102%	60-140	
4-Bromofluorobenzene	72%	87%	96%	92%	86%	60-140	
	B2-063011-CHECKS_1	B2-063011-CHECKS_1	B2-063011-CHECKS_1	B2-063011-CHECKS_1	B2-063011-CHECKS_1		

ND= Not Detected

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Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	B14-5	B15-5	B19-5	B20-5	B24-5	Practical Quantitation Limit	Units
Analytes:							
Benzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
Bromoform	ND	ND	ND	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	ND	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroform	ND	ND	ND	ND	ND	1.0	µg/kg
Chloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Dichlorodifluoromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	B14-5	B15-5	B19-5	B20-5	B24-5	Practical Quantitation Limit	Units
Analytes:							
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
Ethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Freon 113	ND	ND	ND	ND	ND	1.0	µg/kg
Hexachlorobutadiene	ND	ND	ND	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Isopropyltoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Methylene chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Naphthalene	ND	ND	ND	ND	ND	1.0	µg/kg
n-Propylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Styrene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Tetrachloroethylene	ND	ND	ND	ND	ND	1.0	µg/kg
Toluene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Trichloroethylene	ND	ND	ND	ND	ND	1.0	µg/kg

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B14-5**	**B15-5**	**B19-5**	**B20-5**	**B24-5**	**Practical Quantitation Limit**	**Units**
Analytes:							
Trichlorofluoromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Vinyl chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Xylenes	ND	ND	ND	ND	ND	1.0	µg/kg
MTBE	ND	ND	ND	ND	ND	1.0	µg/kg
Ethyl-tert-butylether	ND	ND	ND	ND	ND	1.0	µg/kg
Di-isopropylether	ND	ND	ND	ND	ND	1.0	µg/kg
tert-amylmethylether	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylalcohol	**33.4**	ND	ND	ND	ND	5.0	µg/kg
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	117%	102%	97%	91%	81%	60-140	
Toluene-d_8	81%	93%	86%	106%	99%	60-140	
4-Bromofluorobenzene	96%	92%	94%	89%	94%	60-140	
	B2-063011-CHECKS_1	B2-063011-CHECKS_1	B2-063011-CHECKS_1	B2-063011-CHECKS_1	B2-063011-CHECKS_1		

ND= Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	B4-5	B10-5	B5-5	B13-5	B25-5	Practical Quantitation Limit	Units
Analytes:							
Benzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
Bromoform	ND	ND	ND	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	ND	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroform	ND	ND	ND	ND	ND	1.0	µg/kg
Chloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Dichlorodifluoromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183A
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave.		
	Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	B4-5	B10-5	B5-5	B13-5	B25-5	Practical Quantitation Limit	Units
Analytes:							
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
Ethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Freon 113	ND	ND	ND	ND	ND	1.0	µg/kg
Hexachlorobutadiene	ND	ND	ND	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Isopropyltoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Methylene chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Naphthalene	ND	ND	ND	ND	ND	1.0	µg/kg
n-Propylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Styrene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Tetrachloroethylene	ND	ND	ND	ND	ND	1.0	µg/kg
Toluene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Trichloroethylene	ND	ND	ND	ND	ND	1.0	µg/kg

ND = Not Detected

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LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B4-5**	**B10-5**	**B5-5**	**B13-5**	**B25-5**	**Practical Quantitation Limit**	**Units**
Analytes:							
Trichlorofluoromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Vinyl chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Xylenes	ND	ND	ND	ND	ND	1.0	µg/kg
MTBE	ND	ND	ND	ND	ND	1.0	µg/kg
Ethyl-tert-butylether	ND	ND	ND	ND	ND	1.0	µg/kg
Di-isopropylether	ND	ND	ND	ND	ND	1.0	µg/kg
tert-amylmethylether	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylalcohol	ND	ND	ND	ND	ND	5.0	µg/kg
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	106%	108%	108%	108%	105%	60-140	
Toluene-d_8	94%	91%	95%	94%	92%	60-140	
4-Bromofluorobenzene	91%	86%	85%	81%	78%	60-140	
	B2-070111-CHECKS_1	B2-070111-CHECKS_1	B2-070111-CHECKS_1	B2-070111-CHECKS_1	B2-070111-CHECKS_1		

ND= Not Detected

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LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B22-5**	**B23-5**	**B21-5**	**B3-5**	**B2-5**	**Practical Quantitation Limit**	**Units**
Analytes:							
Benzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
Bromoform	ND	ND	ND	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	ND	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroform	ND	ND	ND	ND	ND	1.0	µg/kg
Chloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Dichlorodifluoromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B22-5**	**B23-5**	**B21-5**	**B3-5**	**B2-5**	**Practical Quantitation Limit**	**Units**
Analytes:							
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
Ethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Freon 113	ND	ND	ND	ND	ND	1.0	µg/kg
Hexachlorobutadiene	ND	ND	ND	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Isopropyltoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Methylene chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Naphthalene	ND	ND	ND	ND	ND	1.0	µg/kg
n-Propylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Styrene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Tetrachloroethylene	ND	ND	ND	ND	ND	1.0	µg/kg
Toluene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Trichloroethylene	ND	ND	ND	ND	ND	1.0	µg/kg

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B22-5**	**B23-5**	**B21-5**	**B3-5**	**B2-5**	**Practical Quantitation Limit**	**Units**
Analytes:							
Trichlorofluoromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Vinyl chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Xylenes	ND	ND	ND	ND	ND	1.0	µg/kg
MTBE	ND	ND	ND	ND	ND	1.0	µg/kg
Ethyl-tert-butylether	ND	ND	ND	ND	ND	1.0	µg/kg
Di-isopropylether	ND	ND	ND	ND	ND	1.0	µg/kg
tert-amylmethylether	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylalcohol	ND	ND	ND	ND	ND	5.0	µg/kg
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	91%	83%	97%	101%	100%	60-140	
Toluene-d_8	99%	102%	76%	88%	92%	60-140	
4-Bromofluorobenzene	82%	76%	115%	97%	94%	60-140	
	B2-070111-CHECKS_1	B2-070111-CHECKS_1	B2-070111-CHECKS_1	B2-070611-CHECKS_1	B2-070611-CHECKS_1		

ND= Not Detected

Jones Environmental, Inc.
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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B17-5**	**B18-5**	**B26:28-1**	**B29:31-1**	**B32:34-1**	**Practical Quantitation Limit**	**Units**
Analytes:							
Benzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
Bromoform	ND	ND	ND	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	ND	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroform	ND	ND	ND	ND	ND	1.0	µg/kg
Chloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Dichlorodifluoromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B17-5**	**B18-5**	**B26:28-1**	**B29:31-1**	**B32:34-1**	**Practical Quantitation Limit**	**Units**
Analytes:							
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
Ethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Freon 113	ND	ND	ND	ND	ND	1.0	µg/kg
Hexachlorobutadiene	ND	ND	ND	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Isopropyltoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Methylene chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Naphthalene	ND	ND	ND	ND	ND	1.0	µg/kg
n-Propylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Styrene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Tetrachloroethylene	ND	ND	ND	ND	ND	1.0	µg/kg
Toluene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Trichloroethylene	ND	ND	ND	ND	ND	1.0	µg/kg

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B17-5**	**B18-5**	**B26:28-1**	**B29:31-1**	**B32:34-1**	**Practical Quantitation Limit**	**Units**
Analytes:							
Trichlorofluoromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Vinyl chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Xylenes	ND	ND	ND	ND	ND	1.0	µg/kg
MTBE	ND	ND	ND	ND	ND	1.0	µg/kg
Ethyl-tert-butylether	ND	ND	ND	ND	ND	1.0	µg/kg
Di-isopropylether	ND	ND	ND	ND	ND	1.0	µg/kg
tert-amylmethylether	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylalcohol	ND	ND	ND	ND	ND	5.0	µg/kg
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	102%	98%	111%	96%	105%	60-140	
Toluene-d_8	95%	92%	101%	94%	94%	60-140	
4-Bromofluorobenzene	89%	92%	94%	83%	94%	60-140	
	B2-070611-CHECKS_1	B2-070611-CHECKS_1	B2-070611-CHECKS_2	B2-070611-CHECKS_2	B2-070611-CHECKS_2		

ND= Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B14-10**	**Practical Quantitation Limit**	**Units**
Analytes:			
Benzene	ND	1.0	µg/kg
Bromobenzene	ND	1.0	µg/kg
Bromodichloromethane	ND	1.0	µg/kg
Bromoform	ND	1.0	µg/kg
n-Butylbenzene	ND	1.0	µg/kg
sec-Butylbenzene	ND	1.0	µg/kg
tert-Butylbenzene	ND	1.0	µg/kg
Carbon tetrachloride	ND	1.0	µg/kg
Chlorobenzene	ND	1.0	µg/kg
Chloroethane	ND	1.0	µg/kg
Chloroform	ND	1.0	µg/kg
Chloromethane	ND	1.0	µg/kg
2-Chlorotoluene	ND	1.0	µg/kg
4-Chlorotoluene	ND	1.0	µg/kg
Dibromochloromethane	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	1.0	µg/kg
Dibromomethane	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	1.0	µg/kg
Dichlorodifluoromethane	ND	1.0	µg/kg
1,1-Dichloroethane	ND	1.0	µg/kg
1,2-Dichloroethane	ND	1.0	µg/kg
1,1-Dichloroethene	ND	1.0	µg/kg

ND = Not Detected

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LABORATORY RESULTS

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Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B14-10**	**Practical Quantitation Limit**	**Units**
Analytes:			
cis-1,2-Dichloroethene	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	1.0	µg/kg
1,2-Dichloropropane	ND	1.0	µg/kg
1,3-Dichloropropane	ND	1.0	µg/kg
2,2-Dichloropropane	ND	1.0	µg/kg
1,1-Dichloropropene	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	1.0	µg/kg
trans-1,3-Dichloropropene	ND	1.0	µg/kg
Ethylbenzene	ND	1.0	µg/kg
Freon 113	ND	1.0	µg/kg
Hexachlorobutadiene	ND	1.0	µg/kg
Isopropylbenzene	ND	1.0	µg/kg
4-Isopropyltoluene	ND	1.0	µg/kg
Methylene chloride	ND	1.0	µg/kg
Naphthalene	ND	1.0	µg/kg
n-Propylbenzene	ND	1.0	µg/kg
Styrene	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	1.0	µg/kg
Tetrachloroethylene	ND	1.0	µg/kg
Toluene	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	1.0	µg/kg
1,2,4-Trichlorobenzene	ND	1.0	µg/kg
1,1,1-Trichloroethane	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	1.0	µg/kg
Trichloroethylene	ND	1.0	µg/kg

ND = Not Detected

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Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	**B14-10**	**Practical Quantitation Limit**	**Units**
Analytes:			
Trichlorofluoromethane	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	1.0	µg/kg
Vinyl chloride	ND	1.0	µg/kg
Xylenes	ND	1.0	µg/kg
MTBE	ND	1.0	µg/kg
Ethyl-tert-butylether	ND	1.0	µg/kg
Di-isopropylether	ND	1.0	µg/kg
tert-amylmethylether	ND	1.0	µg/kg
tert-Butylalcohol	ND	5.0	µg/kg
Dilution Factor	1		
Surrogate Recoveries:		**QC Limits**	
Dibromofluoromethane	102%	60-140	
Toluene-d_8	92%	60-140	
4-Bromofluorobenzene	89%	60-140	
	B2-070711-CHECKS_2		

ND= Not Detected

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LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID: **Analytes:**	**METHOD BLANK**	**METHOD BLANK**	**METHOD BLANK**	**METHOD BLANK**	**METHOD BLANK**	**Practical Quantitation Limit**	**Units**
Benzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Bromodichloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
Bromoform	ND	ND	ND	ND	ND	1.0	µg/kg
n-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
sec-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Carbon tetrachloride	ND	ND	ND	ND	ND	1.0	µg/kg
Chlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Chloroform	ND	ND	ND	ND	ND	1.0	µg/kg
Chloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
2-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Chlorotoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromochloromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromo-3-chloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dibromoethane (EDB)	ND	ND	ND	ND	ND	1.0	µg/kg
Dibromomethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2- Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,4-Dichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Dichlorodifluoromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	METHOD BLANK	METHOD BLANK	METHOD BLANK	METHOD BLANK	METHOD BLANK	Practical Quantitation Limit	Units
Analytes:							
cis-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,2-Dichloroethene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,3-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
2,2-Dichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
cis-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
trans-1,3-Dichloropropene	ND	ND	ND	ND	ND	1.0	µg/kg
Ethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Freon 113	ND	ND	ND	ND	ND	1.0	µg/kg
Hexachlorobutadiene	ND	ND	ND	ND	ND	1.0	µg/kg
Isopropylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
4-Isopropyltoluene	ND	ND	ND	ND	ND	1.0	µg/kg
Methylene chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Naphthalene	ND	ND	ND	ND	ND	1.0	µg/kg
n-Propylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Styrene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2,2-Tetrachloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Tetrachloroethylene	ND	ND	ND	ND	ND	1.0	µg/kg
Toluene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trichlorobenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,1-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,1,2-Trichloroethane	ND	ND	ND	ND	ND	1.0	µg/kg
Trichloroethylene	ND	ND	ND	ND	ND	1.0	µg/kg

ND = Not Detected

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JONES ENVIRONMENTAL
LABORATORY RESULTS

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100 El Segundo, CA 90245	**JEL Ref. No.:** **Client Ref. No.:**	B-5183A 11-76495.9
Attn:	Eric Patschull	**Date Sampled & Received:**	6/30-7/1/2011& 7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30-7/1/2011& 7/6-7/2011
Project Address:	1625-1631 S. Magnolia Ave. Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample ID:	METHOD BLANK	METHOD BLANK	METHOD BLANK	METHOD BLANK	METHOD BLANK	Practical Quantitation Limit	Units
Analytes:							
Trichlorofluoromethane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,3-Trichloropropane	ND	ND	ND	ND	ND	1.0	µg/kg
1,2,4-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
1,3,5-Trimethylbenzene	ND	ND	ND	ND	ND	1.0	µg/kg
Vinyl chloride	ND	ND	ND	ND	ND	1.0	µg/kg
Xylenes	ND	ND	ND	ND	ND	1.0	µg/kg
MTBE	ND	ND	ND	ND	ND	1.0	µg/kg
Ethyl-tert-butylether	ND	ND	ND	ND	ND	1.0	µg/kg
Di-isopropylether	ND	ND	ND	ND	ND	1.0	µg/kg
tert-amylmethylether	ND	ND	ND	ND	ND	1.0	µg/kg
tert-Butylalcohol	ND	ND	ND	ND	ND	5.0	µg/kg
Dilution Factor	1	1	1	1	1		
Surrogate Recoveries:						**QC Limits**	
Dibromofluoromethane	100%	94%	104%	103%	95%	60-140	
Toluene-d_8	96%	88%	93%	94%	90%	60-140	
4-Bromofluorobenzene	97%	87%	97%	98%	90%	60-140	
	B2-063011-CHECKS_1	B2-070111-CHECKS_1	B2-070611-CHECKS_1	B2-070611-CHECKS_2	B2-070711-CHECKS_2		

ND= Not Detected

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JONES ENVIRONMENTAL
QUALITY CONTROL INFORMATION

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183A
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	6/30/2011
		Date Received:	6/30/2011
Project:	Industrial Complez	**Date Analyzed:**	6/30/2011
Project Address:	1625-1631 S. Magnolia Ave.		
	Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample Spiked: Clean Soil **GC#:** B2-063011-CHECKS_1

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)	LCS	Acceptability Range (%)
1,1-Dichloroethylene	98%	95%	2.6%	70-130	116%	70-130
Benzene	101%	100%	1.3%	70-130	102%	70-130
Trichloroethylene	94%	91%	3.8%	70-130	113%	70-130
Toluene	86%	85%	0.6%	70-130	108%	70-130
Chlorobenzene	87%	83%	5.1%	70-130	92%	70-130
Surrogate Recovery:						
Dibromofluoromethane	100%	98%		60-140	82%	60-140
Toluene-d_8	86%	87%		60-140	116%	60-140
4-Bromofluorobenzene	92%	93%		60-140	89%	60-140

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

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JONES ENVIRONMENTAL
QUALITY CONTROL INFORMATION

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183A
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/1/2011
		Date Received:	7/1/2011
Project:	Industrial Complez	**Date Analyzed:**	7/1/2011
Project Address:	1625-1631 S. Magnolia Ave.		
	Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample Spiked: Clean Soil **GC#:** B2-070111-CHECKS_1

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)	LCS	Acceptability Range (%)
1,1-Dichloroethylene	105%	104%	1.1%	70-130	109%	70-130
Benzene	105%	104%	0.8%	70-130	104%	70-130
Trichloroethylene	108%	98%	10%	70-130	96%	70-130
Toluene	93%	86%	7.8%	70-130	83%	70-130
Chlorobenzene	81%	71%	13%	70-130	83%	70-130
Surrogate Recovery:						
Dibromofluoromethane	96%	105%		60-140	95%	60-140
Toluene-d_8	98%	86%		60-140	85%	60-140
4-Bromofluorobenzene	79%	82%		60-140	86%	60-140

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

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JONES ENVIRONMENTAL
QUALITY CONTROL INFORMATION

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183A
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/6/2011
		Date Received:	7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	7/6/2011
Project Address:	1625-1631 S. Magnolia Ave.		
	Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample Spiked: Clean Soil **GC#:** B2-070611-CHECKS_1

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)	LCS	Acceptability Range (%)
1,1-Dichloroethylene	101%	108%	7.0%	70-130	94%	70-130
Benzene	102%	101%	1.4%	70-130	84%	70-130
Trichloroethylene	94%	103%	9.3%	70-130	78%	70-130
Toluene	88%	90%	1.4%	70-130	75%	70-130
Chlorobenzene	83%	84%	1.0%	70-130	71%	70-130
Surrogate Recovery:						
Dibromofluoromethane	96%	100%		60-140	99%	60-140
Toluene-d_8	93%	91%		60-140	92%	60-140
4-Bromofluorobenzene	98%	98%		60-140	94%	60-140

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

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JONES ENVIRONMENTAL
QUALITY CONTROL INFORMATION

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183A
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/6/2011
		Date Received:	7/6/2011
Project:	Industrial Complez	**Date Analyzed:**	7/6/2011
Project Address:	1625-1631 S. Magnolia Ave.		
	Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample Spiked: Clean Soil **GC#:** B2-070611-CHECKS_2

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)	LCS	Acceptability Range (%)
1,1-Dichloroethylene	97%	98%	0.4%	70-130	110%	70-130
Benzene	102%	106%	3.7%	70-130	116%	70-130
Trichloroethylene	100%	108%	8.0%	70-130	116%	70-130
Toluene	84%	85%	1.9%	70-130	95%	70-130
Chlorobenzene	83%	88%	6.5%	70-130	100%	70-130
Surrogate Recovery:						
Dibromofluoromethane	107%	105%		60-140	111%	60-140
Toluene-d_8	95%	96%		60-140	95%	60-140
4-Bromofluorobenzene	95%	95%		60-140	99%	60-140

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

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JONES ENVIRONMENTAL
QUALITY CONTROL INFORMATION

Client:	Partner Engineering & Science, Inc.	**Report date:**	7/11/2011
Client Address:	1990 E. Grand Ave., Suite 100	**JEL Ref. No.:**	B-5183A
	El Segundo, CA 90245	**Client Ref. No.:**	11-76495.9
Attn:	Eric Patschull	**Date Sampled:**	7/7/2011
		Date Received:	7/7/2011
Project:	Industrial Complez	**Date Analyzed:**	7/7/2011
Project Address:	1625-1631 S. Magnolia Ave.		
	Monrovia, CA 91016	**Physical State:**	Soil

EPA 8260B by 5035-Volatile Organics by GC/MS + Oxygenates

Sample Spiked: Clean Soil **GC#:** B2-070711-CHECKS_2

Parameter	MS Recovery (%)	MSD Recovery (%)	RPD	Acceptability Range (%)	LCS	Acceptability Range (%)
1,1-Dichloroethylene	100%	110%	9.2%	70-130	95%	70-130
Benzene	106%	105%	0.6%	70-130	110%	70-130
Trichloroethylene	103%	102%	0.8%	70-130	102%	70-130
Toluene	92%	87%	5.4%	70-130	96%	70-130
Chlorobenzene	88%	85%	3.5%	70-130	97%	70-130
Surrogate Recovery:						
Dibromofluoromethane	103%	101%		60-140	92%	60-140
Toluene-d_8	95%	93%		60-140	96%	60-140
4-Bromofluorobenzene	93%	96%		60-140	92%	60-140

Method Blank = Not Detected

MS = Matrix Spike
MSD = Matrix Spike Duplicate
RPD = Relative Percent Difference; Acceptability range for RPD is ≤ 15%

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Chain-of-Custody Record

Client Partners

Project Name

Project Address 1625 S. Magnolia Ave

Monrovia, CA

Project Contact Eric Patschull

Date 06/30/2011

Client Project # 11-76495.9

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☐ 3P ☐ 7P ☐ 10P
Tracer: _____
Purge Rate: _____ cc/min
Shut in Test Y / N

JEL Project # B-5183A

Page 1 of 11

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Analysis Requested

Sample ID	Purge Number	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	8260B (VOCs)	5015M (Carbon Chain)	Hold	Magnehelic Pressure (in/H_2O)	Number of Containers	Remarks/Special Instructions
B7-5			6/30/11			B-5183A-1	S	X	X			2	5035 SYRINGE, Acetate
B7-10						B-5183A-2	S			X		1	Acetate
B7-15						B-5183A-3	S			X		1	" "
B7-20						B-5183A-4	S			X		1	" "
B8-5				08:25		B-5183A-5	S	X	X			2	5035 SYR, Acetate
B8-10				08:29		B-5183A-6	S			X		1	Acetate
B8-15				08:32		B-5183A-7	S			X		1	" "
B8-20				08:35		B-5183A-8	S	X	X			2	5035 SYR; Acetate
B9-5				09:40		B-5183A-9	S	X	X			2	" "
B9-10				09:43		B-5183A-10	S			X		1	Acetate

❶ Relinquished by (signature) Eric Patschull	Date 6/30/11	❷ Received by (signature)	Date 6/30/11	Total Number of Containers
Company PARTNER	Time	Company JEL	Time	
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date	
Company	Time	Company	Time	

The delivery of samples and the signature on this Chain of Custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

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Chain-of-Custody Record

Client: Partners
Project Name:
Project Address: 1625 S Magnolia Ave, Monrovia, CA
Project Contact: Eric Patschull

Date: 06/30/2011
Client Project #:

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☐ 3P ☐ 7P ☐ 10P
Tracer: _____
Purge Rate: _____ cc/min
Shut in Test Y / N

JEL Project #: B-5183A
Page: 2 of 11

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Sample ID	Purge Number	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	Analysis Requested: 8260B (VOCs)	8015M (Carbon Chain)	Hold	Magnehelic Pressure (in/H_2O)	Number of Containers	Remarks/Special Instructions
B9-15			6/30/11	09:46		B-5183A-11	S			X			1	Acetate
B9-20				09:50		B-5183A-12	S	X	X				2	5035 SMP, Acetate
B14-5				10:57		B-5183A-13	S	X	X				2	" "
B14-10				11:00		B-5183A-14	S			X			1	Acetate
B14-15				11:05		B-5183A-15	S			X			1	" "
B14-20				11:10		B-5183A-16	S			X			1	" "
B15-5				11:25		B-5183A-17	S	X	X				2	5035 SMP, Acetate
B15-10				11:28		B-5183A-18	S			X			1	Acetate
B15-15				11:32		B-5183A-19	S			X			1	" "
B15-20				11:40		B-5183A-20	S			X			1	" "

❶ Relinquished by (signature): Eric Patschull	Date: 6/30/11	❷ Received by (signature): [signature]	Date: 6/30/11	Total Number of Containers
Company: PARTNERS	Time:	Company: JEL	Time:	
❸ Relinquished by (signature):	Date:	❹ Received by Laboratory (signature):	Date:	
Company:	Time:	Company:	Time:	

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Chain-of-Custody Record

Client Partners
Project Name
Project Address 1625 S Magnolia Ave, Monrovia, CA
Project Contact Eric Patschull

Date 06/30/2011
Client Project # 11-7645.9

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☒ 3P ☐ 7P ☐ 10P
Tracer: _____
Purge Rate: _____ cc/min
Shut in Test Y / N

JEL Project # B-5183A
Page 3 of 11

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Sample ID	Purge Number	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	Analysis Requested: 8260B (VOCs)	8015M (Carbon Chain Hold)	Magnehelic Pressure (in/H2O)	Number of Containers	Remarks/Special Instructions
B19-5			6/30/11	13:45		B-5183A-21	S	X	X			2	5035 SYR; Acetate
B19-10				13:50		B-5183A-22	S			X		1	Acetate
B19-15				13:55		B-5183A-23	S			X		1	" "
B19-20				14:00		B-5183A-24	S			X		1	" "
B20-5				14:10		B-5183A-25	S	X	X			2	5035 SYR; Acetate
B20-10				14:05		B-5183A-26	S			X		1	Acetate
B20-15				14:20		B-5183A-27	S			X		1	" "
B20-20				14:30		B-5183A-28	S			X		1	" "
B24-5				15:10		B-5183A-29	S	X	X			2	5035 SYR; Acetate
B24-10				15:20		B-5183A-30	S			X		1	Acetate
													Total Number of Containers

❶ Relinquished by (signature) Eric Patschull	Date 6/30/11	❷ Received by (signature)	Date 6/30/11
Company PARTNERS	Time	Company JEL	Time
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date
Company	Time	Company	Time

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Chain-of-Custody Record

Client: Partners
Project Name:
Project Address: 1625 S. Magnolia Ave, Monrovia, CA
Project Contact: Eric Patschull

Date: 06/30/11 | 07/01/11
Client Project #:

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☑ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☐ 3P ☐ 7P ☐ 10P
Tracer: _____
Purge Rate: _____ cc/min
Shut in Test Y / N

JEL Project #: B5183A
Page 4 of 11
Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☑ no
Sealed ☐ yes ☐ no

Sample ID	Purge Number	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	Analysis Requested: 8260B (VOCs)	8015M (Carbon Chain)	Hold	Magnehelic Pressure (In/H_2O)	Number of Containers	Remarks/Special Instructions
B24-15			6/30/11	15:20		B-5183A-31	S			X			1	Acetate
B24-20			6/30/11	15:30		B-5183A-32	S			X			1	" "
B4-5			7/1/11	08:08		B-5183A-33	S	X	X				2	5035 Syr, Acetate
B4-10				08:10		B-5183A-34	S			X			1	Acetate
B4-15				08:14		B-5183A-35	S			X			1	" "
B4-20				08:20		B-5183A-36	S			X			1	" "
B10-5				08:24		B-5183A-37	S	X	X				2	5035 SYR, Acetate
B10-10				08:29		B-5183A-38	S			X			1	Acetate
B10-15				08:33		B-5183A-39	S			X			1	" "
B10-20				08:38		B-5183A-40	S			X			1	" "

❶ Relinquished by (signature): Eric Patschull	Date: 7/1/11	❷ Received by (signature):	Date: 07/01/11		Total Number of Containers
Company: PARTNER	Time:	Company: JEL	Time:		
❸ Relinquished by (signature):	Date:	❹ Received by Laboratory (signature):	Date:	The delivery of samples and the signature on this Chain of Custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.	
Company:	Time:	Company:	Time:		

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Chain-of-Custody Record

Client: Partners

Project Name:

Project Address: 1625 S Magnolia Ave, Monrovia, CA

Project Contact: Eric Patschull

Date: 07/01/2011

Client Project #: 11-76495.9

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☐ 3P ☐ 7P ☐ 10P
Tracer: _____
Purge Rate: _____ cc/min
Shut in Test Y / N

JEL Project #: B-5183A

Page 5 of 11

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Sample ID	Purge Number	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	Analysis Requested: 8260B (VOC)	8015M (Carbs, Chlor.)	4-10	Magnehelic Pressure (in/H_2O)	Number of Containers	Remarks/Special Instructions
B5-5			7/1/11	09:00		B-5183A-41	S	X	X			2	5035 5yr; Acetate
B5-10				09:08		B-5183A-42	S			X		1	Acetate
B5-15				09:17		B-5183A-43	S			X		1	"
B5-20				09:30		B-5183A-44	S			X		1	"
B13 5				09:35		B-5183A-45	S	X	X			2	5035 5yr; Acetate
B13-10				09:40		B-5183A-46	S			X		1	Acetate
B13-15				09:45		B-5183A-47	S			X		1	"
B13-20				09:55		B-5183A-48	S			X		1	"
B25-5				10:56		B-5183A-49	S	X	X			2	5035 5yr; Acetate
B25-10				11:00		B-5183A-50	S			X		1	Acetate

❶ Relinquished by (signature): Eric Patschull	Date: 7-1-11	❷ Received by (signature): Eppe Jr	Date: 7/1/11	Total Number of Containers
Company: PARTNER	Time	Company: JEL	Time	
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date	
Company	Time	Company	Time	

The delivery of samples and the signature on this Chain of Custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.

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Chain-of-Custody Record

Client: Partners
Project Name:
Project Address: 1625 S Magnolia Ave, Monrovia, CA
Project Contact: Eric Patschull

Date: 07/01/2011
Client Project #: 11-76495.9

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☐ 3P ☐ 7P ☐ 10P
Tracer: _____
Purge Rate: _____ cc/min
Shut in Test Y / N

JEL Project #: B-5183A
Page 6 of 11

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Analysis Requested

Sample ID	Purge Number	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	8260B (VOCs)	8015M (Carbon Chain)	Hold	Magnehelic Pressure (InH_2O)	Number of Containers	Remarks/Special Instructions
B25-15			7/1/11	11:08		B-5183A-51	S			X			1	Acetate
B25-20				11:15		B-5183A-52	S			X			1	" "
B22-5				12:30		B-5183A-53	S	X	X				2	5035 SMR, Acetate
B22-10				12:35		B-5183A-54	S			X			1	Acetate
B22-15				12:40		B-5183A-55	S			X			1	" "
B22-20				12:45		B-5183A-56	S			X			1	" "
B23-5				12:50		B-5183A-57	S	X	X				2	5035 SMR, Acetate
B23-10				12:55		B-5183A-58	S			X			1	Acetate
B23-15				13:00		B-5183A-59	S			X			1	" "
B23-20				13:05		B-5183A-60	S			X			1	" "

❶ Relinquished by (signature): Eric Patschull	Date: 7-1-11	❷ Received by (signature): [signature]	Date: 7/1/11		Total Number of Containers
Company: PARTNER	Time:	Company: JEL	Time:		
❸ Relinquished by (signature)	Date:	❹ Received by Laboratory (signature)	Date:	The delivery of samples and the signature on this Chain of Custody form constitutes authorization to perform the analyses specified above under the Terms and Conditions set forth on the back hereof.	
Company	Time:	Company	Time:		

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TESTING LABORATORIES

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Fullerton, CA 92838
(714) 449-9937
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Chain-of-Custody Record

Client: Partner
Project Name:
Project Address: 1625 S. Magnolia Ave, Monrovia, CA
Project Contact: Eric Patschull

Date: 7/1/11 / 7/6/11
Client Project #: 11-76495-9

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☐ 3P ☐ 7P ☐ 10P
Tracer: _____
Purge Rate: _____ cc/min
Shut in Test Y / N

JEL Project #: B-5183A
Page 7 of 11

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Analysis Requested: 8260B (VOCs) / 8015M (Gasoline Chain) / Hold

Sample ID	Purge Number	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	8260B	8015M	Hold	Magnehelic Pressure (In/H_2O)	Number of Containers	Remarks/Special Instructions
B21-5			7/1/11	13:35		B-5183A-61	S	X	X			2	5035 SYR; Acetate
B21-10				13:40		B-5183A-62	S			X		1	Acetate
B21-15				13:45		B-5183A-63	S			X		1	" "
B21-20				13:55		B-5183A-64	S			X		1	" "
B3-5			7/6/11	07:15		B-5183A-65	S	X	X			2	5035 SYR; Acetate
B3-10				07:20		B-5183A-66	S			X		1	Acetate
B3-15				07:25		B-5183A-67	S			X		1	" "
B3-20				07:28		B-5183A-68	S			X		1	" "
B3-25				07:30		B-5183A-69	S			X		1	" "
B3-30				07:38		B-5183A-70	S			X		1	" "

❶ Relinquished by (signature): Eric Patschull	Date: 7-6-11	❷ Received by (signature): [signature]	Date: 7.1.11	Total Number of Containers
Company: PARTNER	Time:	Company: JEL	Time:	
❸ Relinquished by (signature):	Date:	❹ Received by Laboratory (signature):	Date:	
Company:	Time:	Company:	Time:	

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JONES ENVIRONMENTAL
TESTING LABORATORIES

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Fullerton, CA 92838
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Fax (714) 449-9685
www.jonesenvironmentallab.com

Chain-of-Custody Record

Client Partner

Project Name

Project Address 1625 S. Magnolia Ave
Monrovia, CA

Project Contact Eric Patschull

Date 07/06/2011

Client Project # 11-76495.9

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☐ 3P ☐ 7P ☐ 10P
Tracer: _____
Purge Rate: _____ cc/min
Shut in Test Y / N

JEL Project # B-5163A

Page 8 of 11

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Sample ID	Purge Number	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	Analysis Requested: 8260B (VOCs)	5035 (VOCs)	Hold (Carbon Chain)	Magnehelic Pressure (in/H_2O)	Number of Containers	Remarks/Special Instructions
B2-5			7/6/11	08:00		B-5163A-71	S	X	X				2	5035 SYR, Acetate
B2-10				08:05		B-5163A-72	S			X			1	Acetate
B2-15				08:08		B-5163A-73	S			X			1	"
B2-20				08:12		B-5163A-74	S			X			1	"
B2-25				08:15		B-5163A-75	S			X			1	"
B2-30				08:20		B-5163A-76	S			X			1	"
B17-5				09:20		B-5163A-77	S	X	X				2	5035 SYR, Acetate
B17-10				09:25		B-5163A-78	S			X			1	Acetate
B17-15				09:28		B-5163A-79	S			X			1	"
B17-20				09:30		B-5163A-80	S			X			1	"

❶ Relinquished by (signature) Eric Patschull	Date 7-6-11	❷ Received by (signature)	Date 7/6/11	Total Number of Containers
Company PARTNER	Time	Company JEL	Time	
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date	
Company	Time	Company	Time	

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Fax (714) 449-9685
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Chain-of-Custody Record

Client: Partner
Project Name:
Project Address: 1625 S. Magnolia Ave, Monrovia, CA
Project Contact: Eric Patschull

Date: 07/06/2011
Client Project #: 11-7W495.9

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☐ 3P ☐ 7P ☐ 10P
Tracer: _____
Purge Rate: _____ cc/min
Shut in Test Y / N

JEL Project #: B-5183A
Page 9 of 11

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Analysis Requested

Sample ID	Purge Number	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	8260B (VOCs)	8015 (Carbon Chain) Hold	Magnehelic Pressure (in/H_2O)	Number of Containers	Remarks/Special Instructions
B18-5			7/6/11	10:00		B-5183A-81	S	X	X			2	5035 SMR; Acetate
B18-10				10:05		B-5183A-82	S		X			1	Acetate
B18-15				10:10		B-5183A-83	S		X			1	" "
B18-20				10:13		B-5183A-84	S		X			1	" "
B26-1				11:00		B-5183A-85	S	X	X			1	Acetate
B27-1				11:08		B-5183A-86	S	X	X			1	composite " "
B28-1				11:15		B-5183A-87	S	X	X			1	" "
B26-4				11:04		B-5183A-88			X			1	Acetate
B27-4				11:12		B-5183A-89			X			1	composite " "
B28-4				11:20		B-5183A-90			X			1	" "

❶ Relinquished by (signature): Eric Patschull	Date: 7-6-11	❷ Received by (signature): [signature]	Date: 7/6/11	Total Number of Containers
Company: Partner	Time:	Company: JEL	Time:	
❸ Relinquished by (signature)	Date:	❹ Received by Laboratory (signature)	Date:	
Company	Time:	Company	Time:	

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Chain-of-Custody Record

Client: Partners
Project Name:
Project Address: 1625 S. Magnolia Ave, Monrovia, CA
Project Contact: Eric Patschull

Date: 07/06/2011
Client Project #: 11-764955

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☐ 3P ☐ 7P ☐ 10P
Tracer: _____
Purge Rate: _____ cc/min
Shut in Test Y / N

JEL Project #: B-5783A

Page 10 of 11

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Analysis Requested: Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG) | 8260B (VOCs) | 8015 Carbon Chain | Hold | Magnehelic Pressure (in/H_2O) | Number of Containers | Remarks/Special Instructions

Sample ID	Purge Number	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Matrix	8260B	8015	Hold	Magnehelic	# Containers	Remarks
B29-1			7/6/11	11:25		B-5783A-91	S	X	X			1	Acetate
B30-1				11:35		B-5783A-92	S	X	X			1	Composite
B31-1				11:50		B-5783A-93	S	X	X			1	" "
B29-4				11:30		B-5783A-94	S			X		1	" "
B30-4				11:40		B-5783A-95	S			X		1	Composite Acetate
B31-4				1200		B-5783A-96	S			X		1	" "
B32-1				12:10		B-5783A-97	S	X	X			1	" "
B33-1				12:20		B-5783A-98	S	X	X			1	Composite " "
B34-1				12:40		B-5783A-99	S	X	X			1	" "
B32-4				12:15		B-5783A-100	S			X		1	Composite " "

Total Number of Containers

❶ Relinquished by (signature): Eric Patschull	Date: 7-6-11	❷ Received by (signature): [signature]	Date: 7/6/11
Company: Partners	Time:	Company: JEL	Time:
❸ Relinquished by (signature)	Date:	❹ Received by Laboratory (signature)	Date:
Company	Time:	Company	Time:

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Chain-of-Custody Record

Client Partners

Date 07/06/2011

Project Name

Client Project # 11-76445-9

Project Address 1625 S. Magnolia Ave

Monrovia, CA

Project Contact Eric Patschull

Turn Around Requested:
- ☐ Immediate Attention
- ☐ Rush 24-48 Hours
- ☐ Rush 72-96 Hours
- ☐ Normal
- ☒ Mobile Lab

SOIL GAS
Purge Number: ☐ 1P ☐ 3P ☐ 7P ☐ 10P
Tracer: _____
Purge Rate: _____ cc/min
Shut in Test Y / N

JEL Project # B-5787A

Page 11 of 11

Lab Use Only
Sample Condition as Received:
Chilled ☐ yes ☒ no
Sealed ☐ yes ☒ no

Sample ID	Purge Number	Purge Volume	Date	Sample Collection Time	Sample Analysis Time	Laboratory Sample Number	Sample Matrix: Soil (S), Sludge (SL), Aqueous (A), Soil Gas (SG)	Analysis Requested: Hold	Analysis Requested: Magnehelic Pressure (In/H_2O)	Analysis Requested: Number of Containers	Remarks/Special Instructions
B33-4			7/6/11	12:30		B-5783A-101	S	X		1	Composite Analysis
B34-4			1	12:50		B-5783A-102	S	X		1	- "

❶ Relinquished by (signature) Eric Patschull	Date 7-6-11	❷ Received by (signature)	Date 7/6/11	Total Number of Containers
Company Partner	Time	Company JEL	Time	
❸ Relinquished by (signature)	Date	❹ Received by Laboratory (signature)	Date	
Company	Time	Company	Time	

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SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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08 July 2011

Eric Patschull
Partner Engineering & Science, Inc.
1990 E. Grand Ave., Suite 100
El Segundo, CA 90245

RE: Monrovia Industrial Complex

Enclosed are the results of analyses for samples received by the laboratory on 06/30/11 15:00. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
949.297.5020 Phone
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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B7-5	T110886-01	Soil	06/30/11 07:44	06/30/11 15:00
B8-5	T110886-02	Soil	06/30/11 08:25	06/30/11 15:00
B9-5	T110886-03	Soil	06/30/11 09:40	06/30/11 15:00
B14-5	T110886-04	Soil	06/30/11 10:57	06/30/11 15:00
B15-5	T110886-05	Soil	06/30/11 11:25	06/30/11 15:00
B19-5	T110886-06	Soil	06/30/11 13:45	06/30/11 15:00
B20-5	T110886-07	Soil	06/30/11 14:10	06/30/11 15:00

SunStar Laboratories, Inc.

Daniel J Chávez

Daniel Chavez, Project Manager

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

B7-5

T110886-01 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070117	07/01/11	07/07/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	07/07/11	"	
Arsenic	ND	5.0	"	"	"	"	07/07/11	"	
Barium	**110**	1.0	"	"	"	"	07/07/11	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	07/07/11	"	
Chromium	**16**	2.0	"	"	"	"	"	"	
Cobalt	**11**	2.0	"	"	"	"	"	"	
Copper	**20**	1.0	"	"	"	"	07/07/11	"	
Lead	**4.2**	3.0	"	"	"	"	07/07/11	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**13**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**36**	5.0	"	"	"	"	07/07/11	"	
Zinc	**49**	1.0	"	"	"	"	07/07/11	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070114	07/01/11	07/01/11	EPA 7471A Soil	
Semivolatile Organic Compounds by EPA Method 8270C									
Carbazole	ND	300	ug/kg	1	1070123	07/01/11	07/07/11	EPA 8270C	
Phenol	ND	1000	"	"	"	"	"	"	
Aniline	ND	300	"	"	"	"	"	"	
2-Chlorophenol	ND	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	300	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	300	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	300	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	1000	"	"	"	"	"	"	
2-Methylnaphthalene	ND	300	"	"	"	"	"	"	
1-Methylnaphthalene	ND	300	"	"	"	"	"	"	
Acenaphthene	ND	300	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

B7-5

T110886-01 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
4-Nitrophenol	ND	1000	ug/kg	1	1070123	07/01/11	07/07/11	EPA 8270C	
2,4-Dinitrotoluene	ND	300	"	"	"	"	"	"	
Pentachlorophenol	ND	1000	"	"	"	"	"	"	
Pyrene	ND	300	"	"	"	"	"	"	
Acenaphthylene	ND	300	"	"	"	"	"	"	
Anthracene	ND	300	"	"	"	"	"	"	
Benzo (a) anthracene	ND	300	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol	ND	300	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	300	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	300	"	"	"	"	"	"	
4-Chloroaniline	ND	300	"	"	"	"	"	"	
2-Chloronaphthalene	ND	300	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Chrysene	ND	300	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1000	"	"	"	"	"	"	
Diethyl phthalate	ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	1000	"	"	"	"	"	"	
Dimethyl phthalate	ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

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Daniel Chavez, Project Manager

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949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

B7-5

T110886-01 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,4-Dinitrophenol	ND	1000	ug/kg	1	1070123	07/01/11	07/07/11	EPA 8270C	
2,6-Dinitrotoluene	ND	1000	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	300	"	"	"	"	"	"	
Fluoranthene	ND	300	"	"	"	"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	300	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"	"	"	"	"	
Hexachloroethane	ND	300	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"	"	"	"	"	
Isophorone	ND	300	"	"	"	"	"	"	
2-Methylphenol	ND	1000	"	"	"	"	"	"	
4-Methylphenol	ND	1000	"	"	"	"	"	"	
Naphthalene	ND	300	"	"	"	"	"	"	
2-Nitroaniline	ND	300	"	"	"	"	"	"	
3-Nitroaniline	ND	300	"	"	"	"	"	"	
4-Nitroaniline	ND	300	"	"	"	"	"	"	
Nitrobenzene	ND	1000	"	"	"	"	"	"	
2-Nitrophenol	ND	1000	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
Phenanthrene	ND	300	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*14.8 %*	*14.3-83.1*		"	"	"	"	
Surrogate: Phenol-d6		*12.1 %*	*12-95.6*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*19.5 %*	*21.3-119*		"	"	"	"	*S-03*
Surrogate: 2-Fluorobiphenyl		*19.5 %*	*32.4-102*		"	"	"	"	*S-03*
Surrogate: 2,4,6-Tribromophenol		*11.5 %*	*18.1-101*		"	"	"	"	*S-03*
Surrogate: Terphenyl-dl4		*31.9 %*	*29.1-130*		"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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949.297.5027 Fax

Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

B7-5

T110886-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

B8-5

T110886-02 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070117	07/01/11	07/07/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**99**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**21**	2.0	"	"	"	"	"	"	
Cobalt	**15**	2.0	"	"	"	"	"	"	
Copper	**26**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**16**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**49**	5.0	"	"	"	"	"	"	
Zinc	**66**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070114	07/01/11	07/01/11	EPA 7471A Soil	

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

B9-5

T110886-03 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070117	07/01/11	07/07/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**81**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**17**	2.0	"	"	"	"	"	"	
Cobalt	**13**	2.0	"	"	"	"	"	"	
Copper	**23**	1.0	"	"	"	"	"	"	
Lead	**4.8**	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**14**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**40**	5.0	"	"	"	"	"	"	
Zinc	**63**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070114	07/01/11	07/01/11	EPA 7471A Soil	
Semivolatile Organic Compounds by EPA Method 8270C									
Carbazole	ND	300	ug/kg	1	1070123	07/01/11	07/07/11	EPA 8270C	
Phenol	ND	1000	"	"	"	"	"	"	
Aniline	ND	300	"	"	"	"	"	"	
2-Chlorophenol	ND	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	300	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	300	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	300	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	1000	"	"	"	"	"	"	
2-Methylnaphthalene	ND	300	"	"	"	"	"	"	
1-Methylnaphthalene	ND	300	"	"	"	"	"	"	
Acenaphthene	ND	300	"	"	"	"	"	"	
4-Nitrophenol	ND	1000	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

B9-5

T110886-03 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,4-Dinitrotoluene	ND	300	ug/kg	1	1070123	07/01/11	07/07/11	EPA 8270C	
Pentachlorophenol	ND	1000	"	"	"	"	"	"	
Pyrene	ND	300	"	"	"	"	"	"	
Acenaphthylene	ND	300	"	"	"	"	"	"	
Anthracene	ND	300	"	"	"	"	"	"	
Benzo (a) anthracene	ND	300	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol	ND	300	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	300	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	300	"	"	"	"	"	"	
4-Chloroaniline	ND	300	"	"	"	"	"	"	
2-Chloronaphthalene	ND	300	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Chrysene	ND	300	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1000	"	"	"	"	"	"	
Diethyl phthalate	ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	1000	"	"	"	"	"	"	
Dimethyl phthalate	ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1000	"	"	"	"	"	"	

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T110886-03 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,6-Dinitrotoluene	ND	1000	ug/kg	1	1070123	07/01/11	07/07/11	EPA 8270C	
Di-n-octyl phthalate	ND	300	"	"	"	"	"	"	
Fluoranthene	ND	300	"	"	"	"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	300	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"	"	"	"	"	
Hexachloroethane	ND	300	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"	"	"	"	"	
Isophorone	ND	300	"	"	"	"	"	"	
2-Methylphenol	ND	1000	"	"	"	"	"	"	
4-Methylphenol	ND	1000	"	"	"	"	"	"	
Naphthalene	ND	300	"	"	"	"	"	"	
2-Nitroaniline	ND	300	"	"	"	"	"	"	
3-Nitroaniline	ND	300	"	"	"	"	"	"	
4-Nitroaniline	ND	300	"	"	"	"	"	"	
Nitrobenzene	ND	1000	"	"	"	"	"	"	
2-Nitrophenol	ND	1000	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
Phenanthrene	ND	300	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*26.4 %*	*14.3-83.1*		"	"	"	"	
Surrogate: Phenol-d6		*22.8 %*	*12-95.6*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*39.8 %*	*21.3-119*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*38.1 %*	*32.4-102*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		*22.0 %*	*18.1-101*		"	"	"	"	
Surrogate: Terphenyl-dl4		*60.8 %*	*29.1-130*		"	"	"	"	

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T110886-04 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070117	07/01/11	07/07/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**91**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**20**	2.0	"	"	"	"	"	"	
Cobalt	**15**	2.0	"	"	"	"	"	"	
Copper	**27**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**17**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**47**	5.0	"	"	"	"	"	"	
Zinc	**64**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070114	07/01/11	07/01/11	EPA 7471A Soil	
Semivolatile Organic Compounds by EPA Method 8270C									
Carbazole	ND	300	ug/kg	1	1070123	07/01/11	07/07/11	EPA 8270C	
Aniline	ND	300	"	"	"	"	"	"	
Phenol	ND	1000	"	"	"	"	"	"	
2-Chlorophenol	ND	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	300	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	300	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	300	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	1000	"	"	"	"	"	"	
1-Methylnaphthalene	ND	300	"	"	"	"	"	"	
2-Methylnaphthalene	ND	300	"	"	"	"	"	"	
Acenaphthene	ND	300	"	"	"	"	"	"	
4-Nitrophenol	ND	1000	"	"	"	"	"	"	

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Daniel J Chavez

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El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

B14-5

T110886-04 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,4-Dinitrotoluene	ND	300	ug/kg	1	1070123	07/01/11	07/07/11	EPA 8270C	
Pentachlorophenol	ND	1000	"	"	"	"	"	"	
Pyrene	ND	300	"	"	"	"	"	"	
Acenaphthylene	ND	300	"	"	"	"	"	"	
Anthracene	ND	300	"	"	"	"	"	"	
Benzo (a) anthracene	ND	300	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol	ND	300	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	300	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	300	"	"	"	"	"	"	
4-Chloroaniline	ND	300	"	"	"	"	"	"	
2-Chloronaphthalene	ND	300	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Chrysene	ND	300	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1000	"	"	"	"	"	"	
Diethyl phthalate	ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	1000	"	"	"	"	"	"	
Dimethyl phthalate	ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1000	"	"	"	"	"	"	

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El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

B14-5

T110886-04 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,6-Dinitrotoluene	ND	1000	ug/kg	1	1070123	07/01/11	07/07/11	EPA 8270C	
Di-n-octyl phthalate	ND	300	"	"	"	"	"	"	
Fluoranthene	ND	300	"	"	"	"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	300	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"	"	"	"	"	
Hexachloroethane	ND	300	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"	"	"	"	"	
Isophorone	ND	300	"	"	"	"	"	"	
2-Methylphenol	ND	1000	"	"	"	"	"	"	
4-Methylphenol	ND	1000	"	"	"	"	"	"	
Naphthalene	ND	300	"	"	"	"	"	"	
2-Nitroaniline	ND	300	"	"	"	"	"	"	
3-Nitroaniline	ND	300	"	"	"	"	"	"	
4-Nitroaniline	ND	300	"	"	"	"	"	"	
Nitrobenzene	ND	1000	"	"	"	"	"	"	
2-Nitrophenol	ND	1000	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
Phenanthrene	ND	300	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*42.7 %*	*14.3-83.1*		"	"	"	"	
Surrogate: Phenol-d6		*34.8 %*	*12-95.6*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*66.3 %*	*21.3-119*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*63.7 %*	*32.4-102*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		*38.2 %*	*18.1-101*		"	"	"	"	
Surrogate: Terphenyl-dl4		*98.4 %*	*29.1-130*		"	"	"	"	

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Daniel J Chavez

Daniel Chavez, Project Manager

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

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T110886-05 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070117	07/01/11	07/07/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**65**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**14**	2.0	"	"	"	"	"	"	
Cobalt	**11**	2.0	"	"	"	"	"	"	
Copper	**17**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**11**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**33**	5.0	"	"	"	"	"	"	
Zinc	**45**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070114	07/01/11	07/01/11	EPA 7471A Soil	
Semivolatile Organic Compounds by EPA Method 8270C									
Carbazole	ND	300	ug/kg	1	1070123	07/01/11	07/08/11	EPA 8270C	
Phenol	ND	1000	"	"	"	"	"	"	
Aniline	ND	300	"	"	"	"	"	"	
2-Chlorophenol	ND	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	300	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	300	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	300	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	1000	"	"	"	"	"	"	
2-Methylnaphthalene	ND	300	"	"	"	"	"	"	
1-Methylnaphthalene	ND	300	"	"	"	"	"	"	
Acenaphthene	ND	300	"	"	"	"	"	"	
4-Nitrophenol	ND	1000	"	"	"	"	"	"	

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

B15-5

T110886-05 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,4-Dinitrotoluene	ND	300	ug/kg	1	1070123	07/01/11	07/08/11	EPA 8270C	
Pentachlorophenol	ND	1000	"	"	"	"	"	"	
Pyrene	ND	300	"	"	"	"	"	"	
Acenaphthylene	ND	300	"	"	"	"	"	"	
Anthracene	ND	300	"	"	"	"	"	"	
Benzo (a) anthracene	ND	300	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol	ND	300	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	300	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	300	"	"	"	"	"	"	
4-Chloroaniline	ND	300	"	"	"	"	"	"	
2-Chloronaphthalene	ND	300	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Chrysene	ND	300	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1000	"	"	"	"	"	"	
Diethyl phthalate	ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	1000	"	"	"	"	"	"	
Dimethyl phthalate	ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1000	"	"	"	"	"	"	

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Daniel J Chavez

Daniel Chavez, Project Manager

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

B15-5

T110886-05 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,6-Dinitrotoluene	ND	1000	ug/kg	1	1070123	07/01/11	07/08/11	EPA 8270C	
Di-n-octyl phthalate	ND	300	"	"	"	"	"	"	
Fluoranthene	ND	300	"	"	"	"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	300	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"	"	"	"	"	
Hexachloroethane	ND	300	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"	"	"	"	"	
Isophorone	ND	300	"	"	"	"	"	"	
2-Methylphenol	ND	1000	"	"	"	"	"	"	
4-Methylphenol	ND	1000	"	"	"	"	"	"	
Naphthalene	ND	300	"	"	"	"	"	"	
2-Nitroaniline	ND	300	"	"	"	"	"	"	
3-Nitroaniline	ND	300	"	"	"	"	"	"	
4-Nitroaniline	ND	300	"	"	"	"	"	"	
Nitrobenzene	ND	1000	"	"	"	"	"	"	
2-Nitrophenol	ND	1000	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
Phenanthrene	ND	300	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*34.9 %*	*14.3-83.1*		"	"	"	"	
Surrogate: Phenol-d6		*32.7 %*	*12-95.6*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*62.2 %*	*21.3-119*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*66.9 %*	*32.4-102*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		*33.8 %*	*18.1-101*		"	"	"	"	
Surrogate: Terphenyl-dl4		*102 %*	*29.1-130*		"	"	"	"	

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T110886-06 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070117	07/01/11	07/07/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**65**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**15**	2.0	"	"	"	"	"	"	
Cobalt	**12**	2.0	"	"	"	"	"	"	
Copper	**19**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**12**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**36**	5.0	"	"	"	"	"	"	
Zinc	**48**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070114	07/01/11	07/01/11	EPA 7471A Soil	
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	10	ug/kg	1	1070118	07/01/11	07/06/11	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*84.5 %*	*35-140*		"	"	"	"	

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B19-5

T110886-06 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Carbazole	ND	300	ug/kg	1	1070123	07/01/11	07/08/11	EPA 8270C	
Phenol	ND	1000	"	"	"	"	"	"	
Aniline	ND	300	"	"	"	"	"	"	
2-Chlorophenol	ND	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	300	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	300	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	300	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	1000	"	"	"	"	"	"	
1-Methylnaphthalene	ND	300	"	"	"	"	"	"	
2-Methylnaphthalene	ND	300	"	"	"	"	"	"	
Acenaphthene	ND	300	"	"	"	"	"	"	
4-Nitrophenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	300	"	"	"	"	"	"	
Pentachlorophenol	ND	1000	"	"	"	"	"	"	
Pyrene	ND	300	"	"	"	"	"	"	
Acenaphthylene	ND	300	"	"	"	"	"	"	
Anthracene	ND	300	"	"	"	"	"	"	
Benzo (a) anthracene	ND	300	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol	ND	300	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	300	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	300	"	"	"	"	"	"	
4-Chloroaniline	ND	300	"	"	"	"	"	"	
2-Chloronaphthalene	ND	300	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"	"	

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B19-5

T110886-06 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chrysene	ND	300	ug/kg	1	1070123	07/01/11	07/08/11	EPA 8270C	
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1000	"	"	"	"	"	"	
Diethyl phthalate	ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	1000	"	"	"	"	"	"	
Dimethyl phthalate	ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1000	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	1000	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	300	"	"	"	"	"	"	
Fluoranthene	ND	300	"	"	"	"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	300	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"	"	"	"	"	
Hexachloroethane	ND	300	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"	"	"	"	"	
Isophorone	ND	300	"	"	"	"	"	"	
2-Methylphenol	ND	1000	"	"	"	"	"	"	
4-Methylphenol	ND	1000	"	"	"	"	"	"	
Naphthalene	ND	300	"	"	"	"	"	"	
2-Nitroaniline	ND	300	"	"	"	"	"	"	
3-Nitroaniline	ND	300	"	"	"	"	"	"	
4-Nitroaniline	ND	300	"	"	"	"	"	"	
Nitrobenzene	ND	1000	"	"	"	"	"	"	
2-Nitrophenol	ND	1000	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"	

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B19-5

T110886-06 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Semivolatile Organic Compounds by EPA Method 8270C									
2,3,5,6-Tetrachlorophenol	ND	300	ug/kg	1	1070123	07/01/11	07/08/11	EPA 8270C	
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
Phenanthrene	ND	300	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*43.3 %*	*14.3-83.1*		"	"	"	"	
Surrogate: Phenol-d6		*40.4 %*	*12-95.6*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*74.5 %*	*21.3-119*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*71.9 %*	*32.4-102*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		*37.9 %*	*18.1-101*		"	"	"	"	
Surrogate: Terphenyl-dl4		*110 %*	*29.1-130*		"	"	"	"	

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T110886-07 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070117	07/01/11	07/07/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**100**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**22**	2.0	"	"	"	"	"	"	
Cobalt	**16**	2.0	"	"	"	"	"	"	
Copper	**28**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**18**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**51**	5.0	"	"	"	"	"	"	
Zinc	**73**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070114	07/01/11	07/01/11	EPA 7471A Soil	

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Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070117 - EPA 3051										
Blank (1070117-BLK1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Antimony	ND	3.0	mg/kg							
Silver	ND	2.0	"							
Arsenic	ND	5.0	"							
Barium	ND	1.0	"							
Beryllium	ND	1.0	"							
Cadmium	ND	2.0	"							
Chromium	ND	2.0	"							
Cobalt	ND	2.0	"							
Copper	ND	1.0	"							
Lead	ND	3.0	"							
Molybdenum	ND	1.0	"							
Nickel	ND	2.0	"							
Selenium	ND	5.0	"							
Thallium	ND	2.0	"							
Vanadium	ND	5.0	"							
Zinc	ND	1.0	"							
LCS (1070117-BS1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Arsenic	105	5.0	mg/kg	100		105	75-125			
Barium	104	1.0	"	100		104	75-125			
Cadmium	103	2.0	"	100		103	75-125			
Chromium	104	2.0	"	100		104	75-125			
Lead	106	3.0	"	100		106	75-125			
LCS Dup (1070117-BSD1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Arsenic	103	5.0	mg/kg	100		103	75-125	1.93	20	
Barium	103	1.0	"	100		103	75-125	1.17	20	
Cadmium	103	2.0	"	100		103	75-125	0.936	20	
Chromium	102	2.0	"	100		102	75-125	1.51	20	
Lead	104	3.0	"	100		104	75-125	1.45	20	

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El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070114 - EPA 7471A Soil										
Blank (1070114-BLK1)				Prepared & Analyzed: 07/01/11						
Mercury	ND	0.10	mg/kg							
LCS (1070114-BS1)				Prepared & Analyzed: 07/01/11						
Mercury	0.343	0.10	mg/kg	0.417		82.2	80-120			
LCS Dup (1070114-BSD1)				Prepared & Analyzed: 07/01/11						
Mercury	0.386	0.10	mg/kg	0.417		92.6	80-120	11.8	20	

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Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070118 - EPA 3550 ECD/GCMS										
Blank (1070118-BLK1)				Prepared: 07/01/11 Analyzed: 07/06/11						
PCB-1016	ND	10	ug/kg							
PCB-1221	ND	10	"							
PCB-1232	ND	10	"							
PCB-1242	ND	10	"							
PCB-1248	ND	10	"							
PCB-1254	ND	10	"							
PCB-1260	ND	10	"							
Surrogate: Tetrachloro-meta-xylene	*7.48*		*"*	*10.0*		*74.8*	*35-140*			
LCS (1070118-BS1)				Prepared: 07/01/11 Analyzed: 07/06/11						
PCB-1016	44.9	10	ug/kg	100		44.9	40-130			
PCB-1260	43.6	10	"	100		43.6	40-130			
Surrogate: Tetrachloro-meta-xylene	*7.12*		*"*	*10.0*		*71.2*	*35-140*			
LCS Dup (1070118-BSD1)				Prepared: 07/01/11 Analyzed: 07/06/11						
PCB-1016	42.6	10	ug/kg	100		42.6	40-130	5.28	30	
PCB-1260	41.9	10	"	100		41.9	40-130	4.00	30	
Surrogate: Tetrachloro-meta-xylene	*7.76*		*"*	*10.0*		*77.6*	*35-140*			

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070123 - EPA 3550 ECD/GCMS										
Blank (1070123-BLK1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Carbazole	ND	300	ug/kg							
Phenol	ND	1000	"							
Aniline	ND	300	"							
2-Chlorophenol	ND	1000	"							
1,4-Dichlorobenzene	ND	300	"							
N-Nitrosodi-n-propylamine	ND	300	"							
1,2,4-Trichlorobenzene	ND	300	"							
4-Chloro-3-methylphenol	ND	1000	"							
2-Methylnaphthalene	ND	300	"							
1-Methylnaphthalene	ND	300	"							
Acenaphthene	ND	300	"							
4-Nitrophenol	ND	1000	"							
2,4-Dinitrotoluene	ND	300	"							
Pentachlorophenol	ND	1000	"							
Pyrene	ND	300	"							
Acenaphthylene	ND	300	"							
Anthracene	ND	300	"							
Benzo (a) anthracene	ND	300	"							
Benzo (b) fluoranthene	ND	300	"							
Benzo (k) fluoranthene	ND	300	"							
Benzo (g,h,i) perylene	ND	1000	"							
Benzo (a) pyrene	ND	300	"							
Benzyl alcohol	ND	300	"							
Bis(2-chloroethoxy)methane	ND	300	"							
Bis(2-chloroethyl)ether	ND	300	"							
Bis(2-chloroisopropyl)ether	ND	300	"							
Bis(2-ethylhexyl)phthalate	ND	300	"							
4-Bromophenyl phenyl ether	ND	300	"							
Butyl benzyl phthalate	ND	300	"							
4-Chloroaniline	ND	300	"							
2-Chloronaphthalene	ND	300	"							
4-Chlorophenyl phenyl ether	ND	300	"							
Chrysene	ND	300	"							
Dibenz (a,h) anthracene	ND	300	"							
Dibenzofuran	ND	300	"							
Di-n-butyl phthalate	ND	300	"							

SunStar Laboratories, Inc.

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070123 - EPA 3550 ECD/GCMS										
Blank (1070123-BLK1)				Prepared: 07/01/11 Analyzed: 07/07/11						
1,2-Dichlorobenzene	ND	300	ug/kg							
1,3-Dichlorobenzene	ND	300	"							
2,4-Dichlorophenol	ND	1000	"							
Diethyl phthalate	ND	300	"							
2,4-Dimethylphenol	ND	1000	"							
Dimethyl phthalate	ND	300	"							
4,6-Dinitro-2-methylphenol	ND	1000	"							
2,4-Dinitrophenol	ND	1000	"							
2,6-Dinitrotoluene	ND	1000	"							
Di-n-octyl phthalate	ND	300	"							
Fluoranthene	ND	300	"							
Fluorene	ND	300	"							
Hexachlorobenzene	ND	1500	"							
Hexachlorobutadiene	ND	300	"							
Hexachlorocyclopentadiene	ND	1000	"							
Hexachloroethane	ND	300	"							
Indeno (1,2,3-cd) pyrene	ND	300	"							
Isophorone	ND	300	"							
2-Methylphenol	ND	1000	"							
4-Methylphenol	ND	1000	"							
Naphthalene	ND	300	"							
2-Nitroaniline	ND	300	"							
3-Nitroaniline	ND	300	"							
4-Nitroaniline	ND	300	"							
Nitrobenzene	ND	1000	"							
2-Nitrophenol	ND	1000	"							
N-Nitrosodimethylamine	ND	300	"							
N-Nitrosodiphenylamine	ND	300	"							
2,3,5,6-Tetrachlorophenol	ND	300	"							
2,3,4,6-Tetrachlorophenol	ND	300	"							
Phenanthrene	ND	300	"							
2,4,5-Trichlorophenol	ND	1000	"							
2,4,6-Trichlorophenol	ND	1000	"							
Surrogate: 2-Fluorophenol	*1060*		*"*	*1670*		*63.8*	*14.3-83.1*			
Surrogate: Phenol-d6	*980*		*"*	*1670*		*58.8*	*12-95.6*			

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070123 - EPA 3550 ECD/GCMS										
Blank (1070123-BLK1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Surrogate: Nitrobenzene-d5	*1690*		*ug/kg*	*1670*		*101*	*21.3-119*			
Surrogate: 2-Fluorobiphenyl	*1590*		*"*	*1670*		*95.3*	*32.4-102*			
Surrogate: 2,4,6-Tribromophenol	*863*		*"*	*1670*		*51.8*	*18.1-101*			
Surrogate: Terphenyl-dl4	*1670*		*"*	*1670*		*100*	*29.1-130*			
LCS (1070123-BS1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Phenol	982	1000	ug/kg	1670		58.9	25.9-102			
2-Chlorophenol	809	1000	"	1670		48.5	37.1-110			
1,4-Dichlorobenzene	871	300	"	1670		52.2	36-97			
N-Nitrosodi-n-propylamine	947	300	"	1670		56.8	30.8-81.8			
1,2,4-Trichlorobenzene	901	300	"	1670		54.1	39-98			
4-Chloro-3-methylphenol	1100	1000	"	1670		66.1	33.1-109			
Acenaphthene	1010	300	"	1670		60.7	38.9-79.4			
4-Nitrophenol	656	1000	"	1670		39.4	14-103			
2,4-Dinitrotoluene	1020	300	"	1670		61.0	24-96			
Pentachlorophenol	765	1000	"	1670		45.9	8.05-120			
Pyrene	1110	300	"	1670		66.3	25-85.2			
Surrogate: 2-Fluorophenol	*792*		*"*	*1670*		*47.5*	*14.3-83.1*			
Surrogate: Phenol-d6	*906*		*"*	*1670*		*54.4*	*12-95.6*			
Surrogate: Nitrobenzene-d5	*1400*		*"*	*1670*		*84.1*	*21.3-119*			
Surrogate: 2-Fluorobiphenyl	*1390*		*"*	*1670*		*83.6*	*32.4-102*			
Surrogate: 2,4,6-Tribromophenol	*942*		*"*	*1670*		*56.5*	*18.1-101*			
Surrogate: Terphenyl-dl4	*837*		*"*	*1670*		*50.2*	*29.1-130*			
LCS Dup (1070123-BSD1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Phenol	804	1000	ug/kg	1670		48.3	25.9-102	19.9	42	
2-Chlorophenol	888	1000	"	1670		53.3	37.1-110	9.31	40	
1,4-Dichlorobenzene	706	300	"	1670		42.4	36-97	20.8	28	
N-Nitrosodi-n-propylamine	832	300	"	1670		49.9	30.8-81.8	13.0	38	
1,2,4-Trichlorobenzene	777	300	"	1670		46.6	39-98	14.9	28	
4-Chloro-3-methylphenol	951	1000	"	1670		57.0	33.1-109	14.7	42	
Acenaphthene	882	300	"	1670		52.9	38.9-79.4	13.8	31	
4-Nitrophenol	537	1000	"	1670		32.2	14-103	20.1	50	
2,4-Dinitrotoluene	882	300	"	1670		52.9	24-96	14.2	38	
Pentachlorophenol	592	1000	"	1670		35.5	8.05-120	25.6	50	
Pyrene	978	300	"	1670		58.7	25-85.2	12.2	31	

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
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949.297.5020 Phone
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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070123 - EPA 3550 ECD/GCMS										
LCS Dup (1070123-BSD1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Surrogate: 2-Fluorophenol	*614*		*ug/kg*	*1670*		*36.9*	*14.3-83.1*			
Surrogate: Phenol-d6	*573*		*"*	*1670*		*34.4*	*12-95.6*			
Surrogate: Nitrobenzene-d5	*1160*		*"*	*1670*		*69.5*	*21.3-119*			
Surrogate: 2-Fluorobiphenyl	*1170*		*"*	*1670*		*70.3*	*32.4-102*			
Surrogate: 2,4,6-Tribromophenol	*754*		*"*	*1670*		*45.2*	*18.1-101*			
Surrogate: Terphenyl-dl4	*1420*		*"*	*1670*		*85.0*	*29.1-130*			

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/08/11 17:53

Notes and Definitions

S-03	The surrogate recovery was below acceptance criteria in the sample because of a possible matrix effect. The surrogate recovery was within acceptance criteria in the method blank and LCS.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Chain of Custody Record

Client: PARTNER ENGINEERING AND SCIENCE, INC.
Address: 1990 E. GRAND AVE. EL SEGUNDO, CA 90245
Phone: 310-615-4500 Fax: 310-615-4544
Project Manager: ERIC PATSCHULL

Date: 6-30-11 Page: 1 Of 1
Project Name: MONROVIA INDUSTRIAL COMPLEX, 1625 S. Magnolia Ave. Monrovia, CA 91016
Collector: ERIC PATSCHULL Client Project #: 11-76495.9
Batch #: T110886 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	SVOCs	PAH	PCBs		Laboratory ID #	Comments/Preservative	Total # of containers
B7-5	6-30-11	744	SOIL	MACTATR									X	X				01		1
B8-5		825											X	X				02		1
B9-5		940											X	X				03		1
B14-5		1057											X	X	X			04		1
B15-5		1125											X	X	X			05		1
B19-5		1345											X	X	X	X		06		1
B20-5		1410											X		X			07		1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Eric Patschull	6-30-11 / 1456		6/30/11 1500
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers	7
Chain of Custody seals Y/N/NA	N
Seals intact? Y/N/NA	N/A
Received good condition/cold	Y 4.0°

Turn around time: Standard 5 day

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 102770

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

SAMPLE RECEIVING REVIEW SHEET

BATCH # T110886

Client Name: Partner Project: Monrovia Industrial Complex

Received by: Dan M Date/Time Received: 6/30/11 1500

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 1 **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 4.2 °C +/- the CF (- 0.2°C) = 4.0 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling.	☒Yes	☐No*	☐N/A
Custody Seals Intact on Cooler/Sample	☐Yes	☐No*	☒N/A
Sample Containers Intact	☒Yes	☐No*	
Sample labels match COC ID's	☒Yes	☐No*	
Total number of containers received match COC	☒Yes	☐No*	
Proper containers received for analyses requested on COC	☒Yes	☐No*	
Proper preservative indicated on COC/containers for analyses requested	☐Yes	☐No*	☒N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date DM 6/30/11

Comments:

_____

_____

_____

_____

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

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Lake Forest, California 92630
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11 July 2011

Eric Patschull
Partner Engineering & Science, Inc.
1990 E. Grand Ave., Suite 100
El Segundo, CA 90245

RE: Monrovia Industrial Complex

Enclosed are the results of analyses for samples received by the laboratory on 07/01/11 15:10. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B24-5	T110893-01	Soil	06/30/11 15:10	07/01/11 15:10
B4-5	T110893-02	Soil	07/01/11 15:10	07/01/11 15:10
B10-5	T110893-03	Soil	07/01/11 08:24	07/01/11 15:10
B5-5	T110893-04	Soil	07/01/11 09:00	07/01/11 15:10
B13-5	T110893-05	Soil	07/01/11 09:35	07/01/11 15:10
B25-5	T110893-06	Soil	07/01/11 10:56	07/01/11 15:10
B22-5	T110893-07	Soil	07/01/11 10:56	07/01/11 15:10
B23-5	T110893-08	Soil	07/01/11 12:50	07/01/11 15:10
B21-5	T110893-09	Soil	07/01/11 12:50	07/01/11 15:10

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

B24-5

T110893-01 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070506	07/05/11	07/08/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**88**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	07/08/11	"	
Cadmium	ND	2.0	"	"	"	"	07/08/11	"	
Chromium	**20**	2.0	"	"	"	"	"	"	
Cobalt	**12**	2.0	"	"	"	"	"	"	
Copper	**24**	1.0	"	"	"	"	"	"	
Lead	**32**	3.0	"	"	"	"	"	"	
Molybdenum	**1.1**	1.0	"	"	"	"	"	"	
Nickel	**15**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**38**	5.0	"	"	"	"	"	"	
Zinc	**97**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070503	07/05/11	07/11/11	EPA 7471A Soil	

SunStar Laboratories, Inc.

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

B4-5

T110893-02 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070506	07/05/11	07/08/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**67**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	07/08/11	"	
Cadmium	ND	2.0	"	"	"	"	07/08/11	"	
Chromium	**17**	2.0	"	"	"	"	"	"	
Cobalt	**12**	2.0	"	"	"	"	"	"	
Copper	**20**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**13**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**36**	5.0	"	"	"	"	"	"	
Zinc	**49**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070503	07/05/11	07/11/11	EPA 7471A Soil	
Semivolatile Organic Compounds by EPA Method 8270C									
Carbazole	ND	300	ug/kg	1	1070123	07/01/11	07/08/11	EPA 8270C	
Phenol	ND	1000	"	"	"	"	"	"	
Aniline	ND	300	"	"	"	"	"	"	
2-Chlorophenol	ND	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	300	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	300	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	300	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	1000	"	"	"	"	"	"	
2-Methylnaphthalene	ND	300	"	"	"	"	"	"	
1-Methylnaphthalene	ND	300	"	"	"	"	"	"	
Acenaphthene	ND	300	"	"	"	"	"	"	
4-Nitrophenol	ND	1000	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

B4-5

T110893-02 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,4-Dinitrotoluene	ND	300	ug/kg	1	1070123	07/01/11	07/08/11	EPA 8270C	
Pentachlorophenol	ND	1000	"	"	"	"	"	"	
Pyrene	ND	300	"	"	"	"	"	"	
Acenaphthylene	ND	300	"	"	"	"	"	"	
Anthracene	ND	300	"	"	"	"	"	"	
Benzo (a) anthracene	ND	300	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol	ND	300	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	300	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	300	"	"	"	"	"	"	
4-Chloroaniline	ND	300	"	"	"	"	"	"	
2-Chloronaphthalene	ND	300	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Chrysene	ND	300	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1000	"	"	"	"	"	"	
Diethyl phthalate	ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	1000	"	"	"	"	"	"	
Dimethyl phthalate	ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1000	"	"	"	"	"	"	

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Daniel J Chavez

Daniel Chavez, Project Manager

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B4-5

T110893-02 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,6-Dinitrotoluene	ND	1000	ug/kg	1	1070123	07/01/11	07/08/11	EPA 8270C	
Di-n-octyl phthalate	ND	300	"	"	"	"	"	"	
Fluoranthene	ND	300	"	"	"	"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	300	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"	"	"	"	"	
Hexachloroethane	ND	300	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"	"	"	"	"	
Isophorone	ND	300	"	"	"	"	"	"	
2-Methylphenol	ND	1000	"	"	"	"	"	"	
4-Methylphenol	ND	1000	"	"	"	"	"	"	
Naphthalene	ND	300	"	"	"	"	"	"	
2-Nitroaniline	ND	300	"	"	"	"	"	"	
3-Nitroaniline	ND	300	"	"	"	"	"	"	
4-Nitroaniline	ND	300	"	"	"	"	"	"	
Nitrobenzene	ND	1000	"	"	"	"	"	"	
2-Nitrophenol	ND	1000	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
Phenanthrene	ND	300	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*11.5 %*	*14.3-83.1*		"	"	"	"	*S-03*
Surrogate: Phenol-d6		*12.7 %*	*12-95.6*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*18.9 %*	*21.3-119*		"	"	"	"	*S-03*
Surrogate: 2-Fluorobiphenyl		*18.7 %*	*32.4-102*		"	"	"	"	*S-03*
Surrogate: 2,4,6-Tribromophenol		*9.84 %*	*18.1-101*		"	"	"	"	*S-03*
Surrogate: Terphenyl-dl4		*34.2 %*	*29.1-130*		"	"	"	"	

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T110893-03 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070506	07/05/11	07/08/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**81**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	07/08/11	"	
Cadmium	ND	2.0	"	"	"	"	07/08/11	"	
Chromium	**19**	2.0	"	"	"	"	"	"	
Cobalt	**14**	2.0	"	"	"	"	"	"	
Copper	**24**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**16**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**42**	5.0	"	"	"	"	"	"	
Zinc	**58**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070503	07/05/11	07/11/11	EPA 7471A Soil	

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T110893-04 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070506	07/05/11	07/08/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**84**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	07/08/11	"	
Cadmium	ND	2.0	"	"	"	"	07/08/11	"	
Chromium	**16**	2.0	"	"	"	"	"	"	
Cobalt	**13**	2.0	"	"	"	"	"	"	
Copper	**22**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**13**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**39**	5.0	"	"	"	"	"	"	
Zinc	**61**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070503	07/05/11	07/11/11	EPA 7471A Soil	

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B13-5

T110893-05 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070506	07/05/11	07/08/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**90**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	07/08/11	"	
Cadmium	ND	2.0	"	"	"	"	07/08/11	"	
Chromium	**19**	2.0	"	"	"	"	"	"	
Cobalt	**14**	2.0	"	"	"	"	"	"	
Copper	**24**	1.0	"	"	"	"	"	"	
Lead	**5.1**	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**15**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**43**	5.0	"	"	"	"	"	"	
Zinc	**61**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070503	07/05/11	07/11/11	EPA 7471A Soil	
Semivolatile Organic Compounds by EPA Method 8270C									
Carbazole	ND	300	ug/kg	1	1070123	07/01/11	07/08/11	EPA 8270C	
Phenol	ND	1000	"	"	"	"	"	"	
Aniline	ND	300	"	"	"	"	"	"	
2-Chlorophenol	ND	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	300	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	300	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	300	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	1000	"	"	"	"	"	"	
1-Methylnaphthalene	ND	300	"	"	"	"	"	"	
2-Methylnaphthalene	ND	300	"	"	"	"	"	"	
Acenaphthene	ND	300	"	"	"	"	"	"	
4-Nitrophenol	ND	1000	"	"	"	"	"	"	

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Daniel Chavez, Project Manager

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El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

B13-5

T110893-05 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,4-Dinitrotoluene	ND	300	ug/kg	1	1070123	07/01/11	07/08/11	EPA 8270C	
Pentachlorophenol	ND	1000	"	"	"	"	"	"	
Pyrene	ND	300	"	"	"	"	"	"	
Acenaphthylene	ND	300	"	"	"	"	"	"	
Anthracene	ND	300	"	"	"	"	"	"	
Benzo (a) anthracene	ND	300	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol	ND	300	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	300	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	300	"	"	"	"	"	"	
4-Chloroaniline	ND	300	"	"	"	"	"	"	
2-Chloronaphthalene	ND	300	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Chrysene	ND	300	"	"	"	"	"	"	
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1000	"	"	"	"	"	"	
Diethyl phthalate	ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	1000	"	"	"	"	"	"	
Dimethyl phthalate	ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1000	"	"	"	"	"	"	

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B13-5

T110893-05 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,6-Dinitrotoluene	ND	1000	ug/kg	1	1070123	07/01/11	07/08/11	EPA 8270C	
Di-n-octyl phthalate	ND	300	"	"	"	"	"	"	
Fluoranthene	ND	300	"	"	"	"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	300	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"	"	"	"	"	
Hexachloroethane	ND	300	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"	"	"	"	"	
Isophorone	ND	300	"	"	"	"	"	"	
2-Methylphenol	ND	1000	"	"	"	"	"	"	
4-Methylphenol	ND	1000	"	"	"	"	"	"	
Naphthalene	ND	300	"	"	"	"	"	"	
2-Nitroaniline	ND	300	"	"	"	"	"	"	
3-Nitroaniline	ND	300	"	"	"	"	"	"	
4-Nitroaniline	ND	300	"	"	"	"	"	"	
Nitrobenzene	ND	1000	"	"	"	"	"	"	
2-Nitrophenol	ND	1000	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"	
2,3,5,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
Phenanthrene	ND	300	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*34.6 %*	*14.3-83.1*		"	"	"	"	
Surrogate: Phenol-d6		*32.2 %*	*12-95.6*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*60.9 %*	*21.3-119*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*59.8 %*	*32.4-102*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		*34.9 %*	*18.1-101*		"	"	"	"	
Surrogate: Terphenyl-dl4		*92.1 %*	*29.1-130*		"	"	"	"	

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B25-5

T110893-06 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070506	07/05/11	07/08/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**110**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	07/08/11	"	
Cadmium	ND	2.0	"	"	"	"	07/08/11	"	
Chromium	**25**	2.0	"	"	"	"	"	"	
Cobalt	**18**	2.0	"	"	"	"	"	"	
Copper	**31**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**20**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**57**	5.0	"	"	"	"	"	"	
Zinc	**76**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070503	07/05/11	07/11/11	EPA 7471A Soil	

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

B22-5

T110893-07 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070506	07/05/11	07/08/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**100**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	07/08/11	"	
Cadmium	ND	2.0	"	"	"	"	07/08/11	"	
Chromium	**22**	2.0	"	"	"	"	"	"	
Cobalt	**15**	2.0	"	"	"	"	"	"	
Copper	**30**	1.0	"	"	"	"	"	"	
Lead	**22**	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**18**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**48**	5.0	"	"	"	"	"	"	
Zinc	**90**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070503	07/05/11	07/11/11	EPA 7471A Soil	

SunStar Laboratories, Inc.

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

B23-5

T110893-08 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070506	07/05/11	07/08/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**120**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	07/08/11	"	
Cadmium	ND	2.0	"	"	"	"	07/08/11	"	
Chromium	**26**	2.0	"	"	"	"	"	"	
Cobalt	**18**	2.0	"	"	"	"	"	"	
Copper	**35**	1.0	"	"	"	"	"	"	
Lead	**12**	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**21**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**55**	5.0	"	"	"	"	"	"	
Zinc	**100**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070503	07/05/11	07/11/11	EPA 7471A Soil	

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

B21-5

T110893-09 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070506	07/05/11	07/08/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**61**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	07/08/11	"	
Cadmium	ND	2.0	"	"	"	"	07/08/11	"	
Chromium	**14**	2.0	"	"	"	"	"	"	
Cobalt	**11**	2.0	"	"	"	"	"	"	
Copper	**17**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**12**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**33**	5.0	"	"	"	"	"	"	
Zinc	**45**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070503	07/05/11	07/11/11	EPA 7471A Soil	

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070506 - EPA 3051										
Blank (1070506-BLK1)				Prepared: 07/05/11 Analyzed: 07/08/11						
Antimony	ND	3.0	mg/kg							
Silver	ND	2.0	"							
Arsenic	ND	5.0	"							
Barium	ND	1.0	"							
Beryllium	ND	1.0	"							
Cadmium	ND	2.0	"							
Chromium	ND	2.0	"							
Cobalt	ND	2.0	"							
Copper	ND	1.0	"							
Lead	ND	3.0	"							
Molybdenum	ND	1.0	"							
Nickel	ND	2.0	"							
Selenium	ND	5.0	"							
Thallium	ND	2.0	"							
Vanadium	ND	5.0	"							
Zinc	ND	1.0	"							
LCS (1070506-BS1)				Prepared: 07/05/11 Analyzed: 07/08/11						
Arsenic	109	5.0	mg/kg	100		109	75-125			
Barium	107	1.0	"	100		107	75-125			
Cadmium	108	2.0	"	100		108	75-125			
Chromium	107	2.0	"	100		107	75-125			
Lead	108	3.0	"	100		108	75-125			
LCS Dup (1070506-BSD1)				Prepared: 07/05/11 Analyzed: 07/08/11						
Arsenic	106	5.0	mg/kg	100		106	75-125	2.57	20	
Barium	104	1.0	"	100		104	75-125	2.36	20	
Cadmium	105	2.0	"	100		105	75-125	2.44	20	
Chromium	105	2.0	"	100		105	75-125	2.08	20	
Lead	106	3.0	"	100		106	75-125	1.48	20	

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070503 - EPA 7471A Soil										
Blank (1070503-BLK1)				Prepared: 07/05/11		Analyzed: 07/11/11				
Mercury	ND	0.10	mg/kg							
LCS (1070503-BS1)				Prepared: 07/05/11		Analyzed: 07/11/11				
Mercury	0.365	0.10	mg/kg	0.417		87.7	80-120			
LCS Dup (1070503-BSD1)				Prepared: 07/05/11		Analyzed: 07/11/11				
Mercury	0.372	0.10	mg/kg	0.417		89.3	80-120	1.87	20	

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070123 - EPA 3550 ECD/GCMS										
Blank (1070123-BLK1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Carbazole	ND	300	ug/kg							
Aniline	ND	300	"							
Phenol	ND	1000	"							
2-Chlorophenol	ND	1000	"							
1,4-Dichlorobenzene	ND	300	"							
N-Nitrosodi-n-propylamine	ND	300	"							
1,2,4-Trichlorobenzene	ND	300	"							
4-Chloro-3-methylphenol	ND	1000	"							
2-Methylnaphthalene	ND	300	"							
1-Methylnaphthalene	ND	300	"							
Acenaphthene	ND	300	"							
4-Nitrophenol	ND	1000	"							
2,4-Dinitrotoluene	ND	300	"							
Pentachlorophenol	ND	1000	"							
Pyrene	ND	300	"							
Acenaphthylene	ND	300	"							
Anthracene	ND	300	"							
Benzo (a) anthracene	ND	300	"							
Benzo (b) fluoranthene	ND	300	"							
Benzo (k) fluoranthene	ND	300	"							
Benzo (g,h,i) perylene	ND	1000	"							
Benzo (a) pyrene	ND	300	"							
Benzyl alcohol	ND	300	"							
Bis(2-chloroethoxy)methane	ND	300	"							
Bis(2-chloroethyl)ether	ND	300	"							
Bis(2-chloroisopropyl)ether	ND	300	"							
Bis(2-ethylhexyl)phthalate	ND	300	"							
4-Bromophenyl phenyl ether	ND	300	"							
Butyl benzyl phthalate	ND	300	"							
4-Chloroaniline	ND	300	"							
2-Chloronaphthalene	ND	300	"							
4-Chlorophenyl phenyl ether	ND	300	"							
Chrysene	ND	300	"							
Dibenz (a,h) anthracene	ND	300	"							
Dibenzofuran	ND	300	"							
Di-n-butyl phthalate	ND	300	"							

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070123 - EPA 3550 ECD/GCMS										
Blank (1070123-BLK1)				Prepared: 07/01/11 Analyzed: 07/07/11						
1,2-Dichlorobenzene	ND	300	ug/kg							
1,3-Dichlorobenzene	ND	300	"							
2,4-Dichlorophenol	ND	1000	"							
Diethyl phthalate	ND	300	"							
2,4-Dimethylphenol	ND	1000	"							
Dimethyl phthalate	ND	300	"							
4,6-Dinitro-2-methylphenol	ND	1000	"							
2,4-Dinitrophenol	ND	1000	"							
2,6-Dinitrotoluene	ND	1000	"							
Di-n-octyl phthalate	ND	300	"							
Fluoranthene	ND	300	"							
Fluorene	ND	300	"							
Hexachlorobenzene	ND	1500	"							
Hexachlorobutadiene	ND	300	"							
Hexachlorocyclopentadiene	ND	1000	"							
Hexachloroethane	ND	300	"							
Indeno (1,2,3-cd) pyrene	ND	300	"							
Isophorone	ND	300	"							
2-Methylphenol	ND	1000	"							
4-Methylphenol	ND	1000	"							
Naphthalene	ND	300	"							
2-Nitroaniline	ND	300	"							
3-Nitroaniline	ND	300	"							
4-Nitroaniline	ND	300	"							
Nitrobenzene	ND	1000	"							
2-Nitrophenol	ND	1000	"							
N-Nitrosodimethylamine	ND	300	"							
N-Nitrosodiphenylamine	ND	300	"							
2,3,5,6-Tetrachlorophenol	ND	300	"							
2,3,4,6-Tetrachlorophenol	ND	300	"							
Phenanthrene	ND	300	"							
2,4,5-Trichlorophenol	ND	1000	"							
2,4,6-Trichlorophenol	ND	1000	"							
Surrogate: 2-Fluorophenol	*1060*		*"*	*1670*		*63.8*	*14.3-83.1*			
Surrogate: Phenol-d6	*980*		*"*	*1670*		*58.8*	*12-95.6*			

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070123 - EPA 3550 ECD/GCMS										
Blank (1070123-BLK1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Surrogate: Nitrobenzene-d5	*1690*		*ug/kg*	*1670*		*101*	*21.3-119*			
Surrogate: 2-Fluorobiphenyl	*1590*		*"*	*1670*		*95.3*	*32.4-102*			
Surrogate: 2,4,6-Tribromophenol	*863*		*"*	*1670*		*51.8*	*18.1-101*			
Surrogate: Terphenyl-dl4	*1670*		*"*	*1670*		*100*	*29.1-130*			
LCS (1070123-BS1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Phenol	982	1000	ug/kg	1670		58.9	25.9-102			
2-Chlorophenol	809	1000	"	1670		48.5	37.1-110			
1,4-Dichlorobenzene	871	300	"	1670		52.2	36-97			
N-Nitrosodi-n-propylamine	947	300	"	1670		56.8	30.8-81.8			
1,2,4-Trichlorobenzene	901	300	"	1670		54.1	39-98			
4-Chloro-3-methylphenol	1100	1000	"	1670		66.1	33.1-109			
Acenaphthene	1010	300	"	1670		60.7	38.9-79.4			
4-Nitrophenol	656	1000	"	1670		39.4	14-103			
2,4-Dinitrotoluene	1020	300	"	1670		61.0	24-96			
Pentachlorophenol	765	1000	"	1670		45.9	8.05-120			
Pyrene	1110	300	"	1670		66.3	25-85.2			
Surrogate: 2-Fluorophenol	*792*		*"*	*1670*		*47.5*	*14.3-83.1*			
Surrogate: Phenol-d6	*906*		*"*	*1670*		*54.4*	*12-95.6*			
Surrogate: Nitrobenzene-d5	*1400*		*"*	*1670*		*84.1*	*21.3-119*			
Surrogate: 2-Fluorobiphenyl	*1390*		*"*	*1670*		*83.6*	*32.4-102*			
Surrogate: 2,4,6-Tribromophenol	*942*		*"*	*1670*		*56.5*	*18.1-101*			
Surrogate: Terphenyl-dl4	*837*		*"*	*1670*		*50.2*	*29.1-130*			
LCS Dup (1070123-BSD1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Phenol	804	1000	ug/kg	1670		48.3	25.9-102	19.9	42	
2-Chlorophenol	888	1000	"	1670		53.3	37.1-110	9.31	40	
1,4-Dichlorobenzene	706	300	"	1670		42.4	36-97	20.8	28	
N-Nitrosodi-n-propylamine	832	300	"	1670		49.9	30.8-81.8	13.0	38	
1,2,4-Trichlorobenzene	777	300	"	1670		46.6	39-98	14.9	28	
4-Chloro-3-methylphenol	951	1000	"	1670		57.0	33.1-109	14.7	42	
Acenaphthene	882	300	"	1670		52.9	38.9-79.4	13.8	31	
4-Nitrophenol	537	1000	"	1670		32.2	14-103	20.1	50	
2,4-Dinitrotoluene	882	300	"	1670		52.9	24-96	14.2	38	
Pentachlorophenol	592	1000	"	1670		35.5	8.05-120	25.6	50	
Pyrene	978	300	"	1670		58.7	25-85.2	12.2	31	

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070123 - EPA 3550 ECD/GCMS										
LCS Dup (1070123-BSD1)				Prepared: 07/01/11 Analyzed: 07/07/11						
Surrogate: 2-Fluorophenol	*614*		*ug/kg*	*1670*		*36.9*	*14.3-83.1*			
Surrogate: Phenol-d6	*573*		*"*	*1670*		*34.4*	*12-95.6*			
Surrogate: Nitrobenzene-d5	*1160*		*"*	*1670*		*69.5*	*21.3-119*			
Surrogate: 2-Fluorobiphenyl	*1170*		*"*	*1670*		*70.3*	*32.4-102*			
Surrogate: 2,4,6-Tribromophenol	*754*		*"*	*1670*		*45.2*	*18.1-101*			
Surrogate: Terphenyl-dl4	*1420*		*"*	*1670*		*85.0*	*29.1-130*			

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/11/11 16:00

Notes and Definitions

S-03	The surrogate recovery was below acceptance criteria in the sample because of a possible matrix effect. The surrogate recovery was within acceptance criteria in the method blank and LCS.
DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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Lake Forest, CA 92630
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Chain of Custody Record

Client: PARTNER ENGINEERING AND SCIENCE, INC.
Address: 1990 E. GRAND AVE, EL SEGUNDO, CA 90245
Phone: 310-615-4500 Fax: 310-615-4544
Project Manager: ERIC PATSCHULL

Date: 7-1-11 Page: 1 Of 1
Project Name: MONROVIA INDUSTRIAL COMPLEX, 1625 S. Magnolia Ave, Monrovia, CA 91016
Collector: ERIC PATSCHULL Client Project #: 11-76495.9
Batch #: T110893 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	SVOCs 8270C	PAH 8270C	PCBs 8082		Laboratory ID #	Comments/Preservative	Total # of containers
B24-5	6-30-11	1510	SOIL	ACETATE									X					01		1
B4-5	7-1-11	808											X	X	X			02		1
B10-5		824											X					03		1
B5-5		900											X	X				04		1
B13-5		935											X					05		1
B25-5		1056											X					06		1
B22-5		1230											X					07		1
B23-5		1250											X					08		1
B21-5		1330											X					09		1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Eric Patschull	7-1-11 / 1510		7/1/11 1510
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers: 9
Chain of Custody seals Y/N/NA: N
Seals intact? Y/N/NA: N/A
Received good condition/cold: Y 4.4°

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

Turn around time: Standard 5-DAY

COC 102769

SunStar Laboratories, Inc.
Providing Quality Analytical Services Nationwide

SAMPLE RECEIVING REVIEW SHEET

BATCH # T110893

Client Name: PARTNERS Project: MONROVIA INDUSTRIAL COMPLEX

Received by: DAN Date/Time Received: 7/1/11 1510

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 0 **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 4.6 °C +/- the CF (- 0.2°C) = 4.4 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling.	☒ Yes	☐ No*	☐ N/A
Custody Seals Intact on Cooler/Sample	BC ☒ Yes	☐ No*	☒ N/A
Sample Containers Intact	☒ Yes	☐ No*	
Sample labels match COC ID's	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date BC 7/1/11 1510

Comments:

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
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13 July 2011

Eric Patschull
Partner Engineering & Science, Inc.
1990 E. Grand Ave., Suite 100
El Segundo, CA 90245

RE: Monrovia Industrial Complex

Enclosed are the results of analyses for samples received by the laboratory on 07/06/11 15:07. If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Daniel Chavez
Project Manager

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

25712 Commercentre Drive
Lake Forest, California 92630
949.297.5020 Phone
949.297.5027 Fax

Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
B3-5	T110910-01	Soil	07/06/11 07:15	07/06/11 15:07
B2-5	T110910-02	Soil	07/06/11 08:00	07/06/11 15:07
B17-5	T110910-03	Soil	07/06/11 09:20	07/06/11 15:07
B18-5	T110910-04	Soil	07/06/11 10:00	07/06/11 15:07
COMPOSITE 1	T110910-23	Soil	07/06/11 00:00	07/06/11 15:07
COMPOSITE 2	T110910-24	Soil	07/06/11 00:00	07/06/11 15:07
COMPOSITE 3	T110910-25	Soil	07/06/11 00:00	07/06/11 15:07

SunStar Laboratories, Inc.

Daniel Chavez, Project Manager

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

B3-5

T110910-01 (Soil)

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
SunStar Laboratories, Inc.									
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070803	07/08/11	07/13/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**100**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	07/13/11	"	
Cadmium	ND	2.0	"	"	"	"	07/13/11	"	
Chromium	**21**	2.0	"	"	"	"	"	"	
Cobalt	**16**	2.0	"	"	"	"	"	"	
Copper	**27**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**18**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**48**	5.0	"	"	"	"	"	"	
Zinc	**64**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070804	07/08/11	07/11/11	EPA 7471A Soil	
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	10	ug/kg	1	1070708	07/07/11	07/11/11	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*63.0 %*	*35-140*		"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

B3-5

T110910-01 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Carbazole	ND	300	ug/kg	1	1071106	07/11/11	07/12/11	EPA 8270C	
Phenol	ND	1000	"	"	"	"	"	"	
Aniline	ND	300	"	"	"	"	"	"	
2-Chlorophenol	ND	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	300	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	300	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	300	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	1000	"	"	"	"	"	"	
1-Methylnaphthalene	ND	300	"	"	"	"	"	"	
2-Methylnaphthalene	ND	300	"	"	"	"	"	"	
Acenaphthene	ND	300	"	"	"	"	"	"	
4-Nitrophenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	300	"	"	"	"	"	"	
Pentachlorophenol	ND	1000	"	"	"	"	"	"	
Pyrene	ND	300	"	"	"	"	"	"	
Acenaphthylene	ND	300	"	"	"	"	"	"	
Anthracene	ND	300	"	"	"	"	"	"	
Benzo (a) anthracene	ND	300	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol	ND	300	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	300	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	300	"	"	"	"	"	"	
4-Chloroaniline	ND	300	"	"	"	"	"	"	
2-Chloronaphthalene	ND	300	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

B3-5

T110910-01 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chrysene	ND	300	ug/kg	1	1071106	07/11/11	07/12/11	EPA 8270C	
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1000	"	"	"	"	"	"	
Diethyl phthalate	ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	1000	"	"	"	"	"	"	
Dimethyl phthalate	ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1000	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	1000	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	300	"	"	"	"	"	"	
Fluoranthene	ND	300	"	"	"	"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	300	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"	"	"	"	"	
Hexachloroethane	ND	300	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"	"	"	"	"	
Isophorone	ND	300	"	"	"	"	"	"	
2-Methylphenol	ND	1000	"	"	"	"	"	"	
4-Methylphenol	ND	1000	"	"	"	"	"	"	
Naphthalene	ND	300	"	"	"	"	"	"	
2-Nitroaniline	ND	300	"	"	"	"	"	"	
3-Nitroaniline	ND	300	"	"	"	"	"	"	
4-Nitroaniline	ND	300	"	"	"	"	"	"	
Nitrobenzene	ND	1000	"	"	"	"	"	"	
2-Nitrophenol	ND	1000	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

B3-5

T110910-01 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,3,5,6-Tetrachlorophenol	ND	300	ug/kg	1	1071106	07/11/11	07/12/11	EPA 8270C	
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
Phenanthrene	ND	300	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*31.9 %*	*14.3-83.1*		"	"	"	"	
Surrogate: Phenol-d6		*29.7 %*	*12-95.6*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*52.9 %*	*21.3-119*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*51.5 %*	*32.4-102*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		*28.6 %*	*18.1-101*		"	"	"	"	
Surrogate: Terphenyl-dl4		*55.6 %*	*29.1-130*		"	"	"	"	

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Daniel Chavez, Project Manager

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

B2-5

T110910-02 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070803	07/08/11	07/13/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	07/13/11	"	
Arsenic	ND	5.0	"	"	"	"	07/13/11	"	
Barium	**110**	1.0	"	"	"	"	07/13/11	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	07/13/11	"	
Chromium	**22**	2.0	"	"	"	"	"	"	
Cobalt	**17**	2.0	"	"	"	"	"	"	
Copper	**30**	1.0	"	"	"	"	07/13/11	"	
Lead	ND	3.0	"	"	"	"	07/13/11	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**18**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**51**	5.0	"	"	"	"	07/13/11	"	
Zinc	**68**	1.0	"	"	"	"	07/13/11	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070804	07/08/11	07/11/11	EPA 7471A Soil	
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	10	ug/kg	1	1070708	07/07/11	07/11/11	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*101 %*	*35-140*		"	"	"	"	

SunStar Laboratories, Inc.

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Daniel Chavez, Project Manager

SunStar Laboratories, Inc.
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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

B2-5

T110910-02 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Carbazole	ND	300	ug/kg	1	1071106	07/11/11	07/12/11	EPA 8270C	
Phenol	ND	1000	"	"	"	"	"	"	
Aniline	ND	300	"	"	"	"	"	"	
2-Chlorophenol	ND	1000	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	300	"	"	"	"	"	"	
N-Nitrosodi-n-propylamine	ND	300	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	300	"	"	"	"	"	"	
4-Chloro-3-methylphenol	ND	1000	"	"	"	"	"	"	
1-Methylnaphthalene	ND	300	"	"	"	"	"	"	
2-Methylnaphthalene	ND	300	"	"	"	"	"	"	
Acenaphthene	ND	300	"	"	"	"	"	"	
4-Nitrophenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrotoluene	ND	300	"	"	"	"	"	"	
Pentachlorophenol	ND	1000	"	"	"	"	"	"	
Pyrene	ND	300	"	"	"	"	"	"	
Acenaphthylene	ND	300	"	"	"	"	"	"	
Anthracene	ND	300	"	"	"	"	"	"	
Benzo (a) anthracene	ND	300	"	"	"	"	"	"	
Benzo (b) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (k) fluoranthene	ND	300	"	"	"	"	"	"	
Benzo (g,h,i) perylene	ND	1000	"	"	"	"	"	"	
Benzo (a) pyrene	ND	300	"	"	"	"	"	"	
Benzyl alcohol	ND	300	"	"	"	"	"	"	
Bis(2-chloroethoxy)methane	ND	300	"	"	"	"	"	"	
Bis(2-chloroethyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-chloroisopropyl)ether	ND	300	"	"	"	"	"	"	
Bis(2-ethylhexyl)phthalate	ND	300	"	"	"	"	"	"	
4-Bromophenyl phenyl ether	ND	300	"	"	"	"	"	"	
Butyl benzyl phthalate	ND	300	"	"	"	"	"	"	
4-Chloroaniline	ND	300	"	"	"	"	"	"	
2-Chloronaphthalene	ND	300	"	"	"	"	"	"	
4-Chlorophenyl phenyl ether	ND	300	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

B2-5

T110910-02 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Chrysene	ND	300	ug/kg	1	1071106	07/11/11	07/12/11	EPA 8270C	
Dibenz (a,h) anthracene	ND	300	"	"	"	"	"	"	
Dibenzofuran	ND	300	"	"	"	"	"	"	
Di-n-butyl phthalate	ND	300	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	300	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	300	"	"	"	"	"	"	
2,4-Dichlorophenol	ND	1000	"	"	"	"	"	"	
Diethyl phthalate	ND	300	"	"	"	"	"	"	
2,4-Dimethylphenol	ND	1000	"	"	"	"	"	"	
Dimethyl phthalate	ND	300	"	"	"	"	"	"	
4,6-Dinitro-2-methylphenol	ND	1000	"	"	"	"	"	"	
2,4-Dinitrophenol	ND	1000	"	"	"	"	"	"	
2,6-Dinitrotoluene	ND	1000	"	"	"	"	"	"	
Di-n-octyl phthalate	ND	300	"	"	"	"	"	"	
Fluoranthene	ND	300	"	"	"	"	"	"	
Fluorene	ND	300	"	"	"	"	"	"	
Hexachlorobenzene	ND	1500	"	"	"	"	"	"	
Hexachlorobutadiene	ND	300	"	"	"	"	"	"	
Hexachlorocyclopentadiene	ND	1000	"	"	"	"	"	"	
Hexachloroethane	ND	300	"	"	"	"	"	"	
Indeno (1,2,3-cd) pyrene	ND	300	"	"	"	"	"	"	
Isophorone	ND	300	"	"	"	"	"	"	
2-Methylphenol	ND	1000	"	"	"	"	"	"	
4-Methylphenol	ND	1000	"	"	"	"	"	"	
Naphthalene	ND	300	"	"	"	"	"	"	
2-Nitroaniline	ND	300	"	"	"	"	"	"	
3-Nitroaniline	ND	300	"	"	"	"	"	"	
4-Nitroaniline	ND	300	"	"	"	"	"	"	
Nitrobenzene	ND	1000	"	"	"	"	"	"	
2-Nitrophenol	ND	1000	"	"	"	"	"	"	
N-Nitrosodimethylamine	ND	300	"	"	"	"	"	"	
N-Nitrosodiphenylamine	ND	300	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

B2-5

T110910-02 (Soil)

SunStar Laboratories, Inc.

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
2,3,5,6-Tetrachlorophenol	ND	300	ug/kg	1	1071106	07/11/11	07/12/11	EPA 8270C	
2,3,4,6-Tetrachlorophenol	ND	300	"	"	"	"	"	"	
Phenanthrene	ND	300	"	"	"	"	"	"	
2,4,5-Trichlorophenol	ND	1000	"	"	"	"	"	"	
2,4,6-Trichlorophenol	ND	1000	"	"	"	"	"	"	
Surrogate: 2-Fluorophenol		*40.6 %*	*14.3-83.1*		"	"	"	"	
Surrogate: Phenol-d6		*35.5 %*	*12-95.6*		"	"	"	"	
Surrogate: Nitrobenzene-d5		*63.8 %*	*21.3-119*		"	"	"	"	
Surrogate: 2-Fluorobiphenyl		*63.1 %*	*32.4-102*		"	"	"	"	
Surrogate: 2,4,6-Tribromophenol		*30.6 %*	*18.1-101*		"	"	"	"	
Surrogate: Terphenyl-dl4		*76.0 %*	*29.1-130*		"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

B17-5

T110910-03 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070803	07/08/11	07/13/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**100**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**22**	2.0	"	"	"	"	"	"	
Cobalt	**16**	2.0	"	"	"	"	"	"	
Copper	**27**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**18**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**50**	5.0	"	"	"	"	"	"	
Zinc	**64**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070804	07/08/11	07/11/11	EPA 7471A Soil	

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B18-5

T110910-04 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070803	07/08/11	07/13/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**140**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**21**	2.0	"	"	"	"	"	"	
Cobalt	**16**	2.0	"	"	"	"	"	"	
Copper	**28**	1.0	"	"	"	"	"	"	
Lead	ND	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**18**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**50**	5.0	"	"	"	"	"	"	
Zinc	**63**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070804	07/08/11	07/11/11	EPA 7471A Soil	

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COMPOSITE 1

T110910-23 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070803	07/08/11	07/13/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**110**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**23**	2.0	"	"	"	"	"	"	
Cobalt	**17**	2.0	"	"	"	"	"	"	
Copper	**31**	1.0	"	"	"	"	"	"	
Lead	**17**	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**19**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**50**	5.0	"	"	"	"	"	"	
Zinc	**93**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070804	07/08/11	07/11/11	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	1070801	07/08/11	07/12/11	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	

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El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

COMPOSITE 1

T110910-23 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
Endrin	ND	5.0	ug/kg	1	1070801	07/08/11	07/12/11	EPA 8081A	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*96.0 %*	*35-140*		"	"	"	"	
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	10	ug/kg	1	1070708	07/07/11	07/11/11	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*64.8 %*	*35-140*		"	"	"	"	

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COMPOSITE 2

T110910-24 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070803	07/08/11	07/13/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**85**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**15**	2.0	"	"	"	"	"	"	
Cobalt	**13**	2.0	"	"	"	"	"	"	
Copper	**21**	1.0	"	"	"	"	"	"	
Lead	**9.6**	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**12**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**39**	5.0	"	"	"	"	"	"	
Zinc	**67**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070804	07/08/11	07/11/11	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	1070801	07/08/11	07/12/11	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	ND	5.0	"	"	"	"	"	"	
4,4´-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	

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COMPOSITE 2

T110910-24 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
Endrin	ND	5.0	ug/kg	1	1070801	07/08/11	07/12/11	EPA 8081A	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*88.8 %*	*35-140*		"	"	"	"	
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	10	ug/kg	1	1070708	07/07/11	07/11/11	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*66.1 %*	*35-140*		"	"	"	"	

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El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

COMPOSITE 3

T110910-25 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Metals by EPA 6010B									
Antimony	ND	3.0	mg/kg	1	1070803	07/08/11	07/13/11	EPA 6010B	
Silver	ND	2.0	"	"	"	"	"	"	
Arsenic	ND	5.0	"	"	"	"	"	"	
Barium	**96**	1.0	"	"	"	"	"	"	
Beryllium	ND	1.0	"	"	"	"	"	"	
Cadmium	ND	2.0	"	"	"	"	"	"	
Chromium	**19**	2.0	"	"	"	"	"	"	
Cobalt	**14**	2.0	"	"	"	"	"	"	
Copper	**29**	1.0	"	"	"	"	"	"	
Lead	**27**	3.0	"	"	"	"	"	"	
Molybdenum	ND	1.0	"	"	"	"	"	"	
Nickel	**16**	2.0	"	"	"	"	"	"	
Selenium	ND	5.0	"	"	"	"	"	"	
Thallium	ND	2.0	"	"	"	"	"	"	
Vanadium	**42**	5.0	"	"	"	"	"	"	
Zinc	**98**	1.0	"	"	"	"	"	"	
Cold Vapor Extraction EPA 7470/7471									
Mercury	ND	0.10	mg/kg	1	1070804	07/08/11	07/11/11	EPA 7471A Soil	
Organochlorine Pesticides by EPA Method 8081A									
alpha-BHC	ND	5.0	ug/kg	1	1070801	07/08/11	07/12/11	EPA 8081A	
gamma-BHC (Lindane)	ND	5.0	"	"	"	"	"	"	
beta-BHC	ND	5.0	"	"	"	"	"	"	
delta-BHC	ND	5.0	"	"	"	"	"	"	
Heptachlor	ND	5.0	"	"	"	"	"	"	
Aldrin	ND	5.0	"	"	"	"	"	"	
Heptachlor epoxide	ND	5.0	"	"	"	"	"	"	
gamma-Chlordane	ND	5.0	"	"	"	"	"	"	
alpha-Chlordane	ND	5.0	"	"	"	"	"	"	
Endosulfan I	**5.5**	5.0	"	"	"	"	"	"	
4,4´-DDE	ND	5.0	"	"	"	"	"	"	
Dieldrin	ND	5.0	"	"	"	"	"	"	

SunStar Laboratories, Inc.

Daniel J Chavez

Daniel Chavez, Project Manager

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COMPOSITE 3

T110910-25 (Soil)

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Organochlorine Pesticides by EPA Method 8081A									
Endrin	ND	5.0	ug/kg	1	1070801	07/08/11	07/12/11	EPA 8081A	
4,4´-DDD	ND	5.0	"	"	"	"	"	"	
Endosulfan II	ND	5.0	"	"	"	"	"	"	
4,4´-DDT	ND	5.0	"	"	"	"	"	"	
Endrin aldehyde	ND	5.0	"	"	"	"	"	"	
Endosulfan sulfate	ND	5.0	"	"	"	"	"	"	
Methoxychlor	ND	10	"	"	"	"	"	"	
Endrin ketone	ND	5.0	"	"	"	"	"	"	
Toxaphene	ND	200	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*112 %*	*35-140*		"	"	"	"	
Polychlorinated Biphenyls by EPA Method 8082									
PCB-1016	ND	10	ug/kg	1	1070708	07/07/11	07/11/11	EPA 8082	
PCB-1221	ND	10	"	"	"	"	"	"	
PCB-1232	ND	10	"	"	"	"	"	"	
PCB-1242	ND	10	"	"	"	"	"	"	
PCB-1248	ND	10	"	"	"	"	"	"	
PCB-1254	ND	10	"	"	"	"	"	"	
PCB-1260	ND	10	"	"	"	"	"	"	
Surrogate: Tetrachloro-meta-xylene		*55.2 %*	*35-140*		"	"	"	"	

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Metals by EPA 6010B - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070803 - EPA 3051										
Blank (1070803-BLK1)				Prepared: 07/08/11 Analyzed: 07/13/11						
Antimony	ND	3.0	mg/kg							
Silver	ND	2.0	"							
Arsenic	ND	5.0	"							
Barium	ND	1.0	"							
Beryllium	ND	1.0	"							
Cadmium	ND	2.0	"							
Chromium	ND	2.0	"							
Cobalt	ND	2.0	"							
Copper	ND	1.0	"							
Lead	ND	3.0	"							
Molybdenum	ND	1.0	"							
Nickel	ND	2.0	"							
Selenium	ND	5.0	"							
Thallium	ND	2.0	"							
Vanadium	ND	5.0	"							
Zinc	ND	1.0	"							
LCS (1070803-BS1)				Prepared: 07/08/11 Analyzed: 07/13/11						
Arsenic	103	5.0	mg/kg	100		103	75-125			
Barium	103	1.0	"	100		103	75-125			
Cadmium	100	2.0	"	100		100	75-125			
Chromium	99.8	2.0	"	100		99.8	75-125			
Lead	106	3.0	"	100		106	75-125			
LCS Dup (1070803-BSD1)				Prepared: 07/08/11 Analyzed: 07/13/11						
Arsenic	100	5.0	mg/kg	100		100	75-125	3.09	20	
Barium	102	1.0	"	100		102	75-125	0.286	20	
Cadmium	99.2	2.0	"	100		99.2	75-125	1.01	20	
Chromium	98.5	2.0	"	100		98.5	75-125	1.31	20	
Lead	104	3.0	"	100		104	75-125	2.25	20	

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

Cold Vapor Extraction EPA 7470/7471 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070804 - EPA 7471A Soil										
Blank (1070804-BLK1)				Prepared: 07/08/11		Analyzed: 07/11/11				
Mercury	ND	0.10	mg/kg							
LCS (1070804-BS1)				Prepared: 07/08/11		Analyzed: 07/11/11				
Mercury	0.372	0.10	mg/kg	0.417		89.2	80-120			
LCS Dup (1070804-BSD1)				Prepared: 07/08/11		Analyzed: 07/11/11				
Mercury	0.364	0.10	mg/kg	0.417		87.3	80-120	2.13	20	

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070801 - EPA 3550 ECD/GCMS										
Blank (1070801-BLK1)				Prepared: 07/08/11 Analyzed: 07/12/11						
alpha-BHC	ND	5.0	ug/kg							
gamma-BHC (Lindane)	ND	5.0	"							
beta-BHC	ND	5.0	"							
delta-BHC	ND	5.0	"							
Heptachlor	ND	5.0	"							
Aldrin	ND	5.0	"							
Heptachlor epoxide	ND	5.0	"							
gamma-Chlordane	ND	5.0	"							
alpha-Chlordane	ND	5.0	"							
Endosulfan I	ND	5.0	"							
4,4´-DDE	ND	5.0	"							
Dieldrin	ND	5.0	"							
Endrin	ND	5.0	"							
4,4´-DDD	ND	5.0	"							
Endosulfan II	ND	5.0	"							
4,4´-DDT	ND	5.0	"							
Endrin aldehyde	ND	5.0	"							
Endosulfan sulfate	ND	5.0	"							
Methoxychlor	ND	10	"							
Endrin ketone	ND	5.0	"							
Toxaphene	ND	200	"							
Surrogate: Tetrachloro-meta-xylene	*104*		*"*	*100*		*104*	*35-140*			
LCS (1070801-BS1)				Prepared: 07/08/11 Analyzed: 07/12/11						
gamma-BHC (Lindane)	159	5.0	ug/kg	200		79.6	40-120			
Heptachlor	172	5.0	"	200		85.9	40-120			
Aldrin	162	5.0	"	200		81.1	40-120			
Dieldrin	157	5.0	"	200		78.7	40-120			
Endrin	169	5.0	"	200		84.4	40-120			
4,4´-DDT	146	5.0	"	200		73.1	33-147			
Surrogate: Tetrachloro-meta-xylene	*94.7*		*"*	*100*		*94.7*	*35-140*			

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

Organochlorine Pesticides by EPA Method 8081A - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070801 - EPA 3550 ECD/GCMS										
LCS Dup (1070801-BSD1)				Prepared: 07/08/11 Analyzed: 07/12/11						
gamma-BHC (Lindane)	162	5.0	ug/kg	200		81.2	40-120	1.98	30	
Heptachlor	173	5.0	"	200		86.5	40-120	0.687	30	
Aldrin	162	5.0	"	200		80.9	40-120	0.344	30	
Dieldrin	163	5.0	"	200		81.4	40-120	3.36	30	
Endrin	175	5.0	"	200		87.6	40-120	3.70	30	
4,4´-DDT	141	5.0	"	200		70.3	33-147	3.89	30	
Surrogate: Tetrachloro-meta-xylene	*100*		*"*	*100*		*100*	*35-140*			

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

Polychlorinated Biphenyls by EPA Method 8082 - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1070708 - EPA 3550 ECD/GCMS										
Blank (1070708-BLK1)				Prepared: 07/07/11 Analyzed: 07/11/11						
PCB-1016	ND	10	ug/kg							
PCB-1221	ND	10	"							
PCB-1232	ND	10	"							
PCB-1242	ND	10	"							
PCB-1248	ND	10	"							
PCB-1254	ND	10	"							
PCB-1260	ND	10	"							
Surrogate: Tetrachloro-meta-xylene	*6.19*		*"*	*10.0*		*61.9*	*35-140*			
LCS (1070708-BS1)				Prepared: 07/07/11 Analyzed: 07/11/11						
PCB-1016	42.9	10	ug/kg	100		42.9	40-130			
PCB-1260	43.6	10	"	100		43.6	40-130			
Surrogate: Tetrachloro-meta-xylene	*6.82*		*"*	*10.0*		*68.2*	*35-140*			
LCS Dup (1070708-BSD1)				Prepared: 07/07/11 Analyzed: 07/11/11						
PCB-1016	43.7	10	ug/kg	100		43.7	40-130	1.89	30	
PCB-1260	40.2	10	"	100		40.2	40-130	8.08	30	
Surrogate: Tetrachloro-meta-xylene	*6.53*		*"*	*10.0*		*65.3*	*35-140*			

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1071106 - EPA 3550 ECD/GCMS										
Blank (1071106-BLK1)				Prepared: 07/11/11 Analyzed: 07/12/11						
Carbazole	ND	300	ug/kg							
Aniline	ND	300	"							
Phenol	ND	1000	"							
2-Chlorophenol	ND	1000	"							
1,4-Dichlorobenzene	ND	300	"							
N-Nitrosodi-n-propylamine	ND	300	"							
1,2,4-Trichlorobenzene	ND	300	"							
4-Chloro-3-methylphenol	ND	1000	"							
1-Methylnaphthalene	ND	300	"							
2-Methylnaphthalene	ND	300	"							
Acenaphthene	ND	300	"							
4-Nitrophenol	ND	1000	"							
2,4-Dinitrotoluene	ND	300	"							
Pentachlorophenol	ND	1000	"							
Pyrene	ND	300	"							
Acenaphthylene	ND	300	"							
Anthracene	ND	300	"							
Benzo (a) anthracene	ND	300	"							
Benzo (b) fluoranthene	ND	300	"							
Benzo (k) fluoranthene	ND	300	"							
Benzo (g,h,i) perylene	ND	1000	"							
Benzo (a) pyrene	ND	300	"							
Benzyl alcohol	ND	300	"							
Bis(2-chloroethoxy)methane	ND	300	"							
Bis(2-chloroethyl)ether	ND	300	"							
Bis(2-chloroisopropyl)ether	ND	300	"							
Bis(2-ethylhexyl)phthalate	ND	300	"							
4-Bromophenyl phenyl ether	ND	300	"							
Butyl benzyl phthalate	ND	300	"							
4-Chloroaniline	ND	300	"							
2-Chloronaphthalene	ND	300	"							
4-Chlorophenyl phenyl ether	ND	300	"							
Chrysene	ND	300	"							
Dibenz (a,h) anthracene	ND	300	"							
Dibenzofuran	ND	300	"							
Di-n-butyl phthalate	ND	300	"							

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1071106 - EPA 3550 ECD/GCMS										
Blank (1071106-BLK1)				Prepared: 07/11/11 Analyzed: 07/12/11						
1,2-Dichlorobenzene	ND	300	ug/kg							
1,3-Dichlorobenzene	ND	300	"							
2,4-Dichlorophenol	ND	1000	"							
Diethyl phthalate	ND	300	"							
2,4-Dimethylphenol	ND	1000	"							
Dimethyl phthalate	ND	300	"							
4,6-Dinitro-2-methylphenol	ND	1000	"							
2,4-Dinitrophenol	ND	1000	"							
2,6-Dinitrotoluene	ND	1000	"							
Di-n-octyl phthalate	ND	300	"							
Fluoranthene	ND	300	"							
Fluorene	ND	300	"							
Hexachlorobenzene	ND	1500	"							
Hexachlorobutadiene	ND	300	"							
Hexachlorocyclopentadiene	ND	1000	"							
Hexachloroethane	ND	300	"							
Indeno (1,2,3-cd) pyrene	ND	300	"							
Isophorone	ND	300	"							
2-Methylphenol	ND	1000	"							
4-Methylphenol	ND	1000	"							
Naphthalene	ND	300	"							
2-Nitroaniline	ND	300	"							
3-Nitroaniline	ND	300	"							
4-Nitroaniline	ND	300	"							
Nitrobenzene	ND	1000	"							
2-Nitrophenol	ND	1000	"							
N-Nitrosodimethylamine	ND	300	"							
N-Nitrosodiphenylamine	ND	300	"							
2,3,5,6-Tetrachlorophenol	ND	300	"							
2,3,4,6-Tetrachlorophenol	ND	300	"							
Phenanthrene	ND	300	"							
2,4,5-Trichlorophenol	ND	1000	"							
2,4,6-Trichlorophenol	ND	1000	"							
Surrogate: 2-Fluorophenol	*927*		*"*	*1670*		*55.6*	*14.3-83.1*			
Surrogate: Phenol-d6	*883*		*"*	*1670*		*53.0*	*12-95.6*			

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1071106 - EPA 3550 ECD/GCMS										
Blank (1071106-BLK1)				Prepared: 07/11/11 Analyzed: 07/12/11						
Surrogate: Nitrobenzene-d5	*1200*		*ug/kg*	*1670*		*71.9*	*21.3-119*			
Surrogate: 2-Fluorobiphenyl	*1100*		*"*	*1670*		*65.9*	*32.4-102*			
Surrogate: 2,4,6-Tribromophenol	*655*		*"*	*1670*		*39.3*	*18.1-101*			
Surrogate: Terphenyl-dl4	*1870*		*"*	*1670*		*112*	*29.1-130*			
LCS (1071106-BS1)				Prepared: 07/11/11 Analyzed: 07/12/11						
Phenol	649	1000	ug/kg	1670		39.0	25.9-102			
2-Chlorophenol	666	1000	"	1670		40.0	37.1-110			
1,4-Dichlorobenzene	600	300	"	1670		36.0	36-97			
N-Nitrosodi-n-propylamine	614	300	"	1670		36.9	30.8-81.8			
1,2,4-Trichlorobenzene	759	300	"	1670		45.5	39-98			
4-Chloro-3-methylphenol	854	1000	"	1670		51.2	33.1-109			
Acenaphthene	790	300	"	1670		47.4	38.9-79.4			
4-Nitrophenol	421	1000	"	1670		25.3	14-103			
2,4-Dinitrotoluene	706	300	"	1670		42.4	24-96			
Pentachlorophenol	369	1000	"	1670		22.2	8.05-120			
Pyrene	723	300	"	1670		43.4	25-85.2			
Surrogate: 2-Fluorophenol	*591*		*"*	*1670*		*35.5*	*14.3-83.1*			
Surrogate: Phenol-d6	*628*		*"*	*1670*		*37.7*	*12-95.6*			
Surrogate: Nitrobenzene-d5	*1180*		*"*	*1670*		*70.9*	*21.3-119*			
Surrogate: 2-Fluorobiphenyl	*1140*		*"*	*1670*		*68.7*	*32.4-102*			
Surrogate: 2,4,6-Tribromophenol	*525*		*"*	*1670*		*31.5*	*18.1-101*			
Surrogate: Terphenyl-dl4	*1550*		*"*	*1670*		*93.0*	*29.1-130*			
LCS Dup (1071106-BSD1)				Prepared: 07/11/11 Analyzed: 07/12/11						
Phenol	759	1000	ug/kg	1670		45.6	25.9-102	15.6	42	
2-Chlorophenol	818	1000	"	1670		49.1	37.1-110	20.5	40	
1,4-Dichlorobenzene	720	300	"	1670		43.2	36-97	18.1	28	
N-Nitrosodi-n-propylamine	755	300	"	1670		45.3	30.8-81.8	20.6	38	
1,2,4-Trichlorobenzene	727	300	"	1670		43.6	39-98	4.31	28	
4-Chloro-3-methylphenol	837	1000	"	1670		50.2	33.1-109	2.05	42	
Acenaphthene	770	300	"	1670		46.2	38.9-79.4	2.56	31	
4-Nitrophenol	438	1000	"	1670		26.3	14-103	3.88	50	
2,4-Dinitrotoluene	724	300	"	1670		43.4	24-96	2.42	38	
Pentachlorophenol	498	1000	"	1670		29.9	8.05-120	29.6	50	
Pyrene	878	300	"	1670		52.7	25-85.2	19.4	31	

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Partner Engineering & Science, Inc.	Project: Monrovia Industrial Complex	
1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

SunStar Laboratories, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1071106 - EPA 3550 ECD/GCMS										
LCS Dup (1071106-BSD1)				Prepared: 07/11/11 Analyzed: 07/12/11						
Surrogate: 2-Fluorophenol	*645*		*ug/kg*	*1670*		*38.7*	*14.3-83.1*			
Surrogate: Phenol-d6	*737*		*"*	*1670*		*44.2*	*12-95.6*			
Surrogate: Nitrobenzene-d5	*1100*		*"*	*1670*		*66.2*	*21.3-119*			
Surrogate: 2-Fluorobiphenyl	*1070*		*"*	*1670*		*64.1*	*32.4-102*			
Surrogate: 2,4,6-Tribromophenol	*660*		*"*	*1670*		*39.6*	*18.1-101*			
Surrogate: Terphenyl-dl4	*1870*		*"*	*1670*		*112*	*29.1-130*			

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1990 E. Grand Ave., Suite 100	Project Number: 11-76495.9	**Reported:**
El Segundo CA, 90245	Project Manager: Eric Patschull	07/13/11 18:32

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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949-297-5020

Chain of Custody Record

Client: PARTNER ENGINEERING + SCIENCE INC.
Address: 1990 E. GRAND AVE., EL SEGUNDO, CA 90245
Phone: 310-615-4500 Fax: 310-615-4544
Project Manager: ERIC PATSCHULL

Date: 7-6-11 Page: 1 Of 2
Project Name: MONROVIA INDUSTRIAL COMPLEX, 1625 S. MAGNOLIA AVE, MONROVIA, CA
Collector: ERIC PATSCHULL Client Project #: 11-76495.9 9/016
Batch #: T110910 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	SVOC's 8270C	PCBs 8082	COMPOSITE SAMPLES AND ANALYZE FOR PCB's, Metals, Pesticides	HOLD	Laboratory ID #	Comments/Preservative	Total # of containers
B3-5	7-6-11	715	SOIL	ACETATE									X	X	X			01		1
B2-5		800											X	X	X			02	◇ COMPOSITE 3 SAMPLES B26-1	1
B17-5		920											X					03	B27-1	1
B18-5		1000											X					04	B28-1	1
B26-1		1100		GLASS JAR 4OZ												○		05	ANALYZE FOR PCB'S, METALS	1
B26-4		1104		ACETATE													X	06	8081B PESTICIDES (OCPS)	1
B27-1		1108		4OZ GLASS JAR												○		07		1
B27-4		1112		ACETATE													X	08	△ COMPOSITE 3 SAMPLES B29-1	1
B28-1		1115		4OZ GLASS JAR												○		09	B30-1	1
B28-4		1120		ACETATE													X	10	B31-1	1
B29-1		1125		GLASS JAR												△		11	ANALYZE FOR PCB'S 8082	1
B29-4		1130		ACETATE													X	12	TITLE 22 METALS	1
B30-1		1135		4OZ GLASS JAR												△		13	8081B PESTICIDES (OCPS)	1
B30-4		1140		ACETATE													X	14		1
B31-1		1150		4OZ GLASS JAR												△		15		1

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Eric Patschull	7-6-11 / 1500	[signature]	7/6/11 1507
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers	15
Chain of Custody seals Y/N/NA	~
Seals intact? Y/N/NA	N/A
Received good condition/cold	Y 8.4°

Turn around time: Standard 5-day

Notes

Sample disposal Instructions: Disposal @ $2.00 each ____ Return to client ____ Pickup ____

COC 102771

Chain of Custody Record

SunStar Laboratories, Inc.
25712 Commercentre Dr
Lake Forest, CA 92630
949-297-5020

Client: PARTNER ENGINEERING & SCIENCE INC.
Address: 1990 E GRAND AVE. EL SEGUNDO, CA 90245
Phone: 310-615-4500 Fax: 310-615-4544
Project Manager: ERIC PATSCHKE

Date: 7-6-11 Page: 2 Of 2
Project Name: MONROVIA INDUSTRIAL COMPLEX, 625 S. Magnolia Ave. Monrovia, CA 91016
Collector: ERIC PATSCHKE Client Project #: 11-76495.9
Batch #: T110910 EDF #:

Sample ID	Date Sampled	Time	Sample Type	Container Type	8260	8260 + OXY	8260 BTEX, OXY only	8270	8021 BTEX	8015M (gasoline)	8015M (diesel)	8015M Ext./Carbon Chain	6010/7000 Title 22 Metals	SVOC's 8270C	PCB's 8082	Composite Samples and Analyze for PCB's, Metal, Pesticides	HOLD	Laboratory ID #	Comments/Preservative	Total # of containers
B31-4	7-6-11	1200	SOIL	ACETATE													X	16		1
B32-1		1210		4oz glass jar												☐		17	☐ COMPOSITE 3 SAMPLES	1
B32-4		1215		acetate													X	18	B32-1	1
B33-1		1220		4oz glass jar												☐		19	B33-1	1
B33-4		1230		ACETATE													X	20	B34-1	1
B34-1		1240		4oz glass jar												☐		21	ANALYZE FOR PCB'S 8082	1
B34-4		1250		ACETATE													X	22	TITLE 22 METALS	1
																			8082 & Pesticides (ONLY)	1
																				8

Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Eric Patschke	7-6-11 / 1500		7/6/11 1507
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time
Relinquished by: (signature)	Date / Time	Received by: (signature)	Date / Time

Total # of containers: 23
Chain of Custody seals Y/N/NA: N
Seals intact? Y/N/NA: N/A
Received good condition/cold: Y 8.4°

Turn around time: Standard 5-day

Notes

Sample disposal Instructions: Disposal @ $2.00 each ___ Return to client ___ Pickup ___

SunStar Laboratories, Inc.
PROVIDING QUALITY ANALYTICAL SERVICES NATIONWIDE

SAMPLE RECEIVING REVIEW SHEET

BATCH # T110410

Client Name: Partner Project: Monrovia Industrial Complex

Received by: Dan M Date/Time Received: 7/6/11 1507

Delivered by : ☐ Client ☒ SunStar Courier ☐ GSO ☐ FedEx ☐ Other _____

Total number of coolers received 1 **Temp criteria = 6°C > 0°C (no frozen containers)**

Temperature: cooler #1 8.6 °C +/- the CF (- 0.2°C) = 8.4 °C corrected temperature

cooler #2 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

cooler #3 _____ °C +/- the CF (- 0.2°C) = _____ °C corrected temperature

Samples outside temp. but received on ice, w/in 6 hours of final sampling.	☒ Yes	☐ No*	☐ N/A
Custody Seals Intact on Cooler/Sample	☐ Yes	☐ No*	☒ N/A
Sample Containers Intact	☒ Yes	☐ No*	
Sample labels match COC ID's	☒ Yes	☐ No*	
Total number of containers received match COC	☒ Yes	☐ No*	
Proper containers received for analyses requested on COC	☒ Yes	☐ No*	
Proper preservative indicated on COC/containers for analyses requested	☐ Yes	☐ No*	☒ N/A

Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☒ **Yes** ☐ **No***

* Complete Non-Conformance Receiving Sheet if checked Cooler/Sample Review - Initials and date 7/6/11

Comments:

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APPENDIX G3
ASBESTOS SURVEY REPORTS & LEAD SURVEY REPORTS

tel - 310-670-7900
free - 855-507-8900
fax - 310-697-0177
www.PatriotLab.com
5830B Hannum Avenue, Culver City, CA 90230

PATRIOT
Environmental Laboratory Services, Inc.

January 8, 2016

David Bower
Sierra Pursuits, Inc.
1450 Shamrock Ave.
Monrovia, CA 92016

Re: **Asbestos Inspection**
418 W. Evergreen Property
418 W. Evergreen
Monrovia, CA 91016

Project No: LA82769

Dear Mr. Bower,

On January 6, 2016, California DOSH Certified Site Surveillance Technician, Mr. Victor Ruiz (CSST 03-3510) of Patriot Environmental Laboratory Services, Inc. (Patriot) performed an asbestos inspection at the above subject property located in Monrovia, California. **The purpose of the inspection was to determine if asbestos is present in any of the building materials soon to be disturbed during an upcoming demolition at the subject property.**

Summary of Findings

The following asbestos containing materials were identified:

Material Description	Sample Number	Material Location	Material Condition	Estimated Percent Damaged	Approximate Quantity	Percent & Type of Asbestos
9"x9" Brown Vinyl Floor Tile with Mastic	11,12,13 14,15,16	Living Room, Hallway and Bedroom 2 Floors	Good	0%	700 SF	2-5% Chrysotile
Yellow Linoleum (Bottom Layer)	17,18,19 20,21,22	Kitchen Floor	Good	0%	100 SF	5-15% Chrysotile
9"x9"Black Vinyl Floor Tile	41,43,45	Workshop Floor	Good	0%	20 SF	2% Chrysotile

***Note: The quantities of asbestos containing material identified in this report are approximations. It is the responsibility of the abatement contractor to verify the actual quantities of materials to be abated during their job walk for preparation of their bid.**

*see attached drawing

Property Description

The subject property is a single-family residential structure. The subject building is a single-story wood frame building set on a cement slab foundation. At the time of this inspection, the identified asbestos-containing materials were in good condition.

Scope of Work

On January 6, 2016, Mr. Victor Ruiz (CSST 03-3510) of Patriot conducted a limited asbestos inspection at the subject property. The interior and exterior of the building was visually inspected for the purpose of inventorying any suspect asbestos containing materials soon to be disturbed during an upcoming demolition at the subject property. Once the inventory of suspect materials was created, physical bulk samples were collected of the materials from representative locations. Samples were collected in airtight containers. Upon collection, sample numbers, descriptions, and collection locations were entered on to a chain of custody for transportation to Patriot's NVLAP accredited laboratory.

Sampled Suspect Materials

Samples of the following suspect materials were collected:

Drywall & Joint Compound	Plaster with Button Board	9”x9” Brown Vinyl Floor Tile with Mastic
Yellow Linoleum with Mastic Bottom Layer	12”x12” White Vinyl Floor Self Adhesive	Stucco
Vapor Barrier	2’x4’ Ceiling Tiles	1’x1’ Ceiling Tiles
9”x9”Black Vinyl Floor Tile with Glue	Roof Core	Roof Mastic
Window Putty	--	--

Sample Protocol/Analysis

Samples were collected in accordance with the Asbestos School Hazard Emergency Response Act (40 CFR 763 Subpart E) as mandated by Cal/OSHA (Title 8 Section 1529) and South Coast Air Quality Management District (Rule 1403).

Physical bulk samples were analyzed by Patriot. Patriot is accredited by the National Voluntary Laboratory Accreditation Program (200358-0). The method of analysis was Polarized Light Microscopy (EPA 600/M4-82-020).

Recommendations

If any of the asbestos containing materials identified in this report is scheduled to be impacted by renovation or demolition activities, an asbestos abatement contractor must remove them prior to disturbance. Asbestos abatement contractors must be registered with the Division of Occupational Safety and Health.

Disclaimer

Limited destructive sampling was conducted at the subject property. If additional suspect materials are discovered during renovation, all work should cease until a Certified Asbestos Consultant is contracted to ascertain the possibility of asbestos content. This inspection was performed in accordance with current regulations and state of the art practices. The inventory of asbestos containing materials and determination of their condition are based upon conditions observed at the time of inspection. Patriot does not assume responsibility for future regulatory changes or changes in the condition of the building.

Enclosed is the laboratory analysis report. Please contact our office if there are any questions regarding this inspection.

Sincerely,

Fernando Najera

Fernando Najera-Hernandez
Certified Asbestos Consultant No. 11-4771

Enclosure: Laboratory Results

Sample Location Drawing

Certificate of Analysis
PLM Asbestos Identification

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PATRIOT
Environmental Laboratory Services, Inc.

Sierra Pursuits, Inc.
David Bower
1450 Shamrock Ave.
Monrovia, CA 92016

Report Number:	593995
Project Number:	LA82769
Project Name:	418 W. Evergreen Property
Project Location:	418 W. Evergreen Monrovia, 91016

Date Collected:	1/4/2016	Collected By:	Victor Ruiz
Date Received:	1/6/2016	Claim Number:	
Date Analyzed:	1/7/2016	PO Number:	
Date Reported:	1/7/2016	Number of Samples:	61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-001 1	Wall at Living Room	Plaster	Beige	70% Minerals 30% Carbonate
Total Asbestos	**None Detected**			
593995-002 2	Wall at Living Room	Button Board	White Brown	90% Sulfate 10% Cellulose
Total Asbestos	**None Detected**			
593995-003 3	Wall at Bedroom 1	Plaster	Beige	70% Minerals 30% Carbonate
Total Asbestos	**None Detected**			
593995-004 4	Wall at Bedroom 1	Button Board	White Brown	90% Sulfate 10% Cellulose
Total Asbestos	**None Detected**			
593995-005 5	Wall at Bedroom 2	Plaster	Beige	70% Minerals 30% Carbonate
Total Asbestos	**None Detected**			
593995-006 6	Wall at Bedroom 2	Button Board	White Brown	90% Sulfate 10% Cellulose
Total Asbestos	**None Detected**			

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David Bower
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Monrovia, CA 92016

Report Number: 593995
Project Number: LA82769
Project Name: 418 W. Evergreen Property
Project Location: 418 W. Evergreen
Monrovia, 91016

Date Collected: 1/4/2016
Date Received: 1/6/2016
Date Analyzed: 1/7/2016
Date Reported: 1/7/2016

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-007 7	Wall at Kitchen	Plaster	Beige	70% Minerals 30% Carbonate
Total Asbestos	**None Detected**			
593995-008 8	Wall at Kitchen	Button Board	White Brown	90% Sulfate 10% Cellulose
Total Asbestos	**None Detected**			
593995-009 9	Wall at Garage	Plaster	Beige	70% Minerals 30% Carbonate
Total Asbestos	**None Detected**			
593995-010 10	Wall at Garage	Button Board	White Brown	90% Sulfate 10% Cellulose
Total Asbestos	**None Detected**			
593995-011 11	Floor at Living Room	9x9 VFT	Brown	98% Non-Fibrous Material
Chrysotile	2 %			
Total Asbestos	**2 %**			
593995-012 12	Floor at Living Room	Mastic	Black	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			

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Report Number: 593995
Project Number: LA82769
Project Name: 418 W. Evergreen Property
Project Location: 418 W. Evergreen
Monrovia, 91016

Date Collected: 1/4/2016
Date Received: 1/6/2016
Date Analyzed: 1/7/2016
Date Reported: 1/7/2016

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-013 13	Floor at Hallway	9x9 VFT	Brown	98% Non-Fibrous Material
Chrysotile	2 %			
Total Asbestos	**2 %**			
593995-014 14	Floor at Hallway	Mastic	Black	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			
593995-015 15	Floor at Bedroom 2	9x9 VFT	Brown	98% Non-Fibrous Material
Chrysotile	2 %			
Total Asbestos	**2 %**			
593995-016 16	Floor at Bedroom 2	Mastic	Black	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			
593995-017 17	Floor at Kitchen	Linoleum Bottom Layer	Yellow Grey	65% Non-Fibrous Material 20% Cellulose
Chrysotile	15 %			
Total Asbestos	**15 %**			

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Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-018 18	Floor at Kitchen	Mastic	Black	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			
593995-019 19	Floor at Kitchen	Linoleum Bottom Layer	Yellow Grey	65% Non-Fibrous Material 20% Cellulose
Chrysotile	15 %			
Total Asbestos	**15 %**			
593995-020 20	Floor at Kitchen	Mastic	Black	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			
593995-021 21	Floor at Kitchen	Linoleum Bottom Layer	Yellow Grey	65% Non-Fibrous Material 20% Cellulose
Chrysotile	15 %			
Total Asbestos	**15 %**			
593995-022 22	Floor at Kitchen	Mastic	Black	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			

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Date Reported: 1/7/2016

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-023 23	Floor at Kitchen	12x12 VFT Self ADH	White	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
593995-024 24	Floor at Kitchen	12x12 VFT Self ADH	White	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
593995-025 25	Floor at Kitchen	12x12 VFT Self ADH	White	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
593995-026 26	Wall at Ext Front	Exterior Stucco	Grey Green	85% Minerals 13% Carbonate 2% Paint
Total Asbestos	**None Detected**			
593995-027 27	Wall at Ext North Side	Exterior Stucco	Grey Green	85% Minerals 13% Carbonate 2% Paint
Total Asbestos	**None Detected**			
593995-028 28	Wall at Ext South Side	Exterior Stucco	Grey Green	85% Minerals 13% Carbonate 2% Paint
Total Asbestos	**None Detected**			

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Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-029 29	Wall at Ext Front	Vapor Barrier	Brown	90% Cellulose 10% Tar
Total Asbestos	**None Detected**			
593995-030 30	Wall at North Side	Vapor Barrier	Brown	90% Cellulose 10% Tar
Total Asbestos	**None Detected**			
593995-031 31	Wall at West Side	Vapor Barrier	Brown	90% Cellulose 10% Tar
Total Asbestos	**None Detected**			
593995-032 32	Wall at Bedroom 3	Drywall and Joint Compound	White	70% Sulfate 15% Cellulose 10% Carbonate 5% Paint
Total Asbestos	**None Detected**			
593995-032A 32	Wall at Bedroom 3	Drywall	White	85% Sulfate 15% Cellulose
Total Asbestos	**None Detected**			
593995-032B 32	Wall at Bedroom 3	Joint Compound	White	95% Carbonate 5% Paint
Total Asbestos	**None Detected**			

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Collected By: Victor Ruiz
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Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-033 33	Wall at Bedroom 3	Drywall and Joint Compound	White	70% Sulfate 15% Cellulose 10% Carbonate 5% Paint
Total Asbestos	**None Detected**			
593995-033A 33	Wall at Bedroom 3	Drywall	White	85% Sulfate 15% Cellulose
Total Asbestos	**None Detected**			
593995-033B 33	Wall at Bedroom 3	Joint Compound	White	95% Carbonate 5% Paint
Total Asbestos	**None Detected**			
593995-034 34	Wall at Bedroom 3	Drywall and Joint Compound	White	70% Sulfate 15% Cellulose 10% Carbonate 5% Paint
Total Asbestos	**None Detected**			
593995-034A 34	Wall at Bedroom 3	Drywall	White	85% Sulfate 15% Cellulose
Total Asbestos	**None Detected**			
593995-034B 34	Wall at Bedroom 3	Joint Compound	White	95% Carbonate 5% Paint
Total Asbestos	**None Detected**			

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Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-035 35	Wall at Workshop Room	2x4 Ceiling Tile	Beige White	40% Mineral Wool 50% Cellulose 5% Perlite 5% Paint
Total Asbestos	**None Detected**			
593995-036 36	Wall at Garage	2x4 Ceiling Tile	Beige White	40% Mineral Wool 50% Cellulose 5% Perlite 5% Paint
Total Asbestos	**None Detected**			
593995-037 37	Wall at Bedroom 3	2x4 Ceiling Tile	Beige White	40% Mineral Wool 50% Cellulose 5% Perlite 5% Paint
Total Asbestos	**None Detected**			
593995-038 38	Wall at Garage	1x1 Ceiling Tile	Brown White	95% Cellulose 5% Paint
Total Asbestos	**None Detected**			
593995-039 39	Wall at Garage	1x1 Ceiling Tile	Brown White	95% Cellulose 5% Paint
Total Asbestos	**None Detected**			

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Claim Number:
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Number of Samples: 61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-040 40	Wall at Garage	1x1 Ceiling Tile	Brown White	95% Cellulose 5% Paint
Total Asbestos	**None Detected**			
593995-041 41	Floor at Work Shop	9x9 VFT	Black	98% Non-Fibrous Material
Chrysotile	2 %			
Total Asbestos	**2 %**			
593995-042 42	Floor at Work Shop	Glue	Cream	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
593995-043 43	Floor at Work Shop	9x9 VFT	Black	98% Non-Fibrous Material
Chrysotile	2 %			
Total Asbestos	**2 %**			
593995-044 44	Floor at Work Shop	Glue	Cream	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
593995-045 45	Floor at Work Shop	9x9 VFT	Black	98% Non-Fibrous Material
Chrysotile	2 %			
Total Asbestos	**2 %**			

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Date Reported: 1/7/2016

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-046 46	Floor at Work Shop	Glue	Cream	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
593995-047 47	Floor at North End	Roof Core Sample	Black Brown	60% Tar 17% Glass Fibers 10% Minerals 13% Cellulose
Total Asbestos	**None Detected**			
593995-048 48	Floor at South End	Roof Core Sample	Black Brown	60% Tar 17% Glass Fibers 10% Minerals 13% Cellulose
Total Asbestos	**None Detected**			
593995-049 49	Floor at West End	Roof Core Sample	Black Brown	60% Tar 17% Glass Fibers 10% Minerals 13% Cellulose
Total Asbestos	**None Detected**			
593995-050 50	Roof at Penetrations	Roof Mastic	Black	95% Tar 5% Cellulose
Total Asbestos	**None Detected**			

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Report Number: 593995
Project Number: LA82769
Project Name: 418 W. Evergreen Property
Project Location: 418 W. Evergreen
Monrovia, 91016

Date Collected: 1/4/2016
Date Received: 1/6/2016
Date Analyzed: 1/7/2016
Date Reported: 1/7/2016

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-051 51	Roof at Penetrations	Roof Mastic	Black	95% Tar 5% Cellulose
Total Asbestos	**None Detected**			
593995-052 52	Roof at Penetrations	Roof Mastic	Black	95% Tar 5% Cellulose
Total Asbestos	**None Detected**			
593995-053 53	Window at Outside Living Room	Window Putty	White	97% Carbonate 3% Paint
Total Asbestos	**None Detected**			
593995-054 54	Window at Outside Bedroom 1	Window Putty	White	97% Carbonate 3% Paint
Total Asbestos	**None Detected**			
593995-055 55	Window at Outside Hall Bath	Window Putty	White	97% Carbonate 3% Paint
Total Asbestos	**None Detected**			

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Project Location:	418 W. Evergreen Monrovia, 91016

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Date Analyzed:	1/7/2016	PO Number:	
Date Reported:	1/7/2016	Number of Samples:	61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)

Peter Mai - Analyst

Ian Reyes - Approved By

Bulk sample(s) submitted was (were) analyzed in accordance with the procedure outlined in the US Federal Register 40 CFR 763, Subpart F, Appendix A; EPA-600/R-93/116 (Method for Determination of Asbestos in Building Materials), and EPA-600/M4-82-020 (US EPA Interim Method for the Determination of Asbestos in Bulk Insulation Samples).Samples were analyzed using Calibrated Visual Estimations (CVES); therefore, results may not be reliable for samples of low asbestos concentration levels. Samples of wall systems containing discrete and separable layers are analyzed separately and reported as composite unless specifically requested by the customer to report analytical results for individual layers. This report applies only to the items tested. Results are representative of the samples submitted and may not represent the entire material from which the samples were collected. "None Detected" means that no asbestos was observed in the sample. "<1%" (less than one percent) means that asbestos was observed in the sample but the concentration is below the quantifiable level of 1%. This report was issued by a NIST/NVLAP (Lab Code 201014-0) and CADOHS- ELAP (Cert. No. 2893) accredited laboratory and may not be reproduced, except in full without the expressed written consent of Patriot Environmental Laboratory Services, Inc. This report may not be used to claim product certification, approval or endorsement by NIST, NVLAP, ELAP or any government agency.

593995

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ASBESTOS FIELD BULK SAMPLE COC

Project Name: 418 W. Evergreen	Project #: LA22769	Office Use Only: ☐ MH
Project Address: 418 W. Evergreen	City: Monrovia	Zip:

Sample ID	Sample Location	Material Type	F	NF	Condition	Notes
1/2	Wall @ Living Room	Plaster / Button Board		X	Good	6,500 sf
3/4	@ Bedroom 1	"		"	"	"
5/6	@ Bedroom 2	"		"	"	"
7/8	@ Kitchen	"		"	"	"
9/10	@ Garage	"		"	"	"
11/12	Floor @ Living Room	9x9 Brown VFT w/ mastic	X		"	700 sf
13/14	@ Hallway	"	"	F	"	"
15/16	@ Bedroom 2	"	"	T	"	"
17/18	Floor @ Kitchen	Yellow Linoleum w/ mastic Bottom Layer	X		"	100 sf
19/20	" "	"	"		"	"
21/22	" "	"	"		"	"
23	Floor @ Kitchen	12x12 white VFT		X	"	100 sf
24	" "	Set Adhesive		"	"	"
25	" "	"		"	"	"
26	Wall @ Ext Front	Ext stucco		X	"	700 sf
	@ Ext side ~~West~~ North	"		"	"	"
	@ Ext side South	"		"	"	"
					"	

d By: Sign: [signature] Date/Time: 1/6/16
J By: Sign: SM Date/Time: 1/7 8:30

Continuation Page:
Project #: LA02769

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ASBESTOS FIELD BULK SAMPLE COC

Sample ID	Sample Location	Material Type	F	NF	Condition	Notes
29	Wall @ Ext Front	Vapor Barrier		X	Good	2000 sf
30	" @ North Side	"		"	"	"
31	" @ West Side	"		"	"	"
32	Wall @ Bedroom 3	Dw / JC		"	"	700 sf
33	" "	"		"	"	"
34	" "	"		"	"	"
35	Wall @ Work Shop room	2X4 Ceiling Tiles		"	"	1000 sf
36	" @ Garage	"		"	"	"
37	" @ Bedroom 3	"		"	"	"
38	Wall @ Garage	1X1 ceiling Tiles		"	"	600 sf
39	" "	"		"	"	"
40	" "	"		"	"	"
41/42	Floor @ work shop	9X9 VFT Black w/ glue		"	"	200 sf
43/44	" "	"		"	"	"
45/46	" "	"		"	"	"
47	Roof @ North End	Roof core sample		"	"	1500 sf
48	" @ South End	"		"	"	"
49	" @ West End	"		"	"	"
50	Roof @ penetrations	Roof mastic		"	"	400 sf
51	" "	"		"	"	"

Samples Relinquished By: Sign: _____ Date/Time: 1/6/16
Samples Relinquished By: Sign: _____ Date/Time: 1/7 8:30

Continuation Page:
Project #: LAX2769

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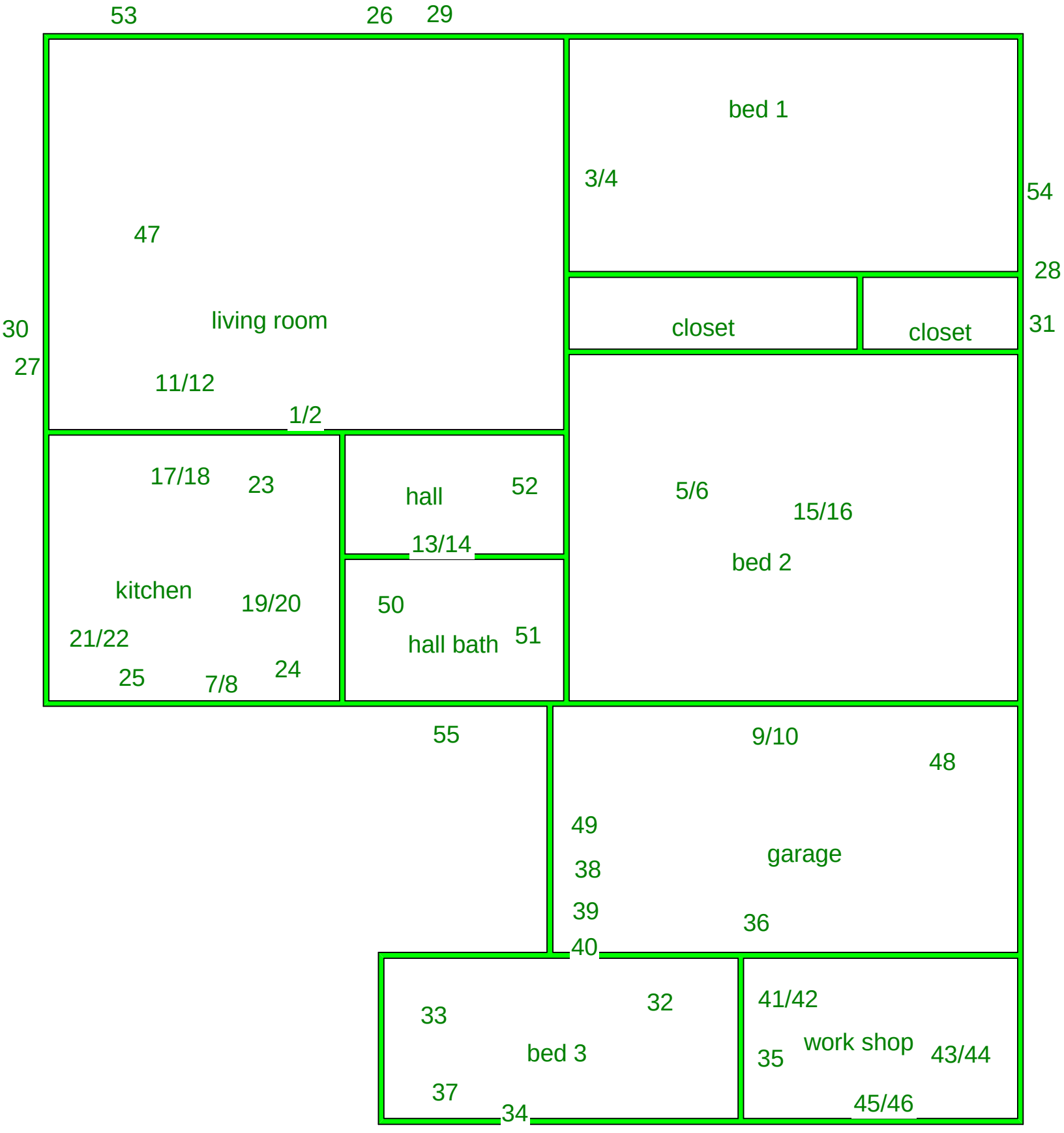
ASBESTOS FIELD BULK SAMPLE COC

Sample ID	Sample Location	Material Type	F	NF	Condition	Notes
52	Roof @ Penetrations	Roof Mastic		X	Good	40 ft
53	Window @ outside Living Room	Window Putty	X		"	120 ft
54	" outside Bedroom 1	"	"		"	"
55	" outside Hall Bath	"	"		"	"

Samples Relinquished By: Sign: [signature] Date/Time: 1/6/16
Samples Relinquished By: Sign: [signature] Date/Time: 1/7 8:30

418 W. Evergreen Property
418 W. Evergreen
Monrovia, CA 91016

Proejct No. LA82769



Certificate of Analysis
PLM Asbestos Identification

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Sierra Pursuits, Inc.
David Bower
1450 Shamrock Ave.
Monrovia, CA 92016

Report Number:	593995
Project Number:	LA82769
Project Name:	418 W. Evergreen Property
Project Location:	418 W. Evergreen Monrovia, 91016

Date Collected:	1/4/2016	Collected By:	Victor Ruiz
Date Received:	1/6/2016	Claim Number:	
Date Analyzed:	1/7/2016	PO Number:	
Date Reported:	1/7/2016	Number of Samples:	61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-001 1	Wall at Living Room	Plaster	Beige	70% Minerals 30% Carbonate
Total Asbestos	**None Detected**			
593995-002 2	Wall at Living Room	Button Board	White Brown	90% Sulfate 10% Cellulose
Total Asbestos	**None Detected**			
593995-003 3	Wall at Bedroom 1	Plaster	Beige	70% Minerals 30% Carbonate
Total Asbestos	**None Detected**			
593995-004 4	Wall at Bedroom 1	Button Board	White Brown	90% Sulfate 10% Cellulose
Total Asbestos	**None Detected**			
593995-005 5	Wall at Bedroom 2	Plaster	Beige	70% Minerals 30% Carbonate
Total Asbestos	**None Detected**			
593995-006 6	Wall at Bedroom 2	Button Board	White Brown	90% Sulfate 10% Cellulose
Total Asbestos	**None Detected**			

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Date Reported: 1/7/2016

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-007 7	Wall at Kitchen	Plaster	Beige	70% Minerals 30% Carbonate
Total Asbestos	**None Detected**			
593995-008 8	Wall at Kitchen	Button Board	White Brown	90% Sulfate 10% Cellulose
Total Asbestos	**None Detected**			
593995-009 9	Wall at Garage	Plaster	Beige	70% Minerals 30% Carbonate
Total Asbestos	**None Detected**			
593995-010 10	Wall at Garage	Button Board	White Brown	90% Sulfate 10% Cellulose
Total Asbestos	**None Detected**			
593995-011 11	Floor at Living Room	9x9 VFT	Brown	98% Non-Fibrous Material
Chrysotile	2 %			
Total Asbestos	**2 %**			
593995-012 12	Floor at Living Room	Mastic	Black	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			

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Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-013 13	Floor at Hallway	9x9 VFT	Brown	98% Non-Fibrous Material
Chrysotile	2 %			
Total Asbestos	**2 %**			
593995-014 14	Floor at Hallway	Mastic	Black	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			
593995-015 15	Floor at Bedroom 2	9x9 VFT	Brown	98% Non-Fibrous Material
Chrysotile	2 %			
Total Asbestos	**2 %**			
593995-016 16	Floor at Bedroom 2	Mastic	Black	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			
593995-017 17	Floor at Kitchen	Linoleum Bottom Layer	Yellow Grey	65% Non-Fibrous Material 20% Cellulose
Chrysotile	15 %			
Total Asbestos	**15 %**			

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Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-018 18	Floor at Kitchen	Mastic	Black	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			
593995-019 19	Floor at Kitchen	Linoleum Bottom Layer	Yellow Grey	65% Non-Fibrous Material 20% Cellulose
Chrysotile	15 %			
Total Asbestos	**15 %**			
593995-020 20	Floor at Kitchen	Mastic	Black	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			
593995-021 21	Floor at Kitchen	Linoleum Bottom Layer	Yellow Grey	65% Non-Fibrous Material 20% Cellulose
Chrysotile	15 %			
Total Asbestos	**15 %**			
593995-022 22	Floor at Kitchen	Mastic	Black	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			

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Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-023 23	Floor at Kitchen	12x12 VFT Self ADH	White	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
593995-024 24	Floor at Kitchen	12x12 VFT Self ADH	White	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
593995-025 25	Floor at Kitchen	12x12 VFT Self ADH	White	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
593995-026 26	Wall at Ext Front	Exterior Stucco	Grey Green	85% Minerals 13% Carbonate 2% Paint
Total Asbestos	**None Detected**			
593995-027 27	Wall at Ext North Side	Exterior Stucco	Grey Green	85% Minerals 13% Carbonate 2% Paint
Total Asbestos	**None Detected**			
593995-028 28	Wall at Ext South Side	Exterior Stucco	Grey Green	85% Minerals 13% Carbonate 2% Paint
Total Asbestos	**None Detected**			

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Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-029 29	Wall at Ext Front	Vapor Barrier	Brown	90% Cellulose 10% Tar
Total Asbestos	**None Detected**			
593995-030 30	Wall at North Side	Vapor Barrier	Brown	90% Cellulose 10% Tar
Total Asbestos	**None Detected**			
593995-031 31	Wall at West Side	Vapor Barrier	Brown	90% Cellulose 10% Tar
Total Asbestos	**None Detected**			
593995-032 32	Wall at Bedroom 3	Drywall and Joint Compound	White	70% Sulfate 15% Cellulose 10% Carbonate 5% Paint
Total Asbestos	**None Detected**			
593995-032A 32	Wall at Bedroom 3	Drywall	White	85% Sulfate 15% Cellulose
Total Asbestos	**None Detected**			
593995-032B 32	Wall at Bedroom 3	Joint Compound	White	95% Carbonate 5% Paint
Total Asbestos	**None Detected**			

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Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-033 33	Wall at Bedroom 3	Drywall and Joint Compound	White	70% Sulfate 15% Cellulose 10% Carbonate 5% Paint
Total Asbestos	**None Detected**			
593995-033A 33	Wall at Bedroom 3	Drywall	White	85% Sulfate 15% Cellulose
Total Asbestos	**None Detected**			
593995-033B 33	Wall at Bedroom 3	Joint Compound	White	95% Carbonate 5% Paint
Total Asbestos	**None Detected**			
593995-034 34	Wall at Bedroom 3	Drywall and Joint Compound	White	70% Sulfate 15% Cellulose 10% Carbonate 5% Paint
Total Asbestos	**None Detected**			
593995-034A 34	Wall at Bedroom 3	Drywall	White	85% Sulfate 15% Cellulose
Total Asbestos	**None Detected**			
593995-034B 34	Wall at Bedroom 3	Joint Compound	White	95% Carbonate 5% Paint
Total Asbestos	**None Detected**			

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Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-035 35	Wall at Workshop Room	2x4 Ceiling Tile	Beige White	40% Mineral Wool 50% Cellulose 5% Perlite 5% Paint
Total Asbestos	**None Detected**			
593995-036 36	Wall at Garage	2x4 Ceiling Tile	Beige White	40% Mineral Wool 50% Cellulose 5% Perlite 5% Paint
Total Asbestos	**None Detected**			
593995-037 37	Wall at Bedroom 3	2x4 Ceiling Tile	Beige White	40% Mineral Wool 50% Cellulose 5% Perlite 5% Paint
Total Asbestos	**None Detected**			
593995-038 38	Wall at Garage	1x1 Ceiling Tile	Brown White	95% Cellulose 5% Paint
Total Asbestos	**None Detected**			
593995-039 39	Wall at Garage	1x1 Ceiling Tile	Brown White	95% Cellulose 5% Paint
Total Asbestos	**None Detected**			

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Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-040 40	Wall at Garage	1x1 Ceiling Tile	Brown White	95% Cellulose 5% Paint
Total Asbestos	**None Detected**			
593995-041 41	Floor at Work Shop	9x9 VFT	Black	98% Non-Fibrous Material
Chrysotile	2 %			
Total Asbestos	**2 %**			
593995-042 42	Floor at Work Shop	Glue	Cream	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
593995-043 43	Floor at Work Shop	9x9 VFT	Black	98% Non-Fibrous Material
Chrysotile	2 %			
Total Asbestos	**2 %**			
593995-044 44	Floor at Work Shop	Glue	Cream	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
593995-045 45	Floor at Work Shop	9x9 VFT	Black	98% Non-Fibrous Material
Chrysotile	2 %			
Total Asbestos	**2 %**			

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PO Number:
Number of Samples: 61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-046 46	Floor at Work Shop	Glue	Cream	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
593995-047 47	Floor at North End	Roof Core Sample	Black Brown	60% Tar 17% Glass Fibers 10% Minerals 13% Cellulose
Total Asbestos	**None Detected**			
593995-048 48	Floor at South End	Roof Core Sample	Black Brown	60% Tar 17% Glass Fibers 10% Minerals 13% Cellulose
Total Asbestos	**None Detected**			
593995-049 49	Floor at West End	Roof Core Sample	Black Brown	60% Tar 17% Glass Fibers 10% Minerals 13% Cellulose
Total Asbestos	**None Detected**			
593995-050 50	Roof at Penetrations	Roof Mastic	Black	95% Tar 5% Cellulose
Total Asbestos	**None Detected**			

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Number of Samples: 61

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
593995-051 51	Roof at Penetrations	Roof Mastic	Black	95% Tar 5% Cellulose
Total Asbestos	**None Detected**			
593995-052 52	Roof at Penetrations	Roof Mastic	Black	95% Tar 5% Cellulose
Total Asbestos	**None Detected**			
593995-053 53	Window at Outside Living Room	Window Putty	White	97% Carbonate 3% Paint
Total Asbestos	**None Detected**			
593995-054 54	Window at Outside Bedroom 1	Window Putty	White	97% Carbonate 3% Paint
Total Asbestos	**None Detected**			
593995-055 55	Window at Outside Hall Bath	Window Putty	White	97% Carbonate 3% Paint
Total Asbestos	**None Detected**			

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Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)

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ASBESTOS FIELD BULK SAMPLE COC

Project Name: 418 W. Evergreen	Project #: LA22769	Office Use Only: ☐ MH
Project Address: 418 W. Evergreen	City: Monrovia	Zip:

Sample ID	Sample Location	Material Type	F	NF	Condition	Notes
1/2	Wall @ Living Room	Plaster / Button Board		X	Good	6,500 sf
3/4	@ Bedroom 1	"		"	"	"
5/6	@ Bedroom 2	"		"	"	"
7/8	@ Kitchen	"		"	"	"
9/10	@ Garage	"		"	"	"
11/12	Floor @ Living Room	9x9 Brown VFT w/ mastic	X		"	700 sf
13/14	@ Hallway	"	"	F	"	"
15/16	@ Bedroom 2	"	"	T	"	"
17/18	Floor @ Kitchen	Yellow Linoleum w/ mastic Bottom Layer	X		"	100 sf
19/20	" "	"	"		"	"
21/22	" "	"	"		"	"
23	Floor @ Kitchen	12x12 white VFT		X	"	100 sf
24	" "	Set Adhesive		"	"	"
25	" "	"		"	"	"
26	Wall @ Ext Front	Ext stucco		X	"	700 sf
	@ Ext side ~~West~~ North	"		"	"	"
	@ Ext side South	"		"	"	"
					"	

d By: Sign: [signature] Date/Time: 1/6/16
J By: Sign: SM Date/Time: 1/7 8:30

Continuation Page:
Project #: LA02769

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PATRIOT
Environmental Laboratory Services, Inc.

ASBESTOS FIELD BULK SAMPLE COC

Sample ID	Sample Location	Material Type	F	NF	Condition	Notes
29	Wall @ Ext Front	Vapor Barrier		X	Good	2000 sf
30	" @ North Side	"		"	"	"
31	" @ West Side	"		"	"	"
32	Wall @ Bedroom 3	Dw / JC		"	"	700 sf
33	" "	"		"	"	"
34	" "	"		"	"	"
35	Wall @ Work Shop room	2X4 Ceiling Tiles		"	"	1000 sf
36	" @ Garage	"		"	"	"
37	" @ Bedroom 3	"		"	"	"
38	Wall @ Garage	1X1 ceiling Tiles		"	"	600 sf
39	" "	"		"	"	"
40	" "	"		"	"	"
41/42	Floor @ work shop	9X9 VFT Black w/ glue		"	"	200 sf
43/44	" "	"		"	"	"
45/46	" "	"		"	"	"
47	Roof @ North End	Roof core sample		"	"	1500 sf
48	" @ South End	"		"	"	"
49	" @ West End	"		"	"	"
50	Roof @ penetrations	Roof mastic		"	"	400 sf
51	" "	"		"	"	"

Samples Relinquished By: Sign: _____ Date/Time: 1/6/16
Samples Relinquished By: Sign: _____ Date/Time: 1/7 8:30

Continuation Page:
Project #: LAX2769

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ASBESTOS FIELD BULK SAMPLE COC

Sample ID	Sample Location	Material Type	F	NF	Condition	Notes
52	Roof @ Penetrations	Roof Mastic		X	Good	40 ft
53	Window @ outside Living Room	Window Putty	X		"	120 ft
54	" outside Bedroom 1	"	"		"	"
55	" outside Hall Bath	"	"		"	"

Samples Relinquished By: Sign: [signature] Date/Time: 1/6/16
Samples Relinquished By: Sign: [signature] Date/Time: 1/7 8:30

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5830B Hannum Avenue, Culver City, CA 90230

PATRIOT
Environmental Laboratory Services, Inc.

June 5, 2015

David Bower
Sierra Pursuits, Inc.
1450 Shamrock Ave.
Monrovia, CA 92016

Re: **Limited Asbestos Inspection**
1613 S. Magnolia Ave. Property
1613 S. Magnolia Ave.
Monrovia, CA 91016

Project No: LA77343

Dear Mr. Bower,

On June 3, 2015, California DOSH Certified Site Surveillance Technician, Mr. Victor Ruiz (CSST 03-3510) of Patriot Environmental Laboratory Services, Inc. (Patriot) performed a limited asbestos inspection at the above subject property located in Monrovia, California. **The purpose of the inspection was to determine if asbestos is present in any of the building materials for an upcoming complete demolition at the subject property.**

Summary of Findings

The following asbestos containing materials were identified:

Material Description	Sample Number	Material Location	Material Condition	Estimated Percent Damaged	Approximate Quantity	Percent & Type of Asbestos
Window Putty	16,17,18	Exterior Windows Throughout	Good	0%	100 SF	3% Chrysotile
Roof Mastic	25,26,27	Roof Penetrations and Chimney Seams	Good	0%	25 SF	5% Chrysotile
Transite Pipe	N/A	Assumed	Good	0%	6 LF	Assumed

***Note: The quantities of asbestos containing material identified in this report are approximations. It is the responsibility of the abatement contractor to verify the actual quantities of materials to be abated during their job walk for preparation of their bid.**

*see attached drawing

Property Description

The subject property is a single-family residential structure. The subject building is a single-story wood frame building set on a raised foundation. At the time of this inspection, the identified asbestos-containing materials were in good condition.

Scope of Work

On June 3, 2015, Mr. Victor Ruiz (CSST 03-3510) of Patriot conducted a limited asbestos inspection at the subject property. The interior and exterior of the building was visually inspected for the purpose of inventorying any suspect asbestos containing materials for an upcoming complete demolition at the subject property. Once the inventory of suspect materials was created, physical bulk samples were collected of the materials from representative locations. Samples were collected in airtight containers. Upon collection, sample numbers, descriptions, and collection locations were entered on to a chain of custody for transportation to Patriot's NVLAP accredited laboratory.

Sampled Suspect Materials

Samples of the following suspect materials were collected:

Plaster and Button Board	12”x12” Black Vinyl Floor Tile with Glue	Carpet Glue
Window Putty	Exterior Stucco	Roof Core Sample
Roof Mastic	--	--

Sample Protocol/Analysis

Samples were collected in accordance with the Asbestos School Hazard Emergency Response Act (40 CFR 763 Subpart E) as mandated by Cal/OSHA (Title 8 Section 1529) and South Coast Air Quality Management District (Rule 1403).

Physical bulk samples were analyzed by Patriot. Patriot is accredited by the National Voluntary Laboratory Accreditation Program (200358-0). The method of analysis was Polarized Light Microscopy (EPA 600/M4-82-020).

Recommendations

If any of the asbestos containing materials identified in this report is scheduled to be impacted by renovation or demolition activities, an asbestos abatement contractor must remove them prior to disturbance. Asbestos abatement contractors must be registered with the Division of Occupational Safety and Health.

Disclaimer

Limited destructive sampling was conducted at the subject property. If additional suspect materials are discovered during renovation, all work should cease until a Certified Asbestos Consultant is contracted to ascertain the possibility of asbestos content. This inspection was performed in accordance with current regulations and state of the art practices. The inventory of asbestos containing materials and determination of their condition are based upon conditions observed at the time of inspection. Patriot does not assume responsibility for future regulatory changes or changes in the condition of the building.

Enclosed is the laboratory analysis report. Please contact our office if there are any questions regarding this inspection.

Sincerely,

Fernando Najera-Hernandez
Certified Asbestos Consultant No. 11-4771

Enclosure: Laboratory Results

Sample Location Drawing

Certificate of Analysis
PLM Asbestos Identification

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PATRIOT
Environmental Laboratory Services, Inc.

Sierra Pursuits, Inc.
David Bower
1450 Shamrock Ave.
Monrovia, CA 92016

Report Number:	568246
Project Number:	LA77343
Project Name:	1613 S. Magnolia Ave. Property
Project Location:	1613 S. Magnolia Ave. Monrovia, 91016

Date Collected:	6/4/2015	Collected By:	Victor Ruiz
Date Received:	6/4/2015	Claim Number:	
Date Analyzed:	6/4/2015	PO Number:	
Date Reported:	6/4/2015	Number of Samples:	27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
568246-001 1	Wall at Kitchen	Plaster	White Grey	70% Minerals 27% Carbonate 3% Paint
Total Asbestos	**None Detected**			
568246-002 2	Wall at Kitchen	Button Board	White Brown	85% Sulfate 15% Cellulose
Total Asbestos	**None Detected**			
568246-003 3	Wall at Bedroom 1	Plaster	White Grey	70% Minerals 27% Carbonate 3% Paint
Total Asbestos	**None Detected**			
568246-004 4	Wall at Bedroom 1	Button Board	White Brown	85% Sulfate 15% Cellulose
Total Asbestos	**None Detected**			
568246-005 5	Wall at Bedroom 3	Plaster	White Grey	70% Minerals 27% Carbonate 3% Paint
Total Asbestos	**None Detected**			
568246-006 6	Wall at Bedroom 3	Button Board	White Brown	85% Sulfate 15% Cellulose
Total Asbestos	**None Detected**			

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David Bower
1450 Shamrock Ave.
Monrovia, CA 92016

Report Number: 568246
Project Number: LA77343
Project Name: 1613 S. Magnolia Ave. Property
Project Location: 1613 S. Magnolia Ave.
Monrovia, 91016

Date Collected: 6/4/2015
Date Received: 6/4/2015
Date Analyzed: 6/4/2015
Date Reported: 6/4/2015

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
568246-007 7	Floor at Kitchen	12x12 VFT	Black	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-008 8	Floor at Kitchen	Glue	Yellow	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-009 9	Floor at Laundry Room	12x12 VFT	Black	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-010 10	Floor at Laundry Room	Glue	Yellow	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-011 11	Floor at Hall Bath	12x12 VFT	Black	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-012 12	Floor at Hall Bath	Glue	Yellow	100% Non-Fibrous Material
Total Asbestos	**None Detected**			

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David Bower
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Report Number: 568246
Project Number: LA77343
Project Name: 1613 S. Magnolia Ave. Property
Project Location: 1613 S. Magnolia Ave.
Monrovia, 91016

Date Collected: 6/4/2015
Date Received: 6/4/2015
Date Analyzed: 6/4/2015
Date Reported: 6/4/2015

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
568246-013 13	Floor at Living Room	Carpet Glue	Yellow	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-014 14	Floor at Hallway	Carpet Glue	Yellow	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-015 15	Floor at Bedroom 2	Carpet Glue	Yellow	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-016 16	Ext Window at Outside Living Room	Window Putty	Beige Blue	94% Carbonate 3% Paint
Chrysotile	3 %			
Total Asbestos	**3 %**			
568246-017 17	Ext Window at Outside Laundry Room	Window Putty	Beige Blue	94% Carbonate 3% Paint
Chrysotile	3 %			
Total Asbestos	**3 %**			
568246-018 18	Ext Window at Outside Bedroom 2	Window Putty	Beige Blue	94% Carbonate 3% Paint
Chrysotile	3 %			
Total Asbestos	**3 %**			

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David Bower
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Report Number: 568246
Project Number: LA77343
Project Name: 1613 S. Magnolia Ave. Property
Project Location: 1613 S. Magnolia Ave.
Monrovia, 91016

Date Collected: 6/4/2015
Date Received: 6/4/2015
Date Analyzed: 6/4/2015
Date Reported: 6/4/2015

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
568246-019 19	Ext Wall at Front Side	Exterior Stucco	Grey White	85% Minerals 13% Carbonate 2% Paint
Total Asbestos	**None Detected**			
568246-020 20	Ext Wall at Back Side	Exterior Stucco	Grey White	85% Minerals 13% Carbonate 2% Paint
Total Asbestos	**None Detected**			
568246-021 21	Ext Wall at Driveway Side	Exterior Stucco	Grey White	85% Minerals 13% Carbonate 2% Paint
Total Asbestos	**None Detected**			
568246-022 22	Roof at North End	Roof Core Sample	Black White	65% Tar 15% Glass Fibers 20% Minerals
Total Asbestos	**None Detected**			
568246-023 23	Roof at Center	Roof Core Sample	Black White	65% Tar 15% Glass Fibers 20% Minerals
Total Asbestos	**None Detected**			

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David Bower
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Monrovia, CA 92016

Report Number: 568246
Project Number: LA77343
Project Name: 1613 S. Magnolia Ave. Property
Project Location: 1613 S. Magnolia Ave.
Monrovia, 91016

Date Collected: 6/4/2015
Date Received: 6/4/2015
Date Analyzed: 6/4/2015
Date Reported: 6/4/2015

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
568246-024 24	Roof at East End	Roof Core Sample	Black White	65% Tar 15% Glass Fibers 20% Minerals
Total Asbestos	**None Detected**			
568246-025 25	Roof At Penetrations	Roof Mastic	Black Grey	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			
568246-026 26	Roof At Penetrations	Roof Mastic	Black Grey	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			
568246-027 27	Roof at Fireplace Chimney	Roof Mastic	Black Grey	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			

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Report Number:	568246
Project Number:	LA77343
Project Name:	1613 S. Magnolia Ave. Property
Project Location:	1613 S. Magnolia Ave. Monrovia, 91016

Date Collected:	6/4/2015	Collected By:	Victor Ruiz
Date Received:	6/4/2015	Claim Number:	
Date Analyzed:	6/4/2015	PO Number:	
Date Reported:	6/4/2015	Number of Samples:	27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)

Peter Mai - Analyst

Ian Reyes - Approved By

Bulk sample(s) submitted was (were) analyzed in accordance with the procedure outlined in the US Federal Register 40 CFR 763, Subpart F, Appendix A; EPA-600/R-93/116 (Method for Determination of Asbestos in Building Materials), and EPA-600/M4-82-020 (US EPA Interim Method for the Determination of Asbestos in Bulk Insulation Samples).Samples were analyzed using Calibrated Visual Estimations (CVES); therefore, results may not be reliable for samples of low asbestos concentration levels. Samples of wall systems containing discrete and separable layers are analyzed separately and reported as composite unless specifically requested by the customer to report analytical results for individual layers. This report applies only to the items tested. Results are representative of the samples submitted and may not represent the entire material from which the samples were collected. "None Detected" means that no asbestos was observed in the sample. "<1%" (less than one percent) means that asbestos was observed in the sample but the concentration is below the quantifiable level of 1%. This report was issued by a NIST/NVLAP (Lab Code 201014-0) and CADOHS- ELAP (Cert. No. 2893) accredited laboratory and may not be reproduced, except in full without the expressed written consent of Patriot Environmental Laboratory Services, Inc. This report may not be used to claim product certification, approval or endorsement by NIST, NVLAP, ELAP or any government agency.

568246

Requested Lab TAT:
( ) ERS (X) 24 HOUR

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PATRIOT
Environmental Laboratory Services, Inc.

ASBESTOS FIELD BULK SAMPLE COC

Project Name:	Project #:	Office Use Only:
1613 S. Magnolia Ave Property	LA77343	☐ MH

Project Address:	City:	Zip:
1613 S. Magnolia Ave	Monrovia	

Sample ID	Sample Location	Material Type	F	NF	Condition	Notes
1/2	Wall @ kitchen	Plaster / Button Board		X	Good	3600 #
3/4	" @ Bedroom 1	"		↓	↓	↓
5/6	" @ Bedroom 3	"		↓	↓	↓
7/8	Floor @ kitchen	12x12 Black VFT w/ glue		X	Good	250 #
9/10	" @ Laundry Rm	"		↓	↓	↓
11/12	" @ Hall Bath	"		↓	↓	↓
13	Floor @ Living Room	Carpet glue		X	Good	1500 #
14	" @ Hallway	"		↓	↓	↓
15	" @ Bedroom 2	"		↓	↓	↓
16	Ext window @ outside Living Room	Window Putty	X		Good	100 #
17	" @ outside Laundry Room	"	↓		↓	↓
18	" @ outside Bedroom 2	"	↓		↓	↓
19	Ext Wall @ Front side	Ext Stucco		X	Good	2500 #
20	" @ Back side	"		↓	↓	↓
21	" @ Driveway side	"		↓	↓	↓
22	Roof @ North End	Roof Core Sample		X	Good	1600 #
23	" @ Center	"		↓	↓	↓
24	" @ East End	"		↓	↓	↓

JUN 4 15 11:07

Samples Relinquished By: Sign:		Date/Time:
Samples Relinquished By: Sign:		Date/Time: 6/4 11:10

Continuation Page:
Project #: LA 97343

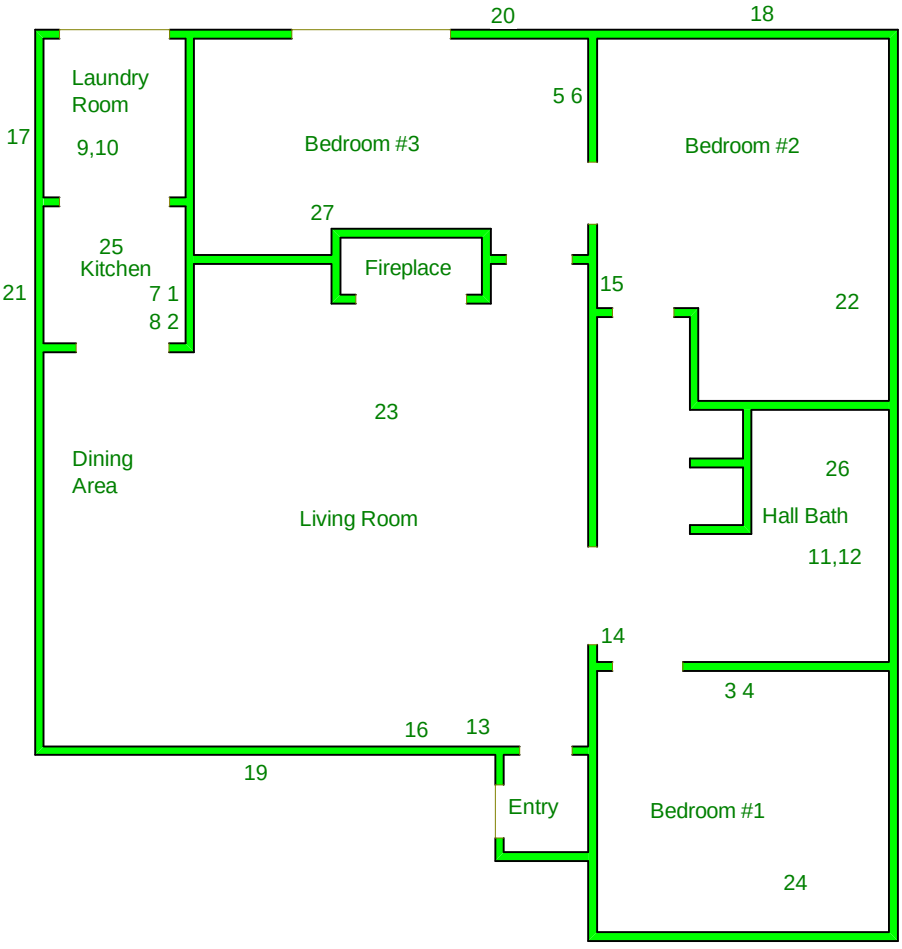
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PATRIOT
Environmental Laboratory Services, Inc.

ASBESTOS FIELD BULK SAMPLE COC

Sample ID	Sample Location	Material Type	F	NF	Condition	Notes
25	Roof @ Penetrations	Roof mastic		X	Good	25
26	" "	"		↓	↓	↓
27	" @ Fireplace chimney	"		↓	↓	↓

Samples Relinquished By: Sign: [signature] Date/Time: 6/3/15
Samples Relinquished By: Sign: [signature] Date/Time: 6/4/15



1613 S. Magnolia Ave. Property
1613 S. Magnolia Ave.
Monrovia, CA 91016

Project No: LA77343

Certificate of Analysis
PLM Asbestos Identification

tel - 310-670-7900
free - 855-507-8900
fax - 310-697-0177
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5830B Hannum Avenue, Culver City, CA 90230

PATRIOT
Environmental Laboratory Services, Inc.

Sierra Pursuits, Inc.
David Bower
1450 Shamrock Ave.
Monrovia, CA 92016

Report Number:	568246
Project Number:	LA77343
Project Name:	1613 S. Magnolia Ave. Property
Project Location:	1613 S. Magnolia Ave. Monrovia, 91016

Date Collected:	6/4/2015	Collected By:	Victor Ruiz
Date Received:	6/4/2015	Claim Number:	
Date Analyzed:	6/4/2015	PO Number:	
Date Reported:	6/4/2015	Number of Samples:	27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
568246-001 1	Wall at Kitchen	Plaster	White Grey	70% Minerals 27% Carbonate 3% Paint
Total Asbestos	**None Detected**			
568246-002 2	Wall at Kitchen	Button Board	White Brown	85% Sulfate 15% Cellulose
Total Asbestos	**None Detected**			
568246-003 3	Wall at Bedroom 1	Plaster	White Grey	70% Minerals 27% Carbonate 3% Paint
Total Asbestos	**None Detected**			
568246-004 4	Wall at Bedroom 1	Button Board	White Brown	85% Sulfate 15% Cellulose
Total Asbestos	**None Detected**			
568246-005 5	Wall at Bedroom 3	Plaster	White Grey	70% Minerals 27% Carbonate 3% Paint
Total Asbestos	**None Detected**			
568246-006 6	Wall at Bedroom 3	Button Board	White Brown	85% Sulfate 15% Cellulose
Total Asbestos	**None Detected**			

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David Bower
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Monrovia, CA 92016

Report Number: 568246
Project Number: LA77343
Project Name: 1613 S. Magnolia Ave. Property
Project Location: 1613 S. Magnolia Ave.
Monrovia, 91016

Date Collected: 6/4/2015
Date Received: 6/4/2015
Date Analyzed: 6/4/2015
Date Reported: 6/4/2015

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
568246-007 7	Floor at Kitchen	12x12 VFT	Black	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-008 8	Floor at Kitchen	Glue	Yellow	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-009 9	Floor at Laundry Room	12x12 VFT	Black	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-010 10	Floor at Laundry Room	Glue	Yellow	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-011 11	Floor at Hall Bath	12x12 VFT	Black	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-012 12	Floor at Hall Bath	Glue	Yellow	100% Non-Fibrous Material
Total Asbestos	**None Detected**			

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David Bower
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Report Number: 568246
Project Number: LA77343
Project Name: 1613 S. Magnolia Ave. Property
Project Location: 1613 S. Magnolia Ave.
Monrovia, 91016

Date Collected: 6/4/2015
Date Received: 6/4/2015
Date Analyzed: 6/4/2015
Date Reported: 6/4/2015

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
568246-013 13	Floor at Living Room	Carpet Glue	Yellow	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-014 14	Floor at Hallway	Carpet Glue	Yellow	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-015 15	Floor at Bedroom 2	Carpet Glue	Yellow	100% Non-Fibrous Material
Total Asbestos	**None Detected**			
568246-016 16	Ext Window at Outside Living Room	Window Putty	Beige Blue	94% Carbonate 3% Paint
Chrysotile	3 %			
Total Asbestos	**3 %**			
568246-017 17	Ext Window at Outside Laundry Room	Window Putty	Beige Blue	94% Carbonate 3% Paint
Chrysotile	3 %			
Total Asbestos	**3 %**			
568246-018 18	Ext Window at Outside Bedroom 2	Window Putty	Beige Blue	94% Carbonate 3% Paint
Chrysotile	3 %			
Total Asbestos	**3 %**			

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Report Number: 568246
Project Number: LA77343
Project Name: 1613 S. Magnolia Ave. Property
Project Location: 1613 S. Magnolia Ave.
Monrovia, 91016

Date Collected: 6/4/2015
Date Received: 6/4/2015
Date Analyzed: 6/4/2015
Date Reported: 6/4/2015

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
568246-019 19	Ext Wall at Front Side	Exterior Stucco	Grey White	85% Minerals 13% Carbonate 2% Paint
Total Asbestos	**None Detected**			
568246-020 20	Ext Wall at Back Side	Exterior Stucco	Grey White	85% Minerals 13% Carbonate 2% Paint
Total Asbestos	**None Detected**			
568246-021 21	Ext Wall at Driveway Side	Exterior Stucco	Grey White	85% Minerals 13% Carbonate 2% Paint
Total Asbestos	**None Detected**			
568246-022 22	Roof at North End	Roof Core Sample	Black White	65% Tar 15% Glass Fibers 20% Minerals
Total Asbestos	**None Detected**			
568246-023 23	Roof at Center	Roof Core Sample	Black White	65% Tar 15% Glass Fibers 20% Minerals
Total Asbestos	**None Detected**			

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Project Location: 1613 S. Magnolia Ave.
Monrovia, 91016

Date Collected: 6/4/2015
Date Received: 6/4/2015
Date Analyzed: 6/4/2015
Date Reported: 6/4/2015

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)
568246-024 24	Roof at East End	Roof Core Sample	Black White	65% Tar 15% Glass Fibers 20% Minerals
Total Asbestos	**None Detected**			
568246-025 25	Roof At Penetrations	Roof Mastic	Black Grey	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			
568246-026 26	Roof At Penetrations	Roof Mastic	Black Grey	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			
568246-027 27	Roof at Fireplace Chimney	Roof Mastic	Black Grey	95% Tar
Chrysotile	5 %			
Total Asbestos	**5 %**			

Certificate of Analysis
PLM Asbestos Identification

tel - 310-670-7900
free - 855-507-8900
fax - 310-697-0177
www.PatriotLab.com
5830B Hannum Avenue, Culver City, CA 90230

Sierra Pursuits, Inc.
David Bower
1450 Shamrock Ave.
Monrovia, CA 92016

Report Number:	568246
Project Number:	LA77343
Project Name:	1613 S. Magnolia Ave. Property
Project Location:	1613 S. Magnolia Ave. Monrovia, 91016

Date Collected:	6/4/2015	Collected By:	Victor Ruiz
Date Received:	6/4/2015	Claim Number:	
Date Analyzed:	6/4/2015	PO Number:	
Date Reported:	6/4/2015	Number of Samples:	27

Lab/Client ID/Layer	Location	Material Description	Color	Composition (%)

Peter Mai - Analyst

Ian Reyes - Approved By

Bulk sample(s) submitted was (were) analyzed in accordance with the procedure outlined in the US Federal Register 40 CFR 763, Subpart F, Appendix A; EPA-600/R-93/116 (Method for Determination of Asbestos in Building Materials), and EPA-600/M4-82-020 (US EPA Interim Method for the Determination of Asbestos in Bulk Insulation Samples).Samples were analyzed using Calibrated Visual Estimations (CVES); therefore, results may not be reliable for samples of low asbestos concentration levels. Samples of wall systems containing discrete and separable layers are analyzed separately and reported as composite unless specifically requested by the customer to report analytical results for individual layers. This report applies only to the items tested. Results are representative of the samples submitted and may not represent the entire material from which the samples were collected. "None Detected" means that no asbestos was observed in the sample. "<1%" (less than one percent) means that asbestos was observed in the sample but the concentration is below the quantifiable level of 1%. This report was issued by a NIST/NVLAP (Lab Code 201014-0) and CADOHS- ELAP (Cert. No. 2893) accredited laboratory and may not be reproduced, except in full without the expressed written consent of Patriot Environmental Laboratory Services, Inc. This report may not be used to claim product certification, approval or endorsement by NIST, NVLAP, ELAP or any government agency.

568246

Requested Lab TAT:
( ) ERS (X) 24 HOUR

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www.PatriotLab.com
1041 S. Placentia Avenue, Fullerton, CA 92831

PATRIOT
Environmental Laboratory Services, Inc.

ASBESTOS FIELD BULK SAMPLE COC

Project Name:	Project #:	Office Use Only:
1613 S. Magnolia Ave Property	LA77343	☐ MH

Project Address:	City:	Zip:
1613 S. Magnolia Ave	Monrovia	

Sample ID	Sample Location	Material Type	F	NF	Condition	Notes
1/2	Wall @ kitchen	Plaster / Button Board		X	Good	3600 #
3/4	" @ Bedroom 1	"		↓	↓	↓
5/6	" @ Bedroom 3	"		↓	↓	↓
7/8	Floor @ kitchen	12x12 Black VFT w/ glue		X	Good	250 #
9/10	" @ Laundry Rm	"		↓	↓	↓
11/12	" @ Hall Bath	"		↓	↓	↓
13	Floor @ Living Room	Carpet glue		X	Good	1500 #
14	" @ Hallway	"		↓	↓	↓
15	" @ Bedroom 2	"		↓	↓	↓
16	Ext window @ outside Living Room	Window Putty	X		Good	100 #
17	" @ outside Laundry Room	"	↓		↓	↓
18	" @ outside Bedroom 2	"	↓		↓	↓
19	Ext Wall @ Front side	Ext Stucco		X	Good	2500 #
20	" @ Back side	"		↓	↓	↓
21	" @ Driveway side	"		↓	↓	↓
22	Roof @ North End	Roof Core Sample		X	Good	1600 #
23	" @ Center	"		↓	↓	↓
24	" @ East End	"		↓	↓	↓

JUN 4 15 11:07

Samples Relinquished By: Sign:		Date/Time:
Samples Relinquished By: Sign:		Date/Time: 6/4 11:10

Continuation Page:
Project #: LA 97343

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PATRIOT
Environmental Laboratory Services, Inc.

ASBESTOS FIELD BULK SAMPLE COC

Sample ID	Sample Location	Material Type	F	NF	Condition	Notes
25	Roof @ Penetrations	Roof mastic		X	Good	25
26	" "	"		↓	↓	↓
27	" @ Fireplace chimney	"		↓	↓	↓

Samples Relinquished By: Sign: [signature] Date/Time: 6/3/15
Samples Relinquished By: Sign: [signature] Date/Time: 6/4/15

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PATRIOT
Environmental Laboratory Services, Inc.

Janaury 8, 2016

David Bower
Sierra Pursuits, Inc.
1450 Shamrock Ave.
Monrovia, CA 92016

Re: **Lead-based Paint Inspection**
418 W. Evergreen Property
418 W. Evergreen
Monrovia, CA 91016

Project No: LA82769

Dear Mr. Bower,

On January 6, 2016 Patriot Environmental Laboratory Services Inc. (Patriot) was contracted to perform lead-based paint sample collection services for the site listed above. The structures surveyed included a single-story single-family residential structure. Twenty-two (22) paint chip samples were collected from various locations throughout the interior and exterior of the subject structure.

FINDINGS

The samples were collected at these locations and yielded the following results:

MATERIAL / SAMPLE #	LOCATION SAMPLE WAS COLLECTED	LEAD CONTENT (mg/kg)
(L-1) Tan Paint Chip	Wall at Living Room	2800
(L-2) Purple Paint Chip	Wall at Bedroom 1	<140
(L-3) White Paint Chip	Wall at Hall Bathroom	<140
(L-4) White Paint Chip	Door Casing at Hallway	<120
(L-5) White Paint Chip	Door at Bedroom 2	<150
(L-6) White Paint Chip	Baseboard at Hall Bathroom	870
(L-7) White Paint Chip	Window Sill at Living Room	180

(L-8) Brown Paint Chip White Paint Chip	Window Casing at Living Room	<160
(L-9) Tan Paint Chip	Door Casing at Kitchen	540
(L-10) Tan Paint Chip	Window Sill at Kitchen	<130
(L-11) Tan Paint Chip	Window Casing at Kitchen	1700
(L-12) Tan Paint Chip	Cabinet Linen at Hallway	520
(L-13) White Paint Chip	Closet Door Casing at Bedroom 2	3600
(L-14) Tan Paint Chip	Kitchen Cabinets at Kitchen	590
(L-15) White Paint Chip	Exterior Window Sill at Kitchen	440
(L-16) White Paint Chip	Exterior Window Casing at Kitchen	600
(L-17) White Paint Chip	Exterior Wall at Front of House	<150
(L-18) Grey Paint Chip	Wall at Hall Bathroom	<130
(L-19) Grey Paint Chip	Floor at Hall Bathroom	<170
(L-20) Tan Paint Chip	**Siding at Back of House at Garage**	**22000**
(L-21) White Paint Chip	Fascia at Exterior North End	4800
(L-22) White Paint Chip	Eave at Exterior North End	4100

Note: As established by the HUD Guidelines, the definition of a Lead-based paint (LBP) is any paint, varnish, lacquer, putty, plaster, or similar coating material which contains lead or its compounds in excess of 5,000 parts per million (ppm) by dry weight or more of lead.
The consumer products safety commission defines lead-based paint as any paint, varnish, lacquer, putty, plaster, or similar coating material, which contains lead or its compounds in excess of 600 ppm.

FINDINGS

The table above indicates that several painted surfaces throughout the subject structure contain lead. These sample results are indicative of all similar building components located throughout the surveyed structure. One (1) of the twenty two (22) paint chip samples was determined to contain lead above 5,000 ppm. A complete copy of all laboratory data is provided as an attachment to this document. On the day the inspection was conducted the interior and exterior painted surfaces of the building were in good condition.

CONCLUSIONS / RECOMMENDATIONS

Patriot recommends that waste characterization sampling be conducted on components and waste streams that were determined to be lead-containing to establish which waste disposal requirements a required for these items. Physical removal of the components should only be conducted in accordance with Title 17, CCR, Division 1, Chapter 8: Accreditation, Certification, and Work Practices for Lead-Based Paint and Lead Hazards.

It is important to note that lower concentrations of lead were detected on other components throughout the site structures (see lead-based paint summary data). Therefore, Patriot recommends that any contractor who would disturb any lead-laden surfaces be notified of the hazard and their requirement to comply with the OSHA Lead in Construction Standard (1926.62) and Cal/OSHA CONSTRUCTION SAFETY ORDERS, LEAD SECTION 1532.1, Title 8, California Code of Regulations (CCR), effective November 4, 1993 (revised March 7, 1997).

All lead related construction work performed in the State of California must be in compliance with Title 17, CCR, Division 1, Chapter 8: Accreditation, Certification, and Work Practices for Lead-Based Paint and Lead Hazards.

Patriot would be pleased to answer any questions that you may have regarding this report.

Sincerely,



Chris Blake

California DPH Certified LBP Inspector/ Risk Assessor #6283
California DPH Certified LBP Project Monitor #6283
California DPH Certified LBP Project Designer #6283

Enclosure: Laboratory results

Certificate of Analysis
Lead in Paint
SOP IV.6.4c/IV.5c

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www.patriotlab.com
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PATRIOT Environmental Laboratory Services, Inc.

Sierra Pursuits, Inc.
David Bower
1450 Shamrock Ave.
Monrovia, CA 92016

Report Number: 594446
Project Number: LA82769
Project Name: 418 W. Evergreen Property
Project Location: 418 W. Evergreen Monrovia, 91016

Date Collected: 1/6/2016
Date Received: 1/6/2016
Date Analyzed: 1/7/2016
Date Reported: 1/7/2016

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 22

Lab/Client ID	Location	Material Description	Result (ppm)
594446-001 L-1	Wall at Living Room	Tan Paint Chip	2800
594446-002 L-2	Wall at Bedroom 1	Purple Paint Chip	<140
594446-003 L-3	Wall at H Bath	White Paint Chip	<140
594446-004 L-4	Door Casing at Hallway	White Paint Chip	<120
594446-005 L-5	Door at Bedroom 2	White Paint Chip	<150
594446-006 L-6	Baseboard at H Bath	White Paint Chip	870
594446-007 L-7	Window Sill at Living Room	White Paint Chip	180
594446-008 L-8	Window Casing at Living Room	White Paint Chip	<160
594446-009 L-9	Door Casing at Kitchen	Tan Paint Chip	540
594446-010 L-10	Window Sill at Kitchen	Tan Paint Chip	<130
594446-011 L-11	Window Casing at Kitchen	Tan Paint Chip	1700
594446-012 L-12	Cabinet Linen at Hallway	Tan Paint Chip	520

Certificate of Analysis
Lead in Paint
SOP IV.6.4c/IV.5c

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Sierra Pursuits, Inc.
David Bower
1450 Shamrock Ave.
Monrovia, CA 92016

Report Number: 594446
Project Number: LA82769
Project Name: 418 W. Evergreen Property
Project Location: 418 W. Evergreen
Monrovia, 91016

Date Collected: 1/6/2016
Date Received: 1/6/2016
Date Analyzed: 1/7/2016
Date Reported: 1/7/2016

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 22

Lab/Client ID	Location	Material Description	Result (ppm)
594446-013 L-13	Closet Door Casing at Bedroom 2	White Paint Chip	3600
594446-014 L-14	Kitchen Cabinets at Kitchen	Tan Paint Chip	590
594446-015 L-15	Ext Window Sill at Kitchen	White Paint Chip	440
594446-016 L-16	Ext Window Casing at Kitchen	White Paint Chip	600
594446-017 L-17	Ext Wall at Front of House	White Paint Chip	<150
594446-018 L-18	Wall at Hall Bath	Grey Paint Chip	<130
594446-019 L-19	Floor at Hall Bath	Grey Paint Chip	<170
594446-020 L-20	Siding at Back of House at Garage	Tan Paint Chip	22000
594446-021 L-21	Facia at Ext North End	White Paint Chip	4800
594446-022 L-22	Eave at Ext North End	White Paint Chip	4100

Certificate of Analysis
Lead in Paint
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Sierra Pursuits, Inc.
David Bower
1450 Shamrock Ave.
Monrovia, CA 92016

Report Number:	594446
Project Number:	LA82769
Project Name:	418 W. Evergreen Property
Project Location:	418 W. Evergreen Monrovia, 91016

Date Collected:	1/6/2016	Collected By:	Victor Ruiz
Date Received:	1/6/2016	Claim Number:	
Date Analyzed:	1/7/2016	PO Number:	
Date Reported:	1/7/2016	Number of Samples:	22

Lab/Client ID	Location	Material Description	Result (ppm)

MeShaun Quiambao - Analyst

Ian Reyes - Approved By

Reporting Limit: 20ug or 100ppm for samples weighed >200mg under normal preparatory conditions. Reporting limit may change depending on the amount of material weighed for analysis and/or the final preparatory dilution. EPA Renovation, Repair, and Painting Rule (40CFR745) Guidelines: 0.5% lead by weight of paint or 5000ppm. Condition of samples as received is fair unless otherwise noted. The results reported pertain only to the items tested. Test data are accurate to two significant figures. Data have not been corrected with instrument or process blanks. Unless otherwise noted, the reported test results have passed necessary quality control requirements. Reference Method: EPA 3050B/7420. This report was issued by a DOHS ELAP (Lab No.2540) accredited laboratory and may not be reproduced, except in full, without the expressed written consent of Patriot Environmental Laboratory Services, Inc. This report must not be used to claim product certification, approval or endorsement by DOHS ELAP or any government agency.

594446

Turnaround Time: (check one)
( ) ERS
(X) 24 HOUR

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PATRIOT
Environmental Laboratory Services, Inc.

#5 EOD 1/7

LEAD CHAIN OF CUSTODY

Name: 418 W. Evergreen	**Project #:** LA22769
Project Address: 418 W. Evergreen	**City, Zip:** Monrovia

Sample #	Sample Description	Location	Condition / Area Wiped	Substrate
L-1	(X) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	WALL @ Living Room	Intact	Plaster
L-2	(X) Paint Chip Purple ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Wall @ Bedroom 1	|	"
L-3	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	WALL @ H-BATH	|	"
L-4	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Door casing @ Hallway	|	Wood
L-5	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Door @ Bedroom 2	|	"
L-6	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	baseboard @ H-BATH	|	"
L-7	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Window sill @ Living Room	|	"
L-8	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Window casing @ Living Room	|	"
L-9	(X) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Door casing @ kitchen	|	"
L-10	(X) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Window sill @ kitchen	|	"

Samples Relinquished By:	Sign:	Date/Time: 1/6/16
Samples Received By:	Sign:	Date/Time: JAN 6 PM 4:58 1/6 @ 5PM

594446

Turnaround Time: (check one)
( ) ERS
(X) 24 HOUR

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www.PatriotLab.com
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PATRIOT
Environmental Laboratory Services, Inc.

LEAD CHAIN OF CUSTODY

Name: 418 W. Evergreen	**Project #:** LA22769
Project Address: 418 W. Evergreen	**City, Zip:** Monrovia

Sample #	Sample Description	Location	Condition / Area Wiped	Substrate
L-11	(X) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Window casing @ kitchen	Intact	wood
L-12	(X) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Cabinet (Linen) @ Hallway		"
L-13	(X) Paint Chip Wh. TC ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Closet door casing @ Bedroom 2		"
L-14	(X) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Kitchen Cabinets @ kitchen		"
L-15	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Ext window sill @ kitchen		"
L-16	(X) Paint Chip white ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Ext window casing @ kitchen		"
L-17	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Ext wall @ Front of House		stucco
L-18	( ) Paint Chip Grey (X) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	wall @ Hall Bath		Tile
L-19	( ) Paint Chip Grey (X) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Floor @ Hall Bath		"
L-20	( ) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Siding @ Back of House at Garage	Not Intact	wood

Samples Relinquished By: Sign:	Date/Time:	1/6/16
Samples Received By: Sign:	Date/Time:	1/6 5PM

544446

Turnaround Time: (check one)
( ) ERS
(X) 24 HOUR

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PATRIOT
Environmental Laboratory Services, Inc.

LEAD CHAIN OF CUSTODY

Name: 418 W. Evergreen	**Project #:** LA82769
Project Address: 418 W. Evergreen	**City, Zip:** Monrovia

Sample #	Sample Description	Location	Condition / Area Wiped	Substrate
L-21	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Facia @ Ext North End	Intact	Wood
L-22	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Fence @ Ext North End	11	11
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			

Samples Relinquished By:	Sign:	Date/Time: 1/6/16
Samples Received By:	Sign: MD	Date/Time: 1/6 5pm

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PATRIOT
Environmental Laboratory Services, Inc.

Valued Customer,

Please find attached lead laboratory results for your project. For your convenience the following regulatory information is provided.

Through the **EPA**[1], the RRP (Renovation, Repair, and Painting Rule) defines lead based paint as any paint, varnish, lacquer, putty, plaster, or similar coating material which contains lead or its compounds in excess of 5,000 parts per million (ppm) by dry weight.

OSHA[2] regulates any and all levels of lead in paint when that paint is disturbed and exposed to the employee above the action level of 30 micrograms per square meter of air.

The attached laboratory data should be provided to any contactor or individual that may disturb painted surfaces with any amount of lead at your project.

If you have any questions regarding your results do not hesitate to contact the Field Department at 714.548.3300. We will be more than happy to assist you with any inquiries you may have regarding this project.

Regards,

The Field Department
direct 714.548.3300 | tel 714.899.8900 | fax 714.899.7098 | fieldservices@patriotlab.com

1 “Renovation, Repair and Painting (RRP).” *Lead in Paint, Dust, and Soil*. 4 April 2011. 12 April 2011. www.epa.gov/lead/pubs/renovation.htm.
2 “Title 8 California Code of Regulations.” *Cal/OSHA Construction Safety Orders, Lead Section 1532.1*. 6 March 2007. 18 April 2011. www.cdph.ca.gov/programs/olppp/Documents/lic.pdf.

Certificate of Analysis
Lead in Paint
SOP IV.6.4c/IV.5c

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PATRIOT Environmental Laboratory Services, Inc.

Sierra Pursuits, Inc.
David Bower
1450 Shamrock Ave.
Monrovia, CA 92016

Report Number: 594446
Project Number: LA82769
Project Name: 418 W. Evergreen Property
Project Location: 418 W. Evergreen Monrovia, 91016

Date Collected: 1/6/2016
Date Received: 1/6/2016
Date Analyzed: 1/7/2016
Date Reported: 1/7/2016

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 22

Lab/Client ID	Location	Material Description	Result (ppm)
594446-001 L-1	Wall at Living Room	Tan Paint Chip	2800
594446-002 L-2	Wall at Bedroom 1	Purple Paint Chip	<140
594446-003 L-3	Wall at H Bath	White Paint Chip	<140
594446-004 L-4	Door Casing at Hallway	White Paint Chip	<120
594446-005 L-5	Door at Bedroom 2	White Paint Chip	<150
594446-006 L-6	Baseboard at H Bath	White Paint Chip	870
594446-007 L-7	Window Sill at Living Room	White Paint Chip	180
594446-008 L-8	Window Casing at Living Room	White Paint Chip	<160
594446-009 L-9	Door Casing at Kitchen	Tan Paint Chip	540
594446-010 L-10	Window Sill at Kitchen	Tan Paint Chip	<130
594446-011 L-11	Window Casing at Kitchen	Tan Paint Chip	1700
594446-012 L-12	Cabinet Linen at Hallway	Tan Paint Chip	520

Certificate of Analysis
Lead in Paint
SOP IV.6.4c/IV.5c

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Sierra Pursuits, Inc.
David Bower
1450 Shamrock Ave.
Monrovia, CA 92016

Report Number: 594446
Project Number: LA82769
Project Name: 418 W. Evergreen Property
Project Location: 418 W. Evergreen
Monrovia, 91016

Date Collected: 1/6/2016
Date Received: 1/6/2016
Date Analyzed: 1/7/2016
Date Reported: 1/7/2016

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 22

Lab/Client ID	Location	Material Description	Result (ppm)
594446-013 L-13	Closet Door Casing at Bedroom 2	White Paint Chip	3600
594446-014 L-14	Kitchen Cabinets at Kitchen	Tan Paint Chip	590
594446-015 L-15	Ext Window Sill at Kitchen	White Paint Chip	440
594446-016 L-16	Ext Window Casing at Kitchen	White Paint Chip	600
594446-017 L-17	Ext Wall at Front of House	White Paint Chip	<150
594446-018 L-18	Wall at Hall Bath	Grey Paint Chip	<130
594446-019 L-19	Floor at Hall Bath	Grey Paint Chip	<170
594446-020 L-20	Siding at Back of House at Garage	Tan Paint Chip	22000
594446-021 L-21	Facia at Ext North End	White Paint Chip	4800
594446-022 L-22	Eave at Ext North End	White Paint Chip	4100

Certificate of Analysis
Lead in Paint
SOP IV.6.4c/IV.5c

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Monrovia, CA 92016

Report Number:	594446
Project Number:	LA82769
Project Name:	418 W. Evergreen Property
Project Location:	418 W. Evergreen Monrovia, 91016

Date Collected:	1/6/2016	Collected By:	Victor Ruiz
Date Received:	1/6/2016	Claim Number:	
Date Analyzed:	1/7/2016	PO Number:	
Date Reported:	1/7/2016	Number of Samples:	22

Lab/Client ID	Location	Material Description	Result (ppm)

MeShaun Quiambao - Analyst

Ian Reyes - Approved By

Reporting Limit: 20ug or 100ppm for samples weighed >200mg under normal preparatory conditions. Reporting limit may change depending on the amount of material weighed for analysis and/or the final preparatory dilution. EPA Renovation, Repair, and Painting Rule (40CFR745) Guidelines: 0.5% lead by weight of paint or 5000ppm. Condition of samples as received is fair unless otherwise noted. The results reported pertain only to the items tested. Test data are accurate to two significant figures. Data have not been corrected with instrument or process blanks. Unless otherwise noted, the reported test results have passed necessary quality control requirements. Reference Method: EPA 3050B/7420. This report was issued by a DOHS ELAP (Lab No.2540) accredited laboratory and may not be reproduced, except in full, without the expressed written consent of Patriot Environmental Laboratory Services, Inc. This report must not be used to claim product certification, approval or endorsement by DOHS ELAP or any government agency.

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#5 EOD 1/7

LEAD CHAIN OF CUSTODY

Name: 418 W. Evergreen	**Project #:** LA22769
Project Address: 418 W. Evergreen	**City, Zip:** Monrovia

Sample #	Sample Description	Location	Condition / Area Wiped	Substrate
L-1	(X) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	WALL @ Living Room	Intact	Plaster
L-2	(X) Paint Chip Purple ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Wall @ Bedroom 1		"
L-3	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	WALL @ H-BATH		"
L-4	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Door casing @ Hallway		Wood
L-5	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Door @ Bedroom 2		"
L-6	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	baseboard @ H-BATH		"
L-7	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Window sill @ Living Room		"
L-8	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Window casing @ Living Room		"
L-9	(X) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Door casing @ kitchen		"
L-10	(X) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Window sill @ kitchen		"

Samples Relinquished By: Sign:	Date/Time: 1/6/16
Samples Received By: Sign:	Date/Time: JAN 6 PM 4:58 1/6 @ 5PM

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PATRIOT
Environmental Laboratory Services, Inc.

LEAD CHAIN OF CUSTODY

Name: 418 W. Evergreen	**Project #:** LA22769
Project Address: 418 W. Evergreen	**City, Zip:** Monrovia

Sample #	Sample Description	Location	Condition / Area Wiped	Substrate
L-11	(X) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Window casing @ kitchen	Intact	wood
L-12	(X) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Cabinet (Linen) @ Hallway		"
L-13	(X) Paint Chip Wh. TC ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Closet door casing @ Bedroom 2		"
L-14	(X) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Kitchen Cabinets @ kitchen		"
L-15	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Ext window sill @ kitchen		"
L-16	(X) Paint Chip white ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Ext window casing @ kitchen		"
L-17	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Ext wall @ Front of House		stucco
L-18	( ) Paint Chip Grey (X) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	wall @ Hall Bath		Tile
L-19	( ) Paint Chip Grey (X) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Floor @ Hall Bath		"
L-20	( ) Paint Chip TAN ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Siding @ Back of House at Garage	Not Intact	wood

Samples Relinquished By: Sign:	Date/Time:	1/6/16
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Environmental Laboratory Services, Inc.

LEAD CHAIN OF CUSTODY

Name: 418 W. Evergreen	**Project #:** LA82769
Project Address: 418 W. Evergreen	**City, Zip:** Monrovia

Sample #	Sample Description	Location	Condition / Area Wiped	Substrate
L-21	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Facia @ Ext North End	Intact	Wood
L-22	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Fence @ Ext North End	11	11
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
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	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			
	( ) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			

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Samples Received By:	Sign: MD	Date/Time: 1/6 5pm

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PATRIOT
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Valued Customer,

Please find attached lead laboratory results for your project. For your convenience the following regulatory information is provided.

Through the **EPA**[1], the RRP (Renovation, Repair, and Painting Rule) defines lead based paint as any paint, varnish, lacquer, putty, plaster, or similar coating material which contains lead or its compounds in excess of 5,000 parts per million (ppm) by dry weight.

OSHA[2] regulates any and all levels of lead in paint when that paint is disturbed and exposed to the employee above the action level of 30 micrograms per square meter of air.

The attached laboratory data should be provided to any contactor or individual that may disturb painted surfaces with any amount of lead at your project.

If you have any questions regarding your results do not hesitate to contact the Field Department at 714.548.3300. We will be more than happy to assist you with any inquiries you may have regarding this project.

Regards,

The Field Department
direct 714.548.3300 | tel 714.899.8900 | fax 714.899.7098 | fieldservices@patriotlab.com

1 “Renovation, Repair and Painting (RRP).” *Lead in Paint, Dust, and Soil*. 4 April 2011. 12 April 2011. www.epa.gov/lead/pubs/renovation.htm.
2 “Title 8 California Code of Regulations.” *Cal/OSHA Construction Safety Orders, Lead Section 1532.1*. 6 March 2007. 18 April 2011. www.cdph.ca.gov/programs/olppp/Documents/lic.pdf.

Certificate of Analysis
Lead in Paint
SOP IV.6.4c/IV.5c

tel - 310-670-7900
free - 855-507-8900
fax - 310-697-0177
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5830B Hannum Avenue, Culver City, CA 90230

PATRIOT
Environmental Laboratory Services, Inc.

Sierra Pursuits, Inc.
David Bower
1450 Shamrock Ave.
Monrovia, CA 92016

Report Number: 568249
Project Number: LA77343
Project Name: 1613 S. Magnolia Ave. Propert
Project Location: 1613 S. Magnolia Ave. Monrovia, 91016

Date Collected: 6/3/2015
Date Received: 6/4/2015
Date Analyzed: 6/4/2015
Date Reported: 6/4/2015

Collected By: Victor Ruiz
Claim Number:
PO Number:
Number of Samples: 9

Lab/Client ID	Location	Material Description	Result (ppm)
568249-001 L1	Wall at Kitchen	White Paint Chip	<150
568249-002 L2	Wall at Bedroom 3	Purple Paint Chip	<110
568249-003 L3	Door Casing at Bedroom 1	White Paint Chip	<180
568249-004 L4	Door at Bedroom 1	White Paint Chip	<200
568249-005 L5	Window System at Living Room	White Paint Chip	<170
568249-006 L6	Ext Wall at Front of House	White Paint Chip	640
568249-007 L7	Facia at Front of House	Blue Paint Chip	49000
568249-008 L8	Ext Window System at Back of House	Blue Paint Chip	22000
568249-009 L9	Eave at Front of House	White Paint Chip	2200

Certificate of Analysis
Lead in Paint
SOP IV.6.4c/IV.5c

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David Bower
1450 Shamrock Ave.
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Date Reported:	6/4/2015	Number of Samples:	9

Lab/Client ID	Location	Material Description	Result (ppm)

Romina Tayag - Analyst

Peter Mai - Approved By

Reporting Limit: 20ug or 100ppm for samples weighed >200mg under normal preparatory conditions. Reporting limit may change depending on the amount of material weighed for analysis and/or the final preparatory dilution. EPA Renovation, Repair, and Painting Rule (40CFR745) Guidelines: 0.5% lead by weight of paint or 5000ppm. Condition of samples as received is fair unless otherwise noted. The results reported pertain only to the items tested. Test data are accurate to two significant figures. Data have not been corrected with instrument or process blanks. Unless otherwise noted, the reported test results have passed necessary quality control requirements. Reference Method: EPA 3050B/7420. This report was issued by a DOHS ELAP (Lab No.2893) accredited laboratory and may not be reproduced, except in full, without the expressed written consent of Patriot Environmental Laboratory Services, Inc. This report must not be used to claim product certification, approval or endorsement by DOHS ELAP or any government agency.

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PATRIOT
Environmental Laboratory Services, Inc.

LEAD CHAIN OF CUSTODY

Name: 1613 S. Magnolia Ave Property	**Project #:** LA77343
Project Address: 1613 S. Magnolia Ave	**City, Zip:** Monrovia

Sample #	Sample Description	Location	Condition / Area Wiped	Substrate
L-1	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	WALL @ Kitchen	Intact	Plaster
L-2	(X) Paint Chip Purple ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	WALL @ Bedroom #3		
L-3	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Door casing @ Bedroom #1		wood
L-4	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Door @ Bedroom #1		
L-5	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	window system @ Living Room		
L-6	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Ext WALL @ Front of House		Stucco
L-7	(X) Paint Chip Blue ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Facia @ Front of House		wood
L-8	(X) Paint Chip Blue ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Ext window system @ Back of House		
L-9	(X) Paint Chip White ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization	Fave @ Front of House		
L-10	(X) Paint Chip ( ) Ceramic Tile ( ) Lead Wipe ( ) Soil ( ) Waste Characterization			

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Samples Relinquished By: Sign:		Date/Time: 6/3/15
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Lead COC Rev 6.12.2012

APPENDIX G4
ASBESTOS MANAGEMENT PLAN

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ASBESTOS

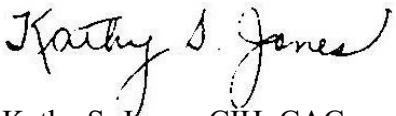
OPERATIONS AND MANAGEMENT PLAN

Applicable to

Sierra Auto Properties

Monrovia, CA 91016

Prepared By:



Kathy S. Jones, CIH, CAC
Vice President
December 1, 2011

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RESPIRATORY PROTECTION PROGRAM

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INTRODUCTION

Many buildings constructed during the 20th Century through the mid to late 1970's utilized some degree of asbestos in the construction process; which practice was formerly a standard in the building trade. Asbestos is a naturally-occurring family of fibrous minerals, which was used in building materials mainly as a fire-proofing and insulating agent, and is typically encountered in wrapped heating system insulation, structural fire-proofing, acoustical ceilings, vinyl flooring and roofing mastics. Asbestos was regularly used in many other non-building products as well. The Environmental Protection Agency (EPA) estimates the asbestos-containing materials (ACM) can currently be found in more than 31,000 schools and 733,000 other public and commercial buildings. In fact, asbestos fibers are generally present in urban air and water.

Extensive governmental regulation of asbestos now exists, and proposals have been made for additional regulations. No federal laws, regulations or standards, however, require wholesale removal of asbestos from an occupied building. Indeed, the EPA has concluded that "[T]he presence of asbestos in a building does not mean that the health of building occupants is endangered. If asbestos-containing material remains in good condition and is unlikely to be disturbed, exposure will be negligible." The truth of both current EPA and OSHA requirements and non-binding guidance is to identify the materials that are releasing or could release asbestos fibers into the air (inhalation of which could present a health hazard), implement proper response actions when such materials are located, maintain asbestos in good condition, and follow appropriate work practices when disturbance of asbestos is unavoidable.

PROGRAM MANAGEMENT

The Sierra Auto Properties, LLC Manager (Peter Hoffman) or his designee is responsible for ensuring that the procedures set forth in this manual are followed. Health Science Associates (HSA) was retained by Sierra Auto Properties to generate this Asbestos Management / Operations and Maintenance Plan.

BASIS OF MANUAL

Pursuant to Sierra Auto Properties, LLC Management this Asbestos Management Manual was prepared utilizing the Asbestos related surveys performed by Partner Engineering and Science, Inc. in 2011.

LOCATION OF ACM IN THE BUILDING

Partner Engineering and Science's survey of the Monrovia, CA Sierra Auto Properties, LLC buildings on Magnolia and Evergreen Avenues disclosed no Asbestos Containing Material (ACM), defined as any material containing greater than one percent asbestos.

The following material was determined to be Asbestos Containing Construction Material (ACCM), defined by the State of California as any construction material containing greater than 0.1 percent asbestos, utilizing the PLM Method:

- Joint Compound at 1671 South Magnolia Avenue (approximately 100 sq. ft.)

A complete description of the samples collected and their results are located in the original Partner Engineering and Science, Inc. Phase I Environmental Site Assessment Reports. Similar materials in color, texture and appearance as the one identified as ACCM, located in any other section of the 1671 South Magnolia building are to be considered asbestos until undergoing further testing.

REMOVAL OF ACM

Sierra Auto Properties, LLC does not currently have an asbestos removal plan nor does it plan to do any removal in the near future. The policy is to manage the asbestos in place.

OPERATIONS AND MAINTENANCE (O&M) PROGRAM

As long the ACCM remains in the building the O&M Program will be operational. The primary purpose of the O&M Program is to avoid inadvertent disturbances of ACM/ACCM and to ensure proper control of necessary actual or potential disturbances.

Building services and contractor staff whose work may place them in contact with ACM/ACCM must first notify the Sierra Auto Properties, LLC Manager, who are responsible for the implementation of the O&M Program.

For any work (small scale, short duration) to be performed involving the removal of small quantities of the ACCM as may be required in the performance of another maintenance activity and not intended as asbestos abatement, that will involve minor repairs to damaged ACCM, or any type of limited removal or significant abrasion of wall joint compound, the practices and procedures specified in Appendix B are mandatory.

The Sierra Auto Properties, LLC Manager and/or his designee may direct the performance of such small scale, short duration work (see paragraph above), utilizing the procedures in Appendix B. Such work may not exceed amounts greater than those which can be contained in a single prefabricated mini-enclosure. Such an enclosure shall conform spatially and geometrically to the localized work area, in order to perform its intended containment function.

ASBESTOS AWARENESS PROGRAM

1. Summary of Program

   An Asbestos Awareness Program addresses the potential adverse health effects due to asbestos exposure. Relevant federal, state and local regulations are reviewed. The location of known ACCM within the facility is identified. Finally, the O&M Program is presented. Individuals who will be authorized to perform small scale, short duration ACCM-related work must attend both the Asbestos Awareness Program and Personal Protection and Work Practice Control/Training in Asbestos Control Measures Program. Certificates of attendance will be prepared for each employee and retained in the employee's personnel file.

2. Who Should Attend

All maintenance and custodial personnel are to attend the Asbestos Awareness Program.

3. How Often

The program will be presented annually to all maintenance and custodial personnel. Additional training is available on an as-requested basis. Attendance sheets are also to be completed.

4. New Employee Orientation

All new employees who may need to impact ACCM will attend an Asbestos Awareness Program. In addition, those employees whose duties require the use of protective equipment will attend the Personal Protection and Work-Practice Control/Training in Asbestos Control Measures Program.

ASBESTOS AWARENESS PROGRAM OUTLINE

I. Introduction

II. Background Information

What asbestos is.

Kinds of materials in which asbestos has been used.

What are the potential hazards.

How health risks can be minimized.

III. Asbestos Control Program

Building Survey

Control Alternatives

The O&M Program

Other Plans for Control and Abatement

IV. Questions and Answers

PERSONAL PROTECTION AND WORK PRACTICE CONTROL/TRAINING IN ASBESTOS CONTROL MEASURES

1. Annual Training

   Specialized training shall be offered annually to any maintenance and custodial personnel whose duties include the removal of small quantities of ACCM as may be required in the performance of another maintenance activity and not intended as asbestos abatement, that will involve minor repairs or impact to damaged drywall joint compound. This training addresses the use of respiratory protection, protective clothing and equipment, and includes the hands-on use of each.

2. Annual Fit Testing

   Respirator fit-testing will be conducted annually, as necessary.

3. New Employees

   All new employees whose duties include the activities as listed in item 1. above will receive the specialized training as part of their new employee orientation.

TRAINING IN ASBESTOS CONTROL MEASURES

I. BACKGROUND INFORMATION

- A. Goals of Course
- B. Background & History
- C. Regulatory Development

II. RECOGNITION AND USES OF ASBESTOS

- A. Physical Characteristics
- B. Products Containing Asbestos
- C. Identification

III. HEALTH EFFECTS

- A. Respiratory System
- B. Types of Disease
- C. Hazards to Family Members
- D. Relationship to Smoking

IV. REGULATIONS

- A. EPA
- B. OSHA
- C. STATE

V. METHODS OF MONITORING

- A. Bulk Samples
- B. Air Samples
- C. Analysis

VI. WORKER PROTECTION

- A. Clothing
- B. Respiratory Protection
- C. Types, Limitations, Use, and Fit-Testing

VII. ENGINEERING CONTROLS

- A. Hazard Assessment
- B. Material Repair
- C. Glove Bag Practice
- D. Containment Construction
- E. Respiratory Fit-Testing
- F. General Safety

VIII. PRACTICAL INSTRUCTION

IX. REVIEW AND QUESTIONS

RESPIRATORY PROTECTION AND MEDICAL SURVEILLANCE

The respiratory protection program (Appendix B) and medical surveillance program (Appendix C) are **only** applicable to the employees and service/contractor personnel who may disturb ACCM in the course of their work within the 1671 South Magnolia Avenue building.

CONTRACTOR WORK

California regulations require that any contractor performing asbestos-related activities be licensed by the Contractor State Licensing Board. They further stipulate that Owners are responsible for determining whether their contractors are indeed Licensed. Contractor compliance can be verified by calling 1-800-321-CSLB (2752), the California CSLB.

All contractor work at the 1671 South Magnolia Avenue building will be evaluated prior to start-up to identify all instances where the potential for contact with ACCM exists. Preventive steps will be taken as needed to insure that uncontrolled disturbance of ACCM does not occur.

Prior to contract work being performed in the 1671 South Magnolia Avenue building, a walk-around at the site will be conducted with the contractor by the Sierra Auto Properties, LLC Manager and/or his designee to identify the exact location(s) where ACCM may be encountered. All locations where ACCM may be disturbed will be noted and, if necessary, Health Science Associates (HSA) will be available to determine the protective procedures/practices necessary to control the release of asbestos fibers and prevent the spread of ACCM contamination.

Air monitoring will be conducted in any construction areas, as needed, to verify that ACCM is not disturbed. If ACCM is disturbed, contractors will be instructed to notify the Sierra Auto Properties, LLC Manager and/or his designee who will notify HSA immediately. Upon notification of the occurrence of ACCM disturbance, HSA will initiate episodic contamination control, if necessary. The contractor will not be allowed to resume working in the area until it has been decontaminated.

MINIMIZATION CLEANING

Under certain conditions, special cleaning procedures will be employed. Minimization cleaning lowers the potential for excessive airborne fiber concentrations resulting from the uncontrolled disturbance of asbestos-contaminated surfaces.

Minimization cleaning consists of wet wiping all smooth surfaces, such as walls and furniture, and HEPA vacuuming of rough surfaces, such as carpets and drapery. Areas where minimization cleaning may be necessary include:

- Areas where elevated ambient air levels are recorded,
- Areas where small-scale, short-duration removal was employed,
- Areas where episodic contamination occurs,
- Areas following significant renovation,

Air monitoring may be performed following minimization cleaning. Minimization cleaning includes the following:

When the Sierra Auto Properties, LLC Manager or his designee learns that minimization cleaning is necessary, appropriate custodial and/or contractor personnel will immediately take action. Access to the area will be restricted and the area decontaminated as quickly as possible following these general procedures:

a. Upon notification, the Sierra Auto Properties, LLC Manager or his designee will direct the appropriate personnel to take the emergency response kit to the area where the damage or significant impact has occurred. If the area can be quickly cleaned up without assistance, the appropriately trained and qualified personnel will proceed. If the damage is extensive, contact is to be made with the Sierra Auto Properties, LLC Manager. HSA and a certified asbestos contractor may be contacted for assistance.

b. Workers shall, as appropriate, don respiratory protection and protective clothing.

c. Any large pieces of debris shall be immediately wetted with amended water.

d. Warning signs shall be posted at the entrances to the area and access shall be restricted.

e. Seal doorways and shut down the ventilation system to prevent contamination of other areas in the building.

f. The large pieces of debris that have already been wetted with amended water shall be placed in a 6 mil plastic bag for disposal in accordance with procedures in the section "ACCM WASTE HANDLING."

g. All contaminated surfaces shall be thoroughly cleaned by HEPA vacuuming of any remaining loose material followed by wet wiping of all surfaces.

h. The damaged area shall be repaired.

i. After clean-up and repairs are completed, workers shall place wet rags used for wipe-down and disposable protective clothing in a 6-mil bag labeled for disposal as non-hazardous asbestos waste.

j. After decontamination is complete, air sampling may be conducted, if necessary. The area samples must indicate fiber concentrations below 0.01 fibers/cc for re-entry by unprotected personnel into the area.

k. Air sampling results, if collected, will be attached to the report of damaged ACCM and retained in the asbestos file.

ASBESTOS EMERGENCY RESPONSE KIT

- 1 or 2 gallon hand pump sprayer containing amended water
- HEPA vacuum
- Glove bag(s)
- Utility knife
- Duct tape
- Roll of 6 mil polyethylene plastic sheeting
- Appropriately labeled 6 mil bags for disposal of asbestos waste
- Cotton rags
- Respirator and protective clothing
- Aerosol Adhesive
- Barrier Flagging
- Asbestos Warning Labels

1671 South Magnolia Avenue building

REPORT OF DAMAGED ASBESTOS-CONTAINING MATERIALS
(To be completed by Building Maintenance or Custodial Personnel)

1. Building address and room number of area involved.

2. Room or area description/location of damaged material (i.e., boiler room, floor adjacent to fire exit door)

3. Description of material involved (i.e., ACCM Joint Compound)

4. Description of damage:

5. Cause of damage (if known):

6. Actions taken:

7. Signature:

   Date:

ACCM WASTE HANDLING

The State of California Health and Safety Code considers ACM to be a hazardous waste when the asbestos content is 1% or greater and it is friable. A registered waste hauler must transport the waste and a waste manifest is necessary. Asbestos waste that is less than 1% may be treated as Non-Hazardous Asbestos Waste.

All ACCM waste less than 50 lbs. shall be placed wet into 6-mil thick bags. The individual filling the bag will seal the bag shut with tape. Sealed bags are then placed inside another 6-mil bag or other impermeable container. The outer surfaces of the sealed containers will be wet wiped and then cleaned with a HEPA vacuum.

No hazardous waste labeling is required for Non-Hazardous Asbestos waste.

The clean, sealed container(s) filled with ACCM waste will be stored in a secure area until transported to an authorized disposal site. This storage will be considered as a temporary measure until such time as arrangements can be made for final disposal. The available storage capacity on site must not be exceeded.

Local, state and federal permits shall be obtained for the transportation and disposal of asbestos materials and all procedures shall be followed. For less than 50 lbs, transport should be in a closed vehicle in closed containers that are packed in a manner that prevents tipping, spilling, or breaking during transport. No mixing of different hazardous wastes in one container is allowed during transportation. The California Health and Safety Code requirement for a Uniform Hazardous Waste Manifest is not required (Health and Safety Code section 25163(c). A simple transportation manifest is appropriate.

Activities involving removal of ACCM waste from the facility and disposal at the landfill shall be documented. A landfill manifest shall be completed when ACCM waste is disposed of at an appropriate landfill.

Procedures outlined above are intended for the disposal of ACCM waste generated from episodic contamination and small-scale, short- duration removal. Transportation and disposal requirements during abatement projects are more extensive.

ON-GOING BUILDING SURVEILLANCE

A periodic visual inspection (at least semi-annual) of all areas of the building known to contain asbestos materials should be conducted by the Sierra Auto Properties, LLC Manager and/or his designee. The purpose of the inspection will be to check for any damage or deterioration of asbestos containing materials (delamination, water damage, vandalism, etc.). The following forms may be used to facilitate this inspection. Additional inspections will be conducted whenever renovation or other activities are conducted which might disturb the asbestos- containing construction material. All inspection reports should be reviewed and signed by the Sierra Auto Properties, LLC Manager, who will arrange for any necessary repairs. The inspection reports should be retained in the building asbestos file.

1671 South Magnolia Avenue building

SEMI-ANNUAL BUILDING INSPECTION FORM

Date_____ Inspector_____

Building_____ Location_____

Activity of Area_____

1. Friable asbestos-containing materials present? __yes __no

2. Is material severely damaged?

   ___ no damage noted

   ___ friable, but no debris noted on surfaces

   ___ friable material noted on tiles

3. Is there evidence of water damage?

   ___ none noted

   ___ some stains noted, but no damage

   ___ stains noted, loose debris below

4. Is there evidence of excessive wear?

   __ none noted

   __ surface coating and/or finishing is impacted, but not damaged

   __ surface is damaged and shows signs of significant deterioriation

6. Are there any other changes that should be noted?

   _____

_____

Signature of Inspector:_____

Signature of Sierra Auto Properties, LLC Manager:_____

AIR MONITORING

Air monitoring is utilized in conjunction with visual inspections to verify the effectiveness of control measures and protective clothing. Techniques employed are consistent with the recommended methods as described in Cal/OSHA Regulations CCR Title 8 §5208 and CCR Title 8 §1529 . Phase contrast microscopy (PCM) is the method of analysis that will continue until such time as revisions are warranted. A secondary method of analysis employing electron microscopy shall be used on a portion of the samples to properly characterize the asbestos air quality in the building in relationship to outside air quality, if necessary.

Air monitoring may be conducted, as necessary, to measure:

1. Levels during and following asbestos impact related maintenance work.

2. Levels before, during and following abatement projects.

3. Levels before and following asbestos related renovation projects.

4. Levels during (if possible) and following episodic contamination.

5. Annually to maintain surveillance of general air quality.

The specific air sampling strategies to be used will depend on the activity of interest and will be determined in coordination with the Sierra Auto Properties, LLC Manager. HSA is available to perform as needed air monitoring services.

PROGRAM REVIEW

An annual O&M Program Review will be conducted. Participants will include the Sierra Auto Properties, LLC Manager and HSA.

The program review will address any problems encountered in the previous year. Revisions in the program will be made as necessary.

A written report will be generated identifying any problems encountered or the identification of any necessary changes that result in the need to issue an updated manual.

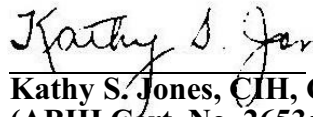
APPENDIX A
ASBESTOS CONTROL PROGRAM

ASBESTOS CONTROL PROGRAM

Prepared for:

1671 South Magnolia Avenue Building
Sierra Auto Properties, LLC
Monrovia, CA 91016

Prepared By:



Kathy S. Jones, CIH, CAC, CIAQM
(ABIH Cert. No. 2653; CAC Cert. No. 04-3529)
November 18, 2011

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I. INTRODUCTION

This program is not applicable to work involving the removal or other abatement of asbestos containing material (ACM), nor is it applicable to renovation work that might disturb ACM. It is applicable to work that may involve incidental contact with the existing ACCM joint compound materials and any settled particulate.

There will be no purposeful removal of ACCM. Any visible dust associated with the joint compound materials shall not be dusted or swept dry, or vacuumed without using a HEPA filter.

Personnel contact with joint compound materials may occur during certain work. The joint compound material is an integral part of the wall system in this building and is considered non-friable and will not pulverize or create dust with normal hand pressure in its intact state.

There is the potential for ACCM contamination of occupied areas during any ACCM impact work. Precautions as identified in this document should be provided for any purposeful ACCM contact.

II. OBJECTIVES

The goals of this asbestos control program are:

A. To maintain 8-hour time-weighted average (TWA) occupational exposures to airborne asbestos fibers well below 0.1 f/cc (fibers per cubic centimeter of air), the OSHA Permissible Exposure Limit (PEL).

B. To prevent ACCM contamination of occupant/tenant areas and of the return-air plenums of the air conditioning systems and thereby prevent exposure to building occupants.

C. To establish work practices that will accomplish A and B, above, and reduce personnel exposures to the lowest practicable levels.

D. To provide a record of compliance with the program itself.

III. WORK PRACTICES

When work involving intentional or likely removal or abrasion to the ACCM joint compound materials, the following work practices are to be followed.

A. The work area is to be secured so as to prevent unauthorized personnel from entering and posted with a conspicuous sign which states: "DANGER ASBESTOS CANCER AND LUNG DISEASE HAZARD. AUTHORIZED PERSONNEL ONLY."

B. At each location requiring the removal, replacement, or likely damaging impact of ACCM joint compound material, 6 mil plastic should be in the area and available to be placed on the floor over an area large enough to accommodate any debris that might be generated. If necessary, temporarily move furniture out of the way. When removing wall materials potentially containing the ACCM joint compound, the perimeter of this work shall additionally be curtained with 6 mil poly from floor to ceiling and the enclosure so prepared shall be exhaust ventilated with a HEPA vacuum.

C. The following protective clothing and equipment is to be worn.

1. NIOSH approved half-face respirator with HEPA cartridges fitted in accordance with Cal/ OSHA Regulations CCR Title 8 §5208 and CCR Title 8 §1529.
2. Disposable coveralls if the work will involve the removal of ACCM joint compound materials.

D. Carefully remove only the least amount of wall material as necessary to accomplish the work at hand. Use a HEPA vacuum to clean the work area before removal. The wall area should be handled gently and vacuumed at the point of removal.

E. Any visible ACCM debris that is too large for HEPA vacuuming is to be picked up and placed in plastic bags for disposal as Non-Hazardous asbestos waste. Any ACCM dislocated during the work is to be handled similarly. The area should be inspected for any dislocated ACCM before replacement wall materials are put in place. All ACCM waste will be placed in 6 mil plastic bags.

F. When work requires impact to ACCM whereby it may be physically abraded or disrupted, the ACCM shall be dampened using a fine spray of water.

G. When the work is finished, replace any removed wall material, then use the HEPA vacuum to clean all of the following in the order listed.

1. Equipment and tools used during the work. Wet wiping may be used instead.
2. Your protective clothing and equipment (while still wearing them) and the rest of your body.
3. The plastic on the floor.
4. The floor under and around where the plastic was placed.

All items so cleaned may be considered non-contaminated.

H. Routine care of asbestos-containing wall material shall include the following prohibitions and requirements.

- Dry sanding of asbestos-containing wall material is **prohibited**.

Waste and debris and accompanying dust in an area containing accessible ACCM and/or visibly deteriorated ACCM, shall not be dusted or swept dry, or vacuumed without using a HEPA filter.

IV. ACCM WASTE HANDLING

A. The State of California Health and Safety Code considers ACCM to be a non-hazardous waste when the asbestos content is less than 1% . A registered waste hauler is not required for transport of the waste and a waste manifest is not necessary.

B. All ACCM waste less than 50 lbs. shall be placed wet into 6-mil thick bags. The individual filling the bag will seal the bag shut with tape. Sealed bags are then placed inside another 6-mil bag or other impermeable container. The outer surfaces of the sealed containers will be wet wiped and then cleaned with a HEPA vacuum.

C. No hazardous waste labeling is required for Non-Hazardous Asbestos waste.

D. The clean, sealed container(s) filled with ACCM waste will be stored in a secure area until transported to an authorized disposal site. This storage will be considered as a temporary measure until such time as arrangements can be made for final disposal. The available storage capacity on site must not be exceeded.

E. Local, state and federal permits shall be obtained for the transportation and disposal of asbestos materials and all procedures shall be followed. For less than 50 lbs, transport should be in a closed vehicle in closed containers that are packed in a manner that prevents tipping, spilling, or breaking during transport. No mixing of different hazardous wastes in one container is allowed during transportation. The California Health and Safety Code requirement for a Uniform Hazardous Waste Manifest is not required (Health and Safety Code section 25163(c). A simple transportation manifest is appropriate.

F. Activities involving removal of ACCM waste from the facility and disposal at the landfill shall be documented. A landfill manifest shall be completed when ACCM waste is disposed of at an appropriate landfill.

G. Procedures outlined above are intended for the disposal of ACCM waste generated from episodic contamination and small-scale, short- duration removal. Transportation and disposal requirements during abatement projects are more extensive.

V. MONITORING

During normal operations the Sierra Auto Properties, LLC Manager shall schedule Industrial Hygiene monitoring of representative typical work subject to this control program. The monitoring shall include:

A. Pre-job baseline.

B. Personnel and area during work and cleanup.

C. Post-job clearance. Concentrations below pre-job baseline or less than 0.01 fiber per cubic centimeter of air (f/cc) in accordance with NIOSH 7400A, whichever is greater, shall be considered "clear".

VI. AUTHORIZED PERSONS

Only authorized persons, either Sierra Auto Properties, LLC personnel or contractor personnel, shall be allowed to perform this work. To be authorized such persons shall have received asbestos awareness training and respirator fit testing as required by Cal/ OSHA Regulations CCR Title 8 §5208 and CCR Title 8 §1529 and shall have been trained in the requirement of these specifications.

This training and fit testing shall be conducted by or under the direction of a Certified Industrial Hygienist (CIH). Evidence of this training and fit testing, such as a certificate signed by the CIH, shall be made available to the Sierra Auto Properties, LLC Manager or his designee prior to the commencement of this work.

VII. MEDICAL SURVEILLANCE

Compliance with these specifications is expected to result in 8-hour time-weighted TWA exposures well below 0.1 f/cc. However, medical examinations will be provided in accordance with Cal/ OSHA Regulations CCR Title 8 §5144, §5208 and CCR Title 8 §1529 for persons required to wear respiratory protection. At the same time the requirements for an asbestos physical will be met.

VIII. RECORDKEEPING

A. For each job performed within the scope of this control program a job report will be completed (see attached form). Monitoring reports, as generated for the applicable jobs, shall be included with the appropriate job reports.

B. The Sierra Auto Properties, LLC Manager is responsible to ensure that this recordkeeping requirement is met. It is essential that there is this record of each ACCM related job and compliance with these specifications. A file of these job reports shall be permanently maintained in the office of the Sierra Auto Properties, LLC manager or his designee.

IX. OUTSIDE CONTRACTORS

A. A copy of these specifications shall be provided to each outside contractor (including subcontractors) who will perform work involving suspected ACCM impact. Such

contractors shall submit the required evidence of training and respirator fit testing for each person who will be assigned such work.

B. The full monitoring requirement shall apply to each outside contractor.

Job Report Form

Name (Person in charge of work):_____ Date:_____

Contact Telephone No.: _____

Work Requested to be Performed:

Start date: _____ Finish date: _____

Address, building, and room number(s) (or description of area) where work was performed:

Description of work performed:

Description of any asbestos - containing or suspect asbestos containing material that was affected (location & type)

Name and telephone number of requestor:

Name and telephone number of work supervisor (if applicable):

Work Practices if Asbestos-Containing Materials are Present
The following work practices were employed to avoid or minimize disturbing asbestos (check all that apply):

☐ Wet Methods
☐ Isolation
☐ HEPA Vacuum
☐ Warning Signs & Barriers
☐ Poly Drop Cloth(s)
☐ Others (Please specify)

_____

_____

_____

Personal Protection if Asbestos –Containing Materials are Present
The following equipment/clothes were used/worn during the work to protect workers (check all that apply):

☐ Respirator (Type) _____
☐ Disposable Coveralls
☐ Disposable Shoe Coverings
☐ Hard Hat
☐ Safety Glasses / Eye Protection
☐ Others (Please specify)

_____

_____

Special Practices and/or Equipment Required:

_____

_____

Signed: _____ Date: _____

Evaluation of Work Affecting Asbestos-Containing Materials

Personal air monitoring results (in-house, worker or contract?):

Air Monitoring Results Work Description

Air Monitoring Results Work Description

Handling or storage of ACCM waste

Signed: _____ Date: _____

Authorization should be received from the Sierra Auto Properties, LLC Manager before any asbestos related work is performed.

APPENDIX B
RESPIRATORY PROTECTION PROGRAM

RESPIRATORY PROTECTION PROGRAM

1. Introduction

This written Respiratory Protection Program has been established in accordance with the respiratory protection requirements of Cal/ OSHA Regulations CCR Title 8 §5144, §5208 and §1529 and meets or exceeds the standard set by OSHA.

During activities at the 1671 South Magnolia Avenue building involving ACCM, employees may be exposed to concentrations of asbestos fibers higher than background levels for short periods of time. When an employee is exposed to concentrations of airborne toxic materials which are above the maximum standards established by OSHA, implementation of feasible engineering controls and/or administrative controls to reduce employee exposure are required. For some activities these controls may not be feasible, and as an alternative, the employer may provide respiratory protection for employees conducting work on or near asbestos-containing materials. In addition to providing respiratory equipment, the employer has the responsibility of implementing a Respiratory Protection Program. The Respiratory Protection Program provides standard operating procedures for respiratory protection.

2. Designation of a Program Administrator

The Sierra Auto Properties, LLC Manager is responsible for the designation of an appropriate Program Administrator who will be in charge of, and responsible for the implementation of and adherence to, the provisions of the Respiratory Protection Program for the 1671 South Magnolia Avenue building for work performed by Sierra Auto Properties, LLC employees where the use of respiratory protection is required or allowed.

3. Selection and Use of Respiratory Protection Equipment

Respirators used shall be selected from those approved by the National Institute for Occupational Safety and Health (NIOSH) for use in atmospheres containing asbestos fibers. A NIOSH approved respirator contains the following: an assigned identification number placed on each unit; a label identifying the type of hazard the respirator is designed to protect against; and additional information on the label which indicates limitations and identifies the component parts approved for use with the basic unit. Single-use or disposable respirators are not to be used.

The approved respirator shall be used as follows:

a. Air-purifying respirators. A reusable air-purifying respirator, or a powered air-purifying respirator (PAPR), shall be used to reduce the concentration of airborne asbestos fibers in the respirator below the 8-hour, time-weighted average (TWA) OSHA permissible exposure limit (PEL) and NIOSH-recommended exposure limit of 0.1 fibers per cubic centimeter of air (fibers/cc),when the 8-hour TWA concentrations of asbestos fibers are reasonably expected to not exceed more than 10 times the OSHA 8-hour PEL of 0.1 fibers/cc (1.0 fiber/cc).

b. Powered air-purifying respirators (PAPR). A full face piece PAPR, or a type "C" supplied air respirator shall be used to reduce the concentration of airborne asbestos fibers in the respirator below the 8-hour, TWA OSHA and NIOSH-recommended exposure limit of 0.1 fibers/cc, when the 8-hour TWA

concentrations of asbestos fibers are reasonably expected to not exceed more than 25 times the OSHA 8-hour PEL of 0.1 f/cc (2.5 f/cc).

No exposures above 2.5 f/cc are expected for any operations approved to be performed by Sierra Auto Properties, LLC personnel or contractors, other than approved, licensed and registered Asbestos Abatement Contractors. Work that would likely produce airborne personal exposures above the 2.5 f/cc criterion will require additional project specific Asbestos Abatement Specifications.

4. The Potential Hazard is Asbestos

For the purpose of this program, the only hazard considered is airborne asbestos fibers. Accordingly, only maintenance, clean-up, small scale short duration ACCM joint compound removal and waste removal activities are authorized where persons may disturb asbestos. For these activities air- purifying respirators or PAPRs will be worn.

5. Surveillance

Only those individuals who are medically able to wear respiratory protective equipment shall be issued such equipment. Before being issued a respirator, the employee will receive pertinent tests for medical and physical conditions. Medical tests to be considered by a physician include: pulmonary function tests (FVC and FEV), chest x-ray (ILO), and any other deemed appropriate by the examining physician. Medical factors to be considered by a physician include: emphysema, asthma, chronic bronchitis, heart disease, anemia, hemophilia, poor eyesight, poor hearing, hernia, lack of use of fingers or hands, epileptic seizures, and other factors which might inhibit the ability of an employee to wear respiratory equipment.

6. Respirator Fit-Tests

Each employee determined medically fit to wear a respirator will be qualitatively fit-tested upon receiving the equipment and annually thereafter. The type of fit-test conducted depends on the respirator type. Methods of fit-testing shall comply with the OSHA mandatory fit testing procedures.

Problems in fitting a respirator may result if facial hair prevents a good seal from forming between the skin and sealing surface. Corrective lenses that have temple bars or straps may prevent proper sealing and should not be used when a full-face respirator is worn. An adaptor kit to accommodate eyeglasses may be purchased from the manufacturer. Contact lenses should not be worn while wearing a respirator. A properly fitted respirator may stretch the skin around the eyes, thus increasing the possibility that the contact lens will fall out.

7. Respirator Assignment and Maintenance

Where practicable, respirators should be assigned to individual workers for their exclusive use. A system of recordkeeping will be established to document all employees who have respiratory protection equipment, and the regular inspection of this equipment. These records will be kept on file in Facilities Services.

Respirators shall be regularly cleaned and disinfected. Those issued for the exclusive use of one worker shall be cleaned after each day's use, or more often, if necessary. This procedure is described as follows:

- Before leaving the work area, each user must "wipe down" the respirator with a wet cloth to remove any asbestos-containing material which may have settled on the equipment.

- Respiratory equipment shall be washed with detergent in warm water using a brush. If possible, detergents containing a bactericide should be used. Organic solvents should not be used, as they deteriorate the rubber facepiece. If bactericide detergent is not available, the detergent wash should be followed with a disinfecting rinse. Two types of disinfectants may be made from readily available household solutions.

- A hypochlorite solution (50 ppm) can be made by adding two tablespoons of chlorine bleach to one gallon of water.

- An aqueous solution of iodine (50 ppm) can be made by adding one teaspoon tincture of iodine to one gallon of water.

- A two-minute immersion of the respirator into either solution should be sufficient for disinfection.

Respiratory equipment shall be thoroughly rinsed in warm, clean water (approximately 120 F maximum) to remove all traces of detergent, cleaner and sanitizer, and disinfectant.

Respiratory equipment shall be allowed to air dry on a clean surface.

When not in use, clean respiratory equipment shall be sealed in plastic bags and stored in a single layer with the facepiece and valves in a non-distorted position. A metal cabinet with shelves is well suited for this purpose.

Repair or replacement of component parts must be done by qualified individuals. Substitution of parts from a different brand or type of respirator will invalidate the approval of the respirator.

Inspection for defects in respiratory equipment must be done before and after each use and during cleaning. The primary defects to look for in the inspection of component parts of the respiratory equipment and corrective actions where appropriate are itemized below:

a. Air-purifying respirators (half-mask and full facepiece).

(1) Rubber facepiece - check for:

- excessive dirt - clean all dirt from facepiece.

- cracks, tears, or holes - obtain new facepiece.

- distortion - allow facepiece to "sit" free from any constraints and see is distortion disappears; if not, obtain new facepiece, and

- cracked, scratched, or loose fitting lenses - contact respirator manufacturer to see if replacement is possible; otherwise obtain new facepiece.

(2) Headstraps - check for:

- breaks or tears - replace headstraps
- loss of elasticity - replace headstraps
- broken or malfunctioning buckles to attachments - obtain new buckle, and
- facepiece slipping - replace headstraps.

(3) Inhalation valve, exhalation valve - check for:

- detergent residue, dust particles, or dirt on valve or valve seat - clean residue with soap and water
- cracks, tears, or distortion in the valve material or valve seat - contact manufacturer for instructions, and
- missing or defective valve cover-obtain valve cover from manufacturer.

(4) Filter element(s) - check for:

- proper filter for the hazard
- approval designation
- missing or worn gaskets - contact manufacturer for replacement
- worn threads - both filter threads and facepiece threads - replace filter or facepiece, whichever is applicable
- cracks or dents in filter housing - replace filter, and
- missing or loose hose clamps - obtain new clamps.

b. Atmosphere Supplying Respirators [Would not be expected for use for this Program]

(1) Check facepiece, headstraps, valves, and breathing tube, as for air-purifying respirators.

(2) Hood, helmet, blouse, or full suit, if applicable - check for:

- headgear suspension - adjust properly for you
- cracks or breaks in faceshield - replace face-shield, and
- protective screen to see that it is intact and fits correctly over the faceshield, abrasive blasting hoods, and blouses - obtain new screen.

(3) Air supply system - check for: [Would not be expected for use for this Program]

- breathing air quality
- breaks or kinks in air supply hoses and end fitting attachments - replace hose and/or fitting
- tightness of connections
- proper setting of regulators and valves - consult manufacturer's recommendations, and
- correct operation of air-purifying elements and carbon monoxide or high-temperatures alarms.

8. Employee Training Program

A training session with required employee attendance, will be conducted by qualified personnel to ensure that employees understand the limitations, use, and maintenance of respiratory equipment, and other important aspects of the Respiratory Protection Program. Upon completion of the fit-testing and training, each employee shall receive documentation of same.

9. Surveillance of Working Conditions

Air sampling will be conducted before, during and after selected projects requiring respiratory equipment. Respiratory equipment used must be suitable for the asbestos concentrations expected to occur in the work area. Employees shall be instructed to immediately leave the work area should they experience physical stress such as difficulty in breathing or dizziness.

10. Respiratory Program Supervision

The Respiratory Program shall be evaluated at least annually with program adjustments, as appropriate, made to reflect the evaluation results. Compliance with the following points of the program should be reviewed: respirator selections, purchase of approved equipment, medical screening of employees, fit-testing, issuance of equipment and associated maintenance, storage, repair, inspection, and appropriate surveillance of work area conditions.

Attention should be given to proper recordkeeping regarding the Respirator Program Supervision. Records which will be kept include: a list of the employees who are trained in respirator use; documentation of the care and maintenance of respirators; medical records of each respirator user; airborne concentrations of asbestos fibers before, during and after work is conducted; and any problems encountered during renovation activities.

RESPIRATORY PROTECTION TRAINING PROGRAM

Before signing, be sure you understand each of the following:

1. Explanation of the ramification of misuse
2. Discussion of why engineering controls cannot be used instead of respiratory equipment
3. Why the particular respirator was selected
4. Limitation of the selected respirator
5. Putting on the respirator
6. Wearing the respirator
7. Maintenance of the respirator
8. Recognizing and handling emergency situations
9. Inspecting the respirator
10. Use of air-purifying respirator
11. Use of air-supplied respiratory equipment
12. Purpose of medical evaluation
13. Proper fit-testing techniques

APPENDIX C
MEDICAL SURVEILLANCE PROGRAM

Medical Surveillance Program

Implementation of a Medical Surveillance Program provides for the assessment of an employee's medical status and compliance with OSHA standards. Medical surveillance is required under the Cal/ OSHA Regulations CCR Title 8 §5144, §5208 and §1529 for all personnel who may be exposed to asbestos fibers in concentrations greater than 0.1 fibers/cc (8-hour, time-weighted average). Additionally, any employee who wears a tight-fitting respirator as a routine part of his or her job must also be initially and annually medically evaluated. This type of respiratory protection is anticipated to ONLY be required for the asbestos related work within the 1671 South Magnolia Avenue building.

At the 1671 South Magnolia Avenue building this criterion will only affect very limited and specified personnel, if any. As appropriate, these employees will be provided a Medical Surveillance Program to determine their baseline health status (health status before beginning work) to monitor their health during the duration of their employment, and also to provide documentation of their health status along with their work history upon completion of their employment. Therefore, employees in this surveillance program will be given pre-placement, annual, and termination examinations unless there is documentation the employee had an equivalent examination within the past one-year period.

The medical examination will include, at a minimum, an occupational/environmental history, a chest x-ray (posterior-anterior, 14 x 17 inches) read by the ILO method, a medical history to determine the presence of any possible respiratory diseases, and pulmonary function evaluations including forced vital capacity (FVC) and forced expiratory volume at one second (FEV 1.0). OSHA requires, on initial examination, a standardized questionnaire to be completed. In addition, a periodic medical questionnaire is required to be completed on annual examination.

The examining physician will be provided a copy of the OSHA Asbestos Standards and appendices, a description of the employees' duties, the employees' representative exposure level or anticipated exposure level, a description of personal protective and respiratory equipment to be used, and information from previous medical examinations.

The examining physician will sign a statement that the medical examination given is consistent with OSHA requirements and the examined employee is physically able to perform the required work which may include wearing an air-purifying respirator.

Contractor personnel involved in asbestos abatement work should have an equivalent Medical Surveillance Program.

All records will be maintained on file for the length of employment plus 30 years and be available to each employee participating in the Medical Surveillance Program.

The examining physician should be notified that he or she will be the primary holder of medical records. The records must contain the hard copy of the x-ray. Prior to disposal of any of these records, the Director of Risk Management and Environmental Health must be notified.

APPENDIX D
ORIGINAL ASBESTOS SURVEY REPORTS

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G5
RADIO FREQUENCY STUDY

Radio Frequency – Electromagnetic Energy (RF-EME) Compliance Report

Site No. IE808 and CA45397
410 W Evergreen Avenue
Monrovia, California 90106
Monopoles

EBI Project No. 6218006682
November 16, 2018



Prepared for:

Mobilitie
2955 Red Hill Ave, Suite 200
Costa Mesa, CA 92626

mobilitie
intelligent infrastructure

Prepared by:

EBI Consulting
environmental | engineering | due diligence

EXECUTIVE SUMMARY

Purpose of Report

EnviroBusiness Inc. (dba EBI Consulting) has been contracted by Mobilitie to conduct radio frequency electromagnetic (RF-EME) modeling for Sites IE808 and CA45397 located at 410 W Evergreen Avenue in Monrovia, California to determine RF-EME exposure levels from existing wireless communications equipment at this site. As described in greater detail in Appendix A of this report, the Federal Communications Commission (FCC) has developed Maximum Permissible Exposure (MPE) Limits for general public exposures and occupational exposures. This report summarizes the results of RF-EME modeling in relation to relevant FCC RF-EME compliance standards for limiting human exposure to RF-EME fields.

This report contains a detailed summary of the RF EME analysis for the site.

Modeling results included in this report are based on worst case assumptions based on typical operating powers for each carrier. Subsequent changes to the drawings or site design may yield changes in the MPE levels or FCC Compliance recommendations.

Maximum Permissible Exposure (MPE) Summary			
Location	**% of FCC General Public/Uncontrolled Exposure Limit**	**% of FCC Occupational/Controlled Exposure Limit**	**Power Density (mW/cm^2)**
All Carrier Equipment			
Ground	10.20	2.04	0.1020
Roof Deck	1.29	0.26	0.0129

These results are calculated based on max power assumptions for this site.

The roof deck is located ~200' to the SW of the poles. The deck is assumed to be at the same height of the antennas for the most conservative results.

Statement of Compliance

Based on worst-case predictive modeling, there are no modeled exposures on any accessible ground-level or adjacent building walking/working surface related to existing equipment in the area that exceed the FCC's occupational and/or general public exposure limits at this site. As such, the existing project is in compliance with FCC rules and regulations.

1.0 LOCATION OF ALL EXISTING ANTENNAS AND FACILITIES AND EXISTING RF LEVELS

Sprint and T-Mobile antennas are located on adjacent monotrees. T-Mobile has nine (9) antennas total with three (3) antennas per sector. Sprint has a total of six (6) antennas total with (2) antennas per sector. Both antennas are mounted between 55' and 60' above ground level.

2.0 ESTIMATED AMBIENT RADIO FREQUENCY FIELDS FOR THE EXISTING SITE

Based on worst-case predictive modeling, there are no modeled exposures on any accessible ground-level or adjacent building walking/working surface related to existing equipment in the area that exceed the FCC's occupational and/or general public exposure limits at this site. As such, the existing project is in compliance with FCC rules and regulations.

Maximum Permissible Exposure (MPE) Summary			
Location	**% of FCC General Public/Uncontrolled Exposure Limit**	**% of FCC Occupational/Controlled Exposure Limit**	**Power Density (mW/cm^2)**
All Carrier Equipment			
Ground	10.20	2.04	0.1020
Roof Deck	1.29	0.26	0.0129

It is recommended that the general public maintain a 3ft setback from the antenna. The inputs used in the modeling are summarized in the RoofView® export file presented in Appendix C.

There are no modeled areas on the ground that exceed the FCC's limits for general public or occupational exposure in front of the other carrier antennas.

3.0 SIGNAGE AT THE FACILITY IDENTIFYING ALL WTS EQUIPMENT AND SAFETY PRECAUTIONS FOR PEOPLE NEARING THE EQUIPMENT AS MAY BE REQUIRED BY THE APPLICABLE FCC ADOPTED STANDARDS

Signs are the primary means for control of access to areas where RF exposure levels may potentially exceed the MPE. However, it is not recommended that signage be placed in highly public areas where there are no exposures above the FCC general public limits. Signage has been installed following carrier and local jurisdiction requirements. Additionally, any elevated workers should be alerted to any potential exposures at the antenna face. There are no exposures above the FCC limits at ground level and therefore barriers are not recommended.

Workers that are elevated above the ground may be exposed to power densities greater than the applicable FCC limits. Workers should be informed via signage about the presence of antennas and their associated fields and practice RF Safety Procedures.

Access to this site is accomplished by walking up to either monopole. Access to the antenna(s) is gained via a lift or climbing with fall protection and therefore the antennas are considered not accessible to the general public.

4.0 STATEMENT ON PRODUCTION OF THIS REPORT AND QUALIFICATIONS

Please see the certifications attached in Appendix B below.

5.0 LIMITATIONS

This report was prepared for the use of Mobilitie. It was performed in accordance with generally accepted practices of other consultants undertaking similar studies at the same time and in the same locale under like circumstances. The conclusions provided by EBI are based solely on the information provided by the client. The observations in this report are valid on the date of the investigation. Any additional information that becomes available concerning the site should be provided to EBI so that our conclusions may be revised and modified, if necessary. This report has been prepared in accordance with Standard Conditions for Engagement and authorized proposal, both of which are integral parts of this report. No other warranty, expressed or implied, is made.

6.0 SUMMARY AND CONCLUSIONS

EBI has prepared this Radiofrequency Emissions Compliance Report for the existing telecommunications equipment at the site located at 410 W Evergreen Avenue in Monrovia, California.

EBI has conducted theoretical modeling to estimate the worst-case power density from the existing antenna to document potential MPE levels at this location and ensure that site control measures are adequate to meet FCC and OSHA requirements. As presented in the preceding sections, based on worst-case predictive modeling, there are no modeled exposures on any accessible ground-level or adjacent building walking/working surface related to existing equipment in the area that exceed the FCC's occupational and/or general public exposure limits at this site. As such, the existing project is in compliance with FCC rules and regulations.

Signage has been installed at the site as presented in Section 9.0.

Appendix A

Federal Communications

Commission (FCC) Requirements

The FCC has established Maximum Permissible Exposure (MPE) limits for human exposure to Radiofrequency Electromagnetic (RF-EME) energy fields, based on exposure limits recommended by the National Council on Radiation Protection and Measurements (NCRP) and, over a wide range of frequencies, the exposure limits developed by the Institute of Electrical and Electronics Engineers, Inc. (IEEE) and adopted by the American National Standards Institute (ANSI) to replace the 1982 ANSI guidelines. Limits for localized absorption are based on recommendations of both ANSI/IEEE and NCRP.

The FCC guidelines incorporate two separate tiers of exposure limits that are based upon occupational/controlled exposure limits (for workers) and general public/uncontrolled exposure limits for members of the general public.

Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/ controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general public/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

General public/uncontrolled exposure limits apply to situations in which the general public may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general public would always be considered under this category when exposure is not employment-related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

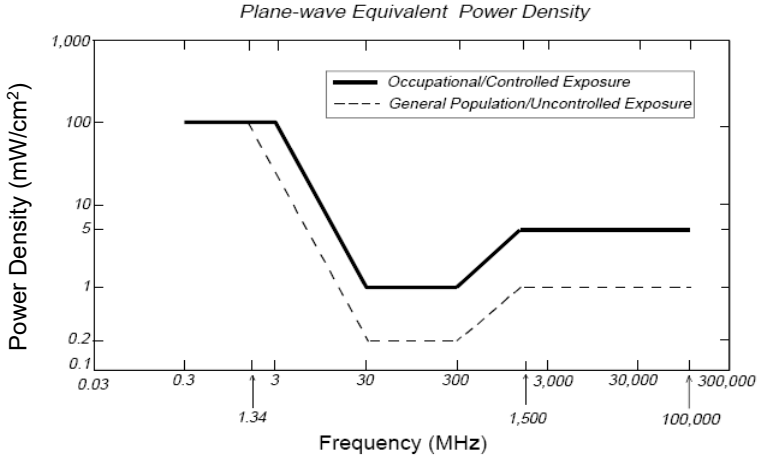
Table 1 and Figure 1 (below), which are included within the FCC's OET Bulletin 65, summarize the MPE limits for RF emissions. These limits are designed to provide a substantial margin of safety. They vary by frequency to take into account the different types of equipment that may be in operation at a particular facility and are "time-averaged" limits to reflect different durations resulting from controlled and uncontrolled exposures.

The FCC's MPEs are measured in terms of power (mW) over a unit surface area (cm^2). Known as the power density, the FCC has established an occupational MPE of 5 milliwatts per square centimeter (mW/cm^2) and an uncontrolled MPE of 1 mW/cm2 for equipment operating in the 1900 MHz and 2500 MHz frequency ranges.

Table 1: Limits for Maximum Permissible Exposure (MPE)				
(A) Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1,500	--	--	f/300	6
1,500-100,000	--	--	5	6
(B) Limits for General Public/Uncontrolled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time $[E]^2$, $[H]^2$, or S (minutes)**
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	($180/f^2$)*	30
30-300	27.5	0.073	0.2	30
300-1,500	--	--	f/1,500	30
1,500-100,000	--	--	1.0	30

f = Frequency in (MHz)
* Plane-wave equivalent power density

Figure 1. FCC Limits for Maximum Permissible Exposure (MPE)



Based on the above, the most restrictive thresholds for exposures of unlimited duration to RF energy for several personal wireless services are summarized below:

Personal Wireless Service	Approximate Frequency	Occupational MPE	Public MPE
Personal Communication (PCS)	1,950 MHz	5.00 mW/cm^2	1.00 mW/cm^2
Cellular Telephone	870 MHz	2.90 mW/cm^2	0.58 mW/cm^2
Specialized Mobile Radio	855 MHz	2.85 mW/cm^2	0.57 mW/cm^2
Most Restrictive Freq, Range	30-300 MHz	1.00 mW/cm^2	0.20 mW/cm^2

MPE limits are designed to provide a substantial margin of safety. These limits apply for continuous exposures and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

Personal Communication System (PCS) facilities used by carriers in this area operate within a frequency range of 800-1900 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets) connected to wired telephone lines; and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units (PCS telephones). Transceivers are typically connected to antennas by coaxial cables.

Advanced Wireless Services (AWS) facilities used by the carrier in this area operate within a frequency range of 2496 - 2690 MHz. Facilities typically consist of: 1) electronic transceivers (the radios or cabinets); and 2) antennas that send the wireless signals created by the transceivers to be received by individual subscriber units. Transceivers are typically connected to antennas by coaxial cables.

Because of the short wavelength of PCS/AWS services, the antennas require line-of-site paths for good propagation, and are typically installed above ground level. Antennas are constructed to concentrate energy towards the horizon, with as little energy as possible scattered towards the ground or the sky. This design, combined with the low power of PCS facilities, generally results in no possibility for exposure to approach Maximum Permissible Exposure (MPE) levels, with the exception of areas directly in front of the antennas.

FCC Compliance Requirement

A site is considered out of compliance with FCC regulations if there are areas that exceed the FCC exposure limits and there are no RF hazard mitigation measures in place. Any carrier which has an installation that contributes more than 5% of the applicable MPE must participate in mitigating these RF hazards.

Appendix B

Certifications

Preparer Certification

I, Stephanie Penta, state that:

- I am an employee of EnviroBusiness Inc. (d/b/a EBI Consulting), which provides RF-EME safety and compliance services to the wireless communications industry.
- I have successfully completed RF-EME safety training, and I am aware of the potential hazards from RF-EME and would be classified "occupational" under the FCC regulations.
- I am familiar with the FCC rules and regulations as well as OSHA regulations both in general and as they apply to RF-EME exposure.
- I have reviewed the data provided by the client and incorporated it into this Site Compliance Report such that the information contained in this report is true and accurate to the best of my knowledge.



Appendix C

Roofview® Export File / Antenna Inventory

StartMapDefinition

Roof Max Y	Roof Max X	Map Max Y	Map Max X	Y Offset	X Offset	Number of envelope		List Of Area
170	160	200	200	10	10	1	$U$41:$FX	$U$41:$FX$210

StartSettingsData

Standard	Method	Uptime	Scale Facto	Low Thr	Low Color	Mid Thr	Mid Color	Hi Thr	Hi Color	Over Color	Ap Ht Mult	Ap Ht Method
4	2	3	1	100	1	500	4	5000	2	3	1.5	1

StartAntennaData It is advisable to provide an ID (ant 1) for all antennas

ID	Name	(MHz) Freq	Trans Power	Trans Count	Coax Len	Coax Type	Other Loss	Input Power	Calc Power	Mfg	Model	(ft) X	(ft) Y	(ft) Z	Type	(ft) Aper	dBd Gain	BWdth Pt Dir	Uptime Profile	ON flag
TMO A1	T-Mobile	1900	15	4			3		30.07123	Unknown	Unknown	180	150	61		5	16	65;350		ON•
TMO A2	T-Mobile	1900	15	4			3		30.07123	Unknown	Unknown	185	148	59		5	16	65;350		ON•
TMO A3	T-Mobile	2100	30	4			0.5		106.9501	Unknown	Unknown	190	146	61		5	16	65;350		ON•
TMO B1	T-Mobile	1900	15	4			3		30.07123	Unknown	Unknown	197	144	61		5	16	65;150		ON•
TMO B2	T-Mobile	1900	15	4			3		30.07123	Unknown	Unknown	195	141	59		5	16	65;150		ON•
TMO B3	T-Mobile	2100	30	4			0.5		106.9501	Unknown	Unknown	193	138	61		5	16	65;150		ON•
TMO C1	T-Mobile	1900	15	4			3		30.07123	Unknown	Unknown	191	138	61		5	16	65;260		ON•
TMO C2	T-Mobile	1900	15	4			3		30.07123	Unknown	Unknown	189	141	59		5	16	65;260		ON•
TMO C3	T-Mobile	2100	30	4			0.5		106.9501	Unknown	Unknown	187	144	61		5	16	65;260		ON•
SPT A1	Sprint	800	20	8			0.5		142.6002	Unknown	Unknown	130	150	57		4.5	16	65;40		ON•
SPT A1	Sprint	1900	45	4			0.5		160.4252	Unknown	Unknown	130	150	57		4.5	16	65;40		ON•
SPT A2	Sprint	2500	50	2			0.5		89.12509	Unknown	Unknown	133	147	55		6	16	65;40		ON•
SPT B1	Sprint	800	20	8			0.5		142.6002	Unknown	Unknown	133	142	57		4.5	16	65;200		ON•
SPT B1	Sprint	1900	45	4			0.5		160.4252	Unknown	Unknown	133	142	57		4.5	16	65;200		ON•
SPT B2	Sprint	2500	50	2			0.5		89.12509	Unknown	Unknown	130	139	55		6	16	65;200		ON•
SPT C1	Sprint	800	20	8			0.5		142.6002	Unknown	Unknown	127	142	57		4.5	16	65;300		ON•
SPT C1	Sprint	1900	45	4			0.5		160.4252	Unknown	Unknown	127	142	57		4.5	16	65;300		ON•
SPT C2	Sprint	2500	50	2			0.5		89.12509	Unknown	Unknown	127	147	55		6	16	65;300		ON•

StartSymbolData

Sym	Map Mark	Roof X	Roof Y	Map Label	Description (notes for this table only)
Sym		5	35	AC Unit	Sample symbols
Sym		14	5	Roof Access	
Sym		45	5	AC Unit	
Sym		45	20	Ladder	

APPENDIX H
HYDROLOGY AND LID REPORT

PSOMAS

DRAFT HYDROLOGY AND LID REPORT

For:
Proposed Multi-Family Residential Development
1625 South Magnolia Avenue, Monrovia California

Psomas Project No: 1MAP030400

Prepared for:

County of Los Angeles
Department of Public Works
900 South Fremont Avenue
Alhambra, CA 91803-1331
(626)458-5100

Prepared by:

PSOMAS
27220 Turnberry Lane Suite 190,
Valencia, California 91355
(661) 219-6000

Preparation Date:
March 21, 2018
Rev.

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1.1 Project Background 1

1.2 Scope of Work 1

2.0 Hydrology 2

2.1 General Approach 2

2.2 Data Sources 2

2.3 Watershed Characteristics 2

2.4 Conclusions 2

3.0 Limitations 3

4.0 References 4

5.0 Appendices 5

Appendix 1 LACDPW Hydrology Data

Appendix 2 Project Site
Location and Vicinity Map

Appendix 3 Hydrology, HydroCalc, WMS

Appendix 4 Dry Well Calculation

Appendix 5 Hydrology Maps

Appendix 6 Geotechnical Report

1.0 Introduction

1.1 Project Description

The subject site is located at 1625 South Magnolia Avenue Monrovia, California. The site is bordered by existing open channel to the west, by S. Magnolia Avenue to the east, by S. Evergreen Avenue to the north and by Atchison Topeka and Santa Fe railroad to the south. Project site is approximately 6.72 acres and it is presently resided by commercial and industrial buildings, paved parking surfaces, hardscape and landscaping. The existing site drains approximately southwest into the existing open channel through sheet flow and concrete gutter.

The proposed project will include the demolition of the existing buildings and pavement areas and the construction of multi-story residential buildings and a multi-story parking structure. The provided preliminary site plan shows with four driveways site access with only one access to the multi-story parking and buildings are systematically grouped for accessibility.

1.2 Scope of work

This report will describe the predeveloped and post developed conditions and the proposed storm water quality design that will meet the requirements of the Los Angeles County Hydrology and LID Design Manual.

2.0 Hydrology

2.1 General Approach

The project site is identified for the predeveloped and post developed conditions. The post developed site needs to be lower than or equal to the predeveloped runoff to satisfy LA County Q-allowable requirements. In order to comply with LID requirements, pretreatment devices, infiltration dry wells are proposed on the site. City of Monrovia uses LA County LID manual for standards and requirements.

Los Angeles County DPW approved computer programs, Hydrocalc and WMS are used to estimate the time of concentration, runoff flow rate and volume for the 85th percentile storm and 50-year storm events, which is in accordance with LACDPW requirements.

2.2 Data Sources

The primary sources of data were the and the *LACDPW: Low Impact Development (LID) Standard Manual* (February 2014) and Los Angeles County Hydrology website GIS.

2.3 Watershed Characteristics

Rainfall and soil characteristics for the project site is illustrated in the Mount Wilson Hydrologic Map Figure LACDPW 1-H1.30 (*Appendix 1*). The 50-year (24-hour) rainfall isohyet nearest the project area is approximately 7.2 inches.

In addition to the isohyet data, the hydrologic map shows the classification of the soil type. The project site falls within soil classification area 006. The project area to be disturbed is approximately 6.72 acres in size.

Under predeveloped condition, the site drains, southerly flow direction through concrete swale and pavement sheet flow into the southwest existing concrete channel. The City owns and maintains this channel that bordered the westerly portion of the site. Hydrocalc program is used to calculate the flow runoff and volume. See Table 1 and refer to predeveloped condition Hydrocalc *Appendix 3* and map *Appendix 5.*

Table 1 Pre- developed Condition 50-year Storm Frequency

Drainage Area	Area (Ac)	Percent Imperviousness	Q_{50} (cfs)	V_{50} (ac-ft)
1A	6.72	90%	20.7	3.33

Proposed site plan is divided into three drainage areas and it is identified on the post developed plan as northwest, northeast and southwest. Northwest drainage area discharges into a street catch basin located in S. Evergreen Avenue, which includes 18" pipe and onsite catch basins. Similarly, northeast drainage area drains into street catch basin located in S. Magnolia Avenue, southwest drainage area drains into the existing concrete channel located in the southwest of the site. For all the drainage areas, HydroCalc *1.0.2* program is used to calculate the time of concentration for the subareas and WMS is used to calculate peak runoff flow rates and volume. Drywells in the drainage areas are simulated on the WMS program as detention basins with outlet pipe set above the volume to be retained on-site. See Table 2 and refer to post developed condition Hydrocalc and WMS on *Appendix 3* and map on *Appendix 5*.

Table 2 Postdeveloped Condition 50-year Storm Frequency

Drainage Subarea	Area (Ac)	Percent Imperviousness	Q_{50} (cfs)	V_{50} (ac-ft)
NW	1.71	90%	4.1	0.42
NE	3.58	90%	6.9	1.08
SW	1.43	90%	3.6	0.42
Total	6.72	90%	14.6	

County requires post developed Q to be less than or equal to predeveloped Q. Table 3 shows the relationship between the two conditions.

Table 3 Comparison of Pre and Post Conditions 50-year Storm Frequency

Drainage Subarea	Area (Ac)	Q_{50} (cfs)
Predeveloped	6.72	20.7
Postdeveloped	6.72	15.3
Difference	0	5.4

The water quality design components associated with the proposed project meets the requirements of Los Angeles County LID design manual. Every drainage area has its own pretreatment devices to capture pollutants and dry well to retain and infiltrate the "first flush" or the 85th percentile storm runoff of the site. Storm water will be pretreated by devices, for building roof runoff by downspout filter and pavement runoff by catch basin filter insert prior to ground infiltration. Site has low infiltration rate (0.48 in/hr) and the upper 14 feet of existing soils may be subject to hydroconsolidation as stated by geotechnical report (refer to geotechnical report Appendix 6). Given the soil condition, we preliminary decided to utilize a wide footprint drywell. Details of the drywell will be shown on the grading plans. County LID manual requires retention time is limited to 96 hours, which controlled the depth and area of the drywell. HydroCalc program is used

to calculate the volume runoff and spreadsheet using LID method to determine the required area. See table 4 and table 5. Refer to Drywell calculation spreadsheet *Appendix 4* and Hydrology LID BMP map *Appendix 5.*

Table 4 Water Quality Volume Calculation			
Drainage Subarea	Area (Ac)	Percent Imperviousness	Water Quality Volume (cu-ft)
1A	0.46	90%	1,495
2A	0.41	90%	1,332
3A	0.53	90%	1,722
4A	0.31	90%	1,008
5A	1.98	90%	6,430
6A	1.6	90%	5,196
7A	1.43	90%	4,644
Total Site	6.72	90%	21,827

Table 5 Dry Well Area Calculations					
Drainage Subarea	Area (Ac)	Water Quality Volume (cu-ft)	dmax (ft), see below note	Area Required (sf)	Area Required (sf)
1A	0.46	1,495	3.84	974	1,024
2A	0.41	1,332	3.84	868	900
3A	0.53	1,722	3.84	1,122	1,156
4A	0.31	1,008	3.84	657	676
5A	1.98	6,430	3.84	4,186	4,225
6A	1.6	5,196	3.84	3,383	3,480
7A	1.43	4,644	3.84	3,023	3,025
Total Site	6.72	21,827		14,213	14,487
Note: Bottom of drywell is set at 15 feet below ground. It is subject to change per soils engineer.					

2.4 Conclusions

This report demonstrates that the post developed condition complies with the limited flow requirements ($Q_{PRE}<Q_{POST}$). Post developed flows routed through the drywells will be less than the predeveloped runoff.

Proposed infiltration dry wells were selected as the appropriate treatment system based on the site condition and the LACDPW LID method to calculate the volume and area required to be retained on-site.

3.0 Limitations

This report was prepared to comply with the guidelines established by the County of Los Angeles and their representatives. Evaluation of the appropriateness of these guidelines and the accuracy of the County data were beyond the scope of this work.

Usage of this report is limited to address the purpose and scope previously defined by the project owner. Psomas shall not be held responsible for any unauthorized application of this report and the contents therein.

The opinions represented in this report have been derived in accordance with current standards of civil engineering practice. No other warranty is expressed or implied.

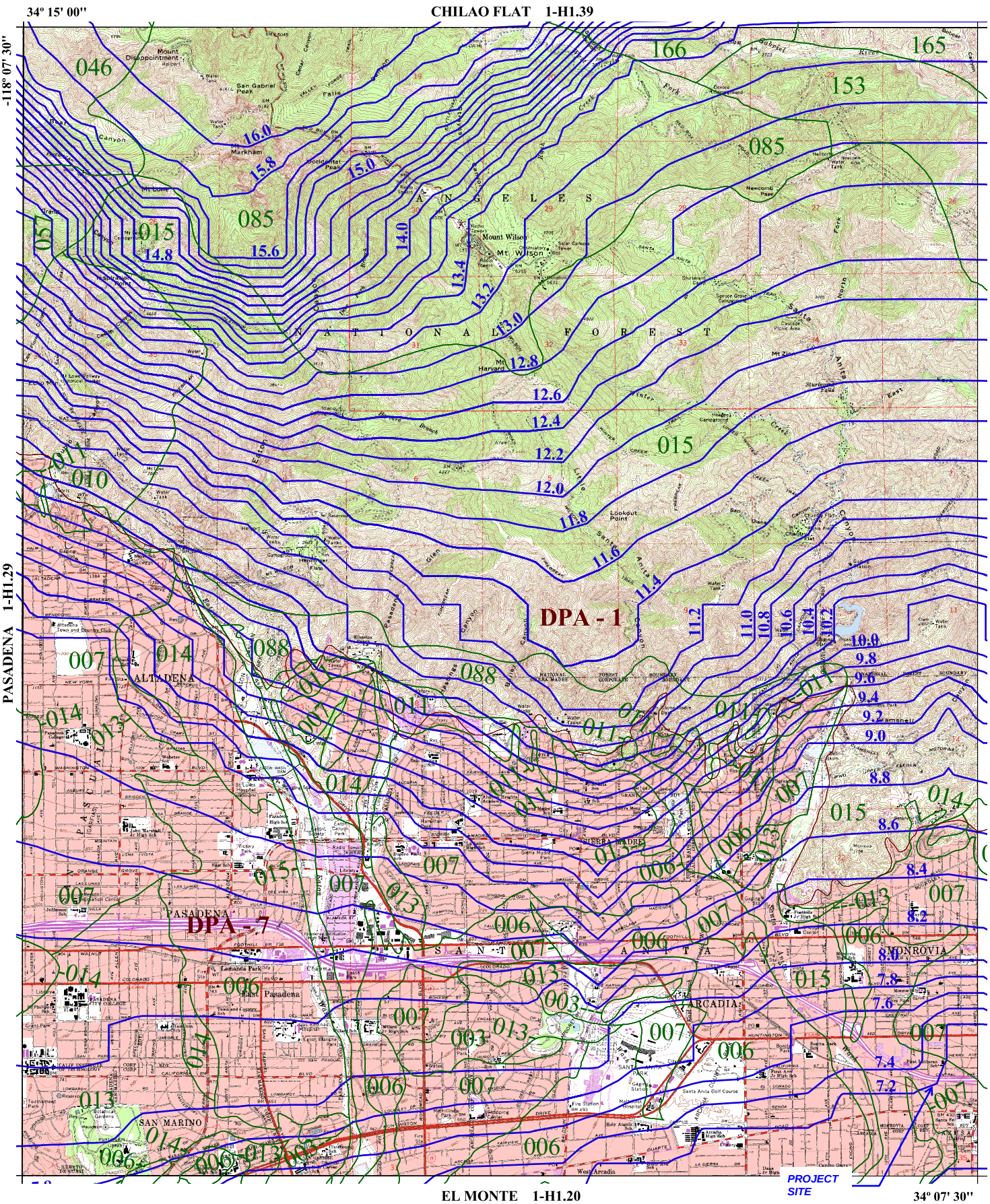
4.0 References

Los Angeles County Department of Public Works, *LACDPW Hydrology Manual and Appendices* (2006)

Los Angeles County Department of Public Works, *LACDPW LID Standard Manual* (2014)

5.0 Appendices

Appendix 1 LACDPW Hydrology Data

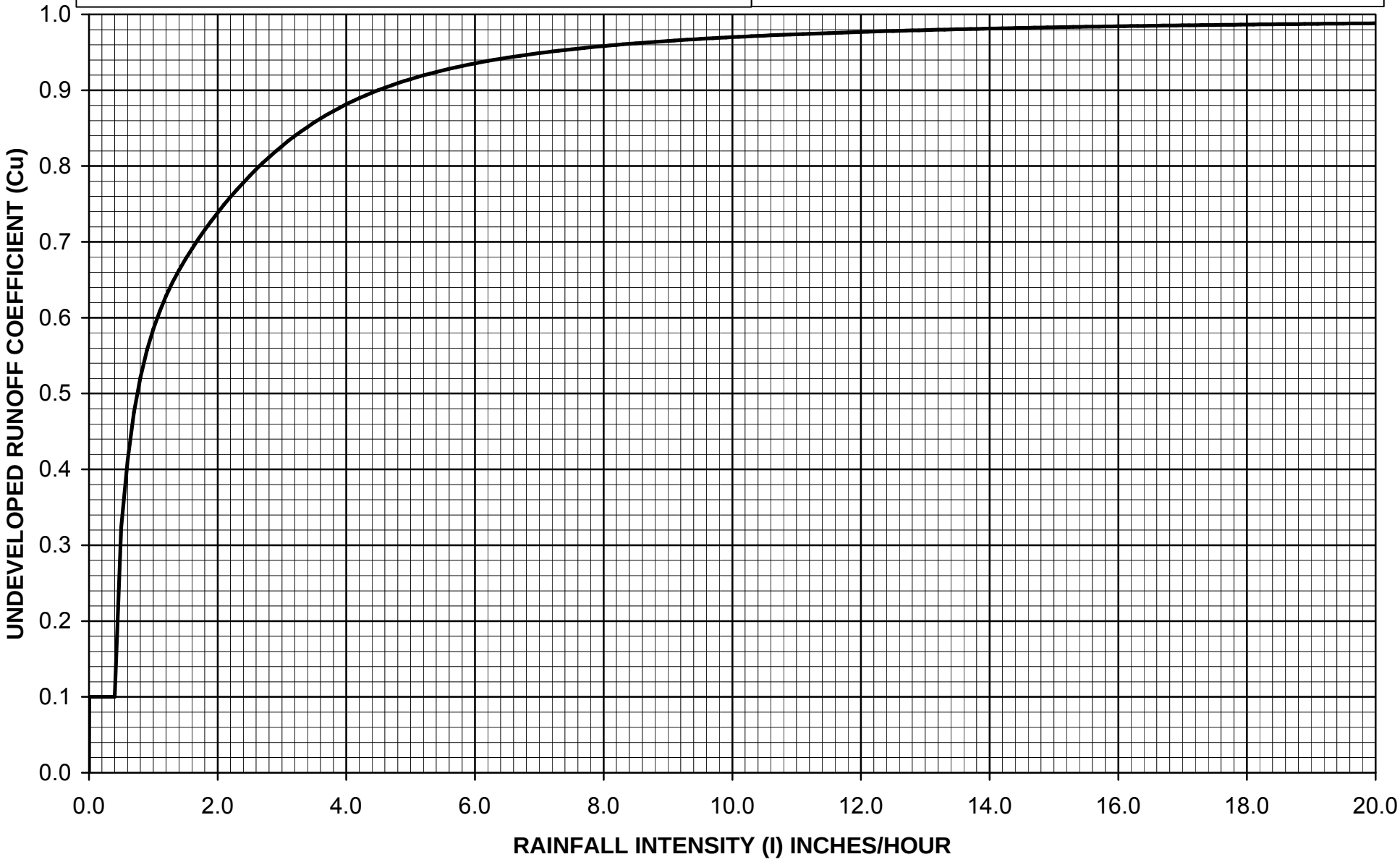

34° 15' 00"
CHILAO FLAT 1-H1.39
-118° 07' 30"
PASADENA 1-H1.29
AZUSA 1-H1.31
-118° 00' 00"
EL MONTE 1-H1.20
34° 07' 30"
PROJECT SITE
DPA - 1
DPA - 7
ALTADENA
PASADENA
SAN MARINO
ARCADIA
MONROVIA
SIERRA MADRE
Mount Wilson
Mt. Wilson
Mount Disappointment
San Gabriel Peak
Mt Markham
Mt Harvard
Lookout Point
Newcomb Pass
Mt Zion
Santa Anita Golf Course
West Arcadia
East Pasadena
Eaton Canyon
Arroyo Seco
Santa Anita Canyon
Sturtevant Falls
Sturtevant Camp
Spruce Grove Campground
Idlehour Campground
Chantry Flat
Henninger Flats
Lower Winter Creek
Upper Winter Creek
Lower Big Santa Anita Creek
Upper Big Santa Anita Creek
Upper Arroyo Seco
Upper Eaton Canyon
Upper Santa Anita Canyon
Upper Sturtevant Falls
Upper Lower Winter Creek
Upper Lower Big Santa Anita Creek
Upper Upper Big Santa Anita Creek
Upper Upper Winter Creek
Upper Upper Arroyo Seco
Upper Upper Eaton Canyon
Upper Upper Santa Anita Canyon
Upper Upper Sturtevant Falls
Upper Upper Lower Winter Creek
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Upper Sturtevant Falls
Upper Lower Winter Creek
Upper Lower Big Santa Anita Creek
Upper Big Santa Anita Creek
Upper Winter Creek
Upper Arroyo Seco
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Upper Santa Anita Canyon
Upper Sturtevant Falls
Upper Lower Winter Creek
Upper Lower Big Santa Anita Creek
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Upper Santa Anita Canyon
Upper Sturtevant Falls
Upper Lower Winter Creek
Upper Lower Big Santa Anita Creek
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Upper Winter Creek
Upper Arroyo Seco
Upper Eaton Canyon
Upper Santa Anita Canyon
Upper Sturtevant Falls
Upper Lower Winter Creek
Upper Lower Big Santa Anita Creek
Upper Big Santa Anita Creek
Upper Winter Creek
Upper Arroyo Seco
Upper Eaton Canyon
Upper Santa Anita Canyon
Upper Sturtevant Falls
Upper Lower Winter Creek
Upper

$C_D = (0.9 * IMP) + (1.0 - IMP) * C_U$

Where: C_D = Developed Runoff Coefficient
IMP = Proportion Impervious
C_U = Undeveloped runoff coefficient

Los Angeles County Department of Public Works

RUNOFF COEFFICIENT CURVE
SOIL TYPE NO. 006



Department of Public Works
dpw.lacounty.gov

search our site..

Hydrology Map A GIS viewer application to view the data for the hydrology manual.

LAYERS

- [x] 50yr Two Tenths (Rainfall)
- [ ] DPA Zones
- [x] Soils 2004
- [x] Final 85th Percentile, 24-hr Rainfall
- [ ] Final 95th Percentile, 24-hr Rainfall
- [ ] 1-year, 1-hour Rainfall Intensity

SEARCH

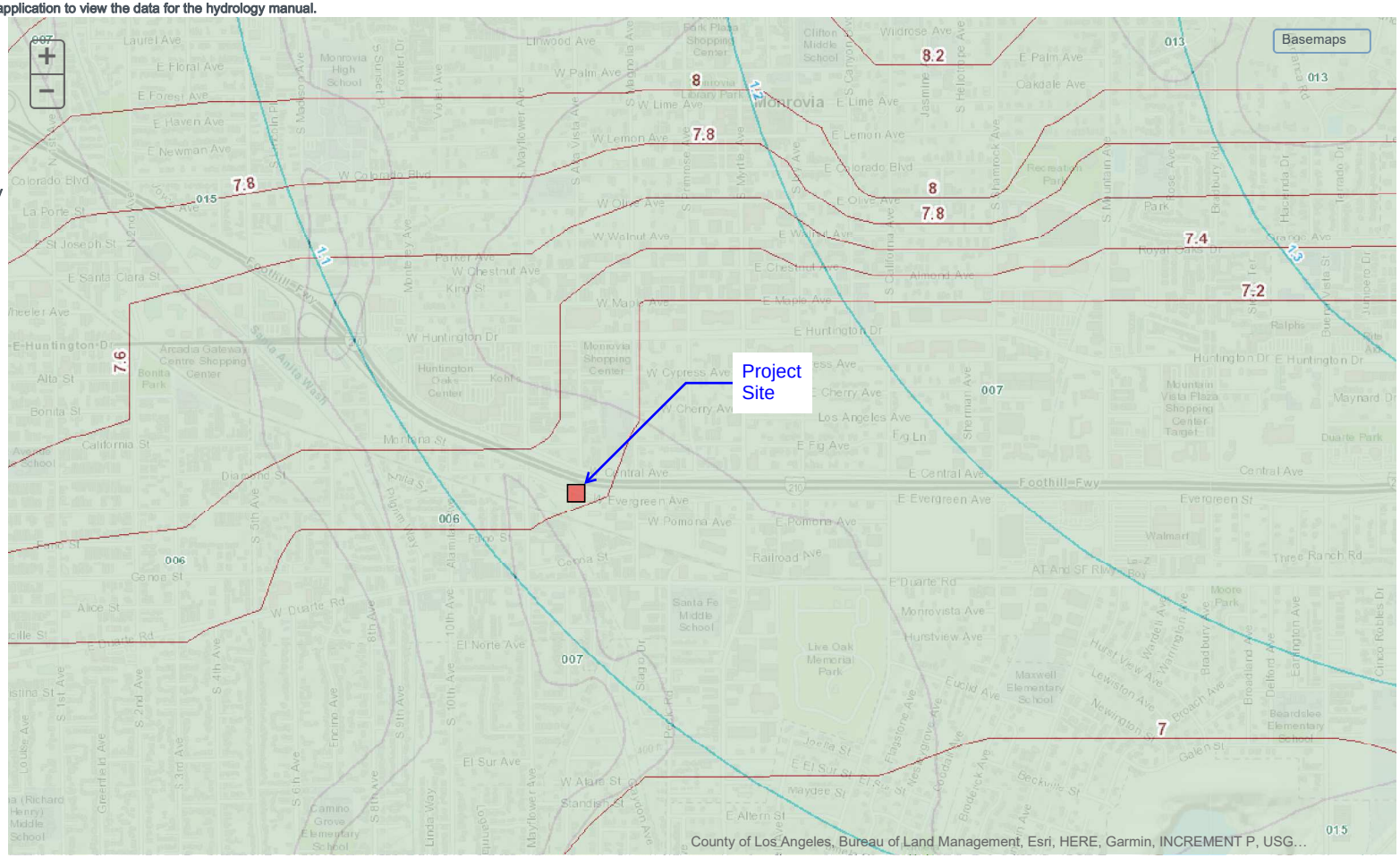
Enter Address, Cross Street, or Parcel No.:
(ex: 900 S. Fremont Ave., Fremont@Valley, 5342005904)

404 W. Evergreen Avenue Monrovi

Search

Address Search Results:

404 W Evergreen Avenue Monrovia

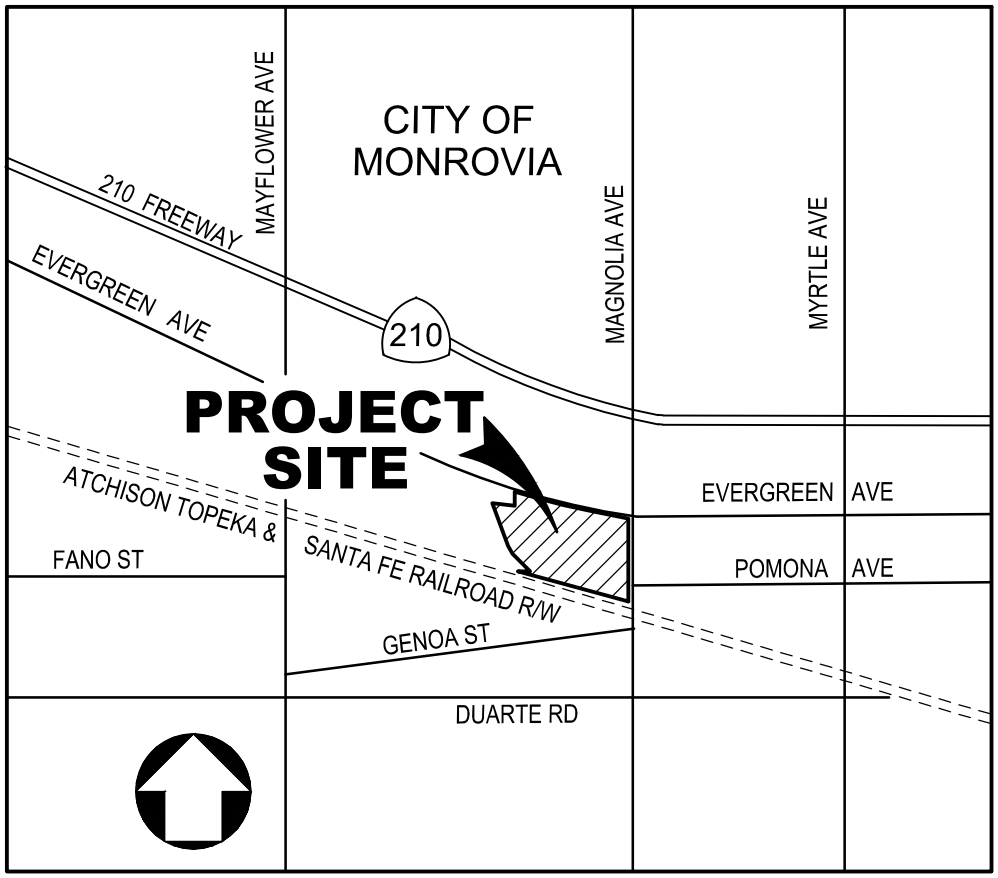


Map Tips

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Appendix 2 Project Site

Location and Vicinity Map



VICINITY MAP

NOT TO SCALE

S. Magnolia Ave. Apartment
Multi Family Residential
Vicinity Map

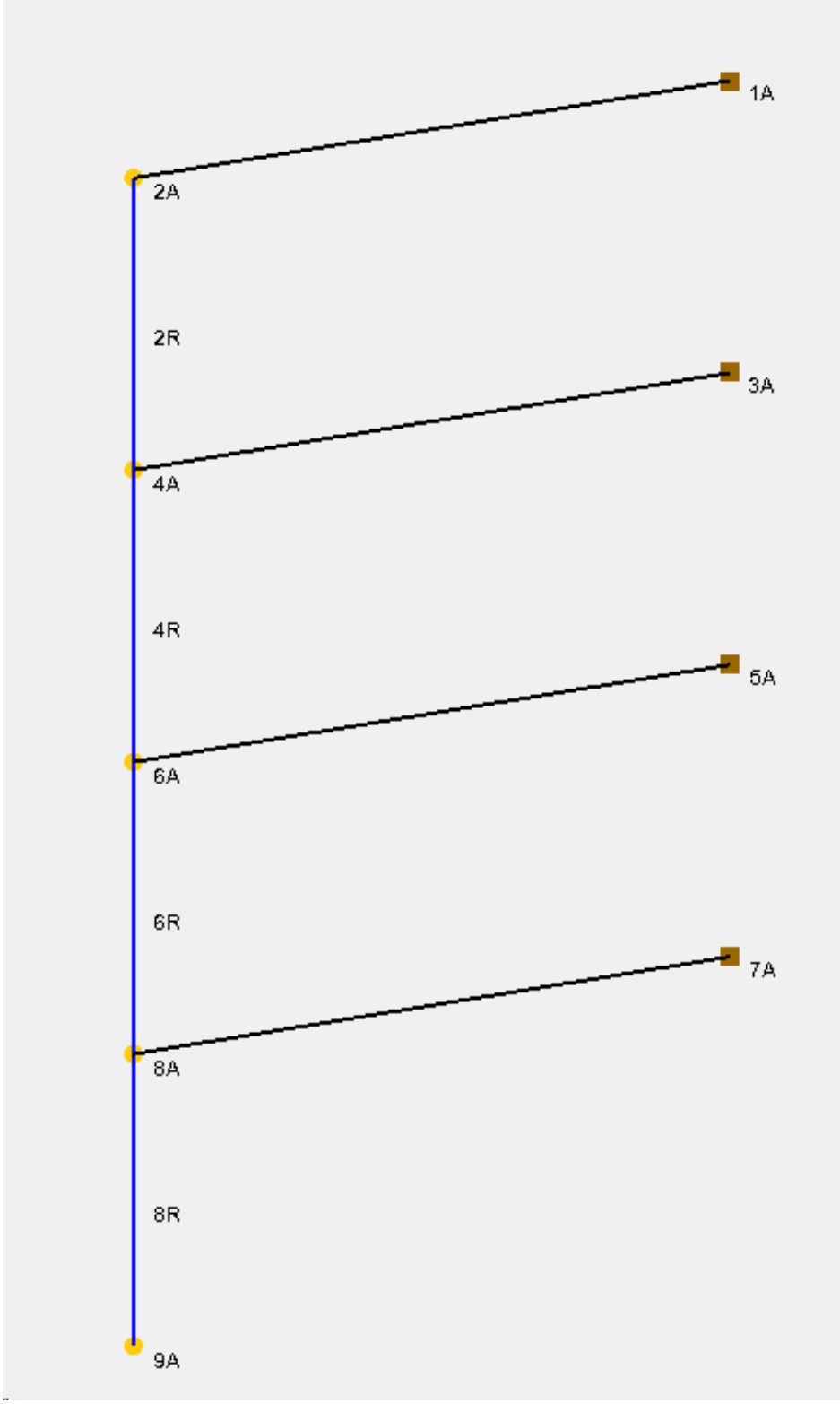
PSOMAS

DATE: 03-06-2018 REVISED ON:
JOB No:1MAP030400

SHEET 1 OF 1

Plotted - 3/6/2018 4:57:50 PM :: Saved - 3/6/2018 4:57:15 PM :: V:\1MAP030400\ENGR\DESIGN\HYDR\VicMap.dwg :: nelson.rivera

Appendix 3 Hydrology, Hydrocalc and WMS



WMS MODELING TREE NORTHWEST

File name: NW.lac Run date: Thu Mar 22 09:47:24 2018

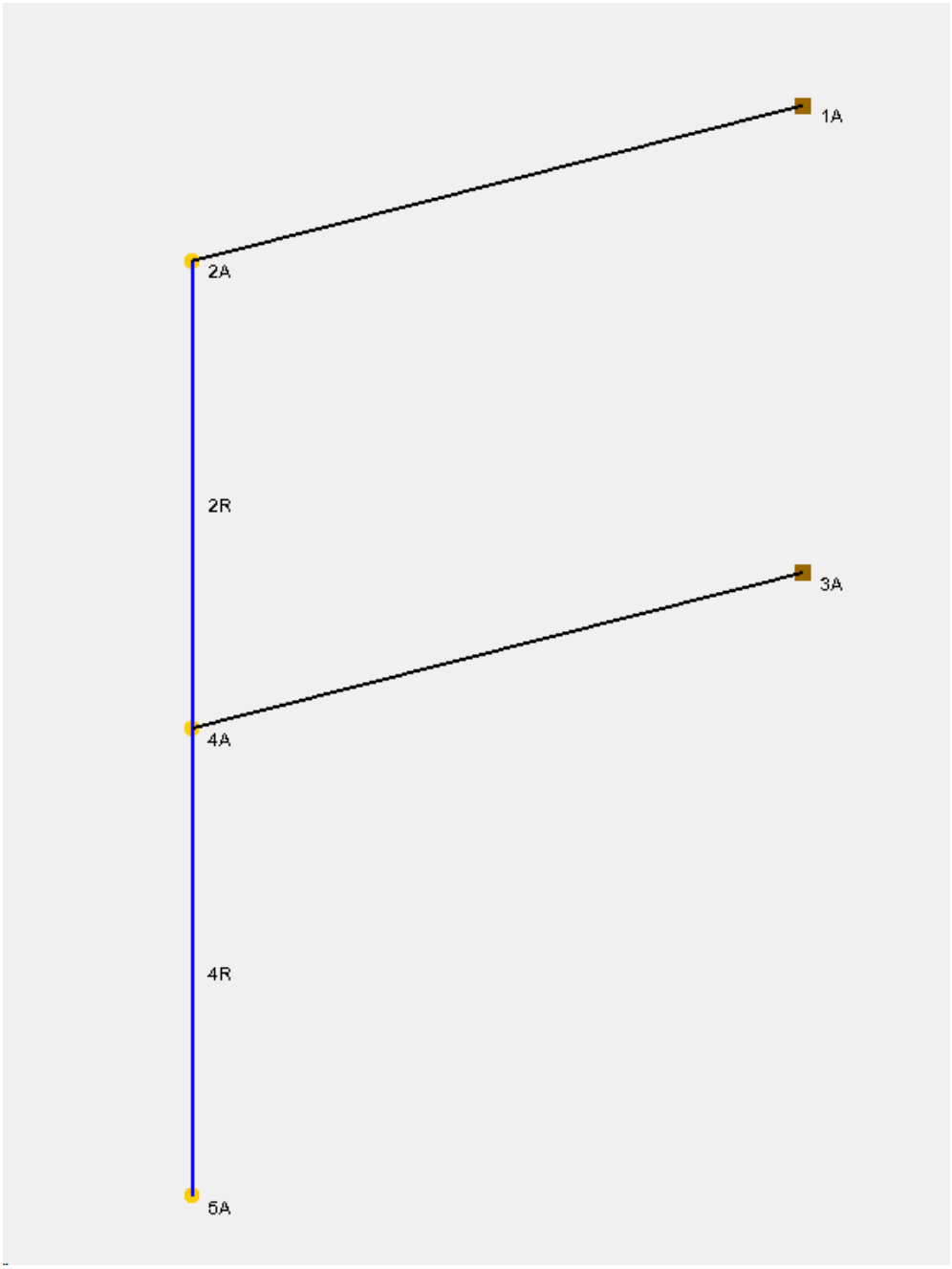
Los Angeles County Flood Control District
Modified Rational Method Hydrology

Storm Day 4 Storm Frequency 50

LOCATION	SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	TOTAL VOLUME	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN	PCT IMPV
1 1A	0.3	1.16	0.3	1.16	0.149	0	0	0.00000	0.00	0.00	0	6	5	7.20	0.90
1 2A	0.0	0.00	0.3	0.77	0.054	4	196	0.01000	1.50	0.00	0	6	0	7.20	0.00
1 3A	0.5	1.93	0.8	2.44	0.302	0	0	0.00000	0.00	0.00	0	6	5	7.20	0.90
1 4A	0.0	0.00	0.8	2.04	0.178	4	135	0.01000	1.50	0.00	0	6	0	7.20	0.00
1 5A	0.4	1.54	1.2	3.15	0.377	0	0	0.00000	0.00	0.00	0	6	5	7.20	0.90
1 6A	0.0	0.00	1.2	3.07	0.282	4	147	0.01000	1.50	0.00	0	6	0	7.20	0.00
1 7A	0.5	1.93	1.7	4.47	0.530	0	0	0.00000	0.00	0.00	0	6	5	7.20	0.90
1 8A	0.0	0.00	1.7	4.15	0.422	4	360	0.01000	1.50	0.00	0	6	0	7.20	0.00
1 9A	0.0	0.00	1.7	4.08	0.422	4	0	0.01000	2.00	0.00	0	6	0	7.20	0.00

Normal End of MODRAT

WMS PRINTOUT NORTHWEST



WMS MODELING TREE NORTHEAST

File name: NE.lac Run date: Wed Mar 21 15:37:35 2018

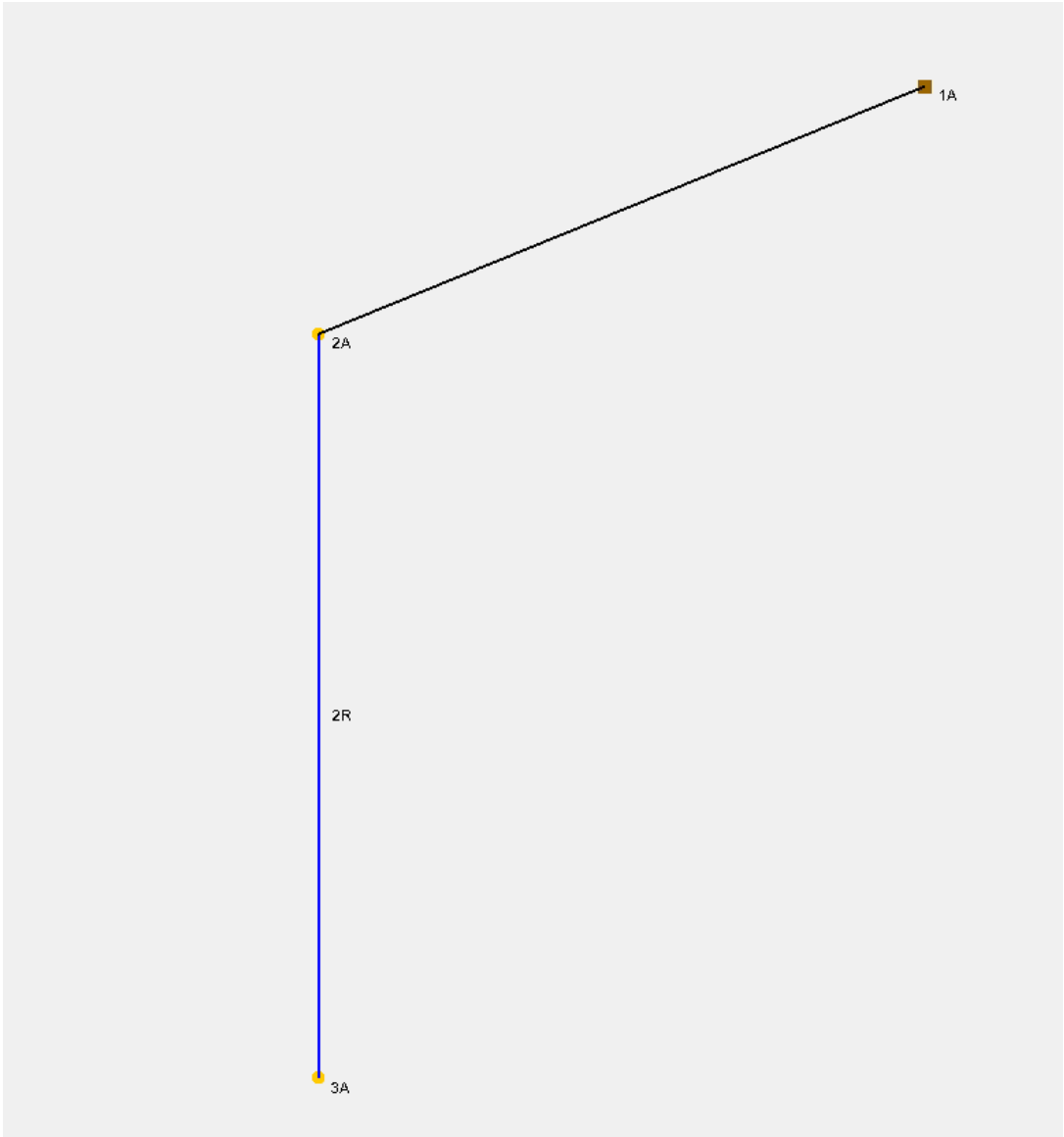
Los Angeles County Flood Control District
Modified Rational Method Hydrology

Storm Day 4 Storm Frequency 50

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	TOTAL VOLUME	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN	PCT IMPV
1	1A	2.0	6.16	2.0	6.16	0.992	0	0	0.00000	0.00	0.00	0	6	8	7.20	0.90
1	2A	0.0	0.00	2.0	3.35	0.607	4	253	0.01000	1.50	0.00	0	6	0	7.20	0.00
1	3A	1.6	6.18	3.6	8.40	1.401	0	0	0.00000	0.00	0.00	0	6	5	7.20	0.90
1	4A	0.0	0.00	3.6	6.88	1.077	4	87	0.01000	1.50	0.00	0	6	0	7.20	0.00
1	5A	0.0	0.00	3.6	6.85	1.077	4	0	0.00000	1.50	0.00	0	6	0	7.20	0.00

Normal End of MODRAT

WMS PRINTOUT NORTHEAST



WMS MODELING TREE SOUTHWEST

File name: SW.lac Run date: Wed Mar 21 15:49:15 2018

Los Angeles County Flood Control District
Modified Rational Method Hydrology

Storm Day 4 Storm Frequency 50

LOCATION		SUBAREA AREA	SUBAREA Q	TOTAL AREA	TOTAL Q	TOTAL VOLUME	CONV TYPE	CONV LNGTH	CONV SLOPE	CONV SIZE	CONV Z	CONTROL Q	SOIL NAME	TC	RAIN	PCT IMPV
1	1A	1.4	5.41	1.4	5.41	0.695	0	0	0.00000	0.00	0.00	0	6	5	7.20	0.90
1	2A	0.0	0.00	1.4	3.62	0.419	4	15	0.01000	1.50	0.00	0	6	0	7.20	0.00
1	3A	0.0	0.00	1.4	3.61	0.419	0	0	0.00000	0.00	0.00	0	6	0	7.20	0.00

Normal End of MODRAT

WMS PRINTOUT SOUTHWEST

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**        LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS          **
**             MODIFIED RATIONAL METHOD HYDROLOGY                **
**                 RESERVOIR ROUTING OUTPUT                      **

**********************  RESERVOIR ROUTING  STORM DAY 4  ********************
```

RESERVOIR ROUTING at 2A STORM DAY 4 STORM FREQ. 50
INITIAL WATER SURFACE ELEVATION: 0.00
RESERVOIR COMPOSITE ELEVATION-STORAGE-DISCHARGE DATA at 2A

ELEVATION (ft.)	STORAGE (a.f.)	OUTFLOW (cfs)
0.00	0.00	0.00
0.65	0.05	0.00
1.30	0.09	0.00
1.95	0.14	0.00
2.60	0.18	0.00
3.24	0.23	0.00
3.89	0.27	0.01
4.54	0.32	1.13
5.19	0.36	6.63
5.84	0.41	9.51

RESERVOIR ROUTING TABLE at 2A

TIME	INFLOW (cfs)	OUTFLOW (cfs)	W.S.ELEV (ft.)	STORAGE (a.f.)
0	0.00	0.00	0.00	0.00
100	0.19	0.00	0.35	0.02
200	0.20	0.00	0.74	0.05
300	0.21	0.00	1.15	0.08
400	0.22	0.00	1.57	0.11
500	0.24	0.00	2.03	0.14
600	0.26	0.00	2.52	0.18
700	0.28	0.00	3.06	0.21
800	0.32	0.00	3.65	0.25
900	0.37	0.32	4.07	0.28
1000	0.47	0.44	4.14	0.29
1050	0.58	0.52	4.19	0.29
1100	0.80	0.67	4.27	0.30
1110	0.88	0.72	4.30	0.30
1120	1.00	0.78	4.34	0.30
1130	1.18	0.87	4.39	0.31
1131	1.21	0.88	4.40	0.31
1132	1.23	0.89	4.41	0.31
1133	1.26	0.91	4.41	0.31
1134	1.29	0.92	4.42	0.31
1135	1.32	0.93	4.43	0.31
1136	1.35	0.94	4.43	0.31
1137	1.39	0.96	4.44	0.31
1138	1.43	0.97	4.45	0.31
1139	1.48	0.99	4.46	0.31
1140	1.52	1.01	4.47	0.31
1141	1.58	1.03	4.48	0.31
1142	1.64	1.05	4.49	0.31
1143	1.71	1.07	4.51	0.31
1144	1.79	1.09	4.52	0.31
1145	1.88	1.12	4.53	0.31
1146	1.99	1.18	4.55	0.32
1147	2.12	1.32	4.56	0.32
1148	2.28	1.46	4.58	0.32
1149	2.49	1.60	4.60	0.32
1150	2.78	1.76	4.62	0.32
1151	3.25	1.95	4.64	0.32
1152	4.86	2.28	4.68	0.32
1153	5.41	2.72	4.73	0.33
1154	5.27	3.13	4.78	0.33
1155	4.92	3.43	4.81	0.33
1156	4.31	3.62	4.84	0.34
1157	2.49	3.58	4.83	0.34
1158	1.67	3.35	4.80	0.33
1159	1.43	3.07	4.77	0.33
1160	1.28	2.80	4.74	0.33
1161	1.17	2.56	4.71	0.33
1162	1.08	2.34	4.68	0.33
1163	1.02	2.14	4.66	0.32
1164	0.96	1.96	4.64	0.32
1165	0.91	1.80	4.62	0.32
1166	0.87	1.66	4.60	0.32
1167	0.84	1.53	4.59	0.32
1168	0.81	1.42	4.58	0.32
1169	0.78	1.33	4.57	0.32
1170	0.75	1.24	4.55	0.32
1171	0.73	1.16	4.55	0.32
1172	0.71	1.12	4.54	0.32

SW ROUTING PRINTOUT

1173	0.69	1.11	4.53	0.31
1174	0.67	1.09	4.52	0.31
1175	0.65	1.08	4.51	0.31
1176	0.64	1.06	4.50	0.31
1177	0.62	1.05	4.50	0.31
1178	0.61	1.04	4.49	0.31
1179	0.60	1.02	4.48	0.31
1180	0.59	1.01	4.47	0.31
1181	0.57	0.99	4.46	0.31
1182	0.56	0.98	4.45	0.31
1183	0.55	0.96	4.45	0.31
1184	0.54	0.95	4.44	0.31
1185	0.53	0.94	4.43	0.31
1186	0.53	0.92	4.42	0.31
1187	0.52	0.91	4.41	0.31
1188	0.51	0.89	4.41	0.31
1189	0.50	0.88	4.40	0.31
1190	0.49	0.87	4.39	0.30
1191	0.49	0.86	4.38	0.30
1192	0.48	0.84	4.38	0.30
1193	0.47	0.83	4.37	0.30
1194	0.47	0.82	4.36	0.30
1195	0.46	0.81	4.36	0.30
1196	0.46	0.80	4.35	0.30
1197	0.45	0.78	4.34	0.30
1198	0.45	0.77	4.34	0.30
1199	0.44	0.76	4.33	0.30
1200	0.44	0.75	4.32	0.30
1201	0.43	0.74	4.32	0.30
1202	0.43	0.73	4.31	0.30
1203	0.42	0.72	4.30	0.30
1204	0.42	0.71	4.30	0.30
1205	0.41	0.70	4.29	0.30
1206	0.41	0.69	4.29	0.30
1207	0.41	0.68	4.28	0.30
1208	0.40	0.67	4.28	0.30
1209	0.40	0.66	4.27	0.30
1210	0.40	0.65	4.27	0.30
1211	0.39	0.64	4.26	0.30
1212	0.39	0.64	4.26	0.30
1213	0.39	0.63	4.25	0.30
1214	0.38	0.62	4.25	0.29
1215	0.38	0.61	4.24	0.29
1216	0.38	0.60	4.24	0.29
1217	0.37	0.60	4.23	0.29
1218	0.37	0.59	4.23	0.29
1219	0.37	0.58	4.22	0.29
1220	0.37	0.57	4.22	0.29
1221	0.36	0.57	4.22	0.29
1222	0.36	0.56	4.21	0.29
1223	0.36	0.55	4.21	0.29
1224	0.36	0.55	4.20	0.29
1225	0.35	0.54	4.20	0.29
1226	0.35	0.53	4.20	0.29
1227	0.35	0.53	4.19	0.29
1228	0.35	0.52	4.19	0.29
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1239	0.33	0.46	4.16	0.29
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1248	0.31	0.42	4.13	0.29
1249	0.31	0.42	4.13	0.29
1250	0.31	0.42	4.13	0.29
1251	0.30	0.41	4.13	0.29
1252	0.30	0.41	4.13	0.29
1253	0.30	0.40	4.12	0.29
1254	0.30	0.40	4.12	0.29
1255	0.30	0.40	4.12	0.29

SW ROUTING PRINTOUT

1256	0.30	0.39	4.12	0.29
1257	0.30	0.39	4.12	0.29
1258	0.30	0.39	4.11	0.29
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1260	0.29	0.38	4.11	0.29
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1263	0.29	0.37	4.10	0.29
1264	0.29	0.37	4.10	0.28
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1266	0.28	0.36	4.10	0.28
1267	0.28	0.36	4.10	0.28
1268	0.28	0.36	4.10	0.28
1269	0.28	0.36	4.10	0.28
1270	0.28	0.35	4.09	0.28
1271	0.28	0.35	4.09	0.28
1272	0.28	0.35	4.09	0.28
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1277	0.27	0.34	4.08	0.28
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1282	0.27	0.33	4.08	0.28
1283	0.27	0.32	4.08	0.28
1284	0.27	0.32	4.08	0.28
1285	0.26	0.32	4.07	0.28
1286	0.26	0.32	4.07	0.28
1287	0.26	0.32	4.07	0.28
1288	0.26	0.32	4.07	0.28
1289	0.26	0.31	4.07	0.28
1290	0.26	0.31	4.07	0.28
1291	0.26	0.31	4.07	0.28
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1293	0.26	0.31	4.07	0.28
1294	0.26	0.30	4.07	0.28
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1297	0.25	0.30	4.06	0.28
1298	0.25	0.30	4.06	0.28
1299	0.25	0.30	4.06	0.28
1300	0.25	0.30	4.06	0.28
1310	0.24	0.28	4.05	0.28
1320	0.24	0.27	4.04	0.28
1330	0.23	0.26	4.04	0.28
1340	0.22	0.25	4.03	0.28
1350	0.22	0.24	4.03	0.28
1360	0.21	0.23	4.02	0.28
1370	0.21	0.23	4.02	0.28
1380	0.21	0.22	4.02	0.28
1390	0.20	0.22	4.01	0.28
1400	0.20	0.21	4.01	0.28
1420	0.19	0.20	4.01	0.28
1440	0.18	0.19	4.00	0.28

SW ROUTING PRINTOUT

** LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS **
** MODIFIED RATIONAL METHOD HYDROLOGY **
** RESERVOIR ROUTING OUTPUT **

********** RESERVOIR ROUTING STORM DAY 4 **********

RESERVOIR ROUTING at 2A STORM DAY 4 STORM FREQ. 50
INITIAL WATER SURFACE ELEVATION: 0.00
RESERVOIR COMPOSITE ELEVATION-STORAGE-DISCHARGE DATA at 2A

ELEVATION (ft.)	STORAGE (a.f.)	OUTFLOW (cfs)
0.00	0.00	0.00
0.65	0.01	0.00
1.30	0.02	0.00
1.95	0.03	0.00
2.60	0.04	0.00
3.24	0.05	0.00
3.89	0.06	0.01
4.54	0.07	1.13
5.19	0.08	6.63
5.84	0.09	9.51

RESERVOIR ROUTING TABLE at 2A

TIME	INFLOW (cfs)	OUTFLOW (cfs)	W.S.ELEV (ft.)	STORAGE (a.f.)
0	0.00	0.00	0.00	0.00
100	0.04	0.00	0.34	0.01
200	0.04	0.00	0.71	0.01
300	0.05	0.00	1.10	0.02
400	0.05	0.00	1.51	0.02
500	0.05	0.00	1.95	0.03
600	0.06	0.00	2.42	0.04
700	0.06	0.00	2.93	0.05
800	0.07	0.00	3.49	0.05
900	0.08	0.08	3.93	0.06
1000	0.10	0.10	3.95	0.06
1050	0.12	0.12	3.96	0.06
1100	0.17	0.16	3.98	0.06
1110	0.19	0.18	3.99	0.06
1120	0.21	0.20	4.00	0.06
1130	0.25	0.23	4.02	0.06
1131	0.26	0.23	4.02	0.06
1132	0.26	0.24	4.03	0.06
1133	0.27	0.24	4.03	0.06
1134	0.28	0.25	4.03	0.06
1135	0.28	0.25	4.03	0.06
1136	0.29	0.26	4.04	0.06
1137	0.30	0.26	4.04	0.06
1138	0.31	0.27	4.04	0.06
1139	0.32	0.27	4.05	0.06
1140	0.33	0.28	4.05	0.06
1141	0.34	0.29	4.06	0.06
1142	0.35	0.30	4.06	0.06
1143	0.37	0.30	4.07	0.06
1144	0.38	0.31	4.07	0.06
1145	0.40	0.33	4.08	0.06
1146	0.43	0.34	4.08	0.06
1147	0.45	0.35	4.09	0.06
1148	0.49	0.37	4.10	0.06
1149	0.53	0.39	4.11	0.06
1150	0.60	0.41	4.13	0.06
1151	0.70	0.45	4.15	0.06
1152	1.04	0.51	4.18	0.06
1153	1.16	0.59	4.23	0.07
1154	1.13	0.67	4.28	0.07
1155	1.05	0.73	4.31	0.07
1156	0.92	0.77	4.33	0.07
1157	0.53	0.76	4.33	0.07
1158	0.36	0.72	4.30	0.07
1159	0.31	0.66	4.27	0.07
1160	0.27	0.61	4.24	0.07
1161	0.25	0.56	4.21	0.07
1162	0.23	0.51	4.19	0.06
1163	0.22	0.47	4.16	0.06
1164	0.21	0.44	4.14	0.06
1165	0.20	0.40	4.12	0.06
1166	0.19	0.37	4.10	0.06
1167	0.18	0.35	4.09	0.06
1168	0.17	0.32	4.07	0.06
1169	0.17	0.30	4.06	0.06
1170	0.16	0.28	4.05	0.06
1171	0.16	0.26	4.04	0.06
1172	0.15	0.25	4.03	0.06

NW ROUTING PRINTOUT

1173	0.15	0.23	4.02	0.06
1174	0.14	0.22	4.02	0.06
1175	0.14	0.21	4.01	0.06
1176	0.14	0.20	4.00	0.06
1177	0.13	0.19	4.00	0.06
1178	0.13	0.18	3.99	0.06
1179	0.13	0.17	3.99	0.06
1180	0.13	0.17	3.99	0.06
1181	0.12	0.16	3.98	0.06
1182	0.12	0.16	3.98	0.06
1183	0.12	0.15	3.98	0.06
1184	0.12	0.15	3.97	0.06
1185	0.11	0.14	3.97	0.06
1186	0.11	0.14	3.97	0.06
1187	0.11	0.13	3.97	0.06
1188	0.11	0.13	3.96	0.06
1189	0.11	0.13	3.96	0.06
1190	0.11	0.12	3.96	0.06
1191	0.10	0.12	3.96	0.06
1192	0.10	0.12	3.96	0.06
1193	0.10	0.12	3.96	0.06
1194	0.10	0.11	3.96	0.06
1195	0.10	0.11	3.95	0.06
1196	0.10	0.11	3.95	0.06
1197	0.10	0.11	3.95	0.06
1198	0.10	0.11	3.95	0.06
1199	0.09	0.10	3.95	0.06
1200	0.09	0.10	3.95	0.06
1201	0.09	0.10	3.95	0.06
1202	0.09	0.10	3.95	0.06
1203	0.09	0.10	3.95	0.06
1204	0.09	0.10	3.95	0.06
1205	0.09	0.10	3.94	0.06
1206	0.09	0.10	3.94	0.06
1207	0.09	0.09	3.94	0.06
1208	0.09	0.09	3.94	0.06
1209	0.09	0.09	3.94	0.06
1210	0.08	0.09	3.94	0.06
1211	0.08	0.09	3.94	0.06
1212	0.08	0.09	3.94	0.06
1213	0.08	0.09	3.94	0.06
1214	0.08	0.09	3.94	0.06
1215	0.08	0.09	3.94	0.06
1216	0.08	0.09	3.94	0.06
1217	0.08	0.09	3.94	0.06
1218	0.08	0.08	3.94	0.06
1219	0.08	0.08	3.94	0.06
1220	0.08	0.08	3.94	0.06
1221	0.08	0.08	3.94	0.06
1222	0.08	0.08	3.94	0.06
1223	0.08	0.08	3.94	0.06
1224	0.08	0.08	3.94	0.06
1225	0.08	0.08	3.94	0.06
1226	0.08	0.08	3.93	0.06
1227	0.07	0.08	3.93	0.06
1228	0.07	0.08	3.93	0.06
1229	0.07	0.08	3.93	0.06
1230	0.07	0.08	3.93	0.06
1231	0.07	0.08	3.93	0.06
1232	0.07	0.08	3.93	0.06
1233	0.07	0.08	3.93	0.06
1234	0.07	0.07	3.93	0.06
1235	0.07	0.07	3.93	0.06
1236	0.07	0.07	3.93	0.06
1237	0.07	0.07	3.93	0.06
1238	0.07	0.07	3.93	0.06
1239	0.07	0.07	3.93	0.06
1240	0.07	0.07	3.93	0.06
1241	0.07	0.07	3.93	0.06
1242	0.07	0.07	3.93	0.06
1243	0.07	0.07	3.93	0.06
1244	0.07	0.07	3.93	0.06
1245	0.07	0.07	3.93	0.06
1246	0.07	0.07	3.93	0.06
1247	0.07	0.07	3.93	0.06
1248	0.07	0.07	3.93	0.06
1249	0.07	0.07	3.93	0.06
1250	0.07	0.07	3.93	0.06
1251	0.07	0.07	3.93	0.06
1252	0.07	0.07	3.93	0.06
1253	0.06	0.07	3.93	0.06
1254	0.06	0.07	3.93	0.06
1255	0.06	0.07	3.93	0.06

NW ROUTING PRINTOUT

1256	0.06	0.07	3.93	0.06
1257	0.06	0.07	3.93	0.06
1258	0.06	0.07	3.93	0.06
1259	0.06	0.07	3.93	0.06
1260	0.06	0.06	3.93	0.06
1261	0.06	0.06	3.93	0.06
1262	0.06	0.06	3.93	0.06
1263	0.06	0.06	3.93	0.06
1264	0.06	0.06	3.93	0.06
1265	0.06	0.06	3.93	0.06
1266	0.06	0.06	3.93	0.06
1267	0.06	0.06	3.93	0.06
1268	0.06	0.06	3.93	0.06
1269	0.06	0.06	3.93	0.06
1270	0.06	0.06	3.92	0.06
1271	0.06	0.06	3.92	0.06
1272	0.06	0.06	3.92	0.06
1273	0.06	0.06	3.92	0.06
1274	0.06	0.06	3.92	0.06
1275	0.06	0.06	3.92	0.06
1276	0.06	0.06	3.92	0.06
1277	0.06	0.06	3.92	0.06
1278	0.06	0.06	3.92	0.06
1279	0.06	0.06	3.92	0.06
1280	0.06	0.06	3.92	0.06
1281	0.06	0.06	3.92	0.06
1282	0.06	0.06	3.92	0.06
1283	0.06	0.06	3.92	0.06
1284	0.06	0.06	3.92	0.06
1285	0.06	0.06	3.92	0.06
1286	0.06	0.06	3.92	0.06
1287	0.06	0.06	3.92	0.06
1288	0.06	0.06	3.92	0.06
1289	0.06	0.06	3.92	0.06
1290	0.06	0.06	3.92	0.06
1291	0.06	0.06	3.92	0.06
1292	0.06	0.06	3.92	0.06
1293	0.06	0.06	3.92	0.06
1294	0.06	0.06	3.92	0.06
1295	0.05	0.06	3.92	0.06
1296	0.05	0.06	3.92	0.06
1297	0.05	0.06	3.92	0.06
1298	0.05	0.06	3.92	0.06
1299	0.05	0.06	3.92	0.06
1300	0.05	0.06	3.92	0.06
1310	0.05	0.05	3.92	0.06
1320	0.05	0.05	3.92	0.06
1330	0.05	0.05	3.92	0.06
1340	0.05	0.05	3.92	0.06
1350	0.05	0.05	3.92	0.06
1360	0.05	0.05	3.92	0.06
1370	0.04	0.05	3.92	0.06
1380	0.04	0.04	3.91	0.06
1390	0.04	0.04	3.91	0.06
1400	0.04	0.04	3.91	0.06
1420	0.04	0.04	3.91	0.06
1440	0.04	0.04	3.91	0.06

********** RESERVOIR ROUTING STORM DAY 4 **********

RESERVOIR ROUTING at 4A STORM DAY 4 STORM FREQ. 50
INITIAL WATER SURFACE ELEVATION: 0.00
RESERVOIR COMPOSITE ELEVATION-STORAGE-DISCHARGE DATA at 4A

ELEVATION (ft.)	STORAGE (a.f.)	OUTFLOW (cfs)
0.00	0.00	0.00
0.65	0.02	0.00
1.30	0.03	0.00
1.95	0.05	0.00
2.60	0.07	0.00
3.24	0.09	0.00
3.89	0.10	0.01
4.54	0.12	1.13
5.19	0.14	6.63
5.84	0.15	9.51

RESERVOIR ROUTING TABLE at 4A

TIME	INFLOW (cfs)	OUTFLOW (cfs)	W.S.ELEV (ft.)	STORAGE (a.f.)
0	0.00	0.00	0.00	0.00
100	0.07	0.00	0.33	0.01
200	0.07	0.00	0.69	0.02

NW ROUTING PRINTOUT

300	0.08	0.00	1.07	0.03
400	0.08	0.00	1.47	0.04
500	0.09	0.00	1.90	0.05
600	0.09	0.00	2.36	0.06
700	0.10	0.00	2.86	0.08
800	0.11	0.00	3.41	0.09
900	0.13	0.11	3.95	0.10
1000	0.17	0.16	3.98	0.11
1050	0.33	0.31	4.07	0.11
1100	0.44	0.41	4.13	0.11
1110	0.49	0.45	4.15	0.11
1120	0.55	0.49	4.17	0.11
1130	0.64	0.56	4.21	0.11
1131	0.66	0.56	4.21	0.11
1132	0.67	0.57	4.22	0.11
1133	0.68	0.58	4.22	0.11
1134	0.70	0.59	4.23	0.11
1135	0.71	0.60	4.24	0.11
1136	0.73	0.61	4.24	0.11
1137	0.75	0.62	4.25	0.11
1138	0.77	0.63	4.25	0.11
1139	0.79	0.65	4.26	0.11
1140	0.81	0.66	4.27	0.11
1141	0.84	0.67	4.28	0.11
1142	0.87	0.69	4.29	0.11
1143	0.90	0.71	4.30	0.11
1144	0.94	0.72	4.31	0.11
1145	0.98	0.74	4.32	0.11
1146	1.03	0.77	4.33	0.11
1147	1.09	0.79	4.35	0.12
1148	1.16	0.82	4.36	0.12
1149	1.25	0.85	4.38	0.12
1150	1.37	0.89	4.40	0.12
1151	1.56	0.94	4.43	0.12
1152	2.17	1.02	4.48	0.12
1153	2.41	1.13	4.54	0.12
1154	2.44	1.59	4.60	0.12
1155	2.39	1.89	4.63	0.12
1156	2.24	2.04	4.65	0.12
1157	1.64	2.01	4.65	0.12
1158	1.35	1.82	4.62	0.12
1159	1.24	1.63	4.60	0.12
1160	1.14	1.47	4.58	0.12
1161	1.05	1.33	4.57	0.12
1162	0.97	1.22	4.55	0.12
1163	0.90	1.13	4.54	0.12
1164	0.84	1.10	4.53	0.12
1165	0.78	1.08	4.51	0.12
1166	0.73	1.05	4.50	0.12
1167	0.69	1.02	4.48	0.12
1168	0.65	0.99	4.46	0.12
1169	0.62	0.96	4.44	0.12
1170	0.58	0.93	4.43	0.12
1171	0.55	0.90	4.41	0.12
1172	0.53	0.87	4.39	0.12
1173	0.50	0.84	4.37	0.12
1174	0.48	0.81	4.36	0.12
1175	0.46	0.78	4.34	0.12
1176	0.45	0.75	4.32	0.11
1177	0.43	0.72	4.31	0.11
1178	0.42	0.70	4.29	0.11
1179	0.41	0.67	4.28	0.11
1180	0.39	0.65	4.27	0.11
1181	0.38	0.63	4.25	0.11
1182	0.37	0.61	4.24	0.11
1183	0.36	0.59	4.23	0.11
1184	0.35	0.57	4.22	0.11
1185	0.34	0.55	4.21	0.11
1186	0.33	0.53	4.19	0.11
1187	0.33	0.51	4.18	0.11
1188	0.32	0.50	4.18	0.11
1189	0.31	0.48	4.17	0.11
1190	0.31	0.47	4.16	0.11
1191	0.30	0.45	4.15	0.11
1192	0.30	0.44	4.14	0.11
1193	0.29	0.43	4.14	0.11
1194	0.29	0.41	4.13	0.11
1195	0.28	0.40	4.12	0.11
1196	0.28	0.39	4.12	0.11
1197	0.27	0.38	4.11	0.11
1198	0.27	0.37	4.10	0.11
1199	0.27	0.36	4.10	0.11
1200	0.26	0.36	4.09	0.11

NW ROUTING PRINTOUT

1201	0.26	0.35	4.09	0.11
1202	0.26	0.34	4.09	0.11
1203	0.25	0.33	4.08	0.11
1204	0.16	0.32	4.07	0.11
1205	0.15	0.31	4.07	0.11
1206	0.15	0.29	4.06	0.11
1207	0.15	0.28	4.05	0.11
1208	0.14	0.27	4.04	0.11
1209	0.14	0.26	4.04	0.11
1210	0.14	0.25	4.03	0.11
1211	0.14	0.24	4.03	0.11
1212	0.14	0.23	4.02	0.11
1213	0.14	0.22	4.02	0.11
1214	0.14	0.22	4.01	0.11
1215	0.14	0.21	4.01	0.11
1216	0.13	0.20	4.01	0.11
1217	0.13	0.20	4.00	0.11
1218	0.13	0.19	4.00	0.11
1219	0.13	0.19	4.00	0.11
1220	0.13	0.18	3.99	0.11
1221	0.13	0.18	3.99	0.11
1222	0.13	0.17	3.99	0.11
1223	0.13	0.17	3.99	0.11
1224	0.13	0.17	3.98	0.11
1225	0.13	0.16	3.98	0.11
1226	0.13	0.16	3.98	0.11
1227	0.12	0.16	3.98	0.11
1228	0.12	0.15	3.98	0.11
1229	0.12	0.15	3.98	0.11
1230	0.12	0.15	3.97	0.11
1231	0.12	0.15	3.97	0.11
1232	0.12	0.14	3.97	0.11
1233	0.12	0.14	3.97	0.11
1234	0.12	0.14	3.97	0.11
1235	0.12	0.14	3.97	0.11
1236	0.12	0.14	3.97	0.11
1237	0.12	0.13	3.97	0.11
1238	0.12	0.13	3.97	0.11
1239	0.12	0.13	3.97	0.11
1240	0.12	0.13	3.96	0.11
1241	0.11	0.13	3.96	0.11
1242	0.11	0.13	3.96	0.11
1243	0.11	0.13	3.96	0.11
1244	0.11	0.13	3.96	0.11
1245	0.11	0.12	3.96	0.11
1246	0.11	0.12	3.96	0.11
1247	0.11	0.12	3.96	0.11
1248	0.11	0.12	3.96	0.11
1249	0.11	0.12	3.96	0.11
1250	0.11	0.12	3.96	0.11
1251	0.11	0.12	3.96	0.11
1252	0.11	0.12	3.96	0.11
1253	0.11	0.12	3.96	0.11
1254	0.11	0.12	3.96	0.10
1255	0.11	0.12	3.96	0.10
1256	0.11	0.11	3.96	0.10
1257	0.11	0.11	3.95	0.10
1258	0.11	0.11	3.95	0.10
1259	0.11	0.11	3.95	0.10
1260	0.10	0.11	3.95	0.10
1261	0.10	0.11	3.95	0.10
1262	0.10	0.11	3.95	0.10
1263	0.10	0.11	3.95	0.10
1264	0.10	0.11	3.95	0.10
1265	0.10	0.11	3.95	0.10
1266	0.10	0.11	3.95	0.10
1267	0.10	0.11	3.95	0.10
1268	0.10	0.11	3.95	0.10
1269	0.10	0.11	3.95	0.10
1270	0.10	0.11	3.95	0.10
1271	0.10	0.11	3.95	0.10
1272	0.10	0.10	3.95	0.10
1273	0.10	0.10	3.95	0.10
1274	0.10	0.10	3.95	0.10
1275	0.10	0.10	3.95	0.10
1276	0.10	0.10	3.95	0.10
1277	0.10	0.10	3.95	0.10
1278	0.10	0.10	3.95	0.10
1279	0.10	0.10	3.95	0.10
1280	0.10	0.10	3.95	0.10
1281	0.10	0.10	3.95	0.10
1282	0.10	0.10	3.95	0.10
1283	0.10	0.10	3.95	0.10

NW ROUTING PRINTOUT

1284	0.09	0.10	3.95	0.10
1285	0.09	0.10	3.95	0.10
1286	0.09	0.10	3.95	0.10
1287	0.09	0.10	3.95	0.10
1288	0.09	0.10	3.95	0.10
1289	0.09	0.10	3.95	0.10
1290	0.09	0.10	3.95	0.10
1291	0.09	0.10	3.95	0.10
1292	0.09	0.10	3.94	0.10
1293	0.09	0.10	3.94	0.10
1294	0.09	0.10	3.94	0.10
1295	0.09	0.10	3.94	0.10
1296	0.09	0.09	3.94	0.10
1297	0.09	0.09	3.94	0.10
1298	0.09	0.09	3.94	0.10
1299	0.09	0.09	3.94	0.10
1300	0.09	0.09	3.94	0.10
1310	0.09	0.09	3.94	0.10
1320	0.08	0.09	3.94	0.10
1330	0.08	0.09	3.94	0.10
1340	0.08	0.08	3.94	0.10
1350	0.08	0.08	3.94	0.10
1360	0.08	0.08	3.93	0.10
1370	0.07	0.08	3.93	0.10
1380	0.07	0.07	3.93	0.10
1390	0.07	0.07	3.93	0.10
1400	0.07	0.07	3.93	0.10
1420	0.07	0.07	3.93	0.10
1440	0.07	0.07	3.93	0.10

********** RESERVOIR ROUTING STORM DAY 4 **********

RESERVOIR ROUTING at 6A STORM DAY 4 STORM FREQ. 50
INITIAL WATER SURFACE ELEVATION: 0.00
RESERVOIR COMPOSITE ELEVATION-STORAGE-DISCHARGE DATA at 6A

ELEVATION (ft.)	STORAGE (a.f.)	OUTFLOW (cfs)
0.00	0.00	0.00
0.65	0.00	0.00
1.30	0.01	0.00
1.95	0.01	0.00
2.60	0.02	0.00
3.24	0.02	0.00
3.89	0.03	0.01
4.54	0.03	1.13
5.19	0.04	6.63
5.84	0.04	9.51

RESERVOIR ROUTING TABLE at 6A

TIME	INFLOW (cfs)	OUTFLOW (cfs)	W.S.ELEV (ft.)	STORAGE (a.f.)
0	0.00	0.00	0.00	0.00
100	0.05	0.00	0.94	0.01
200	0.06	0.00	1.97	0.01
300	0.06	0.00	3.05	0.02
400	0.06	0.06	3.93	0.03
500	0.07	0.07	3.93	0.03
600	0.07	0.07	3.93	0.03
700	0.08	0.08	3.94	0.03
800	0.09	0.09	3.94	0.03
900	0.21	0.17	3.98	0.03
1000	0.30	0.29	4.06	0.03
1050	0.47	0.47	4.16	0.03
1100	0.63	0.62	4.25	0.03
1110	0.69	0.67	4.28	0.03
1120	0.77	0.75	4.32	0.03
1130	0.88	0.85	4.38	0.03
1131	0.90	0.86	4.39	0.03
1132	0.92	0.87	4.39	0.03
1133	0.93	0.89	4.40	0.03
1134	0.95	0.90	4.41	0.03
1135	0.97	0.92	4.42	0.03
1136	0.99	0.93	4.43	0.03
1137	1.01	0.95	4.44	0.03
1138	1.03	0.97	4.45	0.03
1139	1.06	0.99	4.46	0.03
1140	1.08	1.01	4.47	0.03
1141	1.11	1.04	4.49	0.03
1142	1.14	1.06	4.50	0.03
1143	1.18	1.09	4.52	0.03
1144	1.22	1.12	4.54	0.03
1145	1.26	1.20	4.55	0.03

NW ROUTING PRINTOUT

1146	1.31	1.28	4.56	0.03
1147	1.37	1.34	4.57	0.03
1148	1.45	1.40	4.57	0.03
1149	1.54	1.48	4.58	0.03
1150	1.65	1.58	4.60	0.03
1151	1.83	1.72	4.61	0.03
1152	2.34	2.04	4.65	0.03
1153	2.58	2.41	4.69	0.03
1154	2.78	2.65	4.72	0.04
1155	3.05	2.88	4.75	0.04
1156	3.15	3.07	4.77	0.04
1157	2.73	2.96	4.76	0.04
1158	2.42	2.62	4.72	0.04
1159	2.18	2.34	4.68	0.03
1160	1.96	2.10	4.66	0.03
1161	1.77	1.90	4.63	0.03
1162	1.62	1.72	4.61	0.03
1163	1.49	1.58	4.59	0.03
1164	1.41	1.46	4.58	0.03
1165	1.36	1.39	4.57	0.03
1166	1.32	1.35	4.57	0.03
1167	1.29	1.31	4.56	0.03
1168	1.25	1.27	4.56	0.03
1169	1.21	1.23	4.55	0.03
1170	1.17	1.20	4.55	0.03
1171	1.13	1.16	4.55	0.03
1172	1.10	1.13	4.54	0.03
1173	1.06	1.11	4.53	0.03
1174	1.03	1.10	4.52	0.03
1175	0.99	1.07	4.51	0.03
1176	0.96	1.04	4.49	0.03
1177	0.93	1.02	4.48	0.03
1178	0.90	0.99	4.46	0.03
1179	0.87	0.96	4.44	0.03
1180	0.84	0.93	4.43	0.03
1181	0.81	0.90	4.41	0.03
1182	0.79	0.87	4.39	0.03
1183	0.77	0.85	4.38	0.03
1184	0.74	0.82	4.36	0.03
1185	0.72	0.80	4.35	0.03
1186	0.70	0.77	4.33	0.03
1187	0.68	0.75	4.32	0.03
1188	0.66	0.73	4.31	0.03
1189	0.64	0.70	4.30	0.03
1190	0.62	0.68	4.28	0.03
1191	0.61	0.67	4.27	0.03
1192	0.59	0.65	4.26	0.03
1193	0.58	0.63	4.25	0.03
1194	0.56	0.61	4.24	0.03
1195	0.55	0.60	4.23	0.03
1196	0.54	0.58	4.22	0.03
1197	0.52	0.57	4.22	0.03
1198	0.51	0.55	4.21	0.03
1199	0.50	0.54	4.20	0.03
1200	0.49	0.53	4.19	0.03
1201	0.48	0.52	4.19	0.03
1202	0.47	0.51	4.18	0.03
1203	0.46	0.49	4.17	0.03
1204	0.45	0.48	4.17	0.03
1205	0.44	0.47	4.16	0.03
1206	0.43	0.46	4.16	0.03
1207	0.41	0.45	4.15	0.03
1208	0.40	0.44	4.14	0.03
1209	0.39	0.43	4.13	0.03
1210	0.37	0.41	4.13	0.03
1211	0.36	0.40	4.12	0.03
1212	0.35	0.39	4.11	0.03
1213	0.34	0.38	4.11	0.03
1214	0.33	0.37	4.10	0.03
1215	0.33	0.36	4.09	0.03
1216	0.32	0.35	4.09	0.03
1217	0.31	0.34	4.08	0.03
1218	0.31	0.33	4.08	0.03
1219	0.30	0.32	4.08	0.03
1220	0.29	0.32	4.07	0.03
1221	0.29	0.31	4.07	0.03
1222	0.28	0.30	4.06	0.03
1223	0.28	0.30	4.06	0.03
1224	0.27	0.29	4.06	0.03
1225	0.27	0.28	4.05	0.03
1226	0.26	0.28	4.05	0.03
1227	0.26	0.27	4.05	0.03
1228	0.26	0.27	4.05	0.03

NW ROUTING PRINTOUT

1229	0.25	0.27	4.04	0.03
1230	0.25	0.26	4.04	0.03
1231	0.25	0.26	4.04	0.03
1232	0.24	0.25	4.04	0.03
1233	0.24	0.25	4.03	0.03
1234	0.24	0.25	4.03	0.03
1235	0.24	0.25	4.03	0.03
1236	0.23	0.24	4.03	0.03
1237	0.23	0.24	4.03	0.03
1238	0.23	0.24	4.03	0.03
1239	0.23	0.23	4.02	0.03
1240	0.22	0.23	4.02	0.03
1241	0.22	0.23	4.02	0.03
1242	0.22	0.23	4.02	0.03
1243	0.22	0.23	4.02	0.03
1244	0.22	0.22	4.02	0.03
1245	0.22	0.22	4.02	0.03
1246	0.21	0.22	4.02	0.03
1247	0.21	0.22	4.02	0.03
1248	0.21	0.22	4.01	0.03
1249	0.21	0.21	4.01	0.03
1250	0.21	0.21	4.01	0.03
1251	0.21	0.21	4.01	0.03
1252	0.21	0.21	4.01	0.03
1253	0.20	0.21	4.01	0.03
1254	0.20	0.21	4.01	0.03
1255	0.20	0.21	4.01	0.03
1256	0.20	0.20	4.01	0.03
1257	0.20	0.20	4.01	0.03
1258	0.20	0.20	4.01	0.03
1259	0.20	0.20	4.01	0.03
1260	0.20	0.20	4.00	0.03
1261	0.20	0.20	4.00	0.03
1262	0.19	0.20	4.00	0.03
1263	0.19	0.20	4.00	0.03
1264	0.19	0.20	4.00	0.03
1265	0.19	0.19	4.00	0.03
1266	0.19	0.19	4.00	0.03
1267	0.19	0.19	4.00	0.03
1268	0.19	0.19	4.00	0.03
1269	0.19	0.19	4.00	0.03
1270	0.19	0.19	4.00	0.03
1271	0.19	0.19	4.00	0.03
1272	0.19	0.19	4.00	0.03
1273	0.18	0.19	4.00	0.03
1274	0.18	0.19	4.00	0.03
1275	0.18	0.19	4.00	0.03
1276	0.18	0.18	4.00	0.03
1277	0.18	0.18	4.00	0.03
1278	0.18	0.18	3.99	0.03
1279	0.18	0.18	3.99	0.03
1280	0.18	0.18	3.99	0.03
1281	0.18	0.18	3.99	0.03
1282	0.18	0.18	3.99	0.03
1283	0.15	0.18	3.99	0.03
1284	0.08	0.16	3.98	0.03
1285	0.08	0.14	3.97	0.03
1286	0.08	0.12	3.96	0.03
1287	0.08	0.11	3.95	0.03
1288	0.07	0.10	3.95	0.03
1289	0.07	0.09	3.94	0.03
1290	0.07	0.09	3.94	0.03
1291	0.07	0.08	3.94	0.03
1292	0.07	0.08	3.94	0.03
1293	0.07	0.08	3.93	0.03
1294	0.07	0.08	3.93	0.03
1295	0.07	0.08	3.93	0.03
1296	0.07	0.08	3.93	0.03
1297	0.07	0.07	3.93	0.03
1298	0.07	0.07	3.93	0.03
1299	0.07	0.07	3.93	0.03
1300	0.07	0.07	3.93	0.03
1310	0.07	0.07	3.93	0.03
1320	0.07	0.07	3.93	0.03
1330	0.07	0.07	3.93	0.03
1340	0.06	0.06	3.93	0.03
1350	0.06	0.06	3.93	0.03
1360	0.06	0.06	3.92	0.03
1370	0.06	0.06	3.92	0.03
1380	0.06	0.06	3.92	0.03
1390	0.06	0.06	3.92	0.03
1400	0.06	0.06	3.92	0.03
1420	0.05	0.05	3.92	0.03

NW ROUTING PRINTOUT

1440	0.05	0.05	3.92	0.03

********** RESERVOIR ROUTING STORM DAY 4 **********

RESERVOIR ROUTING at 8A STORM DAY 4 STORM FREQ. 50
INITIAL WATER SURFACE ELEVATION: 0.00
RESERVOIR COMPOSITE ELEVATION-STORAGE-DISCHARGE DATA at 8A

ELEVATION (ft.)	STORAGE (a.f.)	OUTFLOW (cfs)
0.00	0.00	0.00
0.65	0.02	0.00
1.30	0.03	0.00
1.95	0.05	0.00
2.60	0.06	0.00
3.24	0.08	0.00
3.89	0.09	0.01
4.54	0.11	1.13
5.19	0.12	6.63
5.84	0.14	9.51

RESERVOIR ROUTING TABLE at 8A

TIME	INFLOW (cfs)	OUTFLOW (cfs)	W.S.ELEV (ft.)	STORAGE (a.f.)
0	0.00	0.00	0.00	0.00
100	0.07	0.00	0.37	0.01
200	0.07	0.00	0.78	0.02
300	0.08	0.00	1.21	0.03
400	0.08	0.00	1.66	0.04
500	0.09	0.00	2.14	0.05
600	0.09	0.00	2.66	0.06
700	0.10	0.00	3.22	0.08
800	0.11	0.01	3.83	0.09
900	0.27	0.23	4.02	0.09
1000	0.46	0.45	4.15	0.10
1050	0.67	0.63	4.26	0.10
1100	0.90	0.84	4.38	0.10
1110	0.98	0.91	4.41	0.10
1120	1.09	1.00	4.46	0.10
1130	1.26	1.12	4.53	0.11
1131	1.28	1.13	4.54	0.11
1132	1.30	1.19	4.55	0.11
1133	1.32	1.24	4.55	0.11
1134	1.35	1.28	4.56	0.11
1135	1.37	1.31	4.56	0.11
1136	1.40	1.34	4.57	0.11
1137	1.43	1.37	4.57	0.11
1138	1.46	1.40	4.57	0.11
1139	1.50	1.43	4.58	0.11
1140	1.54	1.47	4.58	0.11
1141	1.58	1.50	4.59	0.11
1142	1.62	1.54	4.59	0.11
1143	1.67	1.58	4.60	0.11
1144	1.73	1.63	4.60	0.11
1145	1.81	1.69	4.61	0.11
1146	1.92	1.76	4.62	0.11
1147	2.04	1.84	4.63	0.11
1148	2.16	1.95	4.64	0.11
1149	2.30	2.06	4.65	0.11
1150	2.49	2.19	4.67	0.11
1151	2.77	2.37	4.69	0.11
1152	3.55	2.68	4.73	0.11
1153	4.06	3.13	4.78	0.11
1154	4.34	3.56	4.83	0.11
1155	4.47	3.90	4.87	0.11
1156	4.47	4.13	4.90	0.12
1157	3.90	4.15	4.90	0.12
1158	3.44	3.96	4.88	0.11
1159	3.06	3.68	4.84	0.11
1160	2.74	3.37	4.81	0.11
1161	2.47	3.06	4.77	0.11
1162	2.25	2.78	4.74	0.11
1163	2.06	2.53	4.71	0.11
1164	1.90	2.31	4.68	0.11
1165	1.78	2.13	4.66	0.11
1166	1.70	1.97	4.64	0.11
1167	1.64	1.85	4.63	0.11
1168	1.59	1.76	4.62	0.11
1169	1.55	1.68	4.61	0.11
1170	1.50	1.62	4.60	0.11
1171	1.45	1.56	4.59	0.11
1172	1.41	1.51	4.59	0.11
1173	1.38	1.46	4.58	0.11

NW ROUTING PRINTOUT

1174	1.35	1.42	4.58	0.11
1175	1.33	1.39	4.57	0.11
1176	1.30	1.36	4.57	0.11
1177	1.27	1.33	4.57	0.11
1178	1.23	1.30	4.56	0.11
1179	1.20	1.26	4.56	0.11
1180	1.17	1.23	4.55	0.11
1181	1.13	1.20	4.55	0.11
1182	1.10	1.17	4.55	0.11
1183	1.07	1.13	4.54	0.11
1184	1.04	1.12	4.54	0.11
1185	1.01	1.11	4.53	0.11
1186	0.98	1.10	4.53	0.11
1187	0.96	1.09	4.52	0.11
1188	0.93	1.08	4.51	0.11
1189	0.91	1.06	4.50	0.11
1190	0.88	1.04	4.49	0.11
1191	0.86	1.03	4.48	0.11
1192	0.84	1.01	4.47	0.11
1193	0.82	0.99	4.46	0.10
1194	0.80	0.97	4.45	0.10
1195	0.78	0.96	4.44	0.10
1196	0.76	0.94	4.43	0.10
1197	0.74	0.92	4.42	0.10
1198	0.73	0.90	4.41	0.10
1199	0.71	0.89	4.40	0.10
1200	0.70	0.87	4.39	0.10
1201	0.68	0.85	4.38	0.10
1202	0.67	0.83	4.37	0.10
1203	0.66	0.82	4.36	0.10
1204	0.64	0.80	4.35	0.10
1205	0.63	0.79	4.34	0.10
1206	0.62	0.77	4.33	0.10
1207	0.61	0.76	4.33	0.10
1208	0.60	0.74	4.32	0.10
1209	0.58	0.73	4.31	0.10
1210	0.57	0.71	4.30	0.10
1211	0.56	0.70	4.29	0.10
1212	0.54	0.68	4.28	0.10
1213	0.53	0.67	4.28	0.10
1214	0.52	0.65	4.27	0.10
1215	0.51	0.64	4.26	0.10
1216	0.49	0.63	4.25	0.10
1217	0.48	0.61	4.24	0.10
1218	0.47	0.60	4.24	0.10
1219	0.46	0.59	4.23	0.10
1220	0.46	0.58	4.22	0.10
1221	0.45	0.56	4.21	0.10
1222	0.44	0.55	4.21	0.10
1223	0.43	0.54	4.20	0.10
1224	0.42	0.53	4.20	0.10
1225	0.42	0.52	4.19	0.10
1226	0.41	0.51	4.18	0.10
1227	0.41	0.50	4.18	0.10
1228	0.40	0.49	4.17	0.10
1229	0.39	0.48	4.17	0.10
1230	0.39	0.47	4.16	0.10
1231	0.38	0.46	4.16	0.10
1232	0.38	0.46	4.15	0.10
1233	0.38	0.45	4.15	0.10
1234	0.37	0.44	4.14	0.10
1235	0.37	0.43	4.14	0.10
1236	0.36	0.43	4.14	0.10
1237	0.36	0.42	4.13	0.10
1238	0.36	0.42	4.13	0.10
1239	0.35	0.41	4.13	0.10
1240	0.35	0.40	4.12	0.10
1241	0.35	0.40	4.12	0.10
1242	0.34	0.39	4.12	0.10
1243	0.34	0.39	4.11	0.10
1244	0.34	0.38	4.11	0.10
1245	0.34	0.38	4.11	0.10
1246	0.33	0.38	4.11	0.10
1247	0.33	0.37	4.10	0.10
1248	0.33	0.37	4.10	0.10
1249	0.33	0.36	4.10	0.10
1250	0.33	0.36	4.10	0.10
1251	0.32	0.36	4.10	0.10
1252	0.32	0.35	4.09	0.10
1253	0.32	0.35	4.09	0.10
1254	0.32	0.35	4.09	0.10
1255	0.32	0.34	4.09	0.10
1256	0.31	0.34	4.09	0.10

NW ROUTING PRINTOUT

1257	0.31	0.34	4.08	0.10
1258	0.31	0.34	4.08	0.10
1259	0.31	0.33	4.08	0.10
1260	0.31	0.33	4.08	0.10
1261	0.31	0.33	4.08	0.10
1262	0.30	0.33	4.08	0.10
1263	0.30	0.32	4.08	0.10
1264	0.30	0.32	4.07	0.10
1265	0.30	0.32	4.07	0.10
1266	0.30	0.32	4.07	0.10
1267	0.30	0.32	4.07	0.10
1268	0.29	0.31	4.07	0.10
1269	0.29	0.31	4.07	0.10
1270	0.29	0.31	4.07	0.10
1271	0.29	0.31	4.07	0.10
1272	0.29	0.31	4.07	0.10
1273	0.29	0.30	4.06	0.10
1274	0.29	0.30	4.06	0.10
1275	0.28	0.30	4.06	0.10
1276	0.28	0.30	4.06	0.10
1277	0.28	0.30	4.06	0.10
1278	0.28	0.30	4.06	0.10
1279	0.28	0.29	4.06	0.10
1280	0.28	0.29	4.06	0.10
1281	0.28	0.29	4.06	0.10
1282	0.28	0.29	4.06	0.10
1283	0.28	0.29	4.06	0.10
1284	0.27	0.29	4.06	0.10
1285	0.26	0.29	4.05	0.10
1286	0.24	0.28	4.05	0.10
1287	0.23	0.28	4.05	0.10
1288	0.20	0.27	4.05	0.10
1289	0.09	0.26	4.04	0.09
1290	0.09	0.24	4.03	0.09
1291	0.09	0.23	4.02	0.09
1292	0.09	0.22	4.01	0.09
1293	0.09	0.20	4.01	0.09
1294	0.09	0.19	4.00	0.09
1295	0.09	0.18	3.99	0.09
1296	0.09	0.17	3.99	0.09
1297	0.09	0.17	3.99	0.09
1298	0.09	0.16	3.98	0.09
1299	0.09	0.15	3.98	0.09
1300	0.09	0.15	3.97	0.09
1310	0.09	0.11	3.95	0.09
1320	0.08	0.09	3.94	0.09
1330	0.08	0.09	3.94	0.09
1340	0.08	0.08	3.94	0.09
1350	0.08	0.08	3.94	0.09
1360	0.08	0.08	3.93	0.09
1370	0.07	0.08	3.93	0.09
1380	0.07	0.07	3.93	0.09
1390	0.07	0.07	3.93	0.09
1400	0.07	0.07	3.93	0.09
1420	0.07	0.07	3.93	0.09
1440	0.07	0.07	3.93	0.09

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**        LOS ANGELES COUNTY DEPARTMENT OF PUBLIC WORKS          **
**             MODIFIED RATIONAL METHOD HYDROLOGY                **
**                 RESERVOIR ROUTING OUTPUT                      **

**********************  RESERVOIR ROUTING  STORM DAY 4  ********************
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RESERVOIR ROUTING at 2A STORM DAY 4 STORM FREQ. 50
INITIAL WATER SURFACE ELEVATION: 0.00
RESERVOIR COMPOSITE ELEVATION-STORAGE-DISCHARGE DATA at 2A

ELEVATION (ft.)	STORAGE (a.f.)	OUTFLOW (cfs)
0.00	0.00	0.00
0.65	0.06	0.00
1.30	0.13	0.00
1.95	0.19	0.00
2.60	0.25	0.00
3.24	0.31	0.00
3.89	0.38	0.01
4.54	0.44	1.00
5.19	0.50	3.52
5.84	0.57	15.13

RESERVOIR ROUTING TABLE at 2A

TIME	INFLOW (cfs)	OUTFLOW (cfs)	W.S.ELEV (ft.)	STORAGE (a.f.)
0	0.00	0.00	0.00	0.00
100	0.27	0.00	0.35	0.03
200	0.28	0.00	0.74	0.07
300	0.30	0.00	1.16	0.11
400	0.32	0.00	1.60	0.15
500	0.34	0.00	2.06	0.20
600	0.37	0.00	2.57	0.25
700	0.40	0.00	3.11	0.30
800	0.45	0.00	3.71	0.36
900	0.53	0.40	4.15	0.40
1000	0.67	0.59	4.27	0.41
1050	0.82	0.70	4.34	0.42
1100	1.13	0.88	4.46	0.43
1110	1.24	0.94	4.50	0.44
1120	1.40	1.03	4.55	0.44
1130	1.64	1.24	4.60	0.45
1131	1.67	1.26	4.61	0.45
1132	1.71	1.29	4.62	0.45
1133	1.74	1.31	4.62	0.45
1134	1.78	1.33	4.63	0.45
1135	1.82	1.36	4.63	0.45
1136	1.87	1.38	4.64	0.45
1137	1.92	1.41	4.65	0.45
1138	1.97	1.44	4.66	0.45
1139	2.02	1.47	4.66	0.45
1140	2.09	1.50	4.67	0.45
1141	2.15	1.53	4.68	0.45
1142	2.23	1.57	4.69	0.45
1143	2.31	1.61	4.70	0.46
1144	2.41	1.65	4.71	0.46
1145	2.52	1.69	4.72	0.46
1146	2.65	1.74	4.73	0.46
1147	2.80	1.79	4.75	0.46
1148	2.99	1.85	4.76	0.46
1149	3.22	1.92	4.78	0.46
1150	3.54	2.00	4.80	0.47
1151	4.02	2.09	4.82	0.47
1152	5.54	2.24	4.86	0.47
1153	6.13	2.43	4.91	0.48
1154	6.16	2.63	4.96	0.48
1155	6.05	2.81	5.01	0.49
1156	5.84	2.98	5.05	0.49
1157	5.54	3.13	5.09	0.49
1158	5.13	3.25	5.12	0.50
1159	4.51	3.33	5.14	0.50
1160	2.84	3.35	5.15	0.50
1161	2.06	3.30	5.13	0.50
1162	1.81	3.23	5.12	0.50
1163	1.65	3.15	5.10	0.49
1164	1.53	3.06	5.07	0.49
1165	1.43	2.98	5.05	0.49
1166	1.36	2.89	5.03	0.49
1167	1.29	2.81	5.01	0.49
1168	1.23	2.73	4.99	0.48
1169	1.18	2.65	4.97	0.48
1170	1.14	2.57	4.95	0.48
1171	1.10	2.49	4.93	0.48
1172	1.06	2.41	4.91	0.48

NE ROUTING PRINTOUT

1173	1.03	2.34	4.89	0.47
1174	1.00	2.27	4.87	0.47
1175	0.97	2.20	4.85	0.47
1176	0.95	2.13	4.83	0.47
1177	0.92	2.07	4.82	0.47
1178	0.90	2.01	4.80	0.47
1179	0.88	1.95	4.79	0.46
1180	0.87	1.89	4.77	0.46
1181	0.85	1.83	4.76	0.46
1182	0.83	1.78	4.74	0.46
1183	0.81	1.73	4.73	0.46
1184	0.80	1.68	4.72	0.46
1185	0.78	1.63	4.70	0.46
1186	0.77	1.59	4.69	0.46
1187	0.76	1.54	4.68	0.45
1188	0.75	1.50	4.67	0.45
1189	0.73	1.46	4.66	0.45
1190	0.72	1.42	4.65	0.45
1191	0.71	1.38	4.64	0.45
1192	0.70	1.35	4.63	0.45
1193	0.69	1.31	4.62	0.45
1194	0.68	1.28	4.61	0.45
1195	0.67	1.25	4.61	0.45
1196	0.67	1.22	4.60	0.45
1197	0.66	1.19	4.59	0.45
1198	0.65	1.16	4.58	0.44
1199	0.64	1.13	4.57	0.44
1200	0.63	1.10	4.57	0.44
1201	0.63	1.08	4.56	0.44
1202	0.62	1.05	4.56	0.44
1203	0.61	1.03	4.55	0.44
1204	0.61	1.01	4.54	0.44
1205	0.60	1.00	4.54	0.44
1206	0.59	0.99	4.53	0.44
1207	0.59	0.98	4.53	0.44
1208	0.58	0.97	4.52	0.44
1209	0.58	0.96	4.52	0.44
1210	0.57	0.95	4.51	0.44
1211	0.57	0.95	4.50	0.44
1212	0.56	0.94	4.50	0.44
1213	0.56	0.93	4.49	0.44
1214	0.55	0.92	4.49	0.44
1215	0.55	0.91	4.48	0.43
1216	0.55	0.90	4.48	0.43
1217	0.54	0.90	4.47	0.43
1218	0.54	0.89	4.47	0.43
1219	0.53	0.88	4.46	0.43
1220	0.53	0.87	4.46	0.43
1221	0.53	0.87	4.45	0.43
1222	0.52	0.86	4.45	0.43
1223	0.52	0.85	4.44	0.43
1224	0.51	0.84	4.44	0.43
1225	0.51	0.84	4.43	0.43
1226	0.51	0.83	4.43	0.43
1227	0.50	0.82	4.43	0.43
1228	0.50	0.82	4.42	0.43
1229	0.50	0.81	4.42	0.43
1230	0.49	0.80	4.41	0.43
1231	0.49	0.80	4.41	0.43
1232	0.49	0.79	4.40	0.43
1233	0.49	0.78	4.40	0.43
1234	0.48	0.78	4.40	0.43
1235	0.48	0.77	4.39	0.43
1236	0.48	0.76	4.39	0.43
1237	0.47	0.76	4.38	0.43
1238	0.47	0.75	4.38	0.42
1239	0.47	0.75	4.37	0.42
1240	0.46	0.74	4.37	0.42
1241	0.46	0.73	4.37	0.42
1242	0.46	0.73	4.36	0.42
1243	0.46	0.72	4.36	0.42
1244	0.46	0.72	4.36	0.42
1245	0.45	0.71	4.35	0.42
1246	0.45	0.70	4.35	0.42
1247	0.45	0.70	4.34	0.42
1248	0.45	0.69	4.34	0.42
1249	0.44	0.69	4.34	0.42
1250	0.44	0.68	4.33	0.42
1251	0.44	0.68	4.33	0.42
1252	0.44	0.67	4.33	0.42
1253	0.43	0.67	4.32	0.42
1254	0.43	0.66	4.32	0.42
1255	0.43	0.66	4.32	0.42

NE ROUTING PRINTOUT

1256	0.43	0.65	4.31	0.42
1257	0.43	0.65	4.31	0.42
1258	0.43	0.64	4.31	0.42
1259	0.42	0.64	4.31	0.42
1260	0.42	0.63	4.30	0.42
1261	0.42	0.63	4.30	0.42
1262	0.42	0.62	4.30	0.42
1263	0.42	0.62	4.29	0.42
1264	0.41	0.62	4.29	0.42
1265	0.41	0.61	4.29	0.42
1266	0.41	0.61	4.28	0.42
1267	0.41	0.60	4.28	0.42
1268	0.41	0.60	4.28	0.42
1269	0.40	0.59	4.28	0.41
1270	0.40	0.59	4.27	0.41
1271	0.40	0.59	4.27	0.41
1272	0.40	0.58	4.27	0.41
1273	0.40	0.58	4.27	0.41
1274	0.40	0.57	4.26	0.41
1275	0.39	0.57	4.26	0.41
1276	0.39	0.57	4.26	0.41
1277	0.39	0.56	4.26	0.41
1278	0.39	0.56	4.25	0.41
1279	0.39	0.56	4.25	0.41
1280	0.39	0.55	4.25	0.41
1281	0.39	0.55	4.25	0.41
1282	0.38	0.54	4.24	0.41
1283	0.38	0.54	4.24	0.41
1284	0.38	0.54	4.24	0.41
1285	0.38	0.53	4.24	0.41
1286	0.38	0.53	4.24	0.41
1287	0.38	0.53	4.23	0.41
1288	0.38	0.52	4.23	0.41
1289	0.37	0.52	4.23	0.41
1290	0.37	0.52	4.23	0.41
1291	0.37	0.52	4.22	0.41
1292	0.37	0.51	4.22	0.41
1293	0.37	0.51	4.22	0.41
1294	0.37	0.51	4.22	0.41
1295	0.37	0.50	4.22	0.41
1296	0.37	0.50	4.22	0.41
1297	0.36	0.50	4.21	0.41
1298	0.36	0.49	4.21	0.41
1299	0.36	0.49	4.21	0.41
1300	0.36	0.49	4.21	0.41
1310	0.35	0.46	4.19	0.41
1320	0.34	0.44	4.18	0.40
1330	0.33	0.42	4.16	0.40
1340	0.32	0.40	4.15	0.40
1350	0.31	0.38	4.14	0.40
1360	0.31	0.37	4.13	0.40
1370	0.30	0.36	4.12	0.40
1380	0.29	0.35	4.11	0.40
1390	0.29	0.33	4.11	0.40
1400	0.28	0.32	4.10	0.40
1420	0.27	0.31	4.09	0.40
1440	0.26	0.29	4.08	0.40

********** RESERVOIR ROUTING STORM DAY 4 **********

RESERVOIR ROUTING at 4A STORM DAY 4 STORM FREQ. 50
INITIAL WATER SURFACE ELEVATION: 0.00
RESERVOIR COMPOSITE ELEVATION-STORAGE-DISCHARGE DATA at 4A

ELEVATION (ft.)	STORAGE (a.f.)	OUTFLOW (cfs)
0.00	0.00	0.00
0.65	0.05	0.00
1.30	0.10	0.00
1.95	0.16	0.00
2.60	0.21	0.00
3.24	0.26	0.00
3.89	0.31	0.01
4.54	0.36	1.00
5.19	0.41	3.52
5.84	0.47	15.13

RESERVOIR ROUTING TABLE at 4A

TIME	INFLOW (cfs)	OUTFLOW (cfs)	W.S.ELEV (ft.)	STORAGE (a.f.)
0	0.00	0.00	0.00	0.00
100	0.22	0.00	0.35	0.03
200	0.23	0.00	0.73	0.06

NE ROUTING PRINTOUT

300	0.24	0.00	1.14	0.09
400	0.25	0.00	1.56	0.12
500	0.27	0.00	2.02	0.16
600	0.29	0.00	2.50	0.20
700	0.32	0.00	3.03	0.24
800	0.36	0.00	3.62	0.29
900	0.82	0.57	4.26	0.34
1000	1.13	1.00	4.54	0.36
1050	1.35	1.28	4.61	0.37
1100	1.79	1.63	4.70	0.38
1110	1.94	1.75	4.73	0.38
1120	2.15	1.89	4.77	0.38
1130	2.56	2.12	4.83	0.39
1131	2.61	2.15	4.84	0.39
1132	2.66	2.18	4.85	0.39
1133	2.71	2.22	4.86	0.39
1134	2.77	2.25	4.86	0.39
1135	2.83	2.29	4.87	0.39
1136	2.89	2.32	4.88	0.39
1137	2.96	2.36	4.89	0.39
1138	3.04	2.40	4.90	0.39
1139	3.11	2.45	4.91	0.39
1140	3.20	2.49	4.93	0.39
1141	3.29	2.54	4.94	0.39
1142	3.40	2.59	4.95	0.40
1143	3.51	2.65	4.97	0.40
1144	3.64	2.71	4.98	0.40
1145	3.78	2.77	5.00	0.40
1146	3.95	2.84	5.02	0.40
1147	4.14	2.92	5.04	0.40
1148	4.38	3.01	5.06	0.40
1149	4.67	3.11	5.08	0.41
1150	5.08	3.22	5.11	0.41
1151	5.69	3.36	5.15	0.41
1152	7.62	3.75	5.20	0.42
1153	8.38	4.88	5.27	0.42
1154	8.40	5.82	5.32	0.43
1155	8.20	6.48	5.36	0.43
1156	7.70	6.88	5.38	0.43
1157	5.79	6.84	5.38	0.43
1158	5.00	6.45	5.36	0.43
1159	4.85	6.05	5.33	0.43
1160	4.76	5.71	5.31	0.42
1161	4.66	5.45	5.30	0.42
1162	4.54	5.22	5.29	0.42
1163	4.40	5.02	5.28	0.42
1164	4.26	4.84	5.26	0.42
1165	4.12	4.66	5.26	0.42
1166	3.99	4.50	5.25	0.42
1167	3.87	4.35	5.24	0.42
1168	3.75	4.21	5.23	0.42
1169	3.63	4.07	5.22	0.42
1170	3.52	3.94	5.21	0.42
1171	3.42	3.81	5.21	0.42
1172	3.31	3.69	5.20	0.42
1173	3.22	3.58	5.19	0.42
1174	3.12	3.51	5.19	0.41
1175	3.03	3.48	5.18	0.41
1176	2.95	3.45	5.17	0.41
1177	2.87	3.41	5.16	0.41
1178	2.79	3.37	5.15	0.41
1179	2.71	3.33	5.14	0.41
1180	2.64	3.29	5.13	0.41
1181	2.57	3.25	5.12	0.41
1182	2.50	3.20	5.11	0.41
1183	2.43	3.15	5.10	0.41
1184	2.37	3.10	5.08	0.41
1185	2.31	3.06	5.07	0.41
1186	2.25	3.01	5.06	0.40
1187	2.20	2.95	5.05	0.40
1188	2.14	2.90	5.03	0.40
1189	2.09	2.85	5.02	0.40
1190	2.04	2.80	5.01	0.40
1191	1.99	2.75	4.99	0.40
1192	1.95	2.70	4.98	0.40
1193	1.91	2.65	4.97	0.40
1194	1.86	2.60	4.95	0.40
1195	1.82	2.55	4.94	0.39
1196	1.78	2.50	4.93	0.39
1197	1.75	2.46	4.92	0.39
1198	1.71	2.41	4.91	0.39
1199	1.68	2.36	4.89	0.39
1200	1.64	2.32	4.88	0.39

NE ROUTING PRINTOUT

1201	1.61	2.27	4.87	0.39
1202	1.58	2.23	4.86	0.39
1203	1.55	2.19	4.85	0.39
1204	1.52	2.14	4.84	0.39
1205	1.50	2.10	4.83	0.39
1206	1.47	2.06	4.82	0.38
1207	1.46	2.02	4.81	0.38
1208	1.44	1.99	4.80	0.38
1209	1.43	1.95	4.79	0.38
1210	1.42	1.92	4.78	0.38
1211	1.41	1.89	4.77	0.38
1212	1.39	1.85	4.76	0.38
1213	1.38	1.82	4.75	0.38
1214	1.37	1.79	4.75	0.38
1215	1.36	1.77	4.74	0.38
1216	1.35	1.74	4.73	0.38
1217	1.34	1.71	4.73	0.38
1218	1.33	1.69	4.72	0.38
1219	1.32	1.67	4.71	0.38
1220	1.31	1.64	4.71	0.38
1221	1.30	1.62	4.70	0.38
1222	1.28	1.60	4.70	0.38
1223	1.27	1.58	4.69	0.37
1224	1.26	1.56	4.69	0.37
1225	1.25	1.54	4.68	0.37
1226	1.24	1.52	4.68	0.37
1227	1.23	1.50	4.67	0.37
1228	1.22	1.48	4.67	0.37
1229	1.21	1.47	4.66	0.37
1230	1.21	1.45	4.66	0.37
1231	1.20	1.43	4.65	0.37
1232	1.19	1.42	4.65	0.37
1233	1.18	1.40	4.65	0.37
1234	1.17	1.39	4.64	0.37
1235	1.16	1.37	4.64	0.37
1236	1.15	1.36	4.63	0.37
1237	1.14	1.35	4.63	0.37
1238	1.13	1.33	4.63	0.37
1239	1.13	1.32	4.62	0.37
1240	1.12	1.31	4.62	0.37
1241	1.11	1.29	4.62	0.37
1242	1.10	1.28	4.61	0.37
1243	1.09	1.27	4.61	0.37
1244	1.09	1.26	4.61	0.37
1245	1.08	1.25	4.61	0.37
1246	1.07	1.24	4.60	0.37
1247	1.06	1.23	4.60	0.37
1248	1.06	1.22	4.60	0.37
1249	1.05	1.20	4.59	0.37
1250	1.04	1.19	4.59	0.37
1251	1.03	1.18	4.59	0.37
1252	1.03	1.17	4.59	0.37
1253	1.02	1.16	4.58	0.37
1254	1.01	1.16	4.58	0.37
1255	1.01	1.15	4.58	0.37
1256	1.00	1.14	4.58	0.37
1257	1.00	1.13	4.57	0.37
1258	0.99	1.12	4.57	0.37
1259	0.98	1.11	4.57	0.37
1260	0.98	1.10	4.57	0.37
1261	0.97	1.09	4.57	0.36
1262	0.97	1.09	4.56	0.36
1263	0.96	1.08	4.56	0.36
1264	0.95	1.07	4.56	0.36
1265	0.95	1.06	4.56	0.36
1266	0.94	1.05	4.56	0.36
1267	0.94	1.05	4.55	0.36
1268	0.93	1.04	4.55	0.36
1269	0.92	1.03	4.55	0.36
1270	0.92	1.03	4.55	0.36
1271	0.91	1.02	4.55	0.36
1272	0.91	1.01	4.54	0.36
1273	0.90	1.00	4.54	0.36
1274	0.90	1.00	4.54	0.36
1275	0.89	1.00	4.54	0.36
1276	0.89	0.99	4.54	0.36
1277	0.88	0.99	4.54	0.36
1278	0.88	0.99	4.53	0.36
1279	0.87	0.99	4.53	0.36
1280	0.87	0.98	4.53	0.36
1281	0.86	0.98	4.53	0.36
1282	0.86	0.98	4.53	0.36
1283	0.85	0.97	4.52	0.36

NE ROUTING PRINTOUT

1284	0.85	0.97	4.52	0.36
1285	0.84	0.97	4.52	0.36
1286	0.84	0.96	4.52	0.36
1287	0.83	0.96	4.51	0.36
1288	0.83	0.96	4.51	0.36
1289	0.83	0.95	4.51	0.36
1290	0.82	0.95	4.51	0.36
1291	0.82	0.95	4.51	0.36
1292	0.81	0.94	4.50	0.36
1293	0.81	0.94	4.50	0.36
1294	0.81	0.94	4.50	0.36
1295	0.80	0.93	4.50	0.36
1296	0.80	0.93	4.49	0.36
1297	0.79	0.93	4.49	0.36
1298	0.79	0.92	4.49	0.36
1299	0.78	0.92	4.49	0.36
1300	0.78	0.92	4.49	0.36
1310	0.75	0.88	4.46	0.36
1320	0.71	0.84	4.44	0.35
1330	0.69	0.81	4.42	0.35
1340	0.66	0.78	4.40	0.35
1350	0.64	0.75	4.38	0.35
1360	0.62	0.72	4.36	0.35
1370	0.60	0.69	4.34	0.35
1380	0.58	0.67	4.33	0.35
1390	0.57	0.65	4.31	0.34
1400	0.55	0.63	4.30	0.34
1420	0.53	0.59	4.27	0.34
1440	0.50	0.56	4.25	0.34

NE ROUTING PRINTOUT

Peak Flow Hydrologic Analysis

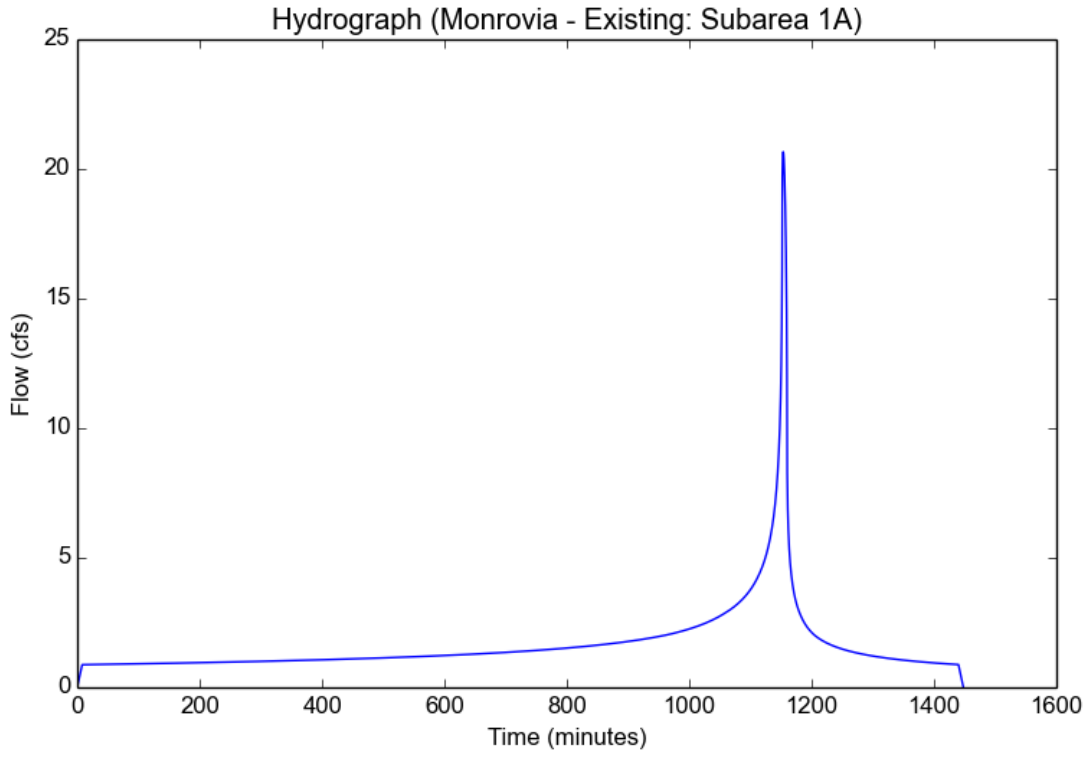
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia - Existing
Subarea ID	Subarea 1A
Area (ac)	6.7
Flow Path Length (ft)	810.0
Flow Path Slope (vft/hft)	0.0105
50-yr Rainfall Depth (in)	7.2
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	7.2
Peak Intensity (in/hr)	3.4443
Undeveloped Runoff Coefficient (Cu)	0.8535
Developed Runoff Coefficient (Cd)	0.8953
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	20.6617
Burned Peak Flow Rate (cfs)	20.6617
24-Hr Clear Runoff Volume (ac-ft)	3.3262
24-Hr Clear Runoff Volume (cu-ft)	144889.4987



HYDROCALC PREDEVELOPED PRINTOUT

Peak Flow Hydrologic Analysis

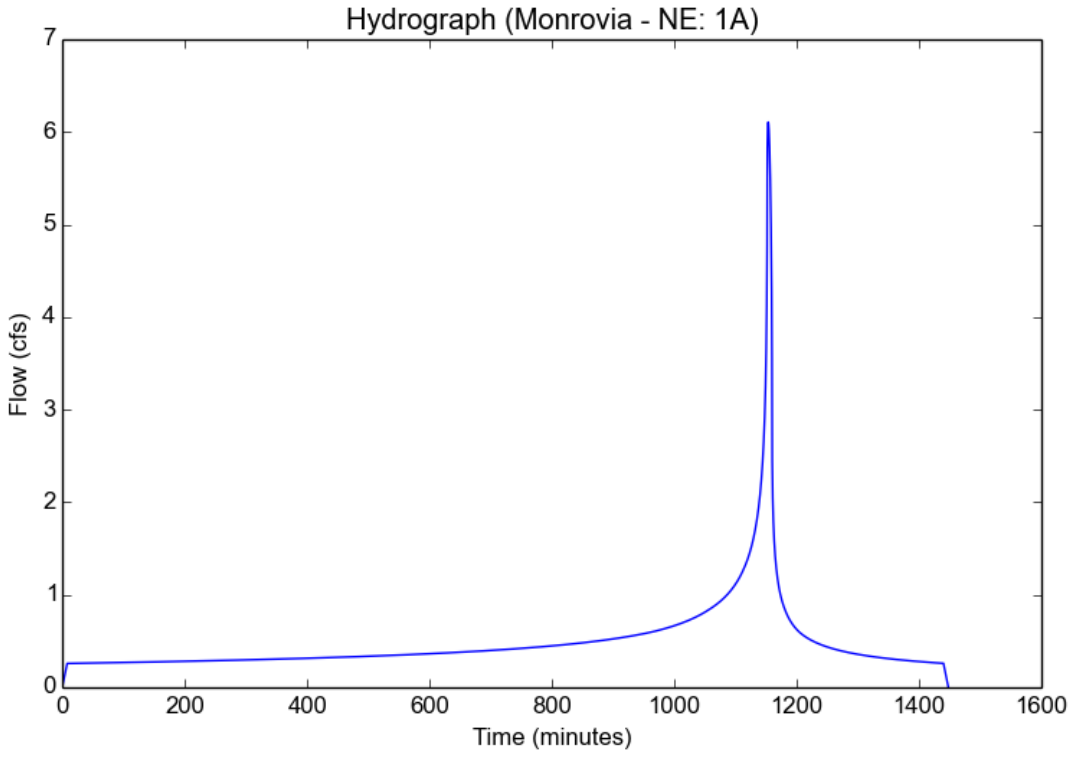
File location: V:/1MAP030400/ENGR/DESIGN/HYDR/HydroCalc/Delta Q-50 year/Monrovia - NE - 1A.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia - NE
Subarea ID	1A
Area (ac)	1.98
Flow Path Length (ft)	581.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	7.2
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	7.2
Peak Intensity (in/hr)	3.4443
Undeveloped Runoff Coefficient (Cu)	0.8535
Developed Runoff Coefficient (Cd)	0.8953
Time of Concentration (min)	8.0
Clear Peak Flow Rate (cfs)	6.106
Burned Peak Flow Rate (cfs)	6.106
24-Hr Clear Runoff Volume (ac-ft)	0.983
24-Hr Clear Runoff Volume (cu-ft)	42818.0907



Peak Flow Hydrologic Analysis

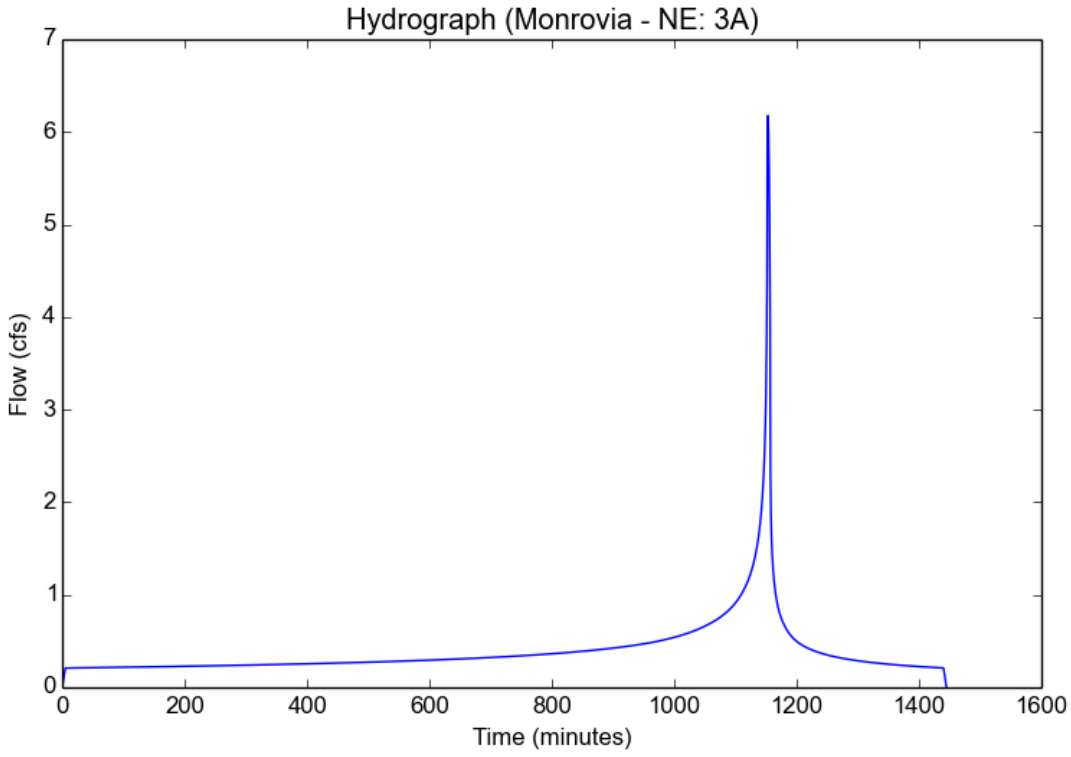
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia - NE
Subarea ID	3A
Area (ac)	1.6
Flow Path Length (ft)	276.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	7.2
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	7.2
Peak Intensity (in/hr)	4.2957
Undeveloped Runoff Coefficient (Cu)	0.8878
Developed Runoff Coefficient (Cd)	0.8988
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	6.1774
Burned Peak Flow Rate (cfs)	6.1774
24-Hr Clear Runoff Volume (ac-ft)	0.7944
24-Hr Clear Runoff Volume (cu-ft)	34602.8005



Peak Flow Hydrologic Analysis

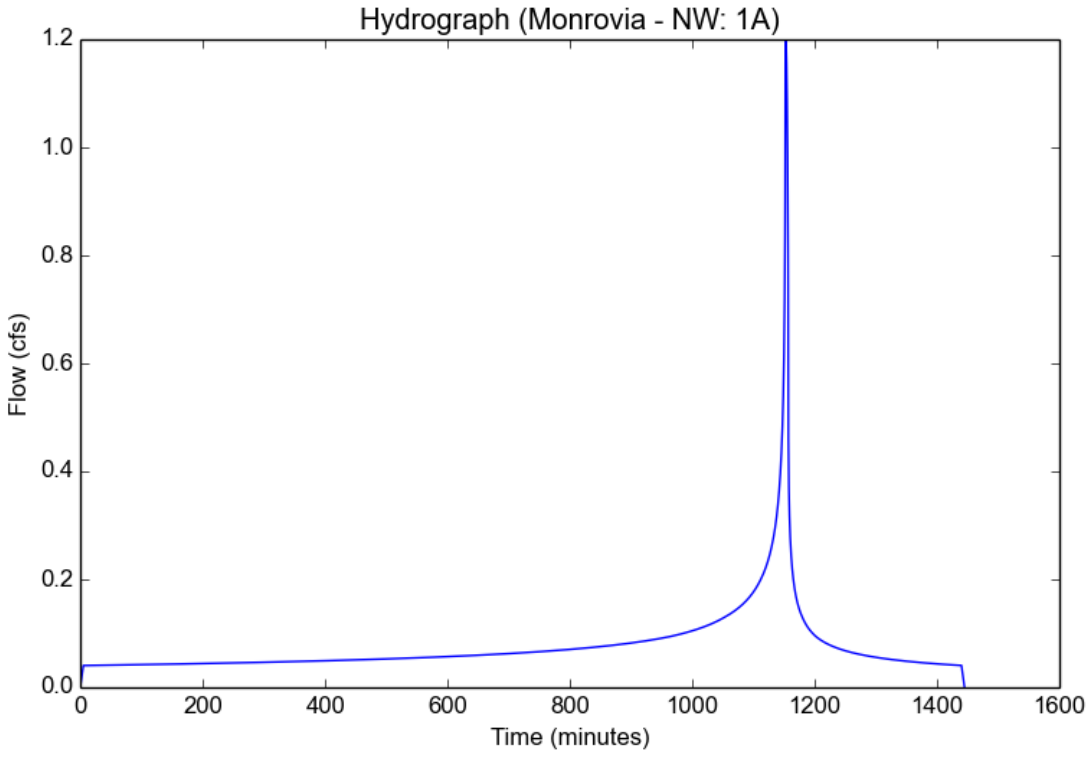
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia - NW
Subarea ID	1A
Area (ac)	0.31
Flow Path Length (ft)	118.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	7.2
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	7.2
Peak Intensity (in/hr)	4.2957
Undeveloped Runoff Coefficient (Cu)	0.8878
Developed Runoff Coefficient (Cd)	0.8988
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.1969
Burned Peak Flow Rate (cfs)	1.1969
24-Hr Clear Runoff Volume (ac-ft)	0.1539
24-Hr Clear Runoff Volume (cu-ft)	6704.2926



Peak Flow Hydrologic Analysis

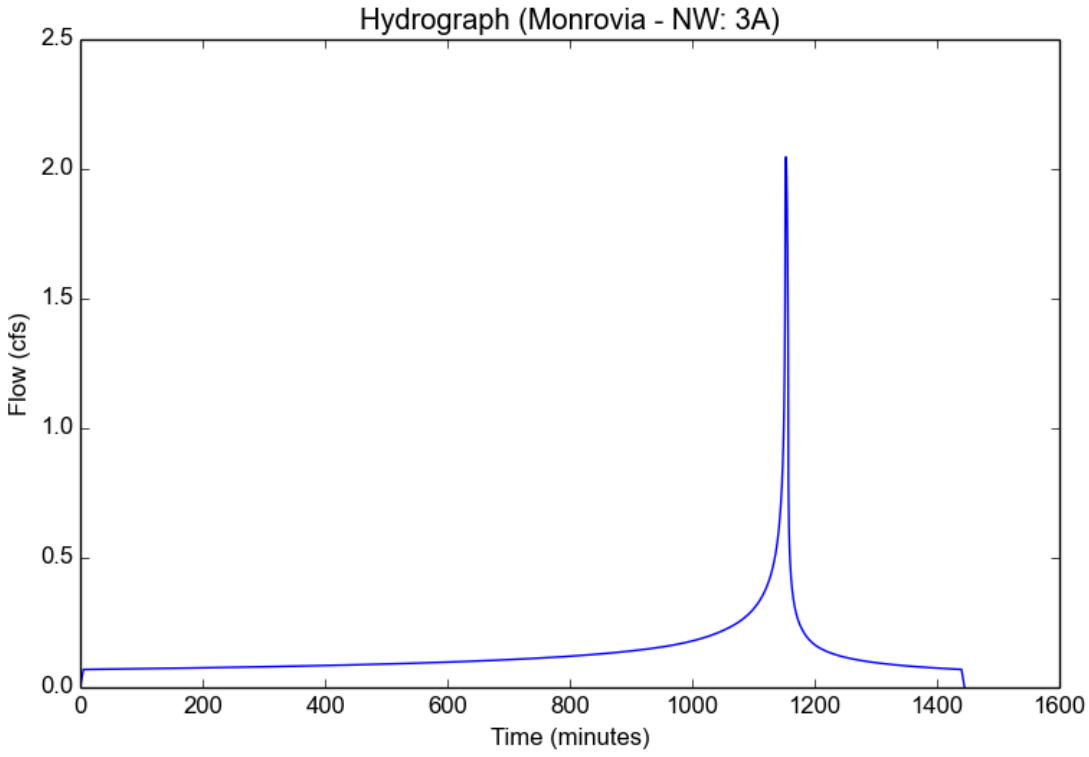
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia - NW
Subarea ID	3A
Area (ac)	0.53
Flow Path Length (ft)	125.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	7.2
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	7.2
Peak Intensity (in/hr)	4.2957
Undeveloped Runoff Coefficient (Cu)	0.8878
Developed Runoff Coefficient (Cd)	0.8988
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	2.0463
Burned Peak Flow Rate (cfs)	2.0463
24-Hr Clear Runoff Volume (ac-ft)	0.2631
24-Hr Clear Runoff Volume (cu-ft)	11462.1777



Peak Flow Hydrologic Analysis

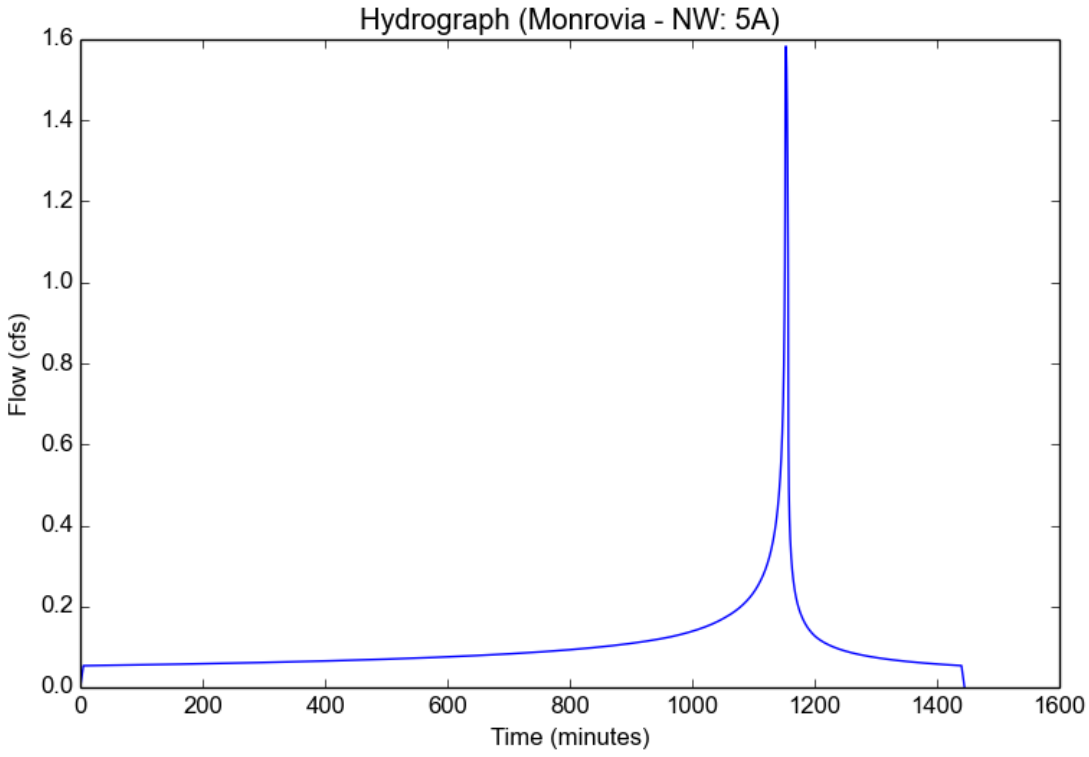
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia - NW
Subarea ID	5A
Area (ac)	0.41
Flow Path Length (ft)	155.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	7.2
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	7.2
Peak Intensity (in/hr)	4.2957
Undeveloped Runoff Coefficient (Cu)	0.8878
Developed Runoff Coefficient (Cd)	0.8988
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.583
Burned Peak Flow Rate (cfs)	1.583
24-Hr Clear Runoff Volume (ac-ft)	0.2036
24-Hr Clear Runoff Volume (cu-ft)	8866.9676



Peak Flow Hydrologic Analysis

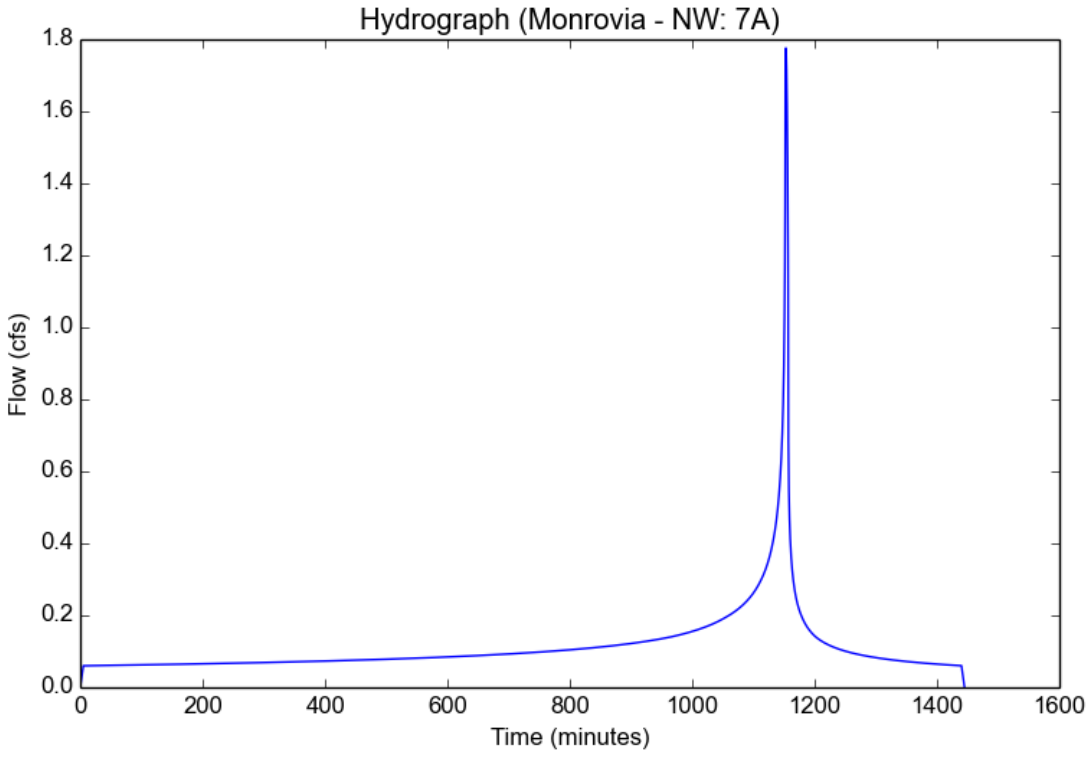
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia - NW
Subarea ID	7A
Area (ac)	0.46
Flow Path Length (ft)	128.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	7.2
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	7.2
Peak Intensity (in/hr)	4.2957
Undeveloped Runoff Coefficient (Cu)	0.8878
Developed Runoff Coefficient (Cd)	0.8988
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	1.776
Burned Peak Flow Rate (cfs)	1.776
24-Hr Clear Runoff Volume (ac-ft)	0.2284
24-Hr Clear Runoff Volume (cu-ft)	9948.3051



Peak Flow Hydrologic Analysis

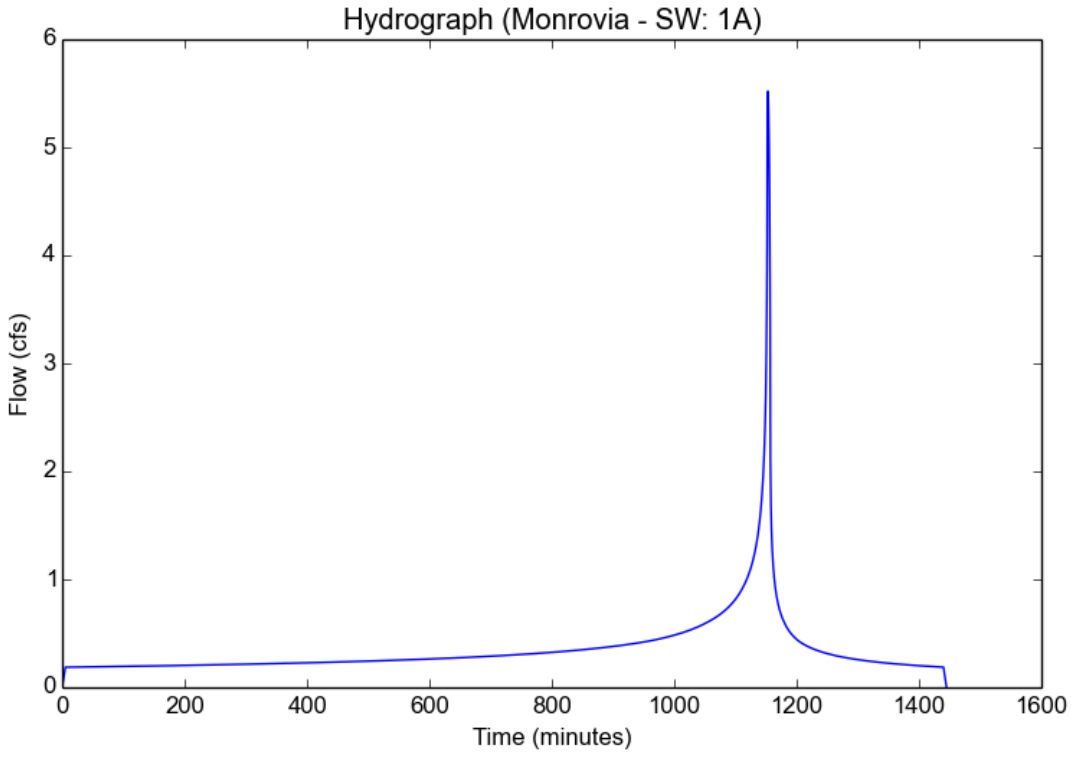
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia - SW
Subarea ID	1A
Area (ac)	1.43
Flow Path Length (ft)	267.0
Flow Path Slope (vft/hft)	0.005
50-yr Rainfall Depth (in)	7.2
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	50-yr
Fire Factor	0
LID	False

Output Results

Modeled (50-yr) Rainfall Depth (in)	7.2
Peak Intensity (in/hr)	4.2957
Undeveloped Runoff Coefficient (Cu)	0.8878
Developed Runoff Coefficient (Cd)	0.8988
Time of Concentration (min)	5.0
Clear Peak Flow Rate (cfs)	5.5211
Burned Peak Flow Rate (cfs)	5.5211
24-Hr Clear Runoff Volume (ac-ft)	0.71
24-Hr Clear Runoff Volume (cu-ft)	30926.253



Peak Flow Hydrologic Analysis

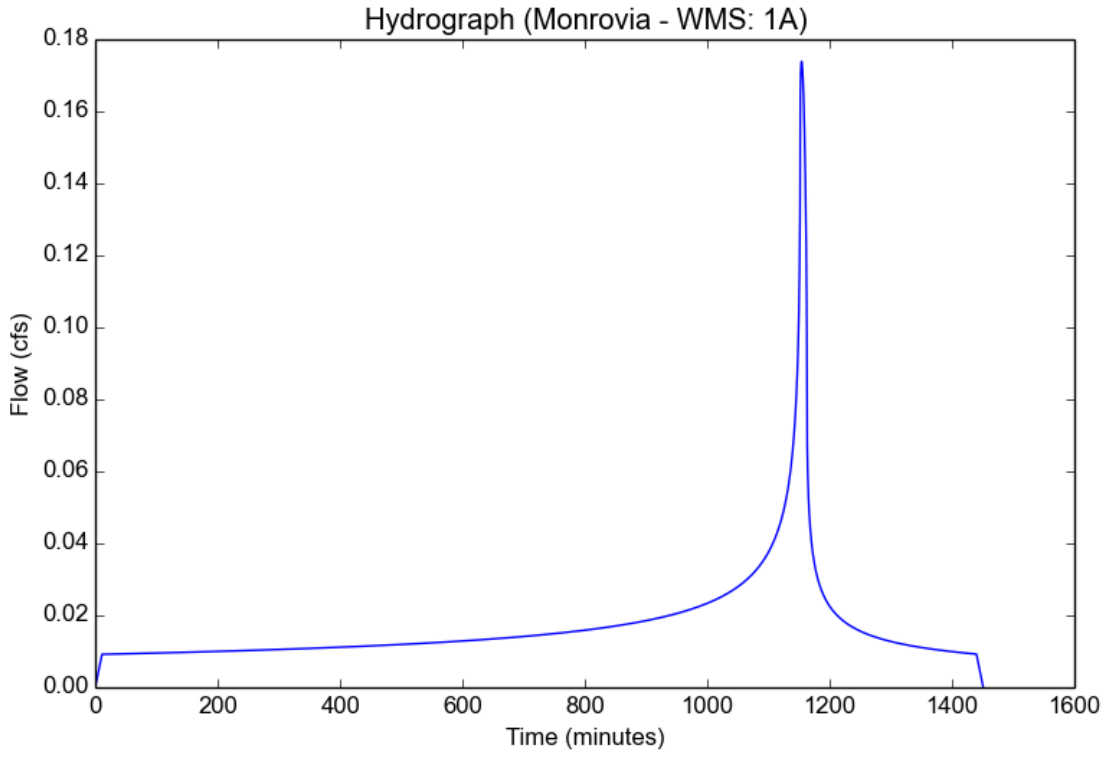
File location: V:/1MAP030400/ENGR/DESIGN/HYDR/HydroCalc/LID-85th Percentile/Monrovia -LID 1A.pdf
Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia -
Subarea ID	1A
Area (ac)	0.46
Flow Path Length (ft)	128.0
Flow Path Slope (vft/hft)	0.005
85th Percentile Rainfall Depth (in)	1.1
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.1
Peak Intensity (in/hr)	0.4531
Undeveloped Runoff Coefficient (Cu)	0.2427
Developed Runoff Coefficient (Cd)	0.8343
Time of Concentration (min)	11.0
Clear Peak Flow Rate (cfs)	0.1739
Burned Peak Flow Rate (cfs)	0.1739
24-Hr Clear Runoff Volume (ac-ft)	0.0343
24-Hr Clear Runoff Volume (cu-ft)	1494.7909



Peak Flow Hydrologic Analysis

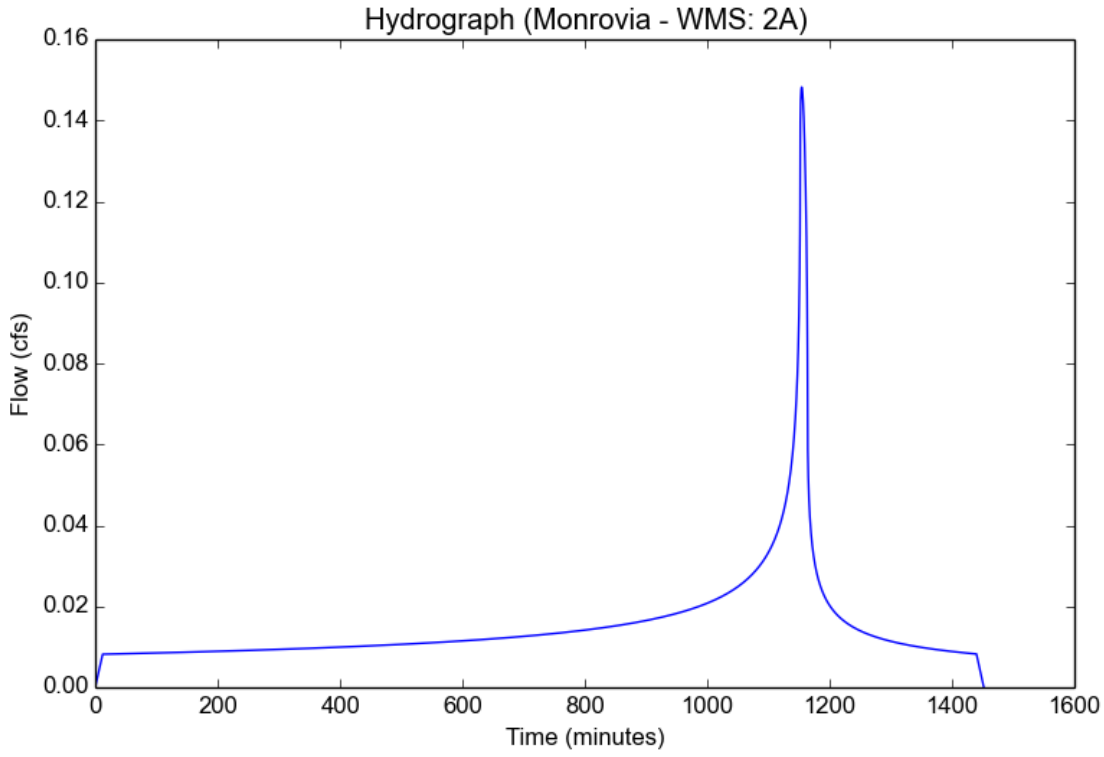
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia -
Subarea ID	2A
Area (ac)	0.41
Flow Path Length (ft)	155.0
Flow Path Slope (vft/hft)	0.005
85th Percentile Rainfall Depth (in)	1.1
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.1
Peak Intensity (in/hr)	0.4349
Undeveloped Runoff Coefficient (Cu)	0.2115
Developed Runoff Coefficient (Cd)	0.8312
Time of Concentration (min)	12.0
Clear Peak Flow Rate (cfs)	0.1482
Burned Peak Flow Rate (cfs)	0.1482
24-Hr Clear Runoff Volume (ac-ft)	0.0306
24-Hr Clear Runoff Volume (cu-ft)	1332.082



Peak Flow Hydrologic Analysis

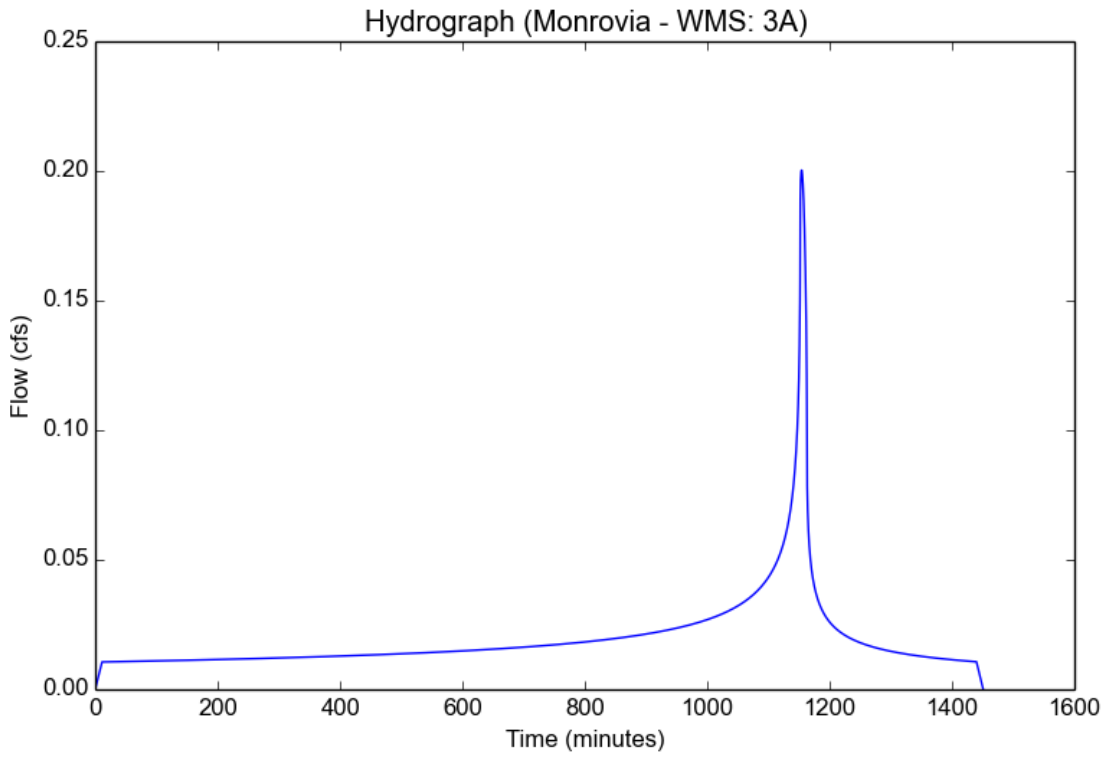
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia -
Subarea ID	3A
Area (ac)	0.53
Flow Path Length (ft)	125.0
Flow Path Slope (vft/hft)	0.005
85th Percentile Rainfall Depth (in)	1.1
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.1
Peak Intensity (in/hr)	0.4531
Undeveloped Runoff Coefficient (Cu)	0.2427
Developed Runoff Coefficient (Cd)	0.8343
Time of Concentration (min)	11.0
Clear Peak Flow Rate (cfs)	0.2003
Burned Peak Flow Rate (cfs)	0.2003
24-Hr Clear Runoff Volume (ac-ft)	0.0395
24-Hr Clear Runoff Volume (cu-ft)	1722.259



Peak Flow Hydrologic Analysis

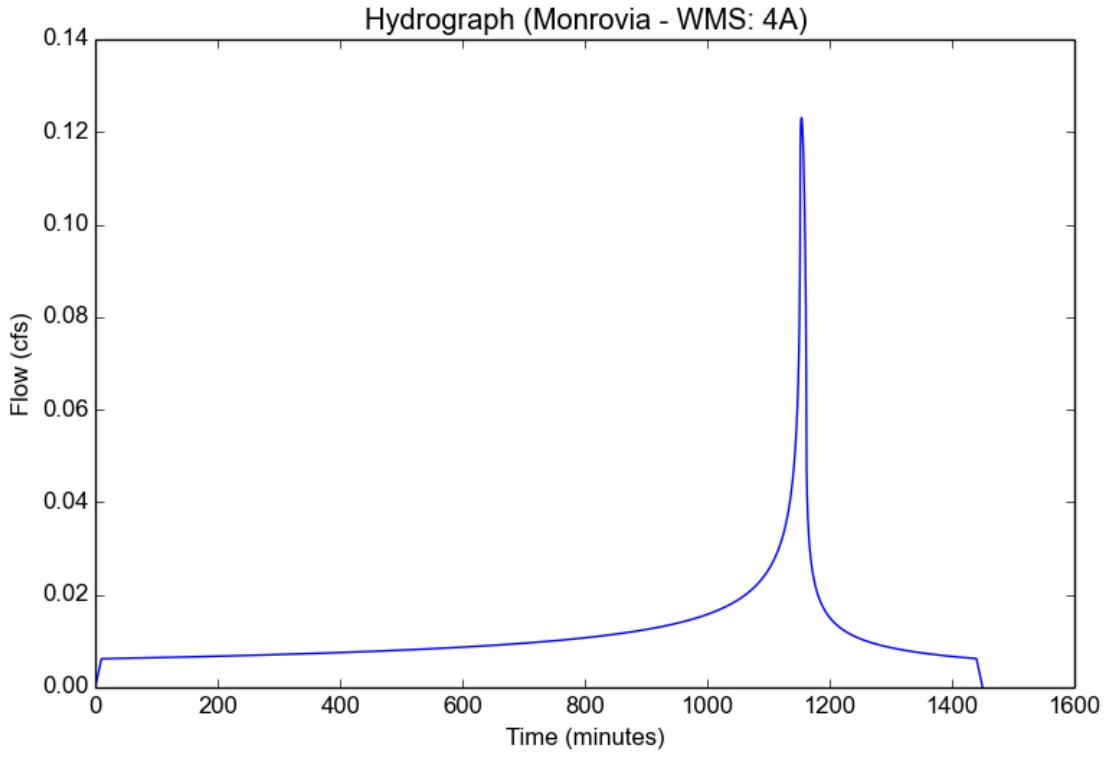
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia -
Subarea ID	4A
Area (ac)	0.31
Flow Path Length (ft)	118.0
Flow Path Slope (vft/hft)	0.005
85th Percentile Rainfall Depth (in)	1.1
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.1
Peak Intensity (in/hr)	0.4738
Undeveloped Runoff Coefficient (Cu)	0.2784
Developed Runoff Coefficient (Cd)	0.8378
Time of Concentration (min)	10.0
Clear Peak Flow Rate (cfs)	0.1231
Burned Peak Flow Rate (cfs)	0.1231
24-Hr Clear Runoff Volume (ac-ft)	0.0231
24-Hr Clear Runoff Volume (cu-ft)	1007.5536



Peak Flow Hydrologic Analysis

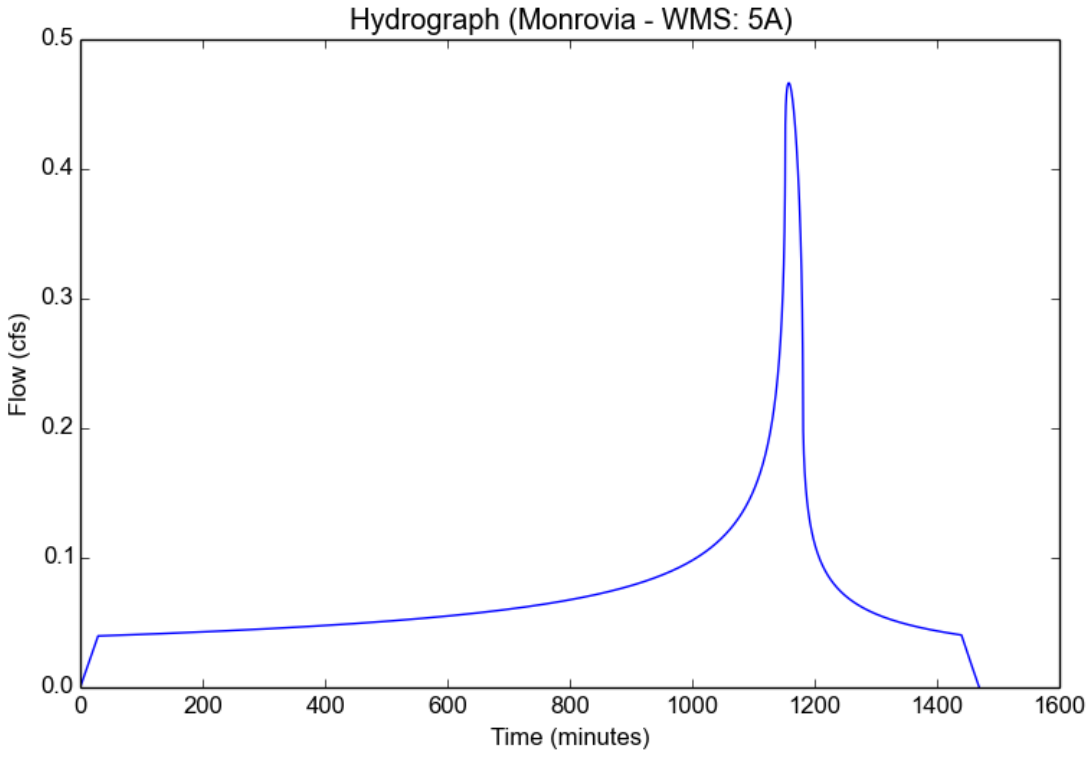
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia -
Subarea ID	5A
Area (ac)	1.98
Flow Path Length (ft)	581.0
Flow Path Slope (vft/hft)	0.005
85th Percentile Rainfall Depth (in)	1.1
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.1
Peak Intensity (in/hr)	0.2873
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.82
Time of Concentration (min)	29.0
Clear Peak Flow Rate (cfs)	0.4664
Burned Peak Flow Rate (cfs)	0.4664
24-Hr Clear Runoff Volume (ac-ft)	0.1476
24-Hr Clear Runoff Volume (cu-ft)	6429.5249



Peak Flow Hydrologic Analysis

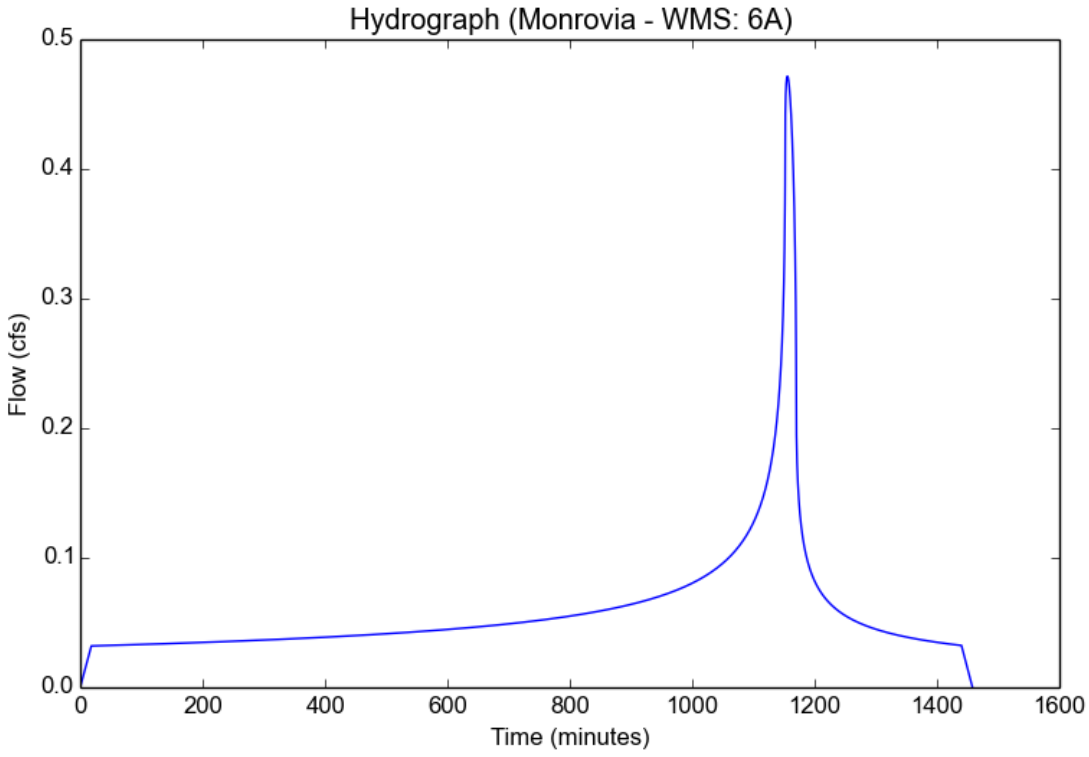
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia -
Subarea ID	6A
Area (ac)	1.6
Flow Path Length (ft)	276.0
Flow Path Slope (vft/hft)	0.005
85th Percentile Rainfall Depth (in)	1.1
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.1
Peak Intensity (in/hr)	0.3594
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.82
Time of Concentration (min)	18.0
Clear Peak Flow Rate (cfs)	0.4716
Burned Peak Flow Rate (cfs)	0.4716
24-Hr Clear Runoff Volume (ac-ft)	0.1193
24-Hr Clear Runoff Volume (cu-ft)	5195.5413



Peak Flow Hydrologic Analysis

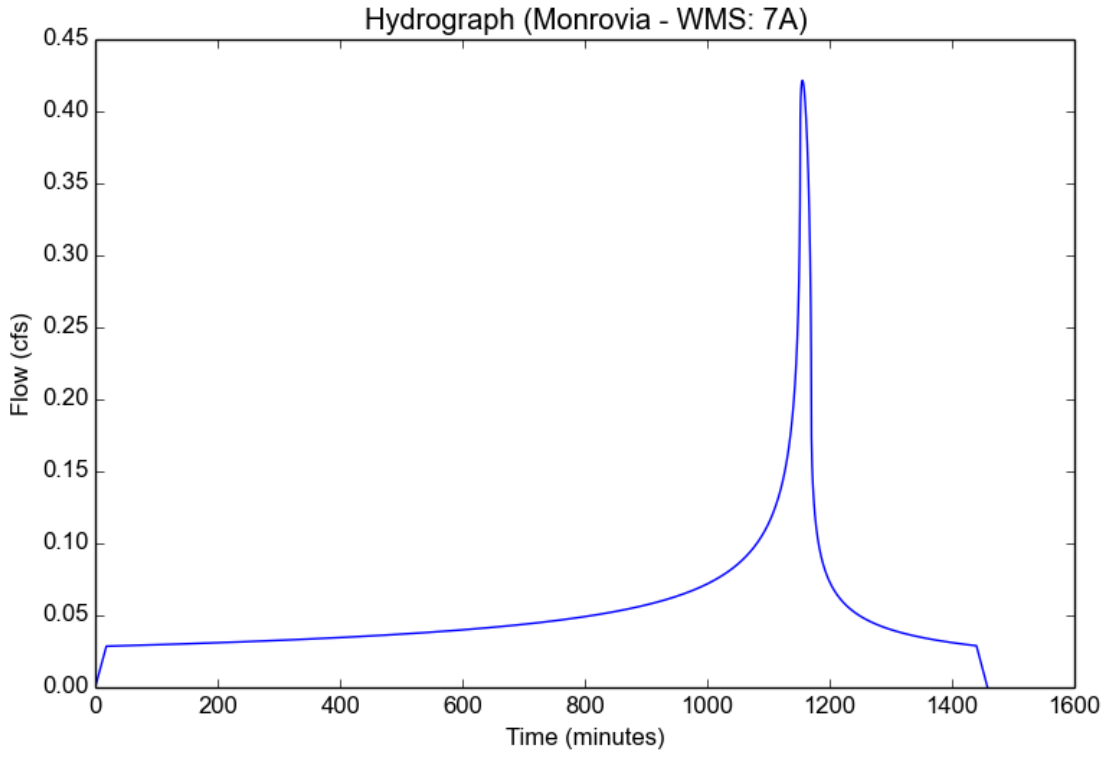
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Version: HydroCalc 1.0.2

Input Parameters

Project Name	Monrovia -
Subarea ID	7A
Area (ac)	1.43
Flow Path Length (ft)	267.0
Flow Path Slope (vft/hft)	0.005
85th Percentile Rainfall Depth (in)	1.1
Percent Impervious	0.9
Soil Type	6
Design Storm Frequency	85th percentile storm
Fire Factor	0
LID	True

Output Results

Modeled (85th percentile storm) Rainfall Depth (in)	1.1
Peak Intensity (in/hr)	0.3594
Undeveloped Runoff Coefficient (Cu)	0.1
Developed Runoff Coefficient (Cd)	0.82
Time of Concentration (min)	18.0
Clear Peak Flow Rate (cfs)	0.4215
Burned Peak Flow Rate (cfs)	0.4215
24-Hr Clear Runoff Volume (ac-ft)	0.1066
24-Hr Clear Runoff Volume (cu-ft)	4643.515



Appendix 4 Dry well Calculations

Calculation is based on LA County LID manual.

1. Stormwater Quality Design Volume (SWQDv)

			SUBAREA
SWQDv=	1495	cf	1A
SWQDv=	1332	cf	2A
SWQDv=	1723	cf	3A
SWQDv=	1008	cf	4A
SWQDv=	6430	cf	5A
SWQDv=	5196	cf	6A
SWQDv=	4644	cf	7A
Measured Infiltration rate=	0.48	in/hr	Per geotechnical report

2. Infiltration rate

LA County FS

Rf=	1
CFv=	1
CFs=	1
CF=	1

f_{design}= 0.48 in/hr

3. Surface Area

t_{max}= 96 hrs

d_{max}=dt= 3.84 ft.

nt= 0.4

Required

A=	973.31	sf
A=	867.19	sf
A=	1121.74	sf
A=	656.25	sf
A=	4186.20	sf
A=	3382.81	sf
A=	3023.44	sf

V=	1024	3.84	3932	cf
V=	900	3.84	3456	cf
V=	1156	3.84	4439	cf
V=	676	3.84	2596	cf
V=	4225	3.84	16224	cf
V=	3480	3.84	13363	cf
V=	3025	3.84	11616	cf

$$d_{max} = \frac{f_{design}}{12} \times t$$

Where:

d_{max} = Maximum depth of water that can be infiltrated within the required drawdown time [ft];
f_{design} = Design infiltration rate [in/hr]; and
t = Maximum retention time (max 96 hrs) [hr].

Select the dry well depth (d_t) such that:

$$d_t \leq \frac{d_{max}}{n_t}$$

Where:

d_t = Depth of dry well fill [ft];
d_{max} = Maximum depth of water that can be infiltrated within the maximum retention time [ft]; and
n_t = Dry well fill porosity.

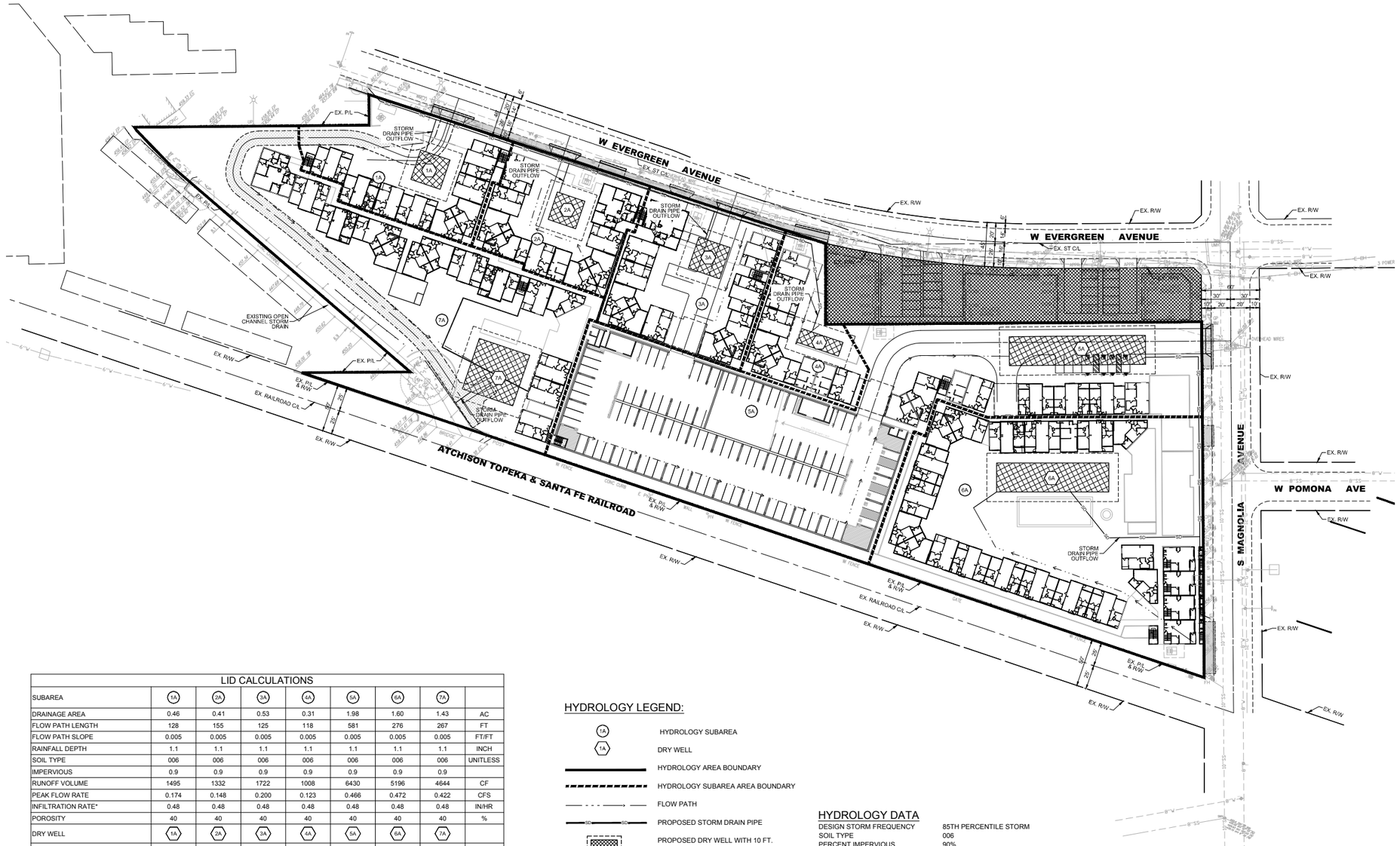
Calculate the infiltrating surface area (bottom of the dry well) required:

$$A = \frac{SWQDv}{d_t \times n_t}$$

Where:

A = Surface area of the bottom of the dry well [ft^2];
SWQDv = Stormwater quality design volume [ft^3]; and
d_t = Depth of dry well fill [ft]; and
n_t = Dry well fill porosity.

Appendix 5 Hydrology Maps



LID CALCULATIONS								
SUBAREA	1A	2A	3A	4A	5A	6A	7A	
DRAINAGE AREA	0.46	0.41	0.53	0.31	1.98	1.60	1.43	AC
FLOW PATH LENGTH	128	155	125	118	581	276	267	FT
FLOW PATH SLOPE	0.005	0.005	0.005	0.005	0.005	0.005	0.005	FT/FT
RAINFALL DEPTH	1.1	1.1	1.1	1.1	1.1	1.1	1.1	INCH
SOIL TYPE	006	006	006	006	006	006	006	UNITLESS
IMPERVIOUS	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
RUNOFF VOLUME	1495	1332	1722	1008	6430	5196	4644	CF
PEAK FLOW RATE	0.174	0.148	0.200	0.123	0.466	0.472	0.422	CFS
INFILTRATION RATE*	0.48	0.48	0.48	0.48	0.48	0.48	0.48	IN/HR
POROSITY	40	40	40	40	40	40	40	%
DRY WELL	1A	2A	3A	4A	5A	6A	7A	
DRY WELL AREA REQUIRED	974	868	1122	657	4186	3383	3023	SF
CALCULATED DEPTH	3.84'	3.84'	3.84'	3.84'	3.84'	3.84'	3.84'	FT
DEPTH**	15'	15'	15'	15'	15'	15'	15'	FT
DRY WELL AREA PROVIDED	1024	900	1156	676	4225	3481	3025	SF

*ADJUSTED RATE, STORM WATER ARE TO BE PRETREATED, DOWNSPOUT AND CATCH BASINS SHALL HAVE FILTERS.
**THIS IS APPROXIMATE DEPTH AND IT IS SUBJECT TO CHANGE PER THE DIRECTION OF GEOTECHNICAL ENGINEER.

HYDROLOGY LEGEND:

- 1A — HYDROLOGY SUBAREA
- 1A — DRY WELL
- HYDROLOGY AREA BOUNDARY
- HYDROLOGY SUBAREA AREA BOUNDARY
- FLOW PATH
- PROPOSED STORM DRAIN PIPE
- PROPOSED DRY WELL WITH 10 FT. DIST. SIDE OFFSET

HYDROLOGY DATA

DESIGN STORM FREQUENCY	85TH PERCENTILE STORM
SOIL TYPE	006
PERCENT IMPERVIOUS	90%

40' 20' 0' 40' 80'
GRAPHIC SCALE
Note: For reduced sized prints, original scale is in inches

TCR

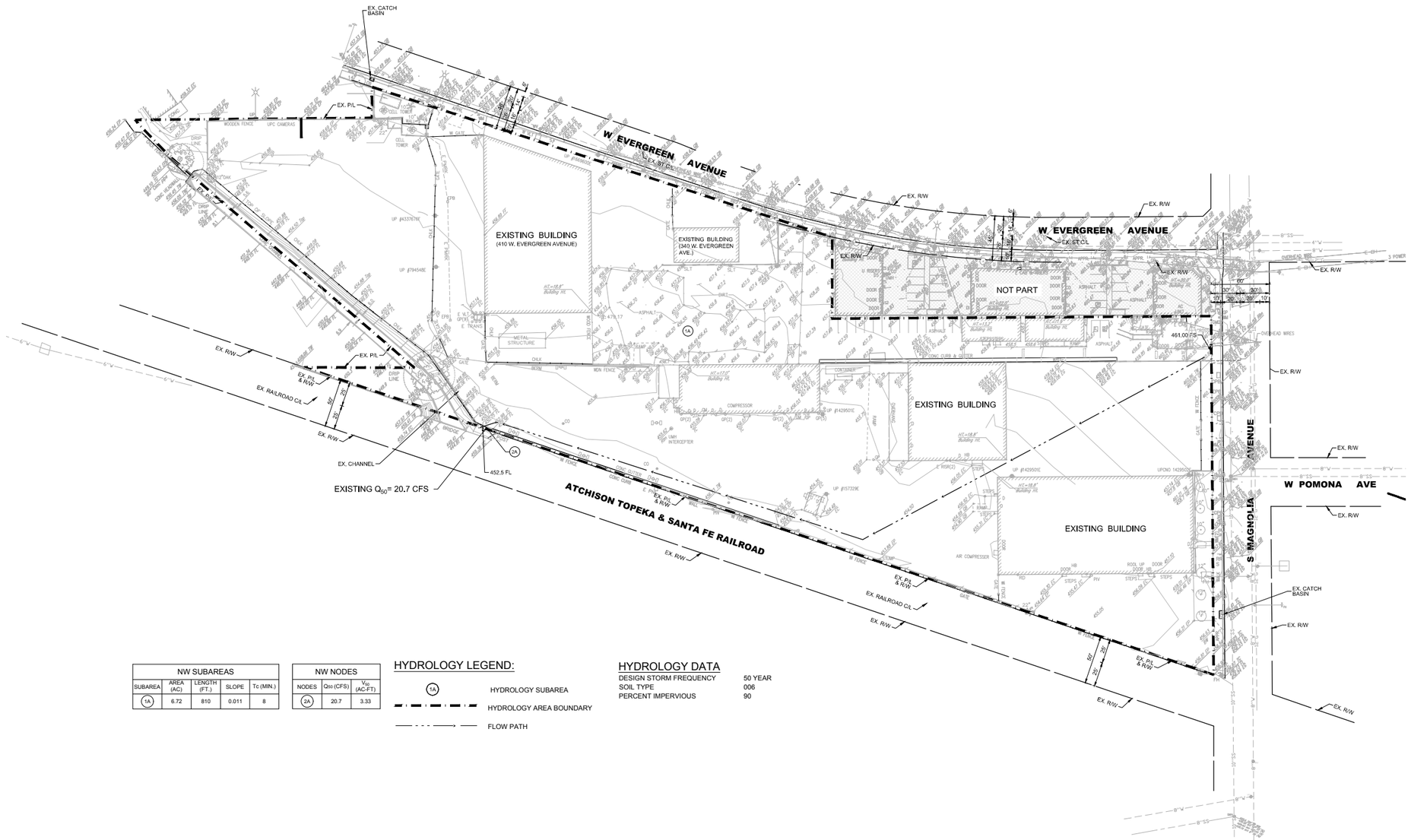
S. Magnolia Ave. Apartment
Multi-Family
Prelim Hydrology Map LID BMP

PSOMAS

DATE: 02-26-2018 REVISED ON:
JOB No:1MPA0304000

SHEET 1 OF 1
EXHIB-01

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NW SUBAREAS				
SUBAREA	AREA (AC)	LENGTH (FT.)	SLOPE	Tc (MIN.)
1A	6.72	810	0.011	8

NW NODES		
NODES	Q50 (CFS)	V_{50} (AC-FT)
2A	20.7	3.33

HYDROLOGY LEGEND:

1A — HYDROLOGY SUBAREA

HYDROLOGY AREA BOUNDARY

FLOW PATH

HYDROLOGY DATA

DESIGN STORM FREQUENCY	50 YEAR
SOIL TYPE	006
PERCENT IMPERVIOUS	90

40' 20' 0' 40' 80'
GRAPHIC SCALE
Note: For reduced sized prints, original scale is in inches

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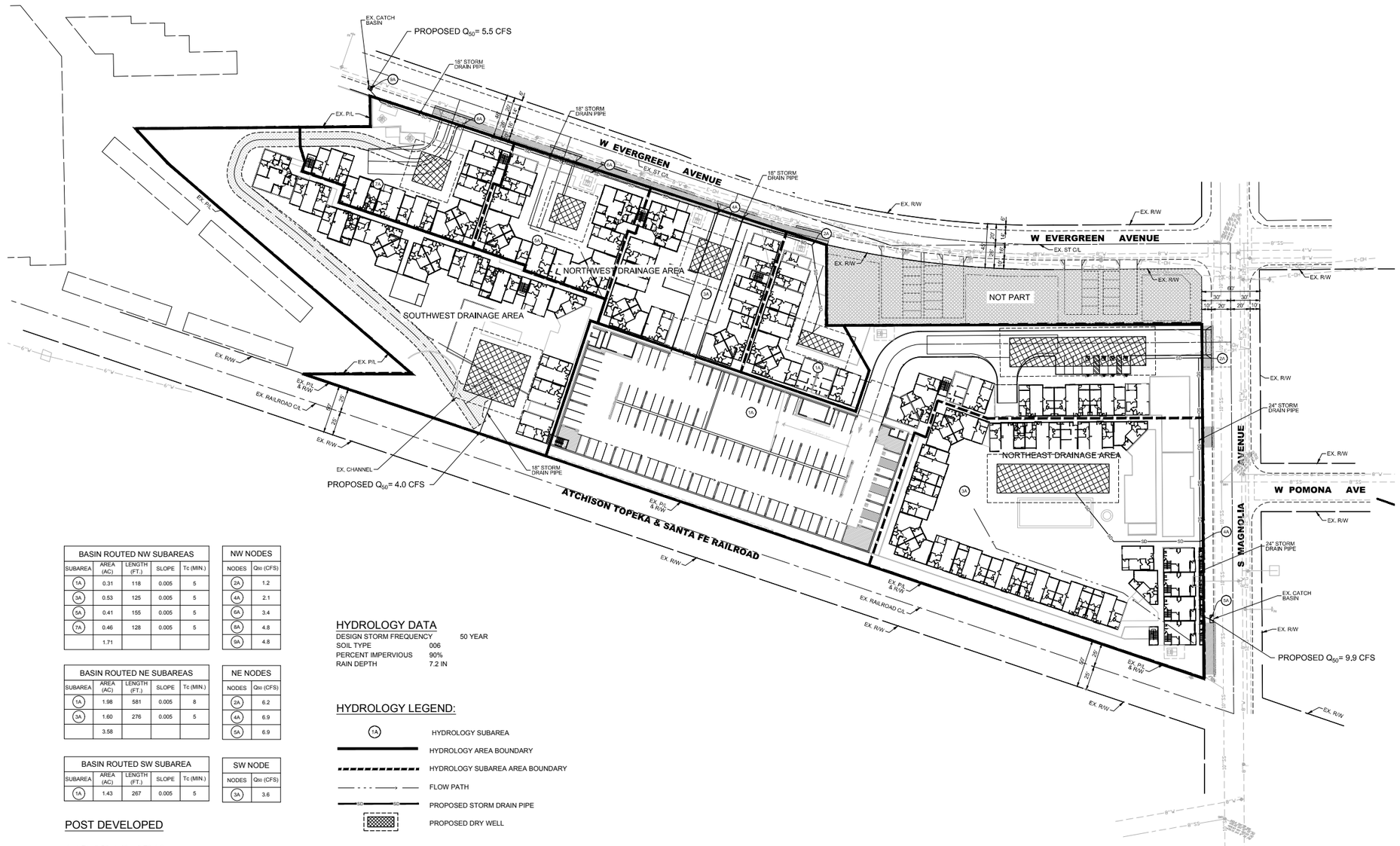
S. Magnolia Ave. Apartment
Multi-Family
Predeveloped Hydrology Map

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JOB No:1MPA0304000

SHEET 1 OF 2
EXHIB-02

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BASIN ROUTED NW SUBAREAS				
SUBAREA	AREA (AC)	LENGTH (FT.)	SLOPE	Tc (MIN.)
1A	0.31	118	0.005	5
3A	0.53	125	0.005	5
5A	0.41	155	0.005	5
7A	0.46	128	0.005	5
	1.71			

NW NODES	
NODES	Q_{50} (CFS)
2A	1.2
4A	2.1
6A	3.4
8A	4.8
9A	4.8

BASIN ROUTED NE SUBAREAS				
SUBAREA	AREA (AC)	LENGTH (FT.)	SLOPE	Tc (MIN.)
1A	1.98	581	0.005	8
3A	1.60	276	0.005	5
	3.58			

NE NODES	
NODES	Q_{50} (CFS)
2A	6.2
4A	6.9
5A	6.9

BASIN ROUTED SW SUBAREA				
SUBAREA	AREA (AC)	LENGTH (FT.)	SLOPE	Tc (MIN.)
1A	1.43	267	0.005	5

SW NODE	
NODES	Q_{50} (CFS)
3A	3.6

POST DEVELOPED

A=1.71+3.58+1.43 = 6.72 AC
Q=4.8+6.9+3.6=15.3 CFS<Q=20.7 CFS (PREDEVELOPED)

HYDROLOGY DATA

DESIGN STORM FREQUENCY	50 YEAR
SOIL TYPE	006
PERCENT IMPERVIOUS	90%
RAIN DEPTH	7.2 IN

HYDROLOGY LEGEND:

- (1A) HYDROLOGY SUBAREA
- HYDROLOGY AREA BOUNDARY
- HYDROLOGY SUBAREA AREA BOUNDARY
- FLOW PATH
- PROPOSED STORM DRAIN PIPE
- PROPOSED DRY WELL

40' 20' 0' 40' 80'
GRAPHIC SCALE
Note: For reduced sized prints, original scale is in inches

TCR

S. Magnolia Ave. Apartment
Multi-Family
Postdeveloped Hydrology Map

PSOMAS

DATE: 02-26-2018 REVISED ON:
JOB No:1MPA0304000

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EXHIB-02

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Appendix 6 Geotechnical Report

GEOTECHNICAL INVESTIGATION

PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT 1625 SOUTH MAGNOLIA AVENUE MONROVIA, CALIFORNIA

GEOCON WEST, INC.

GEOTECHNICAL
ENVIRONMENTAL
MATERIALS

PREPARED FOR

TRAMMELL CROW RESIDENTIAL
CARLSBAD, CALIFORNIA

PROJECT NO. A9621-06-01

JULY 12, 2017

Project No. A9621-06-01
July 12, 2017

Trammell Crow Residential
5790 Fleet Street, Suite 140
Carlsbad, California 92008

Attention: Mr. Bryce Tabb

Subject: GEOTECHNICAL INVESTIGATION
PROPOSED MULTI-FAMILY RESIDENTIAL DEVELOPMENT
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

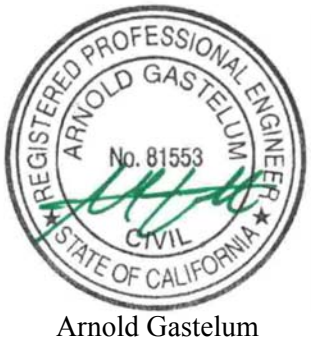
Dear Mr. Tabb:

In accordance with your authorization of our proposal dated March 23, 2017, we have performed a geotechnical investigation for the proposed multi-family residential development located at 1625 South Magnolia Avenue in the City of Monrovia, California. The accompanying report presents the findings of our study, and our conclusions and recommendations pertaining to the geotechnical aspects of proposed design and construction. Based on the results of our investigation, it is our opinion that the site can be developed as proposed, provided the recommendations of this report are followed and implemented during design and construction.

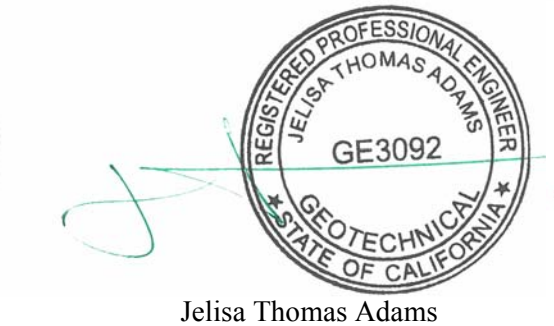
If you have any questions regarding this report, or if we may be of further service, please contact the undersigned.

Very truly yours,

GEOCON WEST, INC.



Arnold Gastelum
PE 81553



Jelisa Thomas Adams
GE 3092



Susan F. Kirkgard
CEG 1754

(Email) Addressee

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- Figures 6 and 7, Retaining Wall Drainage
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GEOTECHNICAL INVESTIGATION

1. PURPOSE AND SCOPE

This report presents the results of a geotechnical investigation for the proposed multi-family residential development located at 1625 South Magnolia Avenue in the City of Monrovia, California (see Vicinity Map, Figure 1). The purpose of the investigation was to evaluate subsurface soil and geologic conditions underlying the site and, based on conditions encountered, to provide conclusions and recommendations pertaining to the geotechnical aspects of design and construction.

The scope of this investigation included a site reconnaissance, field exploration, laboratory testing, engineering analysis, and the preparation of this report. The site was explored on June 12, 2017, by excavating six 8-inch diameter borings to depths of approximately 25½ feet below the existing ground surface utilizing a truck-mounted hollow-stem auger drilling machine. The approximate locations of the exploratory borings are depicted on the Site Plan (see Figure 2). A detailed discussion of the field investigation, including boring logs, is presented in Appendix A.

Laboratory tests were performed on selected soil samples obtained during the investigation to determine pertinent physical and chemical soil properties. Appendix B presents a summary of the laboratory test results.

The recommendations presented herein are based on analysis of the data obtained during the investigation and our experience with similar soil and geologic conditions. References reviewed to prepare this report are provided in the *List of References* section.

If project details vary significantly from those described above, Geocon should be contacted to determine the necessity for review and possible revision of this report.

2. SITE AND PROJECT DESCRIPTION

The subject site is located at 1625 South Magnolia Avenue in the City of Monrovia, California. The site consists of a 5.73-acre irregularly shaped parcel which is currently an automobile distribution lot. The site is occupied by four existing commercial/industrial structures, paved surface parking lots, and associated hardscape and landscaping. Two single-story residential structures also occupy a portion of the site adjacent to Evergreen Avenue. The site is bounded by Magnolia Avenue to the east, by a railroad right-of-way to the south, by residential and industrial structures to the west, by Evergreen Avenue to the north and northwest, and by commercial structures and associated surface parking lots to the east. The site is relatively level, with no pronounced highs or lows. The topography at the site and in the general site vicinity slopes downward toward the south and southwest. Surface water drainage at the site appears to be by sheet flow along the existing ground contours to the city streets. Vegetation consists of some isolated trees and sparse grass and shrubbery in isolated planter areas.

Based on the information provided by the Client, it is our understanding that the proposed project will consist of a Type III wrap development including five-story residential buildings and a seven-level parking structure. The development will include approximately 436 residential housing units. It is our further understanding that the proposed structures will be constructed at or near present site grade. The footprints of the proposed structures are shown on Figure 2 (Site Plan).

Due to preliminary nature of the design at this time, wall and column loads were not available. It is anticipated that column loads for the proposed residential buildings will be up to 200 kips, and wall loads will be up to 5 kips per linear foot. It is anticipated that column loads for the proposed parking structure will be up to 800 kips, and wall loads will be up to 10 kips per linear foot.

Once the design phase and foundation loading configuration proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Any changes in the design, location or elevation of any structure, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

3. GEOLOGIC SETTING

The site is located in the northeastern San Gabriel Valley. The San Gabriel Valley is an alluvial filled valley bounded by the Sierra Madre Fault Zone and San Gabriel Mountains on the north, by the Puente Hills on the south, by the Covina and Indian Hills on the east, and by the Raymond Basin on the west. The alluvial deposits are derived from erosion of the San Gabriel Mountains to the north and subsequent deposition by the San Gabriel River and other local drainages. The alluvium is estimated to be approximately 200 feet thick at the base of the mountains, extending to hundreds of feet thick in the central portion of the valley.

Regionally, the site is located within the northern portion of the Peninsular Ranges geomorphic province. This geomorphic province is characterized by northwest-trending physiographic and geologic features such as the Whittier Fault located approximately 7.2 miles to the southwest. The active Raymond Fault, located approximately 1.4 miles to the northwest of the site, forms the boundary between the Peninsular Ranges Geomorphic Province and the Transverse Ranges Geomorphic Province to the north.

4. SOIL AND GEOLOGIC CONDITIONS

Based on our field investigation and published geologic maps of the area, the site is underlain by artificial fill and Holocene are young alluvial fan deposits consisting of varying amounts of sand, silt, clay and gravel (California Geological Survey [CGS], 2010). Detailed stratigraphic profiles are provided on the boring logs in Appendix A.

4.1 Artificial Fill

Artificial fill was encountered in the exploratory borings to a maximum depth of 2½ feet below existing ground surface. The artificial fill generally consists of light yellowish brown, grayish brown and dark brown silty sand with lesser amounts of sandy silt and varying amounts of fine gravel and trace roots. The fill is characterized as moist and loose to medium dense. The fill is likely the result of past grading or construction activities at the site. Deeper fill may exist between excavations and in other portions of the site that were not directly explored.

4.2 Alluvium

Holocene age young alluvial deposits were encountered beneath the artificial fill and consist primarily of light gray, yellowish brown, dark brown, and reddish brown interbedded silty sand, poorly graded and well-graded sand, sandy silt, and silt with varying amounts of fine gravel. The soil is characterized as slightly moist to moist and loose to very dense or firm.

5. GROUNDWATER

Based on a review of the Seismic Hazard Evaluation of the Mount Wilson Quadrangle, Los Angeles County, California (California Division of Mines and Geology [CDMG], 1998), the historically highest groundwater level in the area is approximately 145 feet beneath the ground surface. Groundwater information presented in this document is generated from data collected in the early 1900's to the late 1990s. Based on current groundwater basin management practices, it is unlikely that groundwater levels will ever exceed the historic high levels.

Considering the historic high groundwater level (CDMG, 1998), the lack of groundwater encountered in our borings, and the depth of the proposed construction, it is unlikely that groundwater will be encountered during construction. However, it is not uncommon for groundwater levels to vary seasonally or for groundwater seepage conditions to develop where none previously existed, especially in impermeable fine-grained soils which are heavily irrigated or after seasonal rainfall. In addition, recent requirements for stormwater infiltration could result in shallower seepage conditions in the immediate site vicinity. Proper surface drainage of irrigation and precipitation will be critical for future performance of the project. Recommendations for drainage are provided in the S*urface Drainage* section of this report (see Section 7.21).

6. GEOLOGIC HAZARDS

6.1 Surface Fault Rupture

The numerous faults in Southern California include active, potentially active, and inactive faults. The criteria for these major groups are based on criteria developed by the California Geological Survey (CGS, formerly known as CDMG) for the Alquist-Priolo Earthquake Fault Zone Program (Bryant and Hart, 2007). By definition, an active fault is one that has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault has demonstrated surface displacement during Quaternary time (approximately the last 1.6 million years), but has had no known Holocene movement. Faults that have not moved in the last 1.6 million years are considered inactive.

The site is not within a currently established State of California Alquist-Priolo Earthquake Fault Zone for surface fault rupture hazards (CGS, 2017). In addition, the site is not located within the Raymond Hill Fault Zone as defined by the City of Monrovia Safety Element of the General Plan (2002). No active or potentially active faults with the potential for surface fault rupture are known to pass directly beneath the site. Therefore, the potential for surface rupture due to faulting occurring beneath the site during the design life of the proposed development is considered low. However, the site is located in the seismically active Southern California region, and could be subjected to moderate to strong ground shaking in the event of an earthquake on one of the many active Southern California faults. The faults in the vicinity of the site are shown in Figure 3, Regional Fault Map.

The closest active fault to the site is the Raymond Fault located approximately 1.4 miles to the northwest (CDMG, 2007). Other nearby active faults are the Duarte Fault, the Sierra Madre Fault, the Verdugo Fault, the Whittier Fault, the Hollywood Fault, and the Cucamonga Fault, located approximately 1.6 miles northeast, 2.1 miles north-northeast, 7.1 miles west, 7.2 miles southwest, 13½ miles west, and 19 miles east of the site, respectively. (Ziony and Jones, 1989). The active San Andreas Fault Zone is located approximately 23 miles north-northeast of the site.

The closest potentially active faults to the site are the San Jose Fault and the Indian Hill Fault located approximately 7.4 miles to the southeast and 7.5 miles to the southeast, respectively. The potentially active San Gabriel Fault located is located approximately 7.7 miles north of the site (Ziony and Jones, 1989).

Several buried thrust faults, commonly referred to as blind thrusts, underlie the Los Angeles Basin at depth. These faults are not exposed at the ground surface and are typically identified at depths greater than 3.0 kilometers. The October 1, 1987 M_w 5.9 Whittier Narrows earthquake and the January 17, 1994, M_w 6.7 Northridge earthquake were a result of movement on the Puente Hills Blind Thrust and the Northridge Thrust, respectively. These thrust faults and others in the Los Angeles area do not present a potential surface fault rupture hazard at the site. However, these deep thrust faults are considered active features capable of generating future earthquakes that could result in moderate to significant ground shaking at the site.

6.2 Seismicity

As with all of Southern California, the site has experienced historic earthquakes from various regional faults. The seismicity of the region surrounding the site was formulated based on research of an electronic database of earthquake data. The epicenters of recorded earthquakes with magnitudes equal to or greater than 5.0 in the site vicinity are depicted on Figure 4, Regional Seismicity Map. A partial list of moderate to major magnitude earthquakes that have occurred in the Southern California area within the last 100 years is included in the following table.

LIST OF HISTORIC EARTHQUAKES

Earthquake (Oldest to Youngest)	Date of Earthquake	Magnitude	Distance to Epicenter (Miles)	Direction to Epicenter
San Jacinto-Hemet area	April 21, 1918	6.8	63	ESE
Near Redlands	July 23, 1923	6.3	44	ESE
Long Beach	March 10, 1933	6.4	36	S
Tehachapi	July 21, 1952	7.5	83	NW
San Fernando	February 9, 1971	6.6	29	NW
Whittier Narrows	October 1, 1987	5.9	7	SW
Sierra Madre	June 28, 1991	5.8	9	N
Landers	June 28, 1992	7.3	90	E
Big Bear	June 28, 1992	6.4	68	E
Northridge	January 17, 1994	6.7	31	W
Hector Mine	October 16, 1999	7.1	104	ENE

The site could be subjected to strong ground shaking in the event of an earthquake. However, this hazard is common in Southern California and the effects of ground shaking can be mitigated if the proposed structures are designed and constructed in conformance with current building codes and engineering practices.

6.3 Seismic Design Criteria

The following table summarizes summarizes site-specific design criteria obtained from the 2016 California Building Code (CBC; Based on the 2015 International Building Code [IBC] and ASCE 7-10), Chapter 16 Structural Design, Section 1613 Earthquake Loads. The data was calculated using the computer program *U.S. Seismic Design Maps*, provided by the USGS. The short spectral response uses a period of 0.2 second. We evaluated the Site Class based on the discussion in Section 1613.3.2 of the 2016 CBC and Table 20.3-1 of ASCE 7-10. The values presented below are for the risk-targeted maximum considered earthquake (MCE_R).

2016 CBC SEISMIC DESIGN PARAMETERS

Parameter	Value	2016 CBC Reference
Site Class	D	Section 1613.3.2
MCE_R Ground Motion Spectral Response Acceleration – Class B (short), S_S	2.157g	Figure 1613.3.1(1)
MCE_R Ground Motion Spectral Response Acceleration – Class B (1 sec), S_1	0.834g	Figure 1613.3.1(2)
Site Coefficient, F_A	1.0	Table 1613.3.3(1)
Site Coefficient, F_V	1.5	Table 1613.3.3(2)
Site Class Modified MCE_R Spectral Response Acceleration (short), S_{MS}	2.157g	Section 1613.3.3 (Eqn 16-37)
Site Class Modified MCE_R Spectral Response Acceleration – (1 sec), S_{M1}	1.251g	Section 1613.3.3 (Eqn 16-38)
5% Damped Design Spectral Response Acceleration (short), S_{DS}	1.438g	Section 1613.3.4 (Eqn 16-39)
5% Damped Design Spectral Response Acceleration (1 sec), S_{D1}	0.834g	Section 1613.3.4 (Eqn 16-40)

The table below presents the mapped maximum considered geometric mean (MCE_G) seismic design parameters for projects located in Seismic Design Categories of D through F in accordance with ASCE 7-10.

ASCE 7-10 PEAK GROUND ACCELERATION

Parameter	Value	ASCE 7-10 Reference
Mapped MCE_G Peak Ground Acceleration, PGA	0.819g	Figure 22-7
Site Coefficient, F_{PGA}	1.0	Table 11.8-1
Site Class Modified MCE_G Peak Ground Acceleration, PGA_M	0.819g	Section 11.8.3 (Eqn 11.8-1)

The Maximum Considered Earthquake Ground Motion (MCE) is the level of ground motion that has a 2 percent chance of exceedance in 50 years, with a statistical return period of 2,475 years. According to the 2016 California Building Code and ASCE 7-10, the MCE is to be utilized for the evaluation of liquefaction, lateral spreading, seismic settlements, and it is our understanding that the intent of the Building code is to maintain "Life Safety" during a MCE event. The Design Earthquake Ground Motion (DE) is the level of ground motion that has a 10 percent chance of exceedance in 50 years, with a statistical return period of 475 years.

Deaggregation of the MCE peak ground acceleration was performed using the USGS online BETA Unified Hazard Tool, 2008 Conterminous U.S. Dynamic edition. The result of the deaggregation analysis indicates that the predominant earthquake contributing to the MCE peak ground acceleration is characterized as a 6.7 magnitude event occurring at a hypocentral distance of 6.87 kilometers from the site.

Deaggregation was also performed for the Design Earthquake (DE) peak ground acceleration, and the result of the analysis indicates that the predominant earthquake contributing to the DE peak ground acceleration is characterized as a 6.7 magnitude occurring at a hypocentral distance of 10.44 kilometers from the site.

Conformance to the criteria in the above tables for seismic design does not constitute any kind of guarantee or assurance that significant structural damage or ground failure will not occur if a large earthquake occurs. The primary goal of seismic design is to protect life, not to avoid all damage, since such design may be economically prohibitive.

6.4 Liquefaction Potential

Liquefaction is a phenomenon in which loose, saturated, relatively cohesionless soil deposits lose shear strength during strong ground motions. Primary factors controlling liquefaction include intensity and duration of ground motion, gradation characteristics of the subsurface soils, in-situ stress conditions, and the depth to groundwater. Liquefaction is typified by a loss of shear strength in the liquefied layers due to rapid increases in pore water pressure generated by earthquake accelerations.

The current standard of practice, as outlined in the "Recommended Procedures for Implementation of DMG Special Publication 117, Guidelines for Analyzing and Mitigating Liquefaction in California" and "Special Publication 117A, Guidelines for Evaluating and Mitigating Seismic Hazards in California" requires liquefaction analysis to a depth of 50 feet below the lowest portion of the proposed structure. Liquefaction typically occurs in areas where the soils below the water table are composed of poorly consolidated, fine to medium-grained, primarily sandy soil. In addition to the requisite soil conditions, the ground acceleration and duration of the earthquake must also be of a sufficient level to induce liquefaction.

The Seismic Hazards Zone Map for the Mount Wilson 7.5 Minute Quadrangle (CGS, 2017; CDMG, 1999) indicates that the site is not located within a zone of required investigation for liquefaction. In addition, the County of Los Angeles Safety Element (Leighton, 1990), indicates that the site is not located in a liquefiable area. Groundwater was not encountered in our borings drilled to a maximum depth of 25½ feet beneath the existing ground surface and the historic high groundwater level in the area is reported to be approximately 145 feet beneath the existing ground surface (CDMG, 1998). Based on these considerations, it is our opinion that the potential for liquefaction and associated ground deformations beneath the site is very low.

6.5 Slope Stability

The site is relatively level and the topography in the site vicinity slopes downward toward the south and southwest. The County of Los Angeles Safety Element (Leighton, 1990), indicates that the site is not located in a hillside area. Also, the State of California Seismic Hazard Zone Map for the Mount Wilson Quadrangle (CGS, 2017; CDMG, 1999) indicates that the site is not located within a zone of required investigation for earthquake-induced landslides. There are no known landslides near the site, nor is the site in the path of any known or potential landslides. Therefore, the potential for slope stability hazards to adversely impact the site is considered low.

6.6 Earthquake-Induced Flooding

Earthquake-induced flooding is inundation caused by failure of dams or other water-retaining structures due to earthquakes. The City of Monrovia Safety Element (2002) and the Los Angeles County Safety Element (Leighton, 1990) indicates that the site is located within the potential inundation area for Big Santa Anita Dam, Sierra Madre Dam, and Saw Pit Dam. However, these reservoirs, as well as others in California, are continually monitored by various governmental agencies (such as the State of California Division of Safety of Dams and the U.S. Army Corps of Engineers) to guard against the threat of dam failure. Current design, construction practices, and ongoing programs of review, modification, or total reconstruction of existing dams are intended to ensure that all dams are capable of withstanding the maximum considered earthquake (MCE) for the site. Therefore, the potential for inundation at the site as a result of an earthquake-induced dam failure is considered low.

6.7 Tsunamis, Seiches, and Flooding

The site is not located within a coastal area. Therefore, tsunamis, seismic sea waves, are not considered a significant hazard at the site.

Seiches are large waves generated in enclosed bodies of water in response to ground shaking. No major water-retaining structures are located immediately up gradient from the project site. Therefore, flooding from a seismically-induced seiche is considered unlikely.

The majority of the site is within an area of minimal flooding (zone X) as defined by the Federal Emergency Management Agency, however the eastern portion of the site (adjacent to Magnolia Avenue) is within a flood zone D for possible but undetermined flood hazards (FEMA, 2017; LACDPW, 2017b).

6.8 Oil Fields & Methane Potential

Information on the California Division of Oil, Gas and Geothermal Resources (DOGGR) Well Finder Website (DOGGR, 2017) indicates the site is not located within the limits of an oilfield and oil or gas wells are not located within a mile of the site vicinity. However, due to the voluntary nature of record reporting by the oil well drilling companies, wells may be improperly located or not shown on the location map and undocumented wells could be encountered during construction. Any wells encountered during construction will need to be properly abandoned in accordance with the current requirements of the DOGGR.

As previously indicated, the site is not located within an oilfield. Therefore, the potential for methane or other volatile gases to occur at the site is considered very low. However, should it be determined that a methane study is required for the proposed development it is recommended that a qualified methane consultant be retained to perform the study and provide mitigation measures as necessary.

6.9 Subsidence

Subsidence occurs when a large portion of land is displaced vertically, usually due to the withdrawal of groundwater, oil, or natural gas. Soils that are particularly subject to subsidence include those with high silt or clay content. The site is not located within an area of known ground subsidence. No large-scale extraction of groundwater, gas, oil, or geothermal energy is occurring or planned at the site or in the general site vicinity. There appears to be little or no potential for ground subsidence due to withdrawal of fluids or gases at the site.

7. CONCLUSIONS AND RECOMMENDATIONS

7.1 General

7.1.1 It is our opinion that neither soil nor geologic conditions were encountered during this investigation that would preclude the construction of the proposed development provided the recommendations presented herein are followed and implemented during design and construction.

7.1.2 Up to 2½ feet of existing artificial fill was encountered during site exploration. The existing fill encountered is believed to be the result of past grading and construction activities at the site. Deeper fill may exist in other areas of the site that were not directly explored. It is our opinion that the existing fill, in its present condition, is not suitable for direct support of proposed foundations or slabs. The existing fill and site soils are suitable for re-use as engineered fill provided the recommendations in the Grading section of this report are followed (see Section 7.5).

7.1.3 As a minimum, the upper 5 feet of existing soils within the footprint areas of the proposed residential buildings and parking structure should be excavated and properly compacted for foundation and slab support. The engineered fill blanket should extend at least 5 feet beyond the edge of foundations or for a distance equal to the depth of fill below the foundations, whichever is greater. Where the recommended grading cannot be performed, such as adjacent to property lines, alternate grading and foundation design recommendations may be required. Proposed foundations should be underlain by at least 3 feet of newly compacted engineered fill. Foundations with an embedment greater than 2 feet will require deeper grading in order to maintain the required 3-foot-thick fill blanket beneath foundations. It is recommended that the grading contractor verify the depth of all building foundations prior to commencement of site grading activities in order to correctly determine the required excavation depth. Deeper fill or soft soils encountered during site grading operations should be excavated as necessary at the direction of the Geotechnical Engineer. The limits of existing fill and/or soft soil removal will be verified by the Geocon representative during site grading operations.

7.1.4 Subsequent to the recommended grading, the proposed residential buildings and parking structure may be supported on conventional foundation systems deriving support the newly placed engineered fill. All foundation excavations must be observed and approved in writing by the Geotechnical Engineer prior to placement of steel or concrete. Recommendations for *Conventional Foundation Design* are provided in Sections 7.7 through 7.9 of this report.

7.1.5 It is recommended that a seismic separation or flexible connection be utilized where adjacent structures abut. The design of the connection is at the discretion of the project structural engineer.

7.1.6 It is recommended that flexible utility connections be utilized for all rigid utilities to minimize or prevent damage to utilities from minor differential movements.

7.1.7 It is anticipated that stable excavations for the recommended grading associated with the proposed structures can be achieved with sloping measures. However, if excavations in close proximity to an adjacent property line and/or existing structure are required, special excavation measures such as slot-cutting may be necessary in order to maintain lateral support of offsite improvements. Excavation recommendations for *Temporary Excavations* and *Slot Cutting* are provided in Sections 7.18 and 7.19.

7.1.8 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be tied to the proposed structure, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and proper compaction cannot be performed or is undesirable, foundations may derive support directly in the undisturbed alluvial soils found at or below a depth of 12 inches, and should be deepened as necessary to maintain a minimum 12-inch embedment into the recommended bearing materials. If the soils exposed in the excavation bottom are soft or loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved in writing by a Geocon representative.

7.1.9 Where new paving is to be placed, it is recommended that all existing fill and soft alluvial soils be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all existing fill and soft soils in the area of new paving is not required; however, paving constructed over existing uncertified fill or unsuitable alluvium may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper 12 inches of soil should be scarified and properly compacted for paving support. *Preliminary Pavement Recommendations* are provided in Section 7.13.

7.1.10 Based on the results of percolation testing performed at the site, a stormwater infiltration system is considered feasible for this project. Recommendations for *Stormwater Infiltration* are provided in Section 7.20.

7.1.11 Once the design and foundation loading configuration for the proposed structure proceeds to a more finalized plan, the recommendations within this report should be reviewed and revised, if necessary. Based on the final foundation loading configurations, the potential for settlement should be re-evaluated by this office.

7.1.12 Any changes in the design, location or elevation, as outlined in this report, should be reviewed by this office. Geocon should be contacted to determine the necessity for review and possible revision of this report.

7.1.13 The most recent ASTM standards apply to this project and must be utilized, even if older ASTM standards are indicated in this report.

7.2 Soil and Excavation Characteristics

7.2.1 The in-situ soils can be excavated with moderate effort using conventional excavation equipment. Due to the loose and granular nature of the soils, minor caving should be anticipated in unshored excavations. In addition, the contractor should be aware that formwork may be required to prevent caving of shallow spread foundation excavations.

7.2.2 It is the responsibility of the contractor to ensure that all excavations and trenches are properly shored and maintained in accordance with applicable OSHA rules and regulations to maintain safety and maintain the stability of adjacent existing improvements.

7.2.3 All onsite excavations must be conducted in such a manner that potential surcharges from existing structures, construction equipment, and vehicle loads are resisted. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation or vehicle load. Penetrations below this 1:1 projection will require special excavation measures such as sloping and shoring. Excavation recommendations are provided in the *Temporary Excavations* section of this report (see Section 7.18).

7.2.4 The existing site soils encountered during the field investigation near the ground surface are considered to have a "very low" (EI = 4) expansive potential and are classified as "non-expansive" in accordance with the 2016 California Building Code (CBC) Section 1803.5.3. The recommendations presented herein assume that the building foundations and slabs will derive support in these materials.

7.3 Hydroconsolidation

7.3.1 Hydroconsolidation is the tendency of unsaturated soil structure to collapse upon saturation resulting in the overall settlement of the effected soil and overlying foundations or improvements supported thereon. Potentially compressible soils underlying the site are typically removed and recompacted during remedial site grading. However, if compressible soil is left in-place, a potential for settlement due to hydroconsolidation of the soil exists.

7.3.2 The laboratory test results presented herein, indicate that the potential for hydroconsolidation for the soils located near Borings B1 and B6, between 10 and 14 feet in depth ranges from about 1.7 to 2.2 percent. Therefore, the potential for settlement due to hydroconsolidation is up to 1 inch in those areas, should those soils become saturated.

7.3.3 Minimal infiltration of surface runoff is anticipated in property paved and maintained parking areas. Provided proper drainage measures are designed and implemented, the potential for saturation of the soils and subsequent hydroconsolidation will be minimized. Maintaining proper site drainage is discussed in Section 7.21 of the referenced report.

7.4 Minimum Resistivity, pH, and Water-Soluble Sulfate

7.4.1 Potential of Hydrogen (pH) and resistivity testing, as well as chloride content testing, were performed on representative samples of on-site material to generally evaluate the corrosion potential to surface utilities. The tests were performed in accordance with California Test Method Nos. 643 and 422 and indicate that the soils are considered "moderately corrosive" with respect to corrosion of buried ferrous metals on site. The results are presented in Appendix B (Figure B9) and should be considered for design of underground structures.

7.4.2 Laboratory tests were performed on representative samples of the on-site materials to measure the percentage of water-soluble sulfate content. Results from the laboratory water-soluble sulfate tests are presented in Appendix B (Figure B9) and indicate that the on-site materials possess "not applicable" sulfate exposure to concrete structures as defined by 2016 CBC Section 1904 and ACI 318-11 Sections 4.2 and 4.3.

7.4.3 Geocon West, Inc. does not practice in the field of corrosion engineering and mitigation. If corrosion sensitive improvements are planned, it is recommended that a corrosion engineer be retained to evaluate corrosion test results and incorporate the necessary precautions to avoid premature corrosion of buried metal pipes and concrete structures in direct contact with the soils.

7.5 Grading

7.5.1 Grading is anticipated to include excavation of site soils for the proposed residential buildings, parking structure, foundations, and utility trenches, as well as placement of backfill for foundations, walls, and trenches.

7.5.2 Earthwork should be observed, and compacted fill tested by representatives of Geocon West, Inc. The existing fill encountered during exploration is suitable for re-use as an engineered fill, provided any encountered oversize material (greater than 6 inches) and any encountered deleterious debris are removed.

7.5.3 A preconstruction conference should be held at the site prior to the beginning of grading operations with the owner, contractor, civil engineer and geotechnical engineer in attendance. Special soil handling requirements can be discussed at that time.

7.5.4 Grading should commence with the removal of all existing vegetation and existing improvements from the area to be graded. Deleterious debris such as wood and root structures should be exported from the site and should not be mixed with the fill soils. Asphalt and concrete should not be mixed with the fill soils unless approved by the Geotechnical Engineer. All existing underground improvements planned for removal should be completely excavated and the resulting depressions properly backfilled in accordance with the procedures described herein. Once a clean excavation bottom has been established it must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.).

7.5.5 As a minimum, the upper 5 feet of existing soils within the footprint areas of the proposed residential buildings and parking structure should be excavated and properly compacted for foundation and slab support. The engineered fill blanket should extend at least 5 feet beyond the edge of foundations or for a distance equal to the depth of fill below the foundations, whichever is greater. Where the recommended grading cannot be performed, such as adjacent to property lines, alternate grading and foundation design recommendations may be required. Proposed foundations at or near existing grade should be underlain by at least 3 feet of newly compacted engineered fill. Foundations with an embedment greater than 2 feet will require deeper grading in order to maintain the required 3-foot-thick fill blanket beneath foundations. It is recommended that the grading contractor verify the depth of all building foundations prior to commencement of site grading activities in order to correctly determine the required excavation depth. Deeper fill or soft soils encountered during site grading operations should be excavated as necessary at the direction of the Geotechnical Engineer. The limits of existing fill and/or soft soil removal will be verified by the Geocon representative during site grading operations.

7.5.6 It is anticipated that stable excavations for the recommended grading associated with the proposed structures can be achieved with sloping measures. However, if excavations in close proximity to an adjacent property line and/or existing structure are required, special excavation measures such as slot-cutting may be necessary in order to maintain lateral support of offsite improvements. Excavation recommendations for *Temporary Excavations* and *Slot Cutting* are provided in Sections 7.18 and 7.19.

7.5.7 Excavated soil generally free of deleterious debris can be placed as fill and compacted in layers to the design finish grade elevations. Fill and backfill soil should be placed in horizontal loose layers approximately 6 to 8 inches thick, moisture conditioned to optimum moisture content, and compacted to a dry density of at least 90 percent of the laboratory maximum dry density as determined by ASTM D 1557 (latest edition).

7.5.8. Where new paving is to be placed, it is recommended that all existing fill and soft alluvium be excavated and properly compacted for paving support. As a minimum, the upper 12 inches of soil should be scarified, moisture conditioned to optimum moisture content, and compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Paving recommendations are provided in *Preliminary Pavement Recommendations* section of this report (see Section 7.13).

7.5.9 Foundations for small outlying structures, such as block walls up to 6 feet high, planter walls or trash enclosures, which will not be tied to the proposed structure, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and proper compaction cannot be performed or is undesirable, foundations may derive support directly in the undisturbed alluvial soils found at or below a depth of 12 inches, and should be deepened as necessary to maintain a minimum 12-inch embedment into the recommended bearing materials. If the soils exposed in the excavation bottom are soft or loose, compaction of the soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved in writing by a Geocon representative

7.5.10 It is recommended that flexible utility connections be utilized for all rigid utilities to minimize or prevent damage to utilities from minor differential soil movements. Utility trenches should be properly backfilled in accordance with the requirements of the Green Book (latest edition). The pipe should be bedded with clean sands (Sand Equivalent greater than 30) to a depth of at least 1 foot over the pipe, and the bedding material must be inspected and approved in writing by the Geotechnical Engineer (a representative of Geocon). The use of gravel is not acceptable unless used in conjunction with filter fabric to prevent the gravel from having direct contact with soil. The remainder of the trench backfill may be derived from onsite soil or approved import soil, compacted as necessary, until the required compaction is obtained. The use of minimum 2-sack slurry as backfill is also acceptable as backfill. Prior to placing any bedding materials or pipes, the excavation bottom must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon).

7.5.11 Although not anticipated for this project, all imported fill shall be observed, tested, and approved by Geocon West, Inc. prior to bringing soil to the site. Rocks larger than 6 inches in diameter shall not be used in the fill. If necessary, import soils used as structural fill should have an expansion index less than 20 and soil corrosivity properties that are equally or less detrimental to that of the existing onsite soils (see Figure B9).

7.5.12 All trench and foundation excavation bottoms must be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon), prior to placing bedding materials, fill, steel, gravel or concrete.

7.6 Earthwork Grading Factors

7.6.1 Shrinkage results when a volume of material removed at one density is compacted to a higher density. A shrinkage factor of between 5 and 10 percent should be anticipated when excavating and compacting the existing earth materials on the site to an average relative compaction of 92 percent.

7.6.2 If import soils will be utilized in the building pad, the soils must be placed uniformly and at equal thickness at the direction of the Geotechnical Engineer (a representative of Geocon West, Inc.). Soils can be borrowed from non-building pad areas and later replaced with imported soils.

7.7 Conventional Foundation Design – Residential Buildings

7.7.1 Subsequent to the recommended grading, a conventional foundation system may be utilized for support of the proposed residential buildings provided foundations derive support in newly placed engineered fill. Foundations should be underlain by a minimum of 3 feet of newly placed engineered fill.

7.7.2 Continuous footings may be designed for an allowable bearing capacity of 2,200 pounds per square foot (psf), and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing materials.

7.7.3 Isolated spread foundations may be designed for an allowable bearing capacity of 2,500 psf, and should be a minimum of 24 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing materials.

7.7.4 The allowable soil bearing pressure above may be increased by 500 psf and 800 psf for each additional foot of foundation width and depth, respectively, up to maximum allowable bearing value of 3,300 psf should be utilized.

7.7.5 The allowable bearing pressures may be increased by one-third for transient loads due to wind or seismic forces.

7.7.6 Continuous footings should be reinforced with a minimum of four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. The reinforcement for isolated spread footings should be designed by the project structural engineer.

7.7.7 If depth increases are utilized for the exterior wall footings, this office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary. Additional grading should be performed as necessary in order to maintain the required 3-foot-thick engineered fill blanket beneath building foundations.

7.7.8 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.

7.7.9 No special subgrade presaturation is required prior to placement of concrete. However, the foundation subgrade should be sprinkled as necessary to maintain a moist condition at the time of concrete placement.

7.7.10 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.

7.7.11 This office should be provided a copy of the final construction plans so that the foundation recommendations presented herein could be properly reviewed and revised if necessary.

7.8 Conventional Foundation Design – Parking Structure

7.8.1 Subsequent to the recommended grading, a conventional foundation system may be utilized for support of the proposed residential structures provided foundations derive support in newly placed engineered fill. Foundations should be underlain by a minimum of 3 feet of newly placed engineered fill.

7.8.2 Continuous footings may be designed for an allowable bearing capacity of 3,000 psf, and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing materials.

7.8.3 Isolated spread foundations may be designed for an allowable bearing capacity of 3,500 psf, and should be a minimum of 24 inches in width, 18 inches in depth below the lowest adjacent grade, and 12 inches into the recommended bearing materials.

7.8.4 The allowable soil bearing pressure above may be increased by 500 psf and 800 psf for each additional foot of foundation width and depth, respectively, up to maximum allowable bearing value of 4,500 psf should be utilized.

7.8.5 The allowable bearing pressures may be increased by one-third for transient loads due to wind or seismic forces.

7.8.6 Continuous footings should be reinforced with a minimum of four No. 4 steel reinforcing bars, two placed near the top of the footing and two near the bottom. The reinforcement for isolated spread footings should be designed by the project structural engineer.

7.8.7 If depth increases are utilized for the exterior wall footings, this office should be provided a copy of the final construction plans so that the excavation recommendations presented herein could be properly reviewed and revised if necessary. Additional grading should be performed as necessary in order to maintain the required 3-foot-thick engineered fill blanket beneath building foundations.

7.8.8 The above foundation dimensions and minimum reinforcement recommendations are based on soil conditions and building code requirements only, and are not intended to be used in lieu of those required for structural purposes.

7.8.9 No special subgrade presaturation is required prior to placement of concrete. However, the foundation subgrade should be sprinkled as necessary to maintain a moist condition at the time of concrete placement.

7.8.10 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), to verify that the excavations and exposed soil conditions are consistent with those anticipated. If unanticipated soil conditions are encountered, foundation modifications may be required.

7.8.11 This office should be provided a copy of the final construction plans so that the foundation recommendations presented herein could be properly reviewed and revised if necessary.

7.9 Conventional Foundation Settlement

7.9.1 The maximum expected total settlement for the residential buildings supported on a conventional foundation system with a maximum allowable bearing pressure of 3,300 psf is estimated to be less than 1 inch and occur below the heaviest loaded structural element. Settlement of the foundation system is expected to occur on initial application of loading. Differential settlement is expected to be less than ½ inch over a distance of 20 feet.

7.9.2 The maximum expected total settlement for the parking structure supported on a conventional foundation system with a maximum allowable bearing pressure of 4,500 psf deriving support in the recommended bearing material is estimated to be less than 1½ inches and occur below the heaviest loaded structural element. Settlement of the foundation system is expected to occur on initial application of loading. Differential settlement is expected to be less than ¾ inch over a distance of 20 feet.

7.9.3 It is recommended that a seismic separation or flexible connection be utilized where adjacent structures abut. The design of the connection is at the discretion of the project structural engineer.

7.9.4 If side by side construction is planned for the residential structure and parking structure it is recommended that the parking structure be constructed prior to the adjacent residential structure in order to allow the majority of the static settlement to occur. This will help to minimize differential settlements between the two structures. The utilization of a lesser bearing value would further reduce the anticipated settlements and could be evaluated further once the design becomes more finalized.

7.9.5 Once the design and foundation loading configurations for the proposed structures proceeds to a more finalized plan, the estimated settlements presented in this report should be reviewed and revised, if necessary. If the final foundation loading configurations are greater than the assumed loading conditions, the potential for settlement should be reevaluated by this office.

7.10 Miscellaneous Foundations

7.10.1 Foundations for small outlying structures, such as block walls up to 6 feet in height, planter walls or trash enclosures, which will not be structurally supported by the proposed building, may be supported on conventional foundations deriving support on a minimum of 12 inches of newly placed engineered fill which extends laterally at least 12 inches beyond the foundation area. Where excavation and compaction cannot be performed, such as adjacent to property lines, foundations may derive support in the undisturbed alluvial soils found at or below a depth of 12 inches, and should be deepened as necessary to maintain a minimum 12-inch embedment into the recommended bearing materials.

7.10.2 If the soils exposed in the excavation bottom are soft, compaction of the soft soils will be required prior to placing steel or concrete. Compaction of the foundation excavation bottom is typically accomplished with a compaction wheel or mechanical whacker and must be observed and approved by a Geocon representative. Miscellaneous foundations may be designed for a bearing value of 1,500 psf, and should be a minimum of 12 inches in width, 18 inches in depth below the lowest adjacent grade and 12 inches into the recommended bearing material. The allowable bearing pressure may be increased by up to one-third for transient loads due to wind or seismic forces.

7.10.3 Foundation excavations should be observed and approved in writing by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to the placement of reinforcing steel and concrete to verify that the excavations and exposed soil conditions are consistent with those anticipated.

7.11 Lateral Design

7.11.1 Resistance to lateral loading may be provided by friction acting at the base of foundations, slabs and by passive earth pressure. An allowable coefficient of friction of 0.40 may be used with the dead load forces in the undisturbed alluvial soils or newly placed engineered fill.

7.11.2 Passive earth pressure for the sides of foundations and slabs poured against undisturbed alluvial soils may be computed as an equivalent fluid having a density of 270 pounds per cubic foot (pcf) with a maximum earth pressure of 2,700 psf. When combining passive and friction for lateral resistance, the passive component should be reduced by one-third.

7.12 Concrete Slabs-on-Grade

7.12.1 Concrete slabs-on-grade subject to vehicle loading should be designed in accordance with the recommendations in the *Preliminary Pavement Recommendations* section of this report (Section 7.13).

7.12.2 The project structural engineer may determine and design the necessary slab thickness and reinforcing for this structure. Unless specifically evaluated and designed by a qualified structural engineer, the slab-on-grade in the residential building should be a minimum of 4 inches of concrete reinforced with No. 4 steel reinforcing bars placed 16 inches on center in both horizontal directions and positioned vertically near the slab midpoint. The concrete slab-on-grade may bear directly on the newly placed engineered fill. Any disturbed soils should be properly compacted for slab support.

7.12.3 Slabs-on-grade at the ground surface that may receive moisture-sensitive floor coverings or may be used to store moisture-sensitive materials should be underlain by a vapor retarder placed directly beneath the slab. The vapor retarder and acceptable permeance should be specified by the project architect or developer based on the type of floor covering that will be installed. The vapor retarder design should be consistent with the guidelines presented in Section 9.3 of the American Concrete Institute's (ACI) *Guide for Concrete Slabs that Receive Moisture-Sensitive Flooring Materials* (ACI 302.2R-06) and should be installed in general conformance with ASTM E 1643 (latest edition) and the manufacturer's recommendations. A minimum thickness of 15 mils extruded polyolefin plastic is recommended; vapor retarders which contain recycled content or woven materials are not recommended. The vapor retarder should have a permeance of less than 0.01 perms demonstrated by testing before and after mandatory conditioning. The vapor retarder should be installed in direct contact with the concrete slab with proper perimeter seal. If the California Green Building Code requirements apply to this project, the vapor retarder should be underlain by 4 inches of clean aggregate. It is important that the vapor retarder be puncture resistant since it will be in direct contact with angular gravel. As an alternative to the clean aggregate suggested in the California Green Building Code, it is our opinion that the concrete slab-on-grade may be underlain by a vapor retarder over 4 inches of clean sand (sand equivalent greater than 30), since the sand will serve a capillary break and will minimize the potential for punctures and damage to the vapor barrier.

7.12.4 For seismic design purposes, a coefficient of friction of 0.40 may be utilized between concrete slabs and subgrade soils without a moisture barrier, and 0.15 for slabs underlain by a moisture barrier.

7.12.5 Exterior slabs, not subject to traffic loads, should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. Prior to construction of slabs, the upper 12 inches of subgrade should be moistened to optimum moisture content and properly compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition). Crack control joints should be spaced at intervals not greater than 10 feet and should be constructed using saw-cuts or other methods as soon as practical following concrete placement. Crack control joints should extend a minimum depth of one-fourth the slab thickness. The project structural engineer should design construction joints as necessary.

7.12.6 The recommendations of this report are intended to reduce the potential for cracking of slabs due to settlement. However, even with the incorporation of the recommendations presented herein, foundations, stucco walls, and slabs-on-grade may exhibit some cracking due to minor soil movement and/or concrete shrinkage. The occurrence of concrete shrinkage cracks is independent of the supporting soil characteristics. Their occurrence may be reduced and/or controlled by limiting the slump of the concrete, proper concrete placement and curing, and by the placement of crack control joints at periodic intervals, in particular, where re-entrant slab corners occur.

7.13 Preliminary Pavement Recommendations

7.13.1 Where new paving is to be placed, it is recommended that all existing fill and soft or unsuitable soils be excavated and properly compacted for paving support. The client should be aware that excavation and compaction of all soft or unsuitable soils in the area of new paving is not required, however, paving constructed over existing unsuitable soils may experience increased settlement and/or cracking, and may therefore have a shorter design life and increased maintenance costs. As a minimum, the upper 12 inches of soil should be scarified and recompacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).

7.13.2 The following pavement sections are based on an assumed R-Value of 35. Once site grading activities are complete, it is recommended that laboratory testing confirm the properties of the soils serving as paving subgrade prior to placing pavement.

7.13.3 The Traffic Indices listed below are estimates. Geocon does not practice in the field of traffic engineering. The actual Traffic Index for each area should be determined by the project civil engineer. If pavement sections for Traffic Indices other than those listed below are required, Geocon should be contacted to provide additional recommendations. Pavement thicknesses were determined following procedures outlined in the *California Highway Design Manual* (Caltrans). It is anticipated that the majority of traffic will consist of automobile and large truck traffic.

PRELIMINARY PAVEMENT DESIGN SECTIONS

Location	Estimated Traffic Index (TI)	Asphalt Concrete (inches)	Class 2 Aggregate Base (inches)
Automobile Parking	3.5	3	4
Driveways	5	3	5
Trash Truck & Fire Lanes	7	4	8

7.13.4 Asphalt concrete should conform to Section 203-6 of the "*Standard Specifications for Public Works Construction"* (Green Book). Class 2 aggregate base materials should conform to Section 26-1.02A of the "*Standard Specifications of the State of California, Department of Transportation"* (Caltrans). The use of Crushed Miscellaneous Base (CMB) in place of Class 2 aggregate base is acceptable. Crushed Miscellaneous Base should conform to Section 200-2.4 of the "*Standard Specifications for Public Works Construction"* (Green Book).

7.13.5 Unless specifically designed and evaluated by the project structural engineer, where concrete paving will be utilized for support of vehicles, we recommend that the concrete be a minimum of 6 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions. Concrete paving supporting vehicular traffic should be underlain by a minimum of 4 inches of aggregate base and a properly compacted subgrade. The subgrade and base material should be compacted to at least 95 percent relative compaction, as determined by ASTM Test Method D 1557 (latest edition).

7.13.6 The performance of pavements is highly dependent upon providing positive surface drainage away from the edge of pavements. Ponding of water on or adjacent to the pavement will likely result in saturation of the subgrade materials and subsequent cracking, subsidence and pavement distress. If planters are planned adjacent to paving, it is recommended that the perimeter curb be extended at least 12 inches below the bottom of the aggregate base to minimize the introduction of water beneath the paving.

7.14 Retaining Wall Design

7.14.1 The recommendations presented below are generally applicable to the design of rigid concrete or masonry retaining walls having a maximum height of 6 feet. In the event that walls significantly higher than 6 feet are planned, Geocon should be contacted for additional recommendations.

7.14.2 Retaining wall foundations may be designed in accordance with the recommendations provided in the *Conventional Foundation Design* sections of this report (see Sections 7.7 through 7.9).

7.14.3 Retaining walls with a level backfill surface that are not restrained at the top should be designed utilizing a triangular distribution of pressure (active pressure). Restrained walls are those that are not allowed to rotate more than 0.001H (where H equals the height of the retaining portion of the wall in feet) at the top of the wall. Where walls are restrained from movement at the top, walls may be designed utilizing a triangular distribution of pressure (at-rest pressure). The table below presents recommended pressures to be used in retaining wall design, assuming that proper drainage will be maintained. Calculations of the recommended retaining wall pressures are provided as Figure 5.

RETAINING WALL WITH LEVEL BACKFILL SURFACE

HEIGHT OF RETAINING WALL (Feet)	ACTIVE PRESSURE EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot)	AT-REST PRESSURE EQUIVALENT FLUID PRESSURE (Pounds Per Cubic Foot)
Up to 6	39	59

7.14.4 The wall pressures provided above assume that the retaining wall will be properly drained preventing the buildup of hydrostatic pressure. If retaining wall drainage is not implemented, the equivalent fluid pressure to be used in design of undrained walls is 90 pcf. The value includes hydrostatic pressures plus buoyant lateral earth pressures.

7.14.5 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent structures and should be designed for each condition as the project progresses.

7.14.6 It is recommended that line-load surcharges from adjacent wall footings, use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.20\times\left(\frac{z}{H}\right)}{\left[0.16+\left(\frac{z}{H}\right)^2\right]^2}\times\frac{Q_L}{H}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.28\times\left(\frac{x}{H}\right)^2\times\left(\frac{z}{H}\right)}{\left[\left(\frac{x}{H}\right)^2+\left(\frac{z}{H}\right)^2\right]^2}\times\frac{Q_L}{H}$$

where x is the distance from the face of the excavation to the vertical line-load, H is the distance from the bottom of the footing to the bottom of excavation, z is the depth at which the horizontal pressure is desired, QL is the vertical line-load and σH is the horizontal pressure at depth z.

7.14.7 It is recommended that vertical point-loads, from construction equipment outriggers or adjacent building columns use horizontal pressures generated from NAV-FAC DM 7.2. The governing equations are:

$$For\ {}^{x}/_{H} \leq 0.4$$

$$\sigma_H(z) = \frac{0.28\times\left(\frac{z}{H}\right)^2}{\left[0.16+\left(\frac{z}{H}\right)^2\right]^3}\times\frac{Q_P}{H^2}$$

and

$$For\ {}^{x}/_{H} > 0.4$$

$$\sigma_H(z) = \frac{1.77\times\left(\frac{x}{H}\right)^2\times\left(\frac{z}{H}\right)^2}{\left[\left(\frac{x}{H}\right)^2+\left(\frac{z}{H}\right)^2\right]^3}\times\frac{Q_P}{H^2}$$

then

$$\sigma'_H(z) = \sigma_H(z)cos^2(1.1\theta)$$

where x is the distance from the face of the excavation to the vertical point-load, H is distance from the outrigger/bottom of column footing to the bottom of excavation, z is the depth at which the horizontal pressure is desired, Q_P is the vertical point-load, σ is the vertical pressure at depth z, Θ is the angle between a line perpendicular to the bulkhead and a line from the point-load to half the pile spacing at the bulkhead, and σ_H is the horizontal pressure at depth z.

7.14.8 In addition to the recommended earth pressure, the upper ten feet of the retaining wall adjacent to the street or driveway areas should be designed to resist a uniform lateral pressure of 100 psf, acting as a result of an assumed 300 psf surcharge behind the wall due to normal street traffic. If the traffic is kept back at least ten feet from the wall, the traffic surcharge may be neglected.

7.15 Retaining Wall Drainage

7.15.1 Retaining walls should be provided with a drainage system extended at least two-thirds the height of the wall. At the base of the drain system, a subdrain covered with a minimum of 12 inches of gravel should be installed, and a compacted fill blanket or other seal placed at the surface (see Figure 6). The clean bottom and subdrain pipe, behind a retaining wall, should be observed by the Geotechnical Engineer (a representative of Geocon), prior to placement of gravel or compacting backfill.

7.15.2 As an alternative, a plastic drainage composite such as Miradrain or equivalent may be installed in continuous, 4-foot wide columns along the entire back face of the wall, at 8 feet on center. The top of these drainage composite columns should terminate approximately 18 inches below the ground surface, where either hardscape or a minimum of 18 inches of relatively cohesive material should be placed as a cap (see Figure 7). These vertical columns of drainage material would then be connected at the bottom of the wall to a collection panel or a 1-cubic-foot rock pocket drained by a 4-inch subdrain pipe.

7.15.3 Subdrainage pipes at the base of the retaining wall drainage system should outlet to an acceptable location via controlled drainage structures.

7.15.4 Moisture affecting below grade walls is one of the most common post-construction complaints. Poorly applied or omitted waterproofing can lead to efflorescence or standing water. Particular care should be taken in the design and installation of waterproofing to avoid moisture problems, or actual water seepage into the structure through any normal shrinkage cracks which may develop in the concrete walls, floor slab, foundations and/or construction joints. The design and inspection of the waterproofing is not the responsibility of the geotechnical engineer. A waterproofing consultant should be retained in order to recommend a product or method, which would provide protection to subterranean walls, floor slabs and foundations.

7.16 Elevator Pit Design

7.16.1 The elevator pit slab and retaining wall should be designed by the project structural engineer. As a minimum the slab-on-grade for the elevator pit bottom should be at least 4 inches thick and reinforced with No. 3 steel reinforcing bars placed 18 inches on center in both horizontal directions, positioned near the slab midpoint. The elevator slab and retaining wall footings may derive support in either newly placed engineered fill or the alluvial soils found at or below a depth of 5 feet if exposed in the elevator pit excavation bottom. Elevator pit walls may be designed in accordance with the recommendations in the *Conventional Foundation Design* and *Retaining Wall Design* section of this report (see Sections 7.7 through 7.9, and 7.14).

7.16.2 Additional active pressure should be added for a surcharge condition due to sloping ground, vehicular traffic or adjacent foundations and should be designed for each condition as the project progresses.

7.16.3 If retaining wall drainage is to be provided, the drainage system should be designed in accordance with the *Retaining Wall Drainage* section of this report (see Section 7.15).

7.16.4 It is suggested that the exterior walls and slab be waterproofed to prevent excessive moisture inside of the elevator pit. Waterproofing design and installation is not the responsibility of the geotechnical engineer.

7.17 Elevator Piston

7.17.1 If a plunger-type elevator piston is installed for this project, a deep drilled excavation will be required. It is important to verify that the drilled excavation is not situated immediately adjacent to a foundation, or the drilled excavation could compromise the existing foundation support, especially if the drilling is performed subsequent to the foundation construction.

7.17.2 Casing will be required since caving is expected in the drilled excavation and the contractor should be prepared to use casing and should have it readily available at the commencement of drilling activities. Continuous observation of the drilling and installation of the elevator piston by the Geotechnical Engineer (a representative of Geocon West, Inc.) is required.

7.17.3 The annular space between the piston casing and drilled excavation wall should be filled with a minimum of 1½-sack slurry pumped from the bottom up. As an alternative, pea gravel may be utilized. The use of soil to backfill the annular space is not acceptable.

7.18 Temporary Excavations

7.18.1 Excavations on the order of 5 feet in height may be required for excavation and construction of the proposed foundations. The excavations are expected to expose artificial fill and alluvial soils, which may be subject to caving where loose and granular soils are exposed. Vertical excavations up to 5 feet in height may be attempted where not surcharged by adjacent traffic or structures.

7.18.2 Vertical excavations greater than 5 feet or where surcharged by existing structures or traffic loads will require sloping or slot-cutting measures to provide a stable excavation. Where sufficient space is available, temporary unsurcharged embankments could be sloped back at a uniform 1:1 slope gradient or flatter up to a maximum height of 7 feet. A uniform slope does not have a vertical portion.

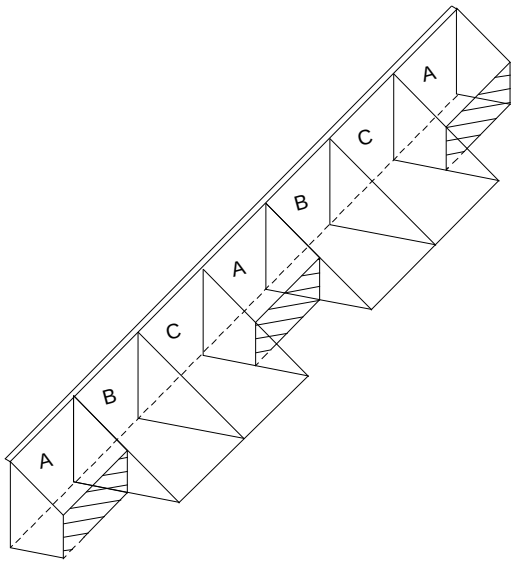
7.18.3 Performing continuous vertical excavations along property lines or adjacent to an existing structure could remove support from the property and/or structure which is not acceptable. Excavations in close proximity to an adjacent property may require special excavation measures, such as slot-cutting. Recommendations for slot-cutting are provided in the following sections.

7.18.4 Where sloped embankments are utilized, the top of the slope should be barricaded to prevent vehicles and storage loads at the top of the slope within a horizontal distance equal to the height of the slope. If the temporary construction embankments are to be maintained during the rainy season, berms are suggested along the tops of the slopes where necessary to prevent runoff water from entering the excavation and eroding the slope faces. Geocon personnel should inspect the soils exposed in the cut slopes during excavation so that modifications of the slopes can be made if variations in the soil conditions occur. All excavations should be stabilized within 30 days of initial excavation.

7.19 Slot Cutting

7.19.1 The slot-cutting method employs the earth as a buttress and allows the earth excavation to proceed in phases. Where slot-cutting is used for foundation construction, the proposed construction techniques should be discussed with the structural engineer so that appropriate modifications can be made to the foundation design; such as additional reinforcing or details for doweling.

7.19.2 It is recommended that the initial temporary excavation along the property line be sloped back at a uniform 1:1 (H:V) slope gradient or flatter for excavation of the existing soils to the necessary depth. The temporary excavation should not extend below the surcharge area of any adjacent foundations. The surcharge area may be defined by a 1:1 projection down and away from the bottom of an existing foundation. The temporary slope may then be excavated using the slot-cutting (see illustration below).



7.19.3 Alternate "A" slots of 5½ feet in width may be worked. The remaining earth buttresses ("B" and "C" slots) should also be 5½ feet in width. The wall, foundation, or backfill should be completed in the "A" slots to a point where support of the offsite property and/or any existing structures is restored before the "B" slots are excavated. After completing the wall, foundation, or backfill in the "B" slots, finally the "C" slots may be excavated. Slot-cutting is not recommended for vertical excavations greater than 5 feet in height. The slot-cut calculation should be revised as needed for each surcharge condition as the project progresses. A slot-cut calculation is provided on the following page.

Slot Cut Calculation

Input:

Height of Slots	(H)	5.0	feet
Unit Weight of Soils	(γ)	120.0	pcf
Friction Angle of Soils	(ϕ)	33.0	degrees
Cohesion of Soils	(c)	50.0	psf
Factor of Safety	(FS)	1.50	
Factor of Safety = Resistance Force/Driving Force			
Coefficient of Lateral Earth Pressure At-Rest	K_o	0.46	

Surcharge Pressure:

Line Load	(q_L)	0.0	plf
Distance Away from Edge of Excavation	(X)	0.0	feet

Design Equations

$b = H/(\tan \alpha)$

$A = 0.5*H*b$

$W = 0.5*H*b*\gamma$ *(per lineal foot of slot width)*

$F_1 = d*W*(\sin \alpha)*(\cos \alpha)$

$F_2 = d*L$

$R_1 = d*[W*(\cos^2 \alpha)*(\tan \phi)+(c*b)]$

$R_2 = 2*\Delta F$

$\Delta F = A*[1/3*\gamma*H*K_o*(\tan \phi)+c]$

FS = Resistance Force/Driving Force

FS = $(R_1+R_2)/(F_1+F_2)$

Failure Angle (α) degrees	Base Width of Failure Wedge (b) feet	Area of Failure Wedge (A) feet^2	Weight of Failure Wedge (W) lbs/lineal foot	**Driving Force** Wedge +Surcharge per lineal foot of Slot Width	**Resisting Force** Failure Wedge per lineal foot of Slot Width	**Resisting Force** Side Resistance Force (ΔF) lbs	Allowable Width of Slots* (d) feet
45	5.0	13	1500.0	750.0	737.1	1364.3	7.0
46	4.8	12	1448.5	723.8	695.4	1317.5	6.7
47	4.7	12	1398.8	697.7	655.6	1272.2	6.5
48	4.5	11	1350.6	671.6	617.8	1228.4	6.3
49	4.3	11	1303.9	645.6	581.8	1186.0	6.1
50	4.2	10	1258.6	619.8	547.5	1144.8	6.0
51	4.0	10	1214.7	594.1	514.9	1104.8	5.9
52	3.9	10	1171.9	568.6	483.8	1065.9	5.8
53	3.8	9	1130.3	543.3	454.2	1028.1	5.7
54	3.6	9	1089.8	518.2	426.2	991.2	5.6
55	3.5	9	1050.3	493.5	399.4	955.3	5.6
56	3.4	8	1011.8	469.0	374.1	920.2	5.6
57	3.2	8	974.1	444.9	350.0	886.0	5.6
58	3.1	8	937.3	421.2	327.1	852.5	5.6
59	3.0	8	901.3	397.9	305.5	819.7	5.6
60	2.9	7	866.0	375.0	284.9	787.7	5.7
61	2.8	7	831.5	352.6	265.5	756.2	5.7
62	2.7	7	797.6	330.6	247.1	725.4	5.8
63	2.5	6	764.3	309.2	229.7	695.1	5.9
64	2.4	6	731.6	288.3	213.2	665.4	6.1
65	2.3	6	699.5	267.9	197.7	636.2	6.2
66	2.2	6	667.8	248.2	183.1	607.4	6.4
67	2.1	5	636.7	229.0	169.2	579.1	6.6
68	2.0	5	606.0	210.5	156.2	551.2	6.9
69	1.9	5	575.8	192.6	144.0	523.7	7.2
70	1.8	5	546.0	175.5	132.5	496.6	7.6

*Width of Slots to achieve a minimum of 1.5 Factor of Safety, with a Maximum Allowable Slot Width of 8 feet.

Critical Slot Width with Factor of Safety equal or exceeding 1.5:

d_{allow} = 5.6 feet

7.20 Stormwater Infiltration

7.20.1 During the June 12, 2017 site exploration, boring B6 was excavated and utilized to perform percolation testing. The boring was advanced to the depth listed in the table below. A slotted casing was placed in the boring, and the annular space between the casing and excavation was filled with filter pack. The boring was then filled with water to pre-saturate the soils. On June 13, 2017, the casing was refilled with water and percolation test readings were performed after repeated flooding of the cased excavation. Based on the test results, the average infiltration rate (adjusted percolation rate) for the earth materials encountered is listed in the following table. Additional correction factors may be required and should be applied by the engineer in responsible charge of the design of the stormwater infiltration system and based on applicable guidelines. Percolation test data sheet is included herein as Figure 8.

Boring	Infiltration Depth (ft.)	Average Infiltration Rate (in / hour)
B6	10-25	0.48

7.20.2 Based on the results of the subsequent laboratory testing, the upper 14 feet of existing site soils may be subject to hydroconsolidation when saturated. Therefore, it is recommended that infiltration of storm water occur below a depth of 15 feet to minimize saturation of the soils supporting the proposed structures. In addition, it is suggested that additional infiltration and laboratory testing be performed in stormwater infiltration is proposed at a location other than near where the above test was performed.

7.20.3 Provided that infiltration occurs below a depth of 15 feet, it is our opinion that the soil encountered at the depths and location as listed in the table above are suitable for infiltration of stormwater and will not create a perched groundwater condition, will not affect soil structure interaction of existing or proposed foundations due to expansive soils, will not saturate soils supported by existing or proposed retaining walls, and will not increase the potential for liquefaction. Resulting settlements are anticipated to be less than ¼ inch, if any.

7.20.4 Where infiltration systems will be utilized, it is recommended that a minimum 10-foot horizontal and vertical setback be maintained from existing or proposed foundations. The boundary of the zone of saturation may be assumed to project downward from the discharge of the infiltration facility at a gradient of 1:1. Additional setbacks may be required by the governing jurisdiction and should be incorporated into the stormwater infiltration system design as necessary.

7.20.5 Subsequent to the placement of the infiltration system, it is acceptable to backfill the resulting void space between the excavation sidewalls and the infiltration system with minimum two-sack slurry provided the slurry is not placed in the infiltration zone. It is recommended that gravel, approved by the project civil engineer, be utilized adjacent to the infiltration zone so communication of water to the soil is not hindered.

7.20.6 Due to the preliminary nature of the project at this time, the type of stormwater infiltration system and location of the stormwater infiltration systems has not yet been determined. The design drawings should be reviewed and approved by the Geotechnical Engineer. The installation of the stormwater infiltration system should be observed and approved by the Geotechnical Engineer (a representative of Geocon).

7.21 Surface Drainage

7.21.1 Proper surface drainage is critical to the future performance of the project. Uncontrolled infiltration of irrigation excess and storm runoff into the supporting soils can adversely affect the performance of the planned improvements. Saturation of a soil can cause it to lose internal shear strength and increase its compressibility, resulting in a change in the original designed engineering properties. Proper drainage should be maintained at all times.

7.21.2 All site drainage should be collected and controlled in non-erosive drainage devices. Drainage should not be allowed to pond anywhere on the site, and especially not against any foundation or retaining wall. The site should be graded and maintained such that surface drainage is directed away from structures in accordance with 2016 CBC 1804.4 or other applicable standards. In addition, drainage should not be allowed to flow uncontrolled over any descending slope. Discharge from downspouts, roof drains and scuppers are not recommended onto unprotected soils within 5 feet of the building perimeter. Planters which are located adjacent to foundations should be sealed to prevent moisture intrusion into the soils providing foundation support. Landscape irrigation is not recommended within 5 feet of the building perimeter footings except when enclosed in protected planters.

7.21.3 Positive site drainage should be provided away from structures, pavement, and the tops of slopes to swales or other controlled drainage structures. The building pad and pavement areas should be fine graded such that water is not allowed to pond.

7.21.4 Landscaping planters immediately adjacent to paved areas are not recommended due to the potential for surface or irrigation water to infiltrate the pavement's subgrade and base course. Either a subdrain, which collects excess irrigation water and transmits it to drainage structures, or an impervious above-grade planter boxes should be used. In addition, where landscaping is planned adjacent to the pavement, it is recommended that consideration be given to providing a cutoff wall along the edge of the pavement that extends at least 12 inches below the base material.

7.22 Plan Review

7.22.1 Grading and foundation plans should be reviewed by the Geotechnical Engineer (a representative of Geocon West, Inc.), prior to finalization to verify that the plans have been prepared in substantial conformance with the recommendations of this report and to provide additional analyses or recommendations.

LIMITATIONS AND UNIFORMITY OF CONDITIONS

1. The recommendations of this report pertain only to the site investigated and are based upon the assumption that the soil conditions do not deviate from those disclosed in the investigation. If any variations or undesirable conditions are encountered during construction, or if the proposed construction will differ from that anticipated herein, Geocon West, Inc. should be notified so that supplemental recommendations can be given. The evaluation or identification of the potential presence of hazardous or corrosive materials was not part of the scope of services provided by Geocon West, Inc.

2. This report is issued with the understanding that it is the responsibility of the owner, or of his representative, to ensure that the information and recommendations contained herein are brought to the attention of the architect and engineer for the project and incorporated into the plans, and the necessary steps are taken to see that the contractor and subcontractors carry out such recommendations in the field.

3. The findings of this report are valid as of the date of this report. However, changes in the conditions of a property can occur with the passage of time, whether they are due to natural processes or the works of man on this or adjacent properties. In addition, changes in applicable or appropriate standards may occur, whether they result from legislation or the broadening of knowledge. Accordingly, the findings of this report may be invalidated wholly or partially by changes outside our control. Therefore, this report is subject to review and should not be relied upon after a period of three years.

4. The firm that performed the geotechnical investigation for the project should be retained to provide testing and observation services during construction to provide continuity of geotechnical interpretation and to check that the recommendations presented for geotechnical aspects of site development are incorporated during site grading, construction of improvements, and excavation of foundations. If another geotechnical firm is selected to perform the testing and observation services during construction operations, that firm should prepare a letter indicating their intent to assume the responsibilities of project geotechnical engineer of record. A copy of the letter should be provided to the regulatory agency for their records. In addition, that firm should provide revised recommendations concerning the geotechnical aspects of the proposed development, or a written acknowledgement of their concurrence with the recommendations presented in our report. They should also perform additional analyses deemed necessary to assume the role of Geotechnical Engineer of Record.

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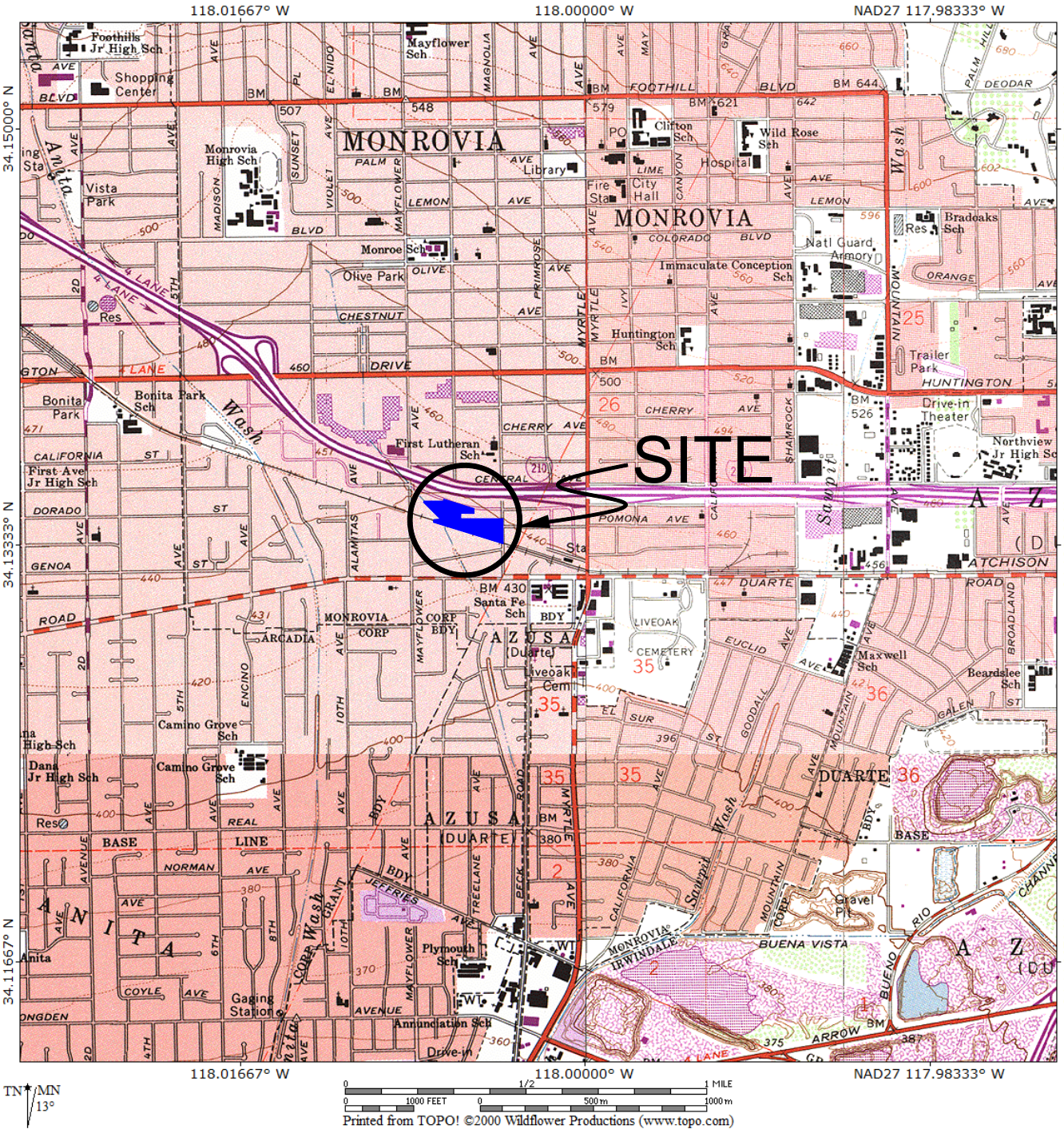
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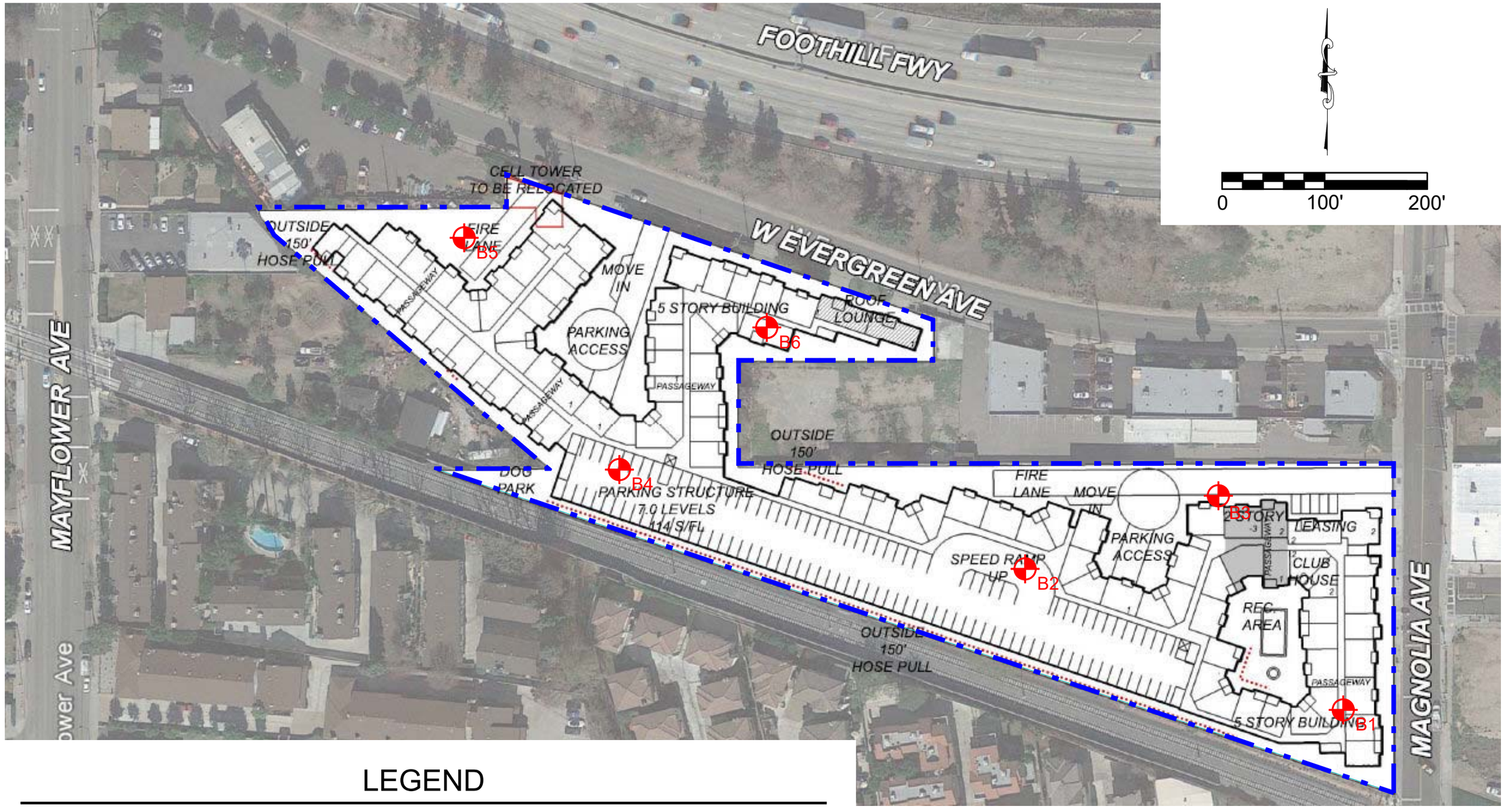
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VICINITY MAP

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

DRAFTED BY: SJB	CHECKED BY: SFK

JULY 2017	PROJECT NO. A9621-06-01	FIG. 1



LEGEND

B6 — Boring Location & Number

Approximate Limits of Proposed Development

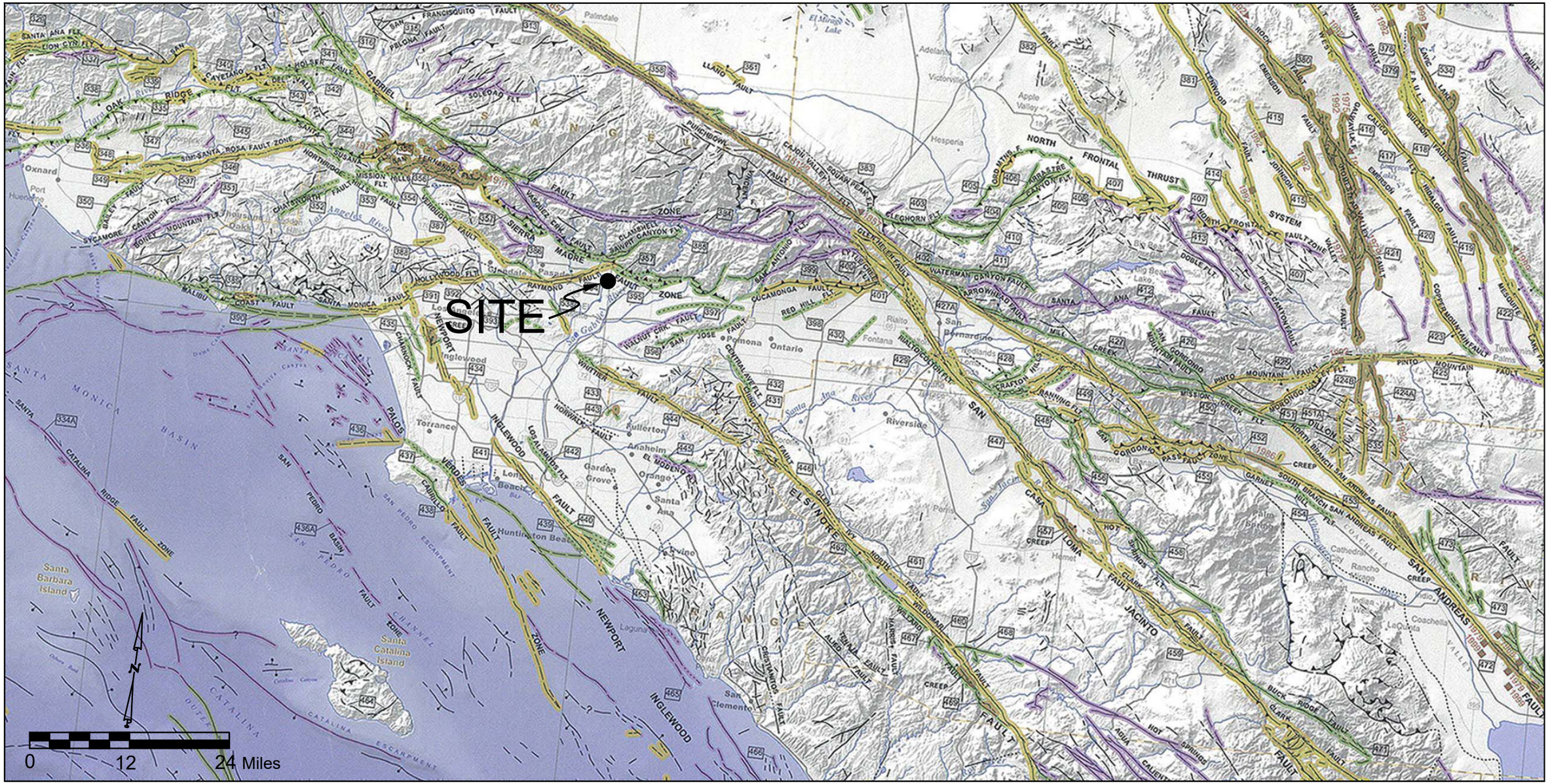
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SITE PLAN

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. 2



Geologic Time Scale			Years Before Present (Approx.)	Fault Symbol	Frequency of Movement	Description: On Land	Description: Offshore
Quaternary	Late Quaternary	Historic	200			Displacement during histoic time (e.g. San Andreas fault 1906). Includes areas of known fault creep	
		Holocene	11,700			Displacement during Holocene time.	Fault offsets seafloor sediments or strata of Holocene age.
	Early Quaternary	Pleistocene	700,000			Faults showing evidence of displacement during late Quaternary time.	Fault cuts strata of Late Pleistocene age.
			1,600,000			Undivided Quaternary faults - most faults in this category show evidence of displacement during the last 1,600,000 years; possible exceptions are faults which displace rocks of undifferentiated Plio-Pleistocene age.	Fault cuts strata of Quaternary age.
Pre-Quaternary			4.5 billion (Age of Earth)			Faults without recognized Quaternary displacement or showing evidence of no displacement or showing evidence of no displacement during Quaternary time. Not necessarily inactive.	Fault cuts strata of Pliocene or older age.

*Quaternary now recognized as extending to 2.6 Ma (Walker and Geissman, 2009). Quaternary faults in the map were established using the pervious 1.6 Ma criterion

Reference: Jennings, C.W. and Bryant, W. A., 2010, Fault Activity Map of California, California Geological Survey Geologic Data Map No. 6.

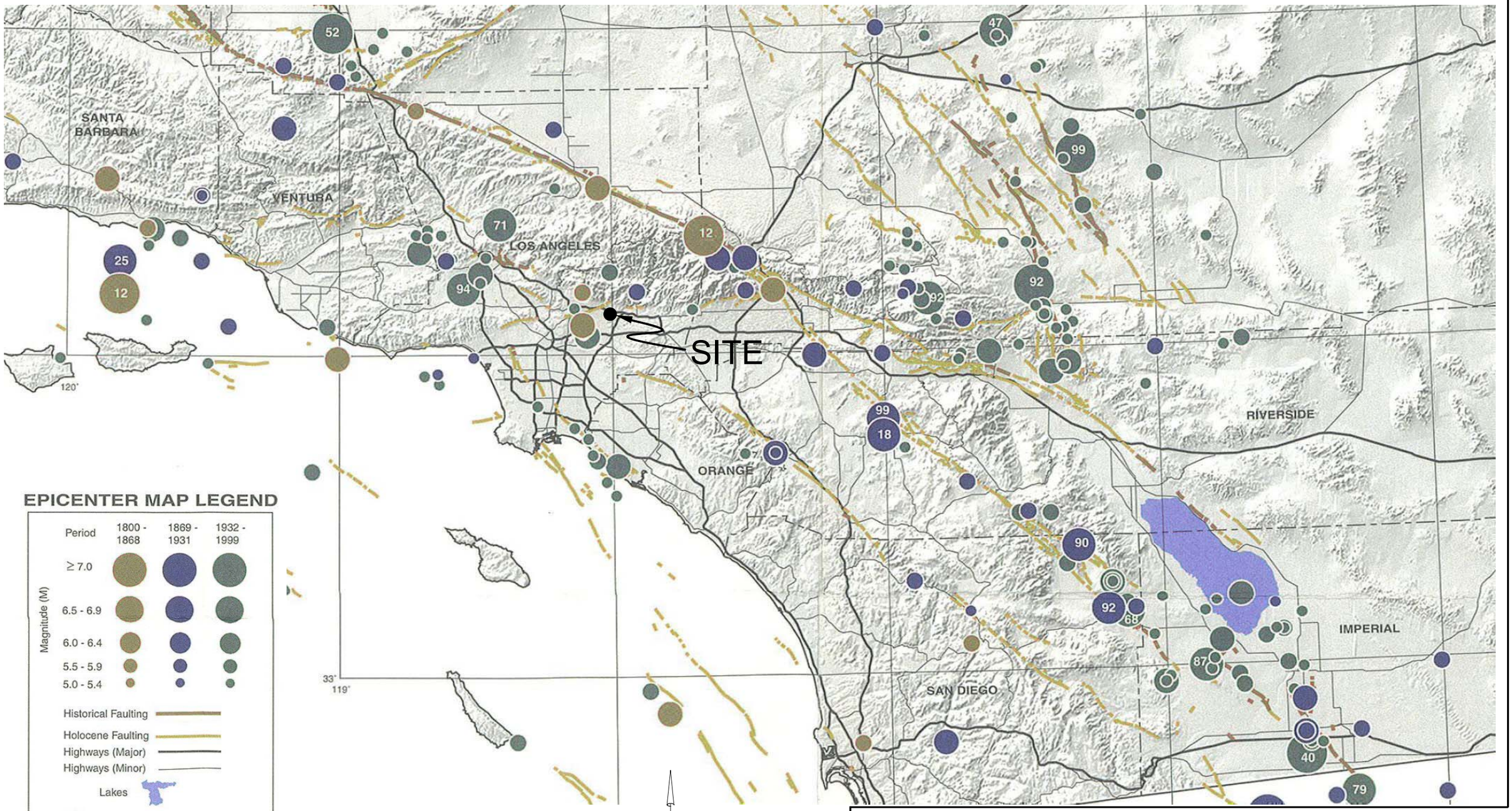
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REGIONAL FAULT MAP

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017 | PROJECT NO. A9621-06-01 | FIG. 3



EPICENTER MAP LEGEND

Period	1800 - 1868	1869 - 1931	1932 - 1999
≥ 7.0			
6.5 - 6.9			
6.0 - 6.4			
5.5 - 5.9			
5.0 - 5.4			

Magnitude (M)

Historical Faulting

Holocene Faulting

Highways (Major)

Highways (Minor)

Lakes

65 Last two digits of M ≥ 6.5 earthquake year

LATITUDE: 33.960794
LONGTITUDE: -118.249424

0 20 40 Miles

Reference: Toppozada, T., Branum, D., Petersen, M., Hallstrom, C., Cramer, C., and Reichle, M., 2000, Epicenters and Areas Damaged by M>5 California Earthquakes, 1800 - 1999, California Geological Survey, Map Sheet 49.

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REGIONAL SEISMICITY MAP

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

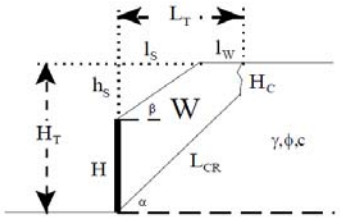
JULY 2017 | PROJECT NO. A9621-06-01 | FIG. 4

GEOCON

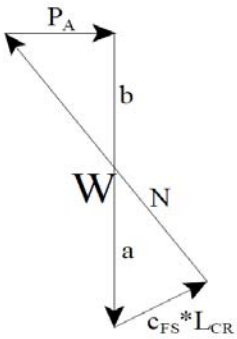
Project Name: 1625 S. Magnolia Ave.
Project No.: A9621-06-01
Description:

Retaining Wall Design with Transitioned Backfill
(Vector Analysis)

Input:		
Retaining Wall Height	(H)	6.00 feet
Slope Angle of Backfill	(b)	0.0 degrees
Height of Slope above Wall	(h_s)	0.0 feet
Horizontal Length of Slope	(l_s)	0.0 feet
Total Height (Wall + Slope)	(H_T)	6.0 feet
Unit Weight of Retained Soils	(g)	120.0 pcf
Friction Angle of Retained Soils	(f)	33.0 degrees
Cohesion of Retained Soils	(c)	50.0 psf
Factor of Safety	(FS)	1.50
Factored Parameters:	(f_{FS})	23.4 degrees
	(c_{FS})	33.3 psf



Failure Angle (a) degrees	Height of Tension Crack (H_C) feet	Area of Wedge (A) $feet^2$	Weight of Wedge (W) lbs/lineal foot	Length of Failure Plane (L_{CR}) feet	a lbs/lineal foot	b lbs/lineal foot	Active Pressure (P_A) lbs/lineal foot
45	1.0	18	2102.4	7.1	590.2	1512.2	598.4
46	1.0	17	2033.0	7.0	558.5	1474.6	613.5
47	0.9	16	1965.4	6.9	529.5	1436.0	627.1
48	0.9	16	1899.6	6.8	502.9	1396.6	639.2
49	0.9	15	1835.5	6.8	478.6	1356.8	649.8
50	0.9	15	1772.9	6.7	456.2	1316.7	659.1
51	0.9	14	1712.0	6.6	435.6	1276.4	667.0
52	0.9	14	1652.5	6.5	416.5	1236.0	673.6
53	0.9	13	1594.4	6.4	398.9	1195.5	678.9
54	0.9	13	1537.7	6.4	382.5	1155.2	682.9
55	0.8	12	1482.2	6.3	367.2	1115.0	685.7
56	0.8	12	1428.0	6.2	353.0	1074.9	687.2
57	0.8	11	1374.8	6.1	339.8	1035.0	687.4
58	0.8	11	1322.8	6.1	327.4	995.4	686.4
59	0.9	11	1271.8	6.0	315.8	956.0	684.2
60	0.9	10	1221.7	5.9	304.9	916.9	680.7
61	0.9	10	1172.6	5.9	294.6	878.0	675.9
62	0.9	9	1124.3	5.8	284.9	839.4	669.9
63	0.9	9	1076.8	5.7	275.8	801.1	662.5
64	0.9	9	1030.1	5.7	267.1	763.0	653.8
65	0.9	8	984.1	5.6	258.9	725.2	643.7
66	0.9	8	938.8	5.6	251.0	687.7	632.2
67	0.9	7	894.1	5.5	243.6	650.5	619.2
68	1.0	7	849.9	5.4	236.4	613.5	604.8
69	1.0	7	806.3	5.4	229.5	576.8	588.8
70	1.0	6	763.2	5.3	222.9	540.3	571.2



Design Equations (Vector Analysis):
$a = c_{FS}*L_{CR}*\sin(90+f_{FS})/\sin(a-f_{FS})$
$b = W-a$
$P_A = b*\tan(a-f_{FS})$
$EFP = 2*P_A/H^2$

Maximum Active Pressure Resultant

$P_{A,\ max}$ 687.4 lbs/lineal foot

Equivalent Fluid Pressure (per lineal foot of wall)

$EFP = 2*P_A/H^2$

EFP	38.2 pcf	58.8 pcf
Design Wall for an Equivalent Fluid Pressure:	**39 pcf**	**59 pcf**

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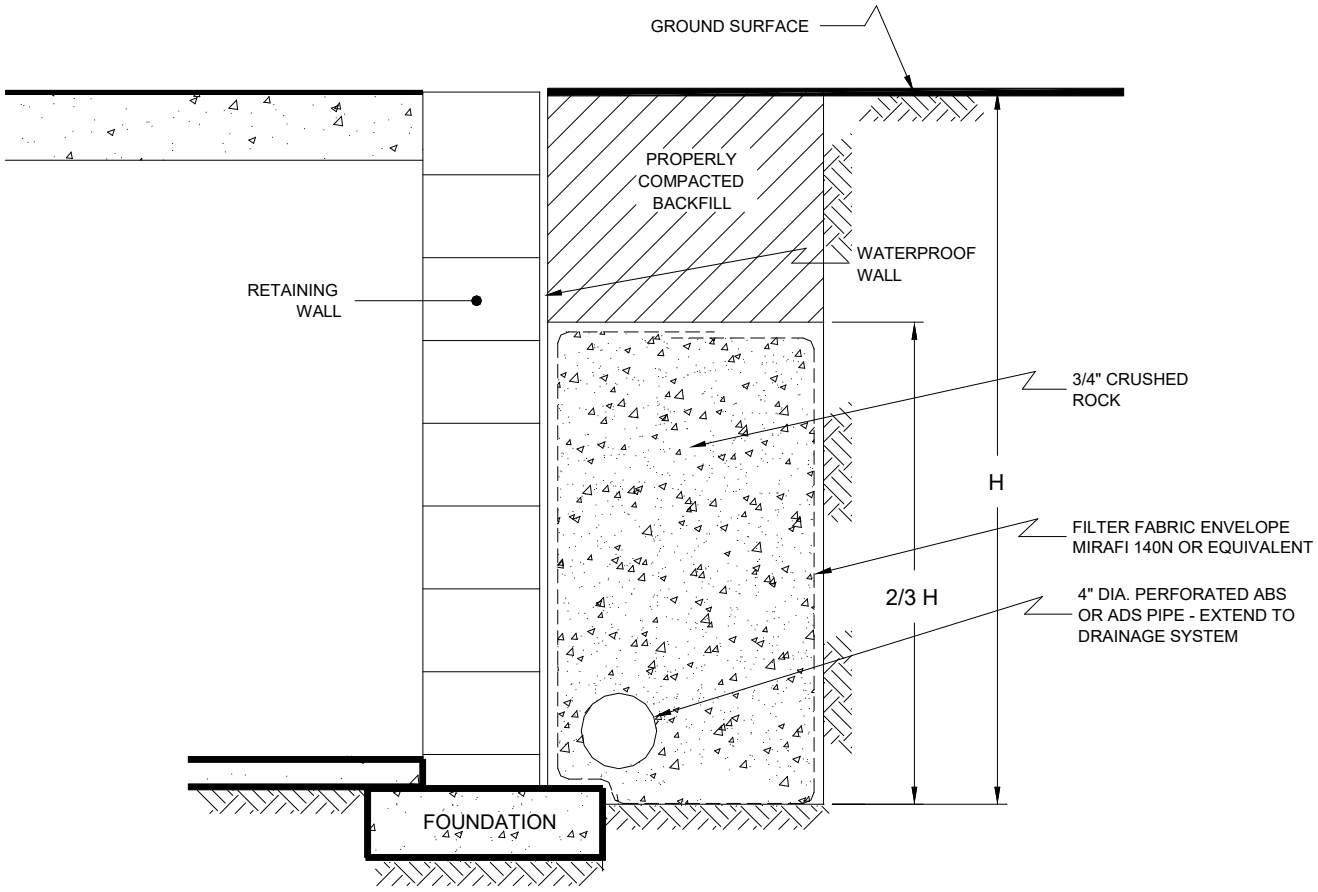
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RETAINING WALL PRESSURE CALCULATION

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. 5



NO SCALE

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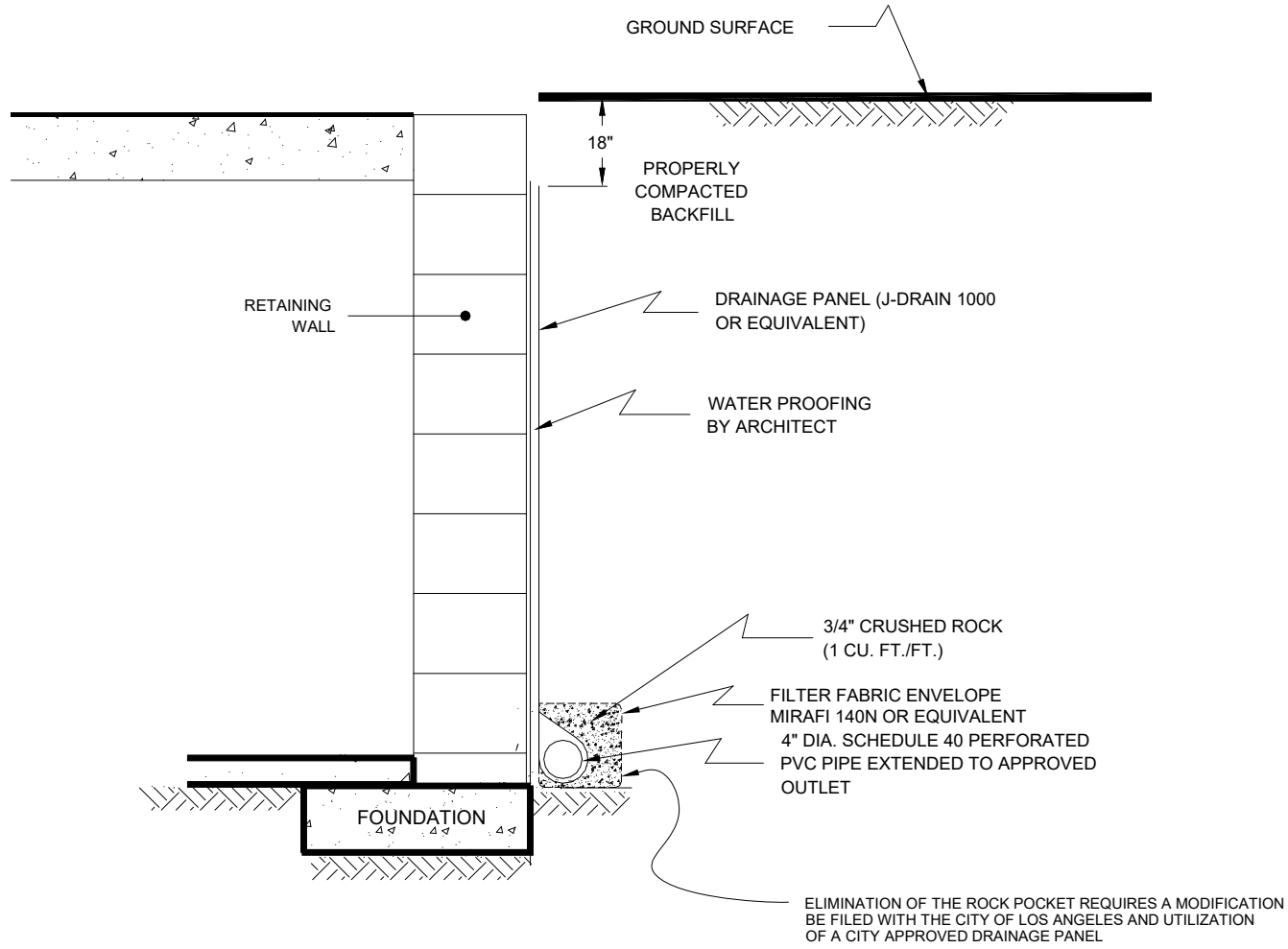
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DRAFTED BY: SJB	CHECKED BY: AG

RETAINING WALL DRAIN DETAIL

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. 6



NO SCALE

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RETAINING WALL DRAIN DETAIL

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. 7

PERCOLATION TEST RESULTS

Boring B6

Project No:	A9621-06-01	Boring Diameter, DIA:	8	inches
Project Name:	1625 Magnolia Ave.	Boring Depth:	25.5	feet
Testing Date:	6/13/2017	Boring Depth:	306	inches
Tested By:	MA	Height of Pipe above Ground:	0.0	feet

Reading Number	Initial Water Depth (ft)	Final Water Depth (ft)	Adjusted Initial Water Depth (ft)	Adjusted Final Water Depth (ft)	Water Drop (ft)	Water Drop (in)	ΔT (min)	Percolation Rate (in/hour)
1	10.00	10.98	10.00	10.98	0.98	11.76	30.00	23.52
2	10.00	10.92	10.00	10.92	0.92	11.04	30.00	22.08
3	10.00	10.86	10.00	10.86	0.86	10.32	30.00	20.64
		Average Readings:	10.00	10.92		Preadjusted Perc Rate*		22.08

* Based only on Stabilized Readings

Initial Water Depth, d_1 =	186	inches
Final Water Depth, d_2 =	174.96	inches
Water Level Drop, Δd =	11.04	inches
Boring Diameter, DIA =	8	inches

$$R_f = \left(\frac{2d_1 - \Delta d}{DIA}\right) + 1$$

Reduction Factor, R_f = 46.12

Infiltration Rate = 0.48 inches/hour

APPENDIX A

APPENDIX A

FIELD INVESTIGATION

The site was explored on June 12, 2017, by excavating six 8-inch diameter borings to depths of approximately 25½ feet below the existing ground surface utilizing a truck-mounted hollow-stem auger drilling machine. Representative and relatively undisturbed samples were obtained by driving a 3 inch, O. D., California Modified Sampler into the "undisturbed" soil mass with blows from a 140-pound auto-hammer falling 30 inches. The California Modified Sampler was equipped with 1-inch high by 2 3/8-inch diameter brass sampler rings to facilitate soil removal and testing. Bulk samples were also obtained.

The soil conditions encountered in the borings were visually examined, classified and logged in general accordance with the Unified Soil Classification System (USCS). Logs of the borings are presented on Figures A1 through A6. The logs depict the soil and geologic conditions encountered and the depth at which samples were obtained. The locations of the borings are shown on Figure 2.

PROJECT NO. A9621-06-01

BORING 1

ELEV. (MSL.) -- DATE COMPLETED **6/12/17**

EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**ASPHALT: 2" BASE: 4"**			
					ARTIFICIAL FILL Silty Sand, loose, moist, light yellowish brown, fine-grained, trace medium- to coarse-grained, trace gravel (to 2").			
2	BULK 2-5'				**ALLUVIUM** Silty Sand, loose, moist, yellowish brown, fine-grained, trace medium- to coarse-grained, trace gravel (to 2").			
4	B1@4'					13	116.8	4.9
6								
8	B1@8'					17	115.5	8.6
10					- medium dense, increase in silt content			
12	B1@12'			SM		24	110.2	4.5
14					- increase in medium- to coarse-grained			
16	B1@16'					40	118.1	4.8
18					- very dense, slightly porous, increase in gravel content			
20	B1@20'					50 (5")	111.3	2.7
22								
24					- no recovery			
	B1@25'					50 (3")	--	--
					Total depth of boring: 25.5 feet Fill to 1 foot. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

A9621-06-01 BORING LOGS.GPJ

Figure A1,
Log of Boring 1, Page 1 of 1

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A9621-06-01

BORING 2

ELEV. (MSL.) - - DATE COMPLETED **6/12/17**

EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**ASPHALT: 2" BASE: 6"**			
					ARTIFICIAL FILL			
2	BULK 2-5'				Silty Sand, medium dense, moist, dark brown to grayish brown, abundant gravel (to 2").			
					ALLUVIUM			
4	B2@4'				Silty Sand, loose, moist, brown, fine-grained, trace fine gravel (to 1.5").	17	108.3	12.8
6								
					- medium dense, slightly moist, increase in silt content, decrease in gravel content			
8	B2@8'					19	139.3	11.3
10				SM				
					- loose			
12	B2@12'					15	109.7	12.1
14								
					- trace medium- to fine-grained, slightly porous			
16	B2@16'					21	122.5	10.6
18								
					- increase in fine- to medium-grained			
20	B2@20'					26	118.8	6.9
					Sand, poorly graded, dense, slightly moist, fine- to medium-grained, trace coarse-grained, trace fine gravel (to 2").			
22				SP				
24					- increase in gravel content			
	B2@25'					63	126.8	2.6
					Total depth of boring: 25.5 feet Fill to 2 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

A9621-06-01 BORING LOGS.GPJ

Figure A2,
Log of Boring 2, Page 1 of 1

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◪ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A9621-06-01

BORING 3

ELEV. (MSL.) - - DATE COMPLETED **6/12/17**

EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0			**ASPHALT: 5" BASE: 3"**			
			ARTIFICIAL FILL			
2			Silty Sand, loose, moist, dark grayish brown, fine-grained, trace medium- to coarse-grained, abundant gravel (to 1.5"), trace roots (to 0.5").			
			ALLUVIUM			
4	B3@4'		Silty Sand, loose, moist, dark brown, fine-grained, trace medium- to coarse-grained, trace gravel (to 1.5"), trace roots (to 0.5"). - no roots	15	115.9	6.6
6						
			- slightly moist, brown			
8	B3@8'			18	114.2	10.6
10		SM				
			- loose			
12	B3@12'			14	118.4	8.3
14						
16	B3@16'			16	121.4	8.6
18						
		ML	Silt, firm, moist, light brown, trace fine-grained sand.			
20	B3@20'	SW	Sand, well-graded, medium dense, slightly moist, light gray, abundant gravel (to 2.5").	21	113.4	7.4
22			Sand, poorly graded, medium dense, slightly moist, light gray, fine- to medium-grained, trace coarse-grained, trace fine gravel (to 2.5").			
24		SP				
	B3@25'				117.2	3.1
			Total depth of boring: 25.5 feet Fill to 1.5 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

A9621-06-01 BORING LOGS.GPJ

Figure A3,
Log of Boring 3, Page 1 of 1

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A9621-06-01

BORING 4

ELEV. (MSL.) -- DATE COMPLETED **6/12/17**

EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**ASPHALT: 4.5" BASE: NONE**			
2					**ARTIFICIAL FILL** Silty Sand, loose, moist, dark brown, fine-grained, trace medium-grained, abundant gravel (to 1").			
4	B4@4'				**ALLUVIUM** Silty Sand, loose, moist, dark brown, fine-grained, trace medium- to coarse-grained, trace gravel (to 2").	15	120.2	11.1
6								
8	B4@8'				- no coarse-grained	14	101.2	18.9
10								
12	B4@12'			SM		14	112.3	6.7
14								
16	B4@16'				- increase in medium-grained, some coarse-grained	13	110.5	11.2
18								
20	B4@20'				- medium dense, reddish brown, increase in gravel content	23	124.6	8.4
22								
24					- sand lenses (to 2"), slightly moist, light yellowish brown			
	B4@25'					--	118.4	11.5
					Total depth of boring: 25.5 feet Fill to 2.5 feet. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

A9621-06-01 BORING LOGS.GPJ

Figure A4,
Log of Boring 4, Page 1 of 1

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◥ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A9621-06-01

BORING 5

ELEV. (MSL.) -- DATE COMPLETED **6/12/17**

EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0					**ASPHALT: 1" BASE: NONE**			
					ARTIFICIAL FILL			
2	BULK 2-5'				Silty Sand, loose, moist, dark brown, fine-grained, trace medium- to coarse-grained, some gravel (to 1").			
					ALLUVIUM			
4	B5@4'				Silty Sand, loose, moist, light brown, fine-grained, trace medium- to coarse-grained.	42	117.6	5.8
6				SM				
					- slightly moist			
8	B5@8'					32	117.4	2.5
10					Sand, poorly graded, medium dense, slightly moist, fine-grained, some medium-grained, trace coarse-grained.			
12	B5@12'					32	116.0	1.0
14								
					- some coarse-grained			
16	B5@16'					34	113.7	1.8
18				SP				
					- trace fine gravel (to 1")			
20	B5@20'					48	115.6	1.9
22								
24					- trace silt, trace medium-grained, no coarse-grained, no gravel			
	B5@25'						121.5	3.1
					Total depth of boring: 25.5 feet Fill to 1 foot. No groundwater encountered. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by auto-hammer.			

A9621-06-01 BORING LOGS.GPJ

Figure A5,
Log of Boring 5, Page 1 of 1

SAMPLE SYMBOLS

☐ ... SAMPLING UNSUCCESSFUL ◧ ... STANDARD PENETRATION TEST ■ ... DRIVE SAMPLE (UNDISTURBED)

⊠ ... DISTURBED OR BAG SAMPLE ◪ ... CHUNK SAMPLE ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A9621-06-01

BORING 6

ELEV. (MSL.) -- DATE COMPLETED **6/12/17**

EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**

DEPTH IN FEET	SAMPLE NO.	SOIL CLASS (USCS)	MATERIAL DESCRIPTION	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
0			**ARTIFICIAL FILL** Sandy Silt, firm, moist, light brown, fine-grained, trace medium- to coarse-grained.			
2	BULK 2-5'		**ALLUVIUM** Sandy Silt, firm, slightly moist, light brown, trace medium- to coarse-grained.			
4	B6@4'			14	102.0	12.4
6						
8	B6@8'	ML		20	115.0	7.3
10						
12	B6@12'			15	115.5	6.2
14						
16	B6@16'		Silty Sand, dense, slightly moist, light yellowish brown, fine-grained, trace medium- to coarse-grained, trace fine gravel (to 2").	62	122.8	4.4
18						
20	B6@20'	SM	- medium dense	50	124.8	3.3
22						
24						
	B6@25'			51	114.9	9.4
			Total depth of boring: 25.5 feet Fill to 1 foot. No groundwater encountered. Percolation testing performed. Backfilled with soil cuttings and tamped. *Penetration resistance for 140-pound hammer falling 30 inches by			

A9621-06-01 BORING LOGS.GPJ

Figure A6,
Log of Boring 6, Page 1 of 2

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

GEOCON

PROJECT NO. A9621-06-01

DEPTH IN FEET	SAMPLE NO.	LITHOLOGY	GROUNDWATER	SOIL CLASS (USCS)	**BORING 6** ELEV. (MSL.) - - DATE COMPLETED **6/12/17** EQUIPMENT **HOLLOW STEM AUGER** BY: **SJB**	PENETRATION RESISTANCE (BLOWS/FT*)	DRY DENSITY (P.C.F.)	MOISTURE CONTENT (%)
					MATERIAL DESCRIPTION			
					auto-hammer.			

Figure A6,
Log of Boring 6, Page 2 of 2

A9621-06-01 BORING LOGS.GPJ

SAMPLE SYMBOLS

- ☐ ... SAMPLING UNSUCCESSFUL
- ◧ ... STANDARD PENETRATION TEST
- ■ ... DRIVE SAMPLE (UNDISTURBED)
- ⊠ ... DISTURBED OR BAG SAMPLE
- ◪ ... CHUNK SAMPLE
- ▼ ... WATER TABLE OR SEEPAGE

NOTE: THE LOG OF SUBSURFACE CONDITIONS SHOWN HEREON APPLIES ONLY AT THE SPECIFIC BORING OR TRENCH LOCATION AND AT THE DATE INDICATED. IT IS NOT WARRANTED TO BE REPRESENTATIVE OF SUBSURFACE CONDITIONS AT OTHER LOCATIONS AND TIMES.

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APPENDIX B

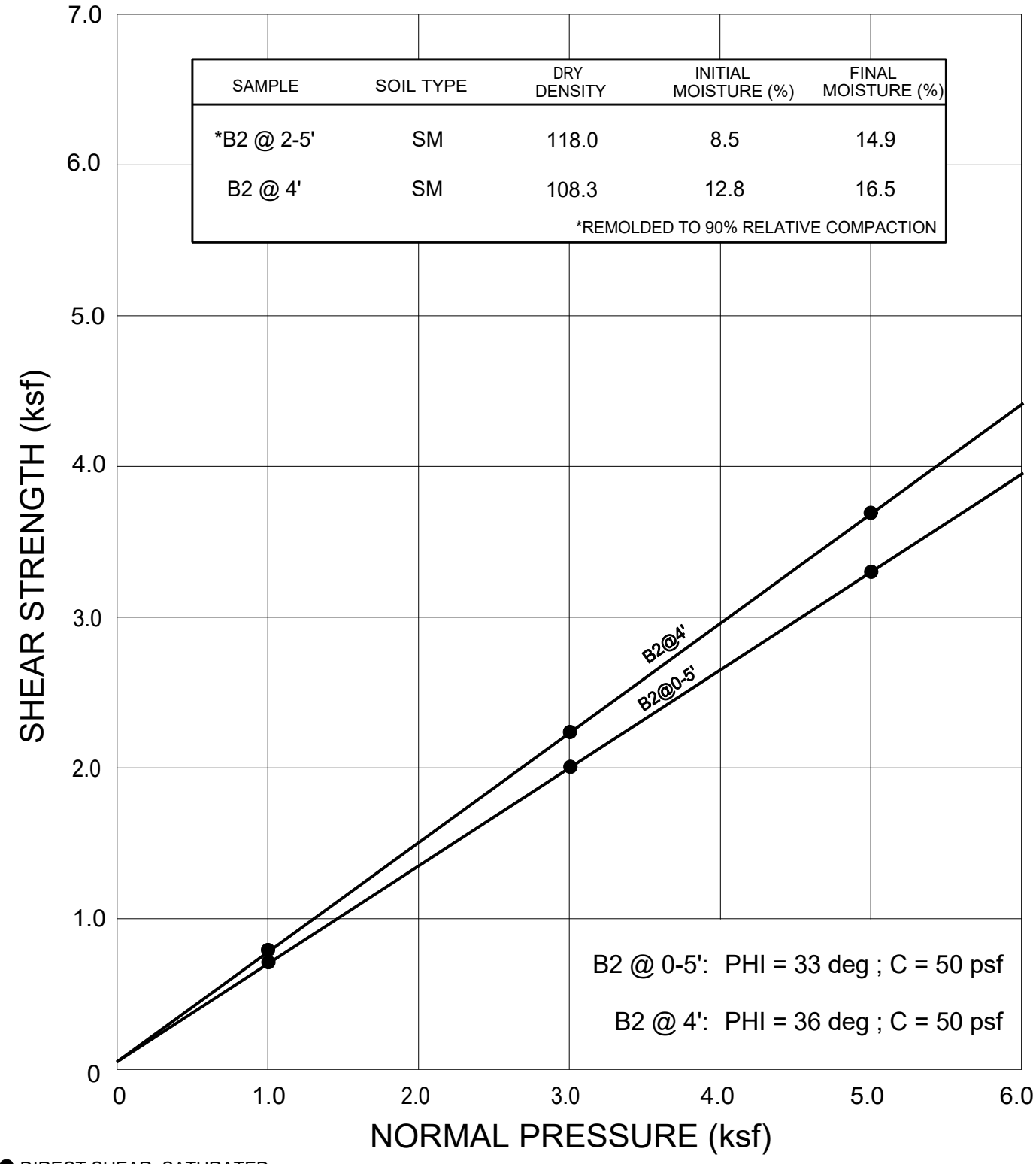
APPENDIX B

LABORATORY TESTING

Laboratory tests were performed in accordance with generally accepted test methods of the "American Society for Testing and Materials (ASTM)", or other suggested procedures. Selected samples were tested for direct shear strength, consolidation, compaction, expansion characteristics, corrosivity, and in-place dry density and moisture content. The results of the laboratory tests are summarized in Figures B1 through B9. The in-place dry density and moisture content of the samples tested are presented on the boring logs, Appendix A.

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
*B2 @ 2-5'	SM	118.0	8.5	14.9
B2 @ 4'	SM	108.3	12.8	16.5

*REMOLDED TO 90% RELATIVE COMPACTION



● DIRECT SHEAR, SATURATED

GEOCON WEST, INC.

ENVIRONMENTAL GEOTECHNICAL MATERIALS
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PHONE (818) 841-8388 - FAX (818) 841-1704

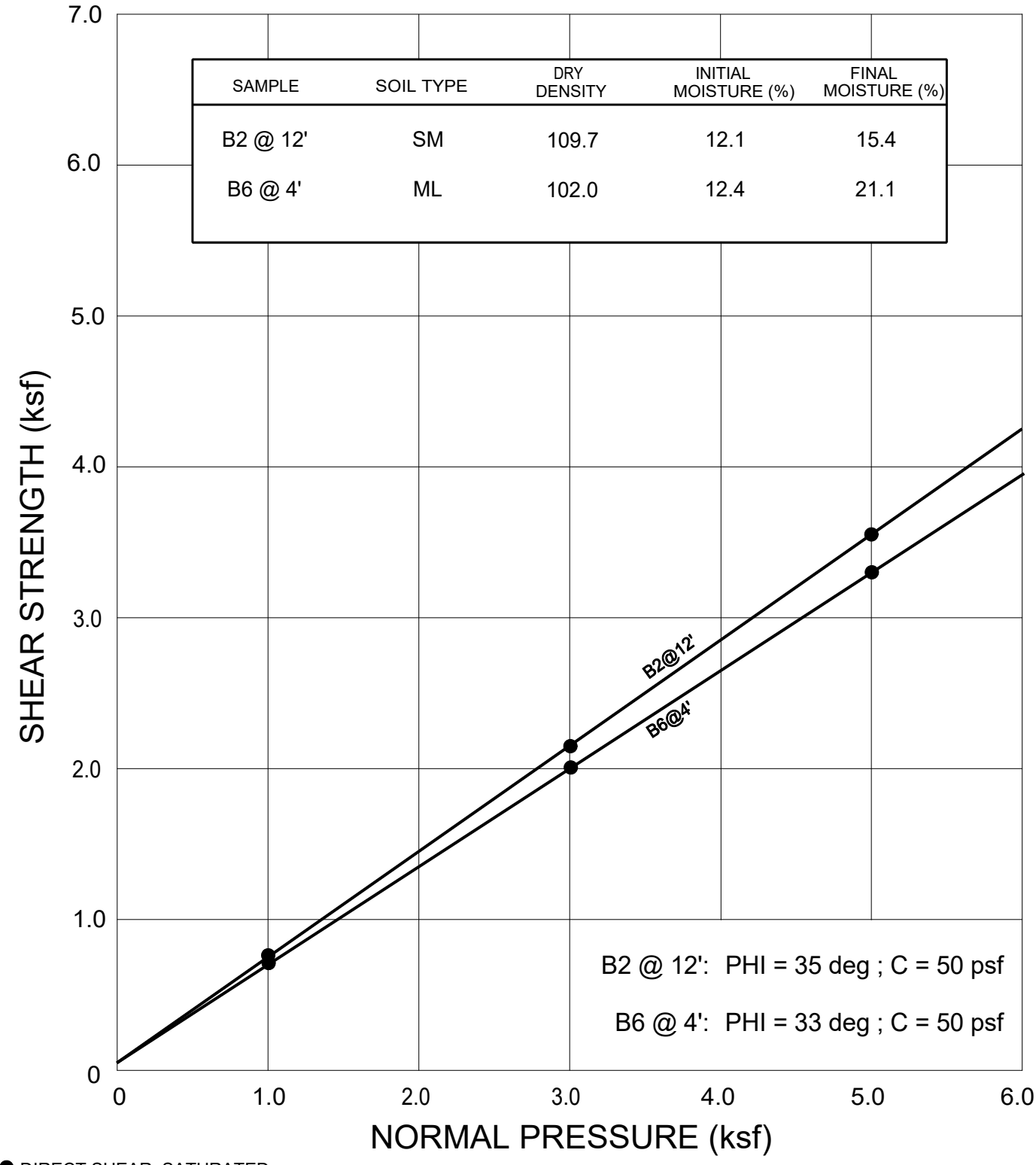
DRAFTED BY: AG | CHECKED BY: JTA

DIRECT SHEAR TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017 | PROJECT NO. A9621-06-01 | FIG. B1

SAMPLE	SOIL TYPE	DRY DENSITY	INITIAL MOISTURE (%)	FINAL MOISTURE (%)
B2 @ 12'	SM	109.7	12.1	15.4
B6 @ 4'	ML	102.0	12.4	21.1



● DIRECT SHEAR, SATURATED

GEOCON WEST, INC.

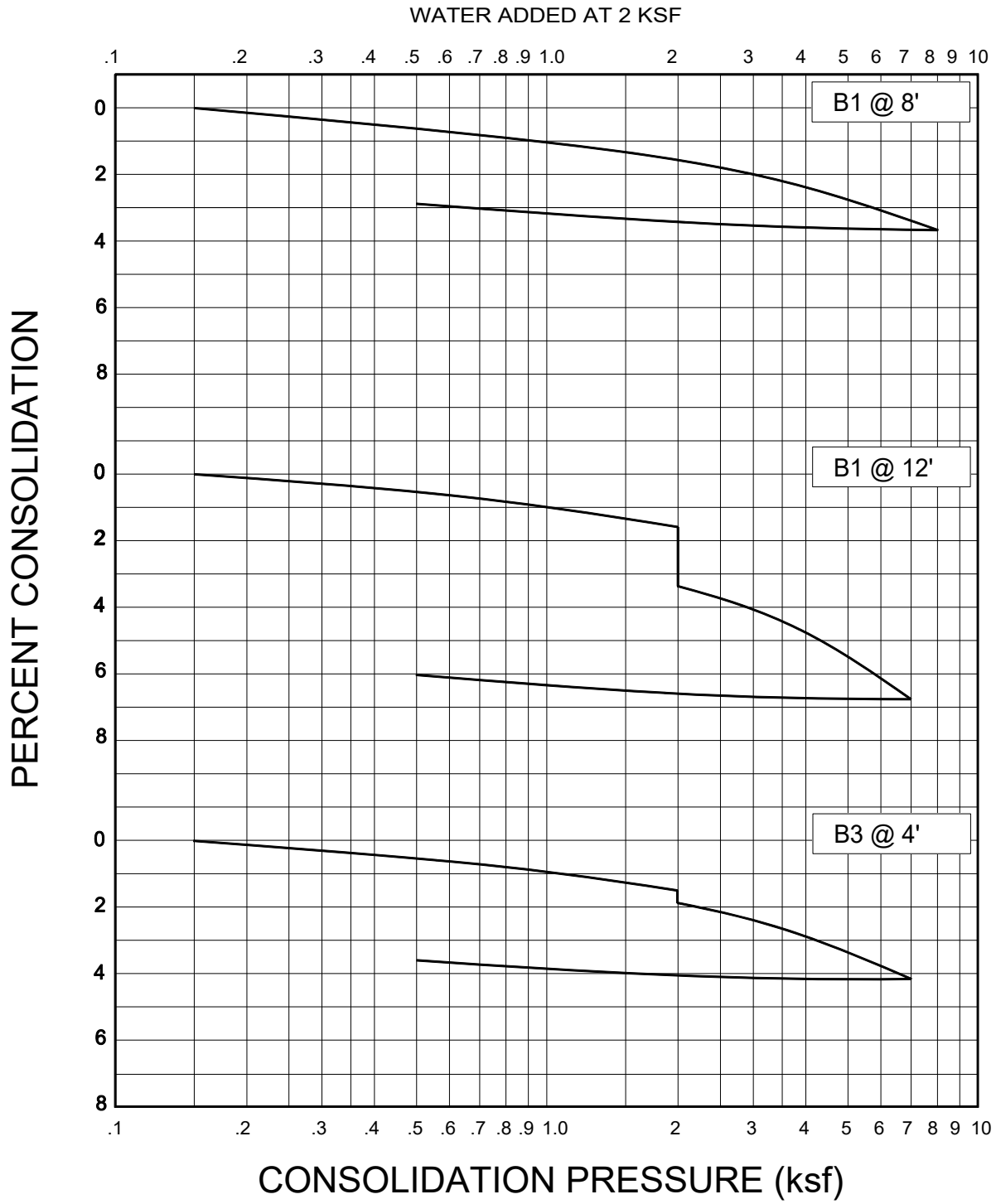
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DIRECT SHEAR TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017 | PROJECT NO. A9621-06-01 | FIG. B2



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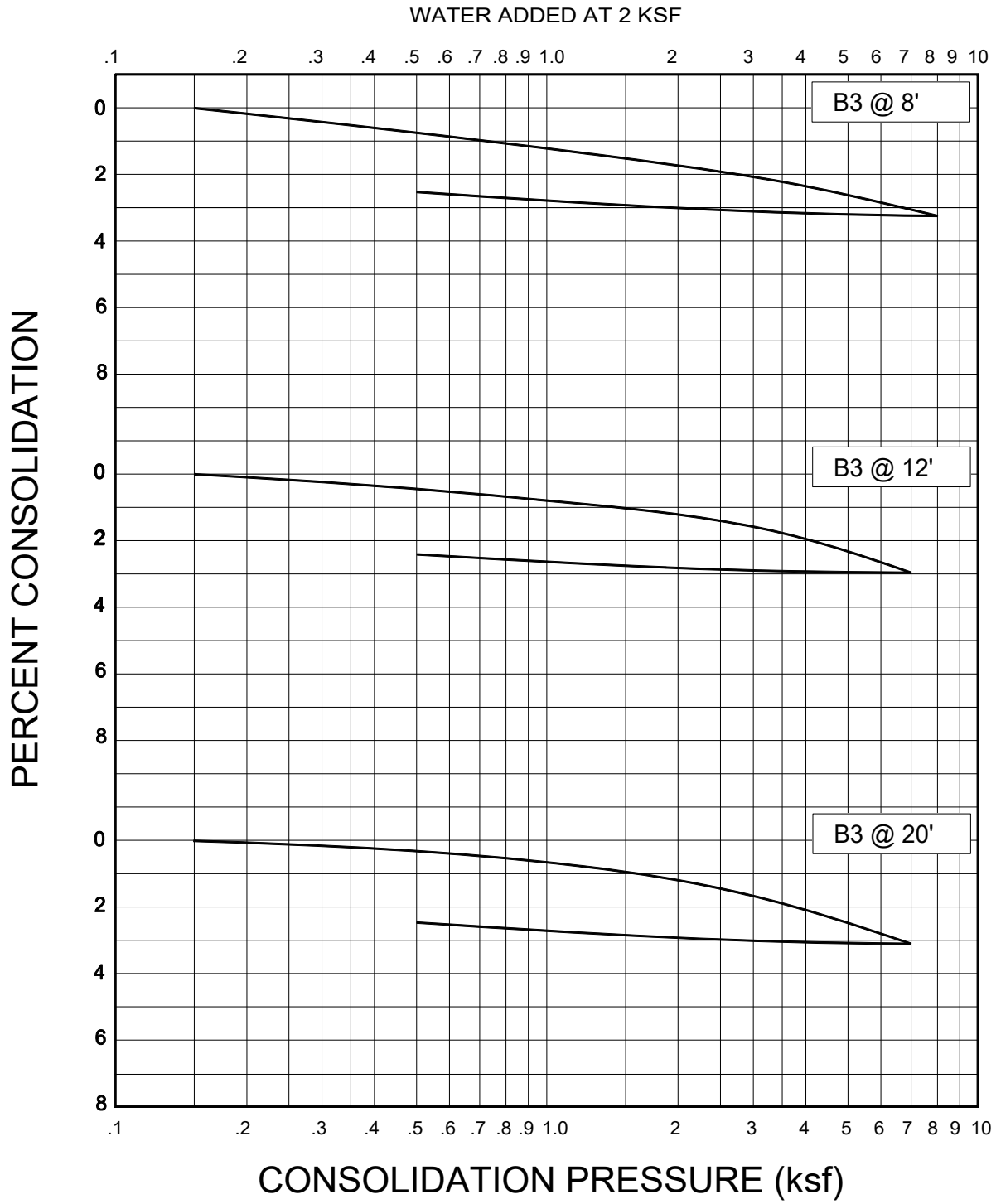
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CONSOLIDATION TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. B3



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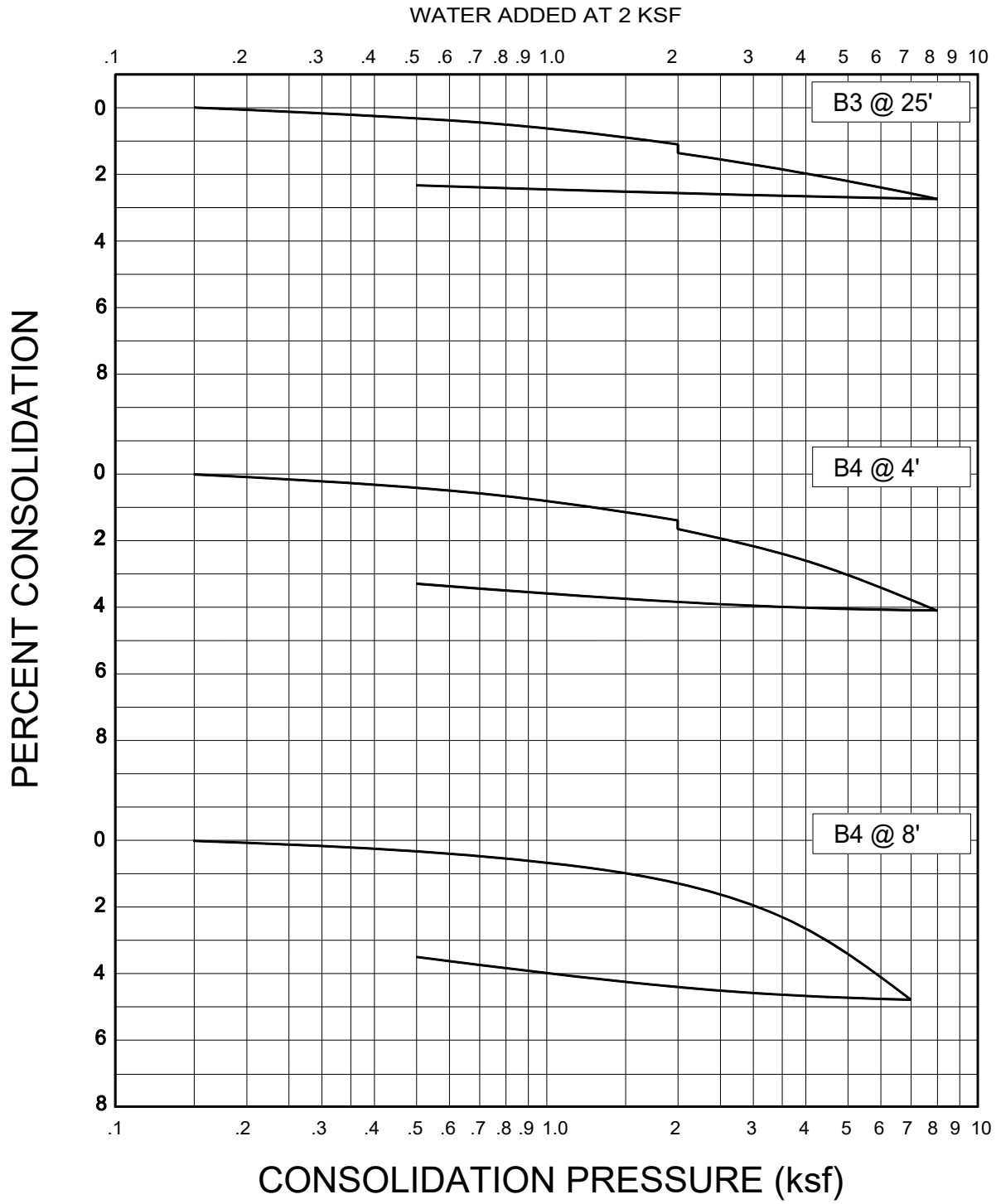
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CONSOLIDATION TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. B4



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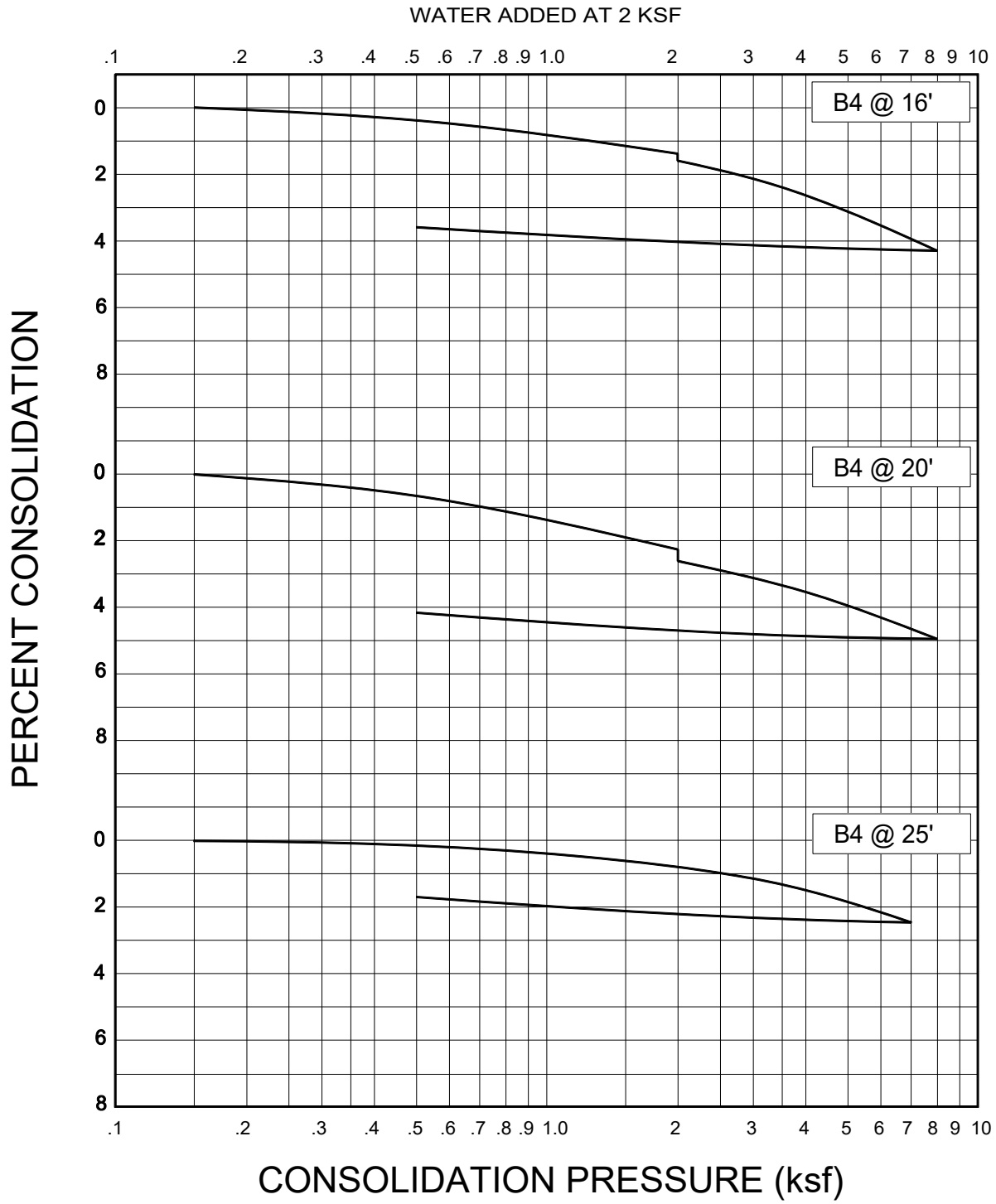
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CONSOLIDATION TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. B5



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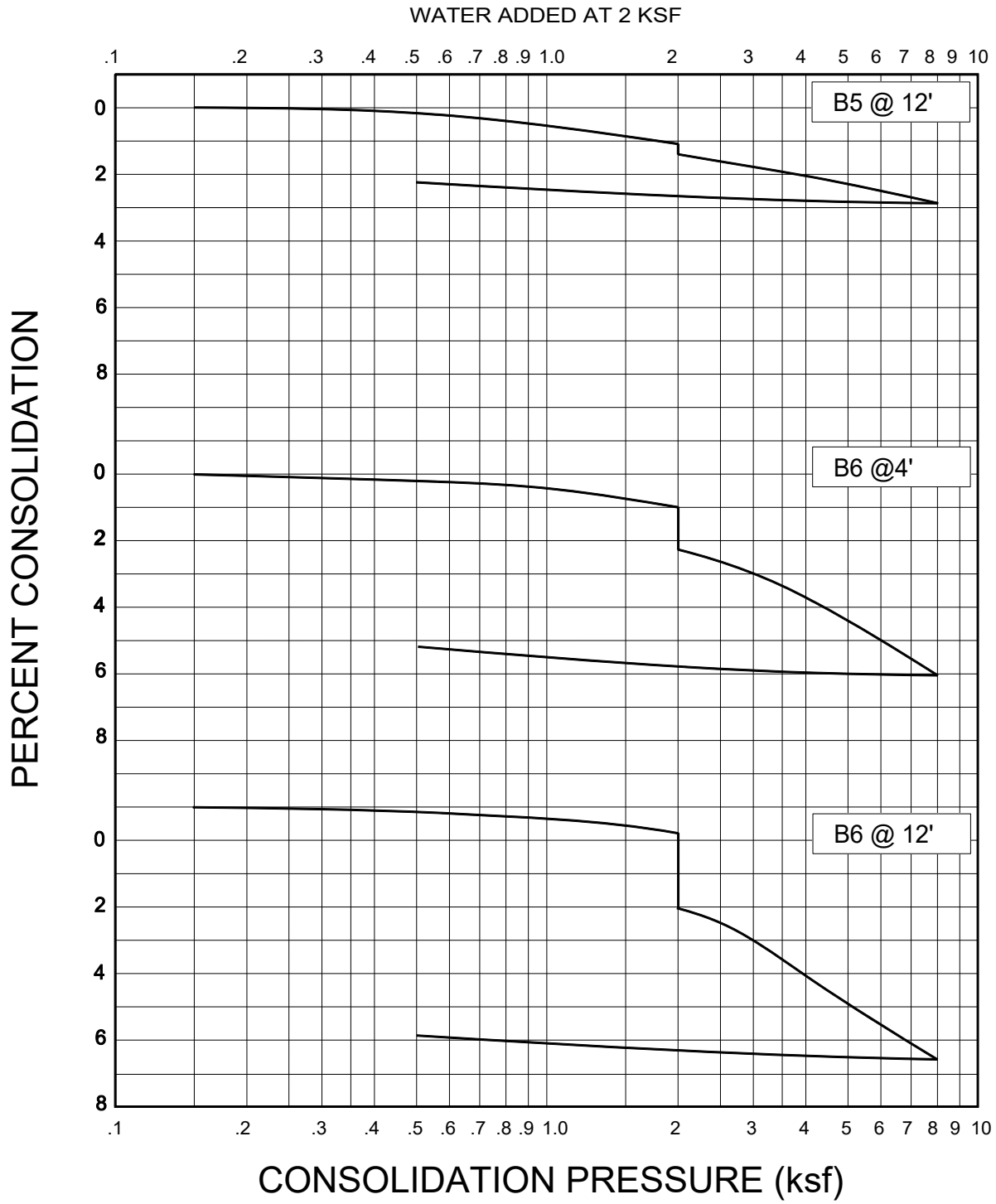
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CONSOLIDATION TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017	PROJECT NO. A9621-06-01	FIG. B6



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CONSOLIDATION TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

DRAFTED BY: AG	CHECKED BY: JTA

JULY 2017	PROJECT NO. A9621-06-01	FIG. B7

SUMMARY OF LABORATORY EXPANSION INDEX TEST RESULTS
ASTM D 4829-11

SAMPLE NO.	MOISTURE CONTENT(%)		DRY DENSITY (PCF)	EXPANSION INDEX	*UBC CLASSIFICATION	**CBC CLASSIFICATION
	BEFORE	AFTER				
B2 @ 2-5'	7.4	13.1	120.1	4	Very Low	Non-Expansive

* Reference: 1997 Uniform Building Code, Table 18-I-B.

** Reference: 2016 California Building Code, Section 1803.5.3

SUMMARY OF LABORATORY MAXIMUM DENSITY AND AND OPTIMUM MOISTURE CONTENT TEST RESULTS
ASTM D 1557-12

SAMPLE NO.	SOIL DESCRIPTION	MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)
B2 @ 2-5'	Dark Brown, Silty Sand	131.5	8.5

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LABORATORY TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017 | PROJECT NO. A9621-06-01 | FIG. B8

SUMMARY OF LABORATORY POTENTIAL OF HYDROGEN (pH) AND RESISTIVITY TEST RESULTS CALIFORNIA TEST NO. 643

SAMPLE NO.	pH	RESISTIVITY (OHM CENTIMETERS)
B2 @ 2-5'	7.5	4,800 (Moderately Corrosive)

SUMMARY OF LABORATORY CHLORIDE CONTENT TEST RESULTS EPA NO. 325.3

SAMPLE NO.	CHLORIDE ION CONTENT (%)
B2 @ 2-5'	0.005

SUMMARY OF LABORATORY WATER SOLUBLE SULFATE TEST RESULTS CALIFORNIA TEST NO. 417

SAMPLE NO.	WATER SOLUBLE SULFATE (% SO_4)	SULFATE EXPOSURE *
B2 @ 2-5'	< 0.001	Not Applicable (S0)

* Reference: 2016 California Building Code, Section 1904.3 and ACI 318-11 Section 4.3.

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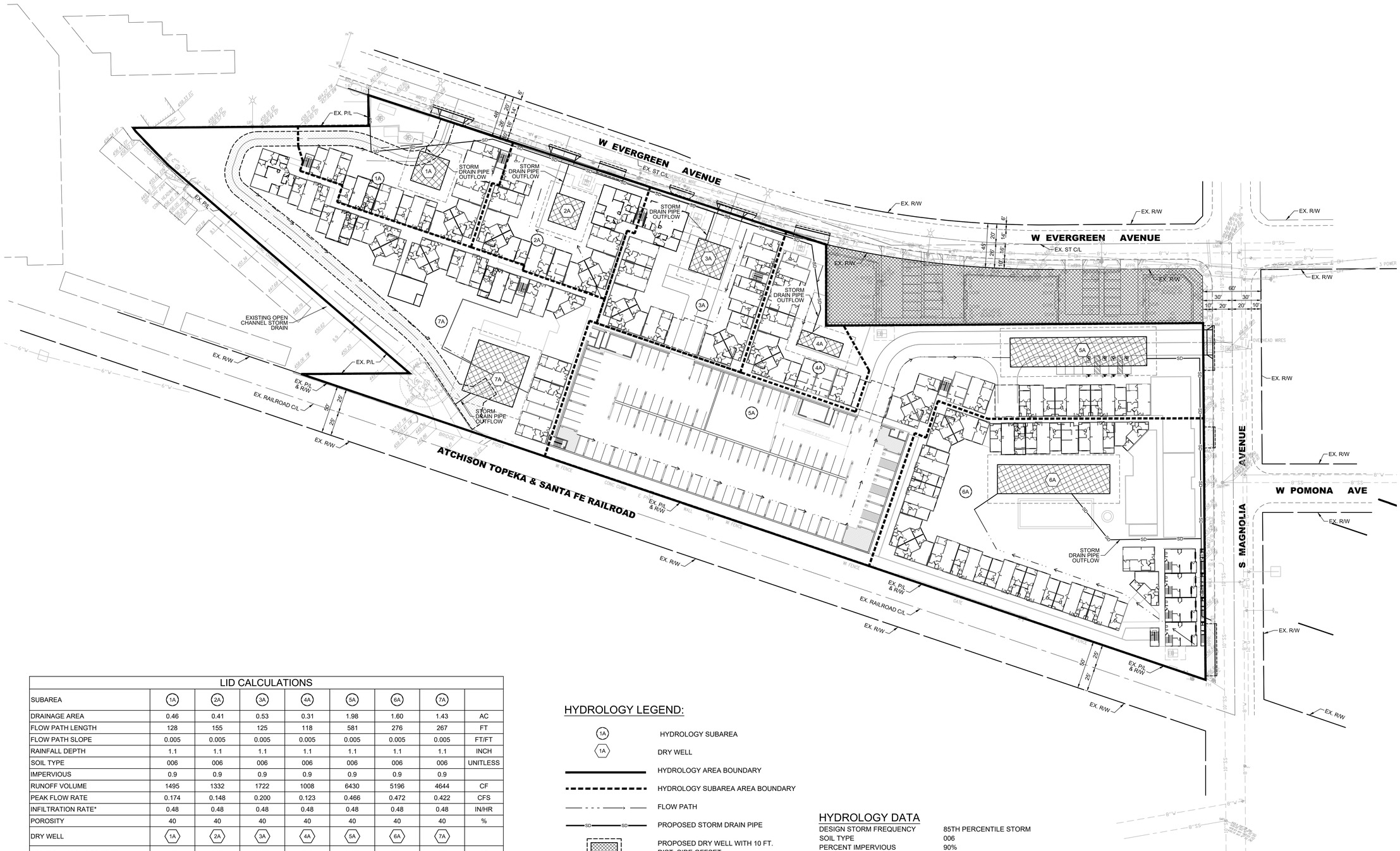
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CORROSIVITY TEST RESULTS

TRAMMELL CROW RESIDENTIAL
1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CALIFORNIA

JULY 2017 | PROJECT NO. A9621-06-01 | FIG. B9



LID CALCULATIONS								
SUBAREA	1A	2A	3A	4A	5A	6A	7A	
DRAINAGE AREA	0.46	0.41	0.53	0.31	1.98	1.60	1.43	AC
FLOW PATH LENGTH	128	155	125	118	581	276	267	FT
FLOW PATH SLOPE	0.005	0.005	0.005	0.005	0.005	0.005	0.005	FT/FT
RAINFALL DEPTH	1.1	1.1	1.1	1.1	1.1	1.1	1.1	INCH
SOIL TYPE	006	006	006	006	006	006	006	UNITLESS
IMPERVIOUS	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
RUNOFF VOLUME	1495	1332	1722	1008	6430	5196	4644	CF
PEAK FLOW RATE	0.174	0.148	0.200	0.123	0.466	0.472	0.422	CFS
INFILTRATION RATE*	0.48	0.48	0.48	0.48	0.48	0.48	0.48	IN/HR
POROSITY	40	40	40	40	40	40	40	%
DRY WELL	1A	2A	3A	4A	5A	6A	7A	
DRY WELL AREA REQUIRED	974	868	1122	657	4186	3383	3023	SF
CALCULATED DEPTH	3.84'	3.84'	3.84'	3.84'	3.84'	3.84'	3.84'	FT
DEPTH**	15'	15'	15'	15'	15'	15'	15'	FT
DRY WELL AREA PROVIDED	1024	900	1156	676	4225	3481	3025	SF

*ADJUSTED RATE, STORM WATER ARE TO BE PRETREATED, DOWNSPOUT AND CATCH BASINS SHALL HAVE FILTERS.
**THIS IS APPROXIMATE DEPTH AND IT IS SUBJECT TO CHANGE PER THE DIRECTION OF GEOTECHNICAL ENGINEER.

HYDROLOGY LEGEND:

- 1A — HYDROLOGY SUBAREA
- 1A — DRY WELL
- HYDROLOGY AREA BOUNDARY
- HYDROLOGY SUBAREA AREA BOUNDARY
- FLOW PATH
- SD — SD — PROPOSED STORM DRAIN PIPE
- PROPOSED DRY WELL WITH 10 FT. DIST. SIDE OFFSET

HYDROLOGY DATA

DESIGN STORM FREQUENCY	85TH PERCENTILE STORM
SOIL TYPE	006
PERCENT IMPERVIOUS	90%

40' 20' 0' 40' 80'
GRAPHIC SCALE
Note: For reduced sized prints, original scale is in inches

TCR

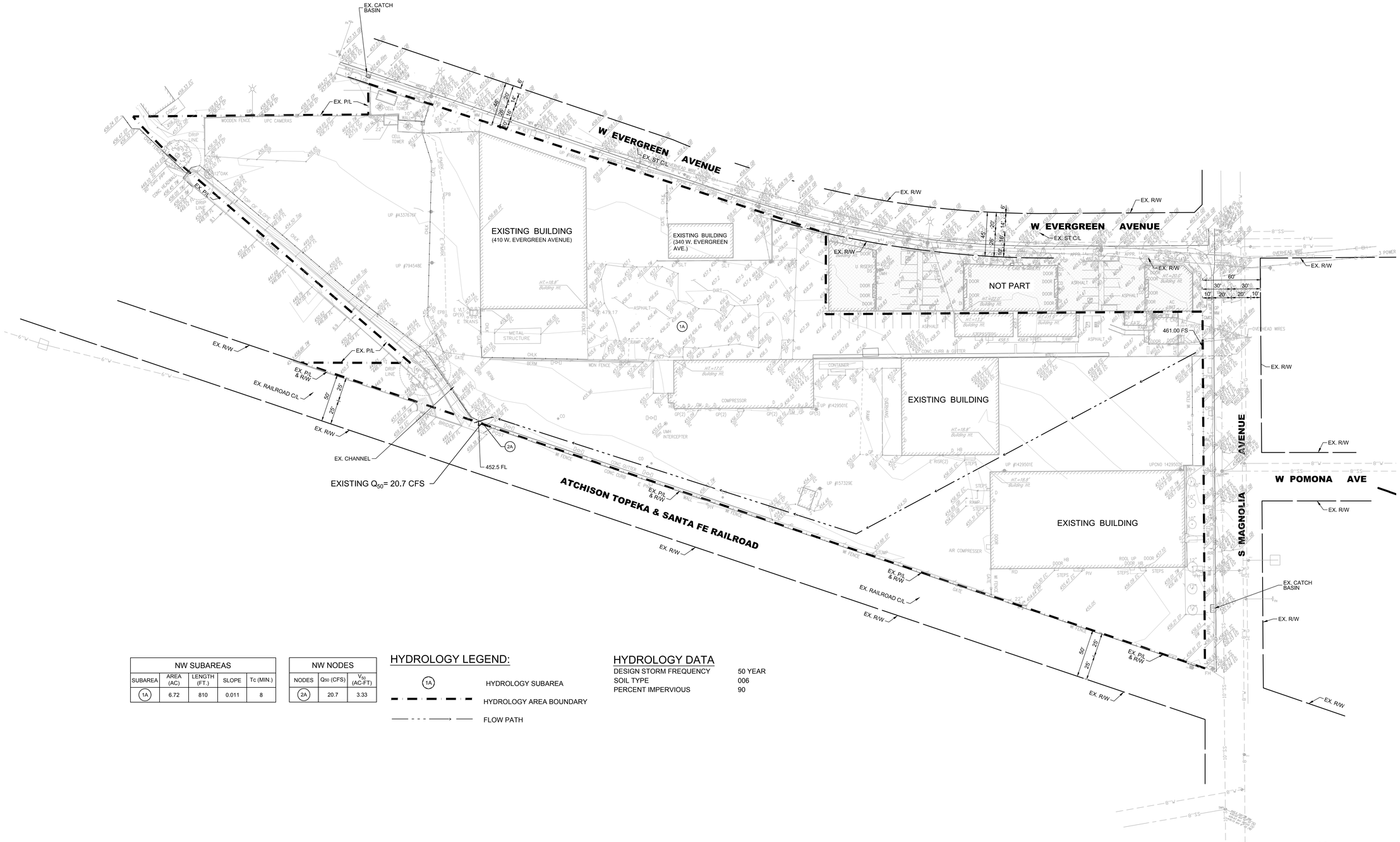
S. Magnolia Ave. Apartment
Multi-Family
Prelim Hydrology Map LID BMP

PSOMAS

DATE: 02-26-2018 REVISED ON:
JOB No:1MPA0304000

SHEET 1 OF 1
EXHIB-01

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NW SUBAREAS				
SUBAREA	AREA (AC)	LENGTH (FT.)	SLOPE	Tc (MIN.)
1A	6.72	810	0.011	8

NW NODES		
NODES	Q_{50} (CFS)	V_{50} (AC-FT)
2A	20.7	3.33

HYDROLOGY LEGEND:

- 1A — HYDROLOGY SUBAREA
- HYDROLOGY AREA BOUNDARY
- FLOW PATH

HYDROLOGY DATA

DESIGN STORM FREQUENCY	50 YEAR
SOIL TYPE	006
PERCENT IMPERVIOUS	90

GRAPHIC SCALE
40' 20' 0' 40' 80'
Note: For reduced sized prints, original scale is in inches

S. Magnolia Ave. Apartment
Multi-Family
Predeveloped Hydrology Map

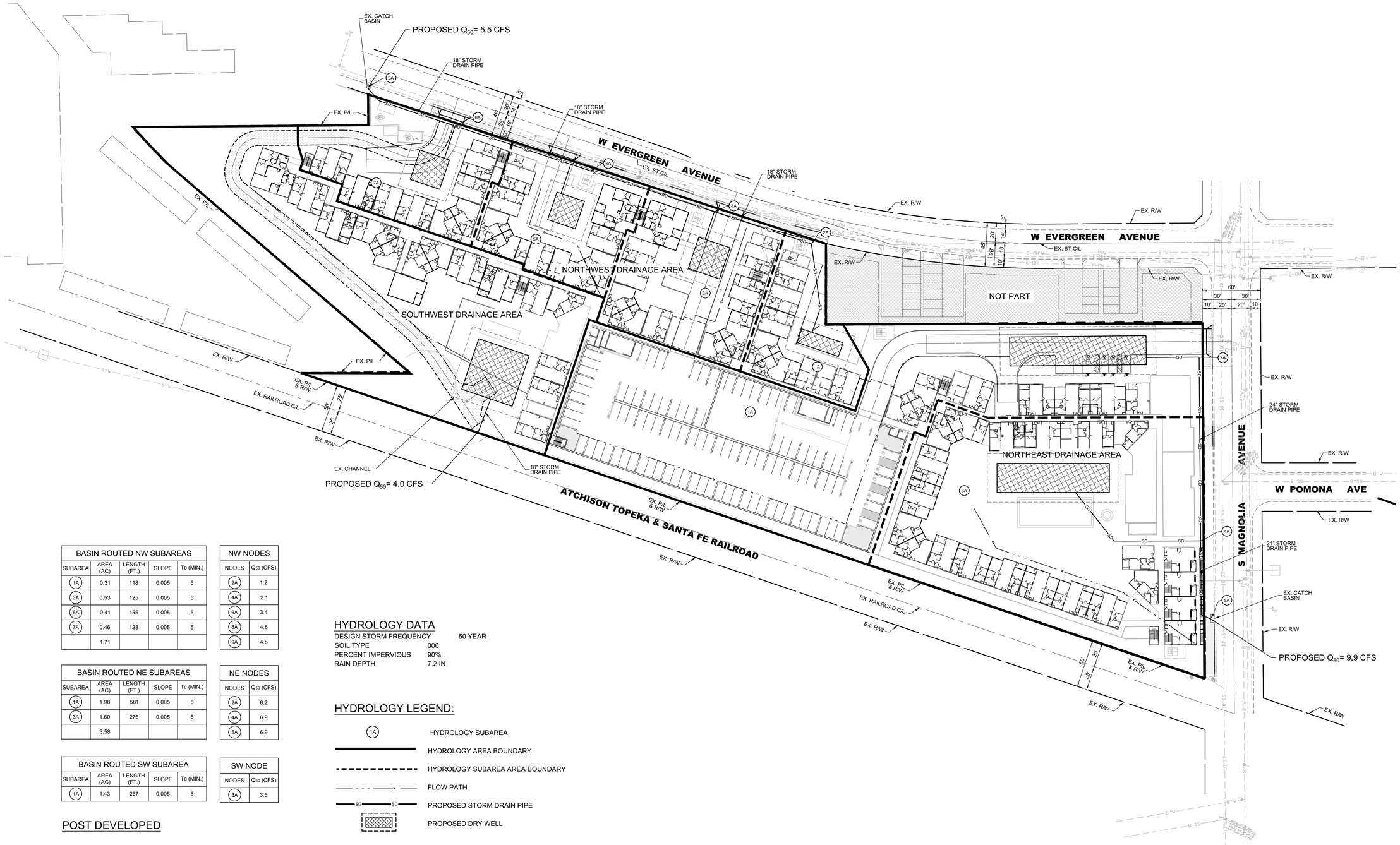
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SHEET 1 OF 2
EXHIB-02

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BASIN ROUTED NW SUBAREAS				
SUBAREA	AREA (AC)	LENGTH (FT.)	SLOPE	Tc (MIN.)
1A	0.31	118	0.005	5
3A	0.53	125	0.005	5
5A	0.41	155	0.005	5
7A	0.46	128	0.005	5
	1.71			

NW NODES	
NODES	Q_{50} (CFS)
2A	1.2
4A	2.1
6A	3.4
8A	4.8
9A	4.8

BASIN ROUTED NE SUBAREAS				
SUBAREA	AREA (AC)	LENGTH (FT.)	SLOPE	Tc (MIN.)
1A	1.98	581	0.005	8
3A	1.60	276	0.005	5
	3.58			

NE NODES	
NODES	Q_{50} (CFS)
2A	6.2
4A	6.9
5A	6.9

BASIN ROUTED SW SUBAREA				
SUBAREA	AREA (AC)	LENGTH (FT.)	SLOPE	Tc (MIN.)
1A	1.43	267	0.005	5

SW NODE	
NODES	Q_{50} (CFS)
3A	3.6

POST DEVELOPED

A=1.71+3.58+1.43 = 6.72 AC
Q=4.8+6.9+3.6=15.3 CFS<Q=20.7 CFS (PREDEVELOPED)

HYDROLOGY DATA

DESIGN STORM FREQUENCY	50 YEAR
SOIL TYPE	006
PERCENT IMPERVIOUS	90%
RAIN DEPTH	7.2 IN

HYDROLOGY LEGEND:

- 1A — HYDROLOGY SUBAREA
- HYDROLOGY AREA BOUNDARY
- HYDROLOGY SUBAREA AREA BOUNDARY
- FLOW PATH
- SD — SD — PROPOSED STORM DRAIN PIPE
- PROPOSED DRY WELL

40' 20' 0' 40' 80'
GRAPHIC SCALE
Note: For reduced sized prints, original scale is in inches

S. Magnolia Ave. Apartment
Multi-Family
Postdeveloped Hydrology Map

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SHEET 2 OF 2
EXHIB-02

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APPENDIX I
NOISE STUDY

Planned Development General Plan Amendment, Planned Development Zoning Code Amendment & Alexan Foothills Specific Plan

Noise Impact Analysis

March 2019

Prepared for:

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Riverside, California 92507

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Appendices

Appendix A: Technical Noise Data

List of Acronyms, Abbreviations, and Symbols	
Acronym / Abbreviation	**Full Phrase or Description**
ADT	Average Daily Traffic
Caltrans	California Department of Transportation
CEQA	California Environmental Quality Act
CNEL	Community Noise Equivalent Level
dB	Decibel
dBA	Decibels, A-Weighted
dBV / VdB	Velocity Decibels
Ldn / DNL	Day-Night Noise Level
EIR	Environmental Impact Report
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
GPA	General Plan Amendment
HVAC	Heating, Ventilation, and Air Conditioning
HUD	Department of Housing and Urban Development
Hz	Hertz
Leq	Average / Equivalent Noise Level
Lmax	Maximum Noise Level
Lmin	Minimum Noise Level
LT	Long Term (noise measurement)
METRO	Los Angeles County Metropolitan Transportation Authority
OITC	Outdoor/Indoor Transmission Class
PPV	Peak Particle Velocity
ROW	Right of Way
SEL_{ref}	Source Reference Level
ST	Short Term (noise measurement)
STC	Sound Transmission Class
TIA	Traffic Impact Analysis
ZCA	Zoning Code Amendment

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1 INTRODUCTION

This report presents the environmental noise assessment for the proposed Planned Development General Plan Amendment (PD GPA) and Planned Development Zoning Code Amendment (PD ZCA), as well as the proposed 6.77-acre Alexan Foothills Specific Plan within a portion of the area proposed for the PD GPA and PD ZCA in Monrovia, California. The Project area, which comprises the entire area proposed for the PD GPA and PD ZCA, comprises one City block on approximately 9.63 acres (Figure 1-1 and Figure 1-2). The City block is bounded by West Evergreen Avenue to the north, South Magnolia Avenue to the east, South Mayflower Avenue to the west, and the METRO Gold Line to the south. The 6.77-acre Alexan Foothills Specific Plan area is depicted in Figure 1-3. The Specific Plan would allow a 436-unit, five-story apartment complex and an eight-level (seven stories) parking structure, containing 797 stalls.

MIG, Inc. (MIG) prepared this Noise Impact Assessment Report (Report) at the request of Trammell Crow Residential. This Report evaluates the potential construction- and operations-related noise impacts of the proposed Project using Project-specific information provided by Trammel Crow Residential. Where necessary, MIG has supplemented available information with standardized sources of information, such as model assumptions pertaining to construction equipment activity levels. In general, this Report evaluates the potential "worst-case" conditions associated with the proposed Project's construction and operational noise levels to ensure a conservative (i.e., likely to overestimate) assessment of potential noise impacts is presented.

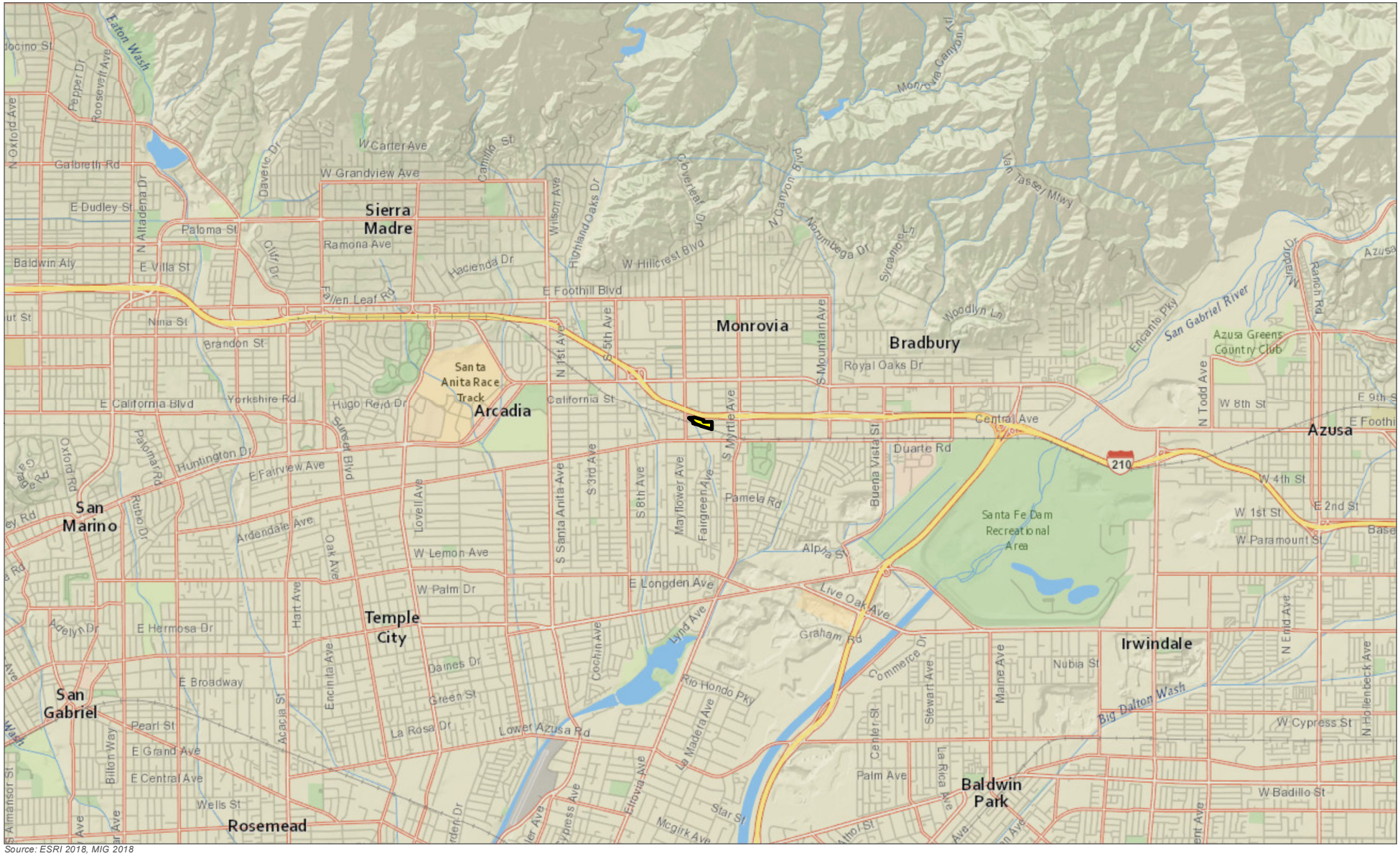
This Report is intended for use by the Lead Agency to assess the potential noise and vibration impacts of the proposed Project in compliance with the California Environmental Quality Act (CEQA; PRC §21000 et seq.) and the State CEQA Guidelines (14 CCR §15000 et seq.), particularly in respect to the noise and vibration issues identified in Appendix G of the State CEQA Guidelines. This report does not make determinations of significance pursuant to CEQA because such determinations are solely the purview of the Lead Agency.

1.1 REPORT ORGANIZATION

This Report is organized as follows:

- **Chapter 1, Introduction,** explains the contents of this Report and its intended use.
- **Chapter 2, Noise Fundamentals,** provides pertinent background information on the measurement, propagation, and characterization of noise levels.
- **Chapter 3, Environmental setting,** describes the existing noise setting of the proposed Project.
- **Chapter 4, Regulatory setting,** provides information on the federal, state, and local regulations that govern the proposed Project's noise setting and potential noise impacts.
- **Chapter 5, Proposed Project Description**, provides an overview of construction and operational activities associated with the proposed Project.
- **Chapter 6, Impact Assessment,** identifies the potential construction and operational noise impacts of the proposed Project and evaluates these effects in accordance with Appendix G of the State CEQA Guidelines.
- **Chapter 7, Report Preparers and References** list the individuals involved, and the references used, in the preparation of this Report.

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Source: ESRI 2018, MIG 2018

Figure 1 Regional Location Map

Trammel Crow Project Site, Monrovia, CA

MIG



Source: ©2019 Google

Project Area

Figure 2 Aerial View of Project Area

Trammell Crow Project Site, Monrovia, CA



Legend:

Yellow screened parcels comprise the Alexan Foothills Specific Plan area.
All other parcels between West Evergreen Avenue, South Magnolia Avenue, South Mayflower Avenue and the METRO Gold Line (outlined in blue without the yellow shading) comprise the GP/ZCA area.

Figure 3 Project Area Map

Trammel Crow Project Site, Monrovia, CA

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2 NOISE FUNDAMENTALS

2.1 FUNDAMENTALS OF ENVIRONMENTAL ACOUSTICS

"Noise is generally defined as unwanted sound and widely recognized as a form of environmental degradation. Airborne sound is the rapid fluctuation of air pressure above and below atmospheric pressure. The frequency (pitch), amplitude (intensity or loudness), and duration of a sound all contribute to the effect on a listener, or receptor, and whether or not the receptor perceives the sound as "noisy" or annoying.

Pitch is the height or depth of a tone or sound and depends on the frequency of the vibrations by which it is produced. Sound frequency is expressed in terms of cycles per second, or Hertz (Hz). Humans generally hear sounds with frequencies between 20 and 20,000 Hz and perceive higher frequency sounds, or high pitch noise, as louder than low-frequency sound or sounds low in pitch. Sound intensity or loudness is a function of the amplitude of the pressure wave generated by a noise source combined with the reception characteristics of the human ear. Atmospheric factors and obstructions between the noise source and receptor also affect the loudness perceived by the receptor. Sound pressure levels are typically expressed on a logarithmic scale in terms of decibels (dB). A dB is a unit of measurement that indicates the relative amplitude (i.e., intensity or loudness) of a sound, with 0 dB corresponding roughly to the threshold of hearing for the healthy, unimpaired human ear.

Sound levels in decibels are calculated on a logarithmic basis. An increase of 10 dBs represents a ten-fold increase in acoustic energy, while 20 dBs is 100 times more intense, 30 dBs is 1,000 times more intense, etc. In general, there is a relationship between the subjective noisiness or loudness of a sound and its intensity, with each 10 dB increase in sound level perceived as approximately a doubling of loudness. Due to the logarithmic basis, decibels cannot be directly added or subtracted together using common arithmetic operations:.

$$50\ decibels + 50\ decibels\ \neq 100\ decibels$$

Instead, the combined sound level from two or more sources must be combined logarithmically. For example, if one noise source produces a sound power level of 50 dBA, two of the same sources would combine to produce 53 dB as shown below.

$$10 * \ 10\ log\left(10^{\left(\frac{50}{10}\right)} + \ 10^{\left(\frac{50}{10}\right)}\right) = 53\ decibels$$

In general, when one source is 10 dB higher than another source, the quieter source does not add to the sound levels produced by the louder source because the louder source contains ten times more sound energy than the quieter source.

2.1.1 Sound Characterization

Although humans generally can hear sounds with frequencies between 20 and 20,000 Hz, most of the sounds humans are normally exposed to do not consist of a single frequency, but rather a broad range of frequencies perceived differently by the human ear. In general, humans are most sensitive to the frequency range of 1,000–8,000 Hz and perceive sounds within that range better than sounds of the same amplitude in higher or lower frequencies. Instruments used to measure sound, therefore, include an electrical filter that enables the instrument's detectors to replicate human hearing. This filter, known as the "A-weighting" or "A-weighted sound level" filters low and very high frequencies, giving greater weight to the

frequencies of sound to which the human ear is typically most sensitive. Most environmental measurements are reported in dBA, meaning decibels on the A-scale. See Table 2-1 for a list common noise sources and their A-weighted noise levels.

Sound levels are usually not steady and vary over time. Therefore, a method for describing either the average character of the sound or the statistical behavior of the variations over a period of time is necessary. The continuous equivalent noise level (Leq) descriptor is used to represent the average character of the sound over a period of time. The Leq represents the level of steady-state noise that would have the same acoustical energy as the sum of the time-varying noise measured over a given time period. Leq is useful for evaluating shorter time periods over the course of a day. The most common Leq averaging period is hourly, but Leq can describe any series of noise events over a given time period.

Variable noise levels are the values that are exceeded for a portion of the measured time period. Thus, the L1, L10, L50, and L90 descriptors represent the sound levels exceeded 1%, 10%, 50%, and 90% of the time the measurement was performed. The L90 value usually corresponds to the background sound level at the measurement location.

When considering environmental noise, it is important to account for the different responses people have to daytime and nighttime noise. During the nighttime, background noise levels are generally quieter than during the daytime but also more noticeable due to the fact that household noise has decreased as people begin to retire and sleep. Noise exposure over the course of an entire day is described by the day/night average sound level, DNL (or Ldn), and the community noise equivalent level, or CNEL, descriptors. Both descriptors represent the 24-hour noise exposure in a community or area. For DNL, the 24-hour day is divided into a 15-hour daytime period (7 AM to 10 PM) and a 9-hour nighttime period (10 PM to 7 AM) and a 10 dB “penalty” is added to measure nighttime noise levels when calculating the 24-hour average noise level. For example, a 45 dBA nighttime sound level would contribute as much to the overall day-night average as a 55 dBA daytime sound level. The CNEL descriptor is similar to Ldn, except that it includes an additional 5 dBA penalty for noise events that occur during the evening time period (7 PM to 10 PM). The artificial penalties imposed during DNL and CNEL calculations are intended to account for a receptor’s increased sensitivity to noise levels during quieter nighttime periods.

Table 2-1: Typical Outdoor and Indoor Noise Levels		
Common Outdoor Activities	**Noise Level (dBA)**	**Common Indoor Activities**
	-110-	Rock Band
Jet flyover at 1,000 feet		
	-100-	
Gas lawn mower at 3 feet		
	-90-	
Diesel truck at 50 feet at 50 mph		Food blender at 3 feet
	-80-	Garbage disposal at 3 feet
Noise urban area, daytime		
Gas lawnmower, 100 feet	-70-	Vacuum cleaner at 10 feet
Commercial area		Normal speech at 3 feet
Heavy traffic at 300 feet	-60-	
		Large business office
Quiet urban daytime	-50-	Dishwasher next room
Quite urban nighttime	-40-	Theater, large conference room (background)
Quiet suburban nighttime		
	-30-	Library
Quite rural nighttime		Bedroom at night
	-20-	
		Broadcast/recording studio
	-10-	
Typical threshold of human hearing	-0-	Typical threshold of human hearing
Source: Caltrans 2013a		

2.1.2 Sound Propagation

The energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out and travels away from the noise generating source. The strength of the source is often characterized by its "sound power level." Sound power level is independent of the distance a receiver is from the source and is a property of the source alone. Knowing the sound power level of an idealized source and its distance from a receiver, the sound pressure level at a specific point (e.g., a property line or a receiver) can be calculated based on geometrical spreading and attenuation (noise reduction) as a result of distance and environmental factors, such as ground cover (asphalt vs. grass or trees), atmospheric absorption, and shielding by terrain or barriers.

For an ideal "point" source of sound, such as mechanical equipment, the energy contained in a sound pressure wave dissipates and is absorbed by the surrounding environment as the sound wave spreads out in a spherical pattern and travels away from the point source. Theoretically, the sound level

attenuates, or decreases, by 6 dB with each doubling of distance from the point source. In contrast, a "line" source of sound, such as roadway traffic or a rail line, spreads out in a cylindrical pattern and theoretically attenuates by 3 dB with each doubling of distance from the line source; however, the sound level at a receptor location can be modified further by additional factors. The first is the presence of a reflecting plane such as the ground. For hard ground, a reflecting plane typically increases A weighted sound pressure levels by 3 dB. If some of the reflected sound is absorbed by the surface, this increase will be less than 3 dB. Other factors affecting the predicted sound pressure level are often lumped together into a term called "excess attenuation." Excess attenuation is the amount of additional attenuation that occurs beyond simple spherical or cylindrical spreading. For sound propagation outdoors, there is almost always excess attenuation, producing lower levels than what would be predicted by spherical or cylindrical spreading. Some examples include attenuation by sound absorption in air; attenuation by barriers; attenuation by rain, sleet, snow, or fog; attenuation by grass, shrubbery, and trees; and attenuation from shadow zones created by wind and temperature gradients. Under certain meteorological conditions, like fog and low-level clouds, some of these excess attenuation mechanisms are reduced or eliminated due to noise reflection.

2.1.3 Noise Effects

Noise effects on human beings are generally categorized as:

- Subjective effects of annoyance, nuisance, and/or dissatisfaction;
- Interference with activities such as speech, sleep, learning, or relaxing; or
- Physiological effects such as startling and hearing loss.

Most environmental noise levels produce subjective or interference effects; physiological effects are usually limited to high noise environments, such as industrial manufacturing facilities or airports.

Predicting the subjective and interference effects of noise is difficult due to the wide variation in individual thresholds of annoyance and past experiences with noise; however, an accepted method to determine a person's subjective reaction to a new noise source is to compare it to the existing environment without the noise source, or the "ambient" noise environment. In general, the more a new noise source exceeds the ambient noise level, the more likely it is to be considered annoying and to disturb normal activities.

Under controlled conditions in an acoustical laboratory, the trained, healthy human ear is able to discern 1-dB changes in sound levels when exposed to steady, single-frequency ("pure-tone") signals in the mid-frequency (1,000–8,000 Hz) range. In typical noisy environments, changes in noise of 1 to 2 dB are generally not perceptible. However, it is widely accepted that people are able to begin to detect sound level increases of 3 dB in typical noisy environments. Further, a 5 dB increase is generally perceived as a distinctly noticeable increase, and a 10 dB increase is generally perceived as a doubling of loudness that would almost certainly cause an adverse response from community noise receptors.

2.2 GROUNDBORNE VIBRATION AND NOISE

Vibration is the movement of particles within a medium or object such as the ground or a building. Vibration may be caused by natural phenomena (e.g., earthquakes, volcanic eruptions, sea waves, landslides) or humans (e.g., explosions, machinery, traffic, trains, construction equipment). Vibration sources are usually characterized as continuous, such as factory machinery, or transient, such as explosions.

As is the case with airborne sound, groundborne vibrations may be described by amplitude and frequency; however, unlike airborne sound, there is no standard way of measuring and reporting amplitude. Vibration amplitudes can be expressed in terms of velocity (inches per second) or discussed in dB units in order to compress the range of numbers required to describe vibration. Vibration impacts to buildings are usually discussed in terms of peak particle velocity (PPV) in inches per second (in/sec). PPV represents the maximum instantaneous positive or negative peak of a vibration signal and is most appropriate for evaluating the potential for building damage. Vibration can also be measured in vibration velocity levels or velocity decibels (Vdb).

Vibration can impact people, structures, and sensitive equipment. The primary concern related to vibration and people is the potential to annoy those working and residing in the area. Vibration with high enough amplitudes can damage structures (such as crack plaster or destroy windows). Ground-borne vibration can also disrupt the use of sensitive medical and scientific instruments, such as electron microscopes.

Common sources of vibration within communities include construction activities and railroads. Ground-borne vibration generated by construction projects is usually highest during pile driving, rock blasting, soil compacting, jack hammering, and demolition-related activities. Next to pile driving, grading activity has the greatest potential for vibration impacts if large bulldozers, large trucks, or other heavy equipment are used.

2.2.1 Existing Noise and Vibration Environment

Located in the southern part of the City of Monrovia, the Project area is generally configured in an east-west orientation and is bounded by South Magnolia Avenue to the east, South Mayflower Avenue to the west, Evergreen Avenue and Interstate-210 (I-210, or the Foothill Freeway) to the north, and the METRO Gold Line light rail to the south. The Project area consists mostly of a mix of light industrial and commercial land uses, although five residential units are present in the Project area. In general, medium and high density residential development borders the Project area, across Magnolia Avenue, Mayflower Avenue, and the METRO Gold Line.

The Project is adjacent to the City's Station Square Transit Village, and the Gold Line Monrovia Station is located less than 500 feet east of the Project (addressed at 1641 South Primrose Avenue). Several transit-oriented, multi-family developments are planned for the near future (e.g., the Station Square South project, located adjacent to the Project, across South Magnolia Avenue and South of the Gold Line). The closest airport to the Project is the San Gabriel Valley Airport, located approximately 3.7 miles southwest of the Project.

The General Plan Noise Element identifies traffic noise on major arterial streets and the I-210 as the most pervasive source of noise in certain areas of the City. The General Plan specifically notes that residential areas south of I-210 are impacted by freeway noise. The eastbound segment of I-210 includes an approximately 12-foot high wall that terminates on the eastern side of South Mayflower Avenue; a similar wall begins 200 feet west of South Magnolia Avenue. For the most part the segment of I-210 directly adjacent to the Project (i.e., between South Mayflower and South Magnolia Avenue) does not contain a sound wall. This portion of the I-210 is elevated, approximately 20 feet above the Project area.

The General Plan Noise Element was prepared in 2002, before the METRO Gold Line began operation, and does not identify potential noise levels associated with Gold Line operation; however, the Gold Line Foothill Extension Pasadena to Montclair Final Environmental Impact Report predicted the following noise levels for eastbound and westbound light rail service at residential receptors in the City:

- Eastbound Gold Line noise levels south of the right of way (ROW) were predicted to be 72 DNL or less within approximately 40 feet of the eastbound track, 65 DNL or less within approximately 50 feet of the eastbound track, and less than 60 DNL approximately 100 feet of the eastbound track (Metro Gold Line Foothill Extension Construction Authority [MGLFECA] 2007, Table 3-11.6).
- Westbound Gold Line noise levels north of the ROW were predicted to be 71 DNL or less within approximately 40 feet of the westbound track, 68 DNL or less within approximately 60 feet of the westbound track, and less than 60 DNL approximately 100 feet of the eastbound track (MGLFECA 2007, Table 3-11.6).

The City's 2008 General Plan Land Use Policy 6.1 requires that new residences proposed near the I-210 and METRO railroad tracks are designed to reduce the intrusion of sound into the dwellings.

The existing ambient noise and vibration environment at and near the Project area is described in more detail below.

2.2.2 Measured Ambient Noise Levels

The existing ambient noise levels in the Project area were monitored in June 2018 (MIG 2019; see Appendix I). Ambient noise levels were measured with two Larson Davis SoundTrack LxT Type 1 sound level meters; ambient noise measurements were collected in 10-minute intervals. Conditions during the monitoring were generally clear and sunny during the daytime, with a daily high of approximately 90 degrees Fahrenheit and winds from the west/southwest between approximately five to 10 miles per hour.

The ambient noise monitoring conducted for this EIR included five short-term (ST) and two long-term (LT) measurements at locations selected to:

- Provide direct observations of existing noise sources at and in the vicinity of the Project;
- Determine typical ambient noise levels at and in the vicinity of the Project; and
- Evaluate potential Project noise levels at nearby sensitive receptors (see Noise Sensitive Receptors below).

The ambient noise monitoring locations are described below and shown in Figure 3-1.

- **Location ST-1** was at the intersection of South Magnolia Avenue and the METRO Gold Line, at the southeast corner of the Project area. The ambient noise levels measured at location ST-1 are considered representative of background daytime noise levels associated with local commercial land uses in the area, the METRO Gold Line, and traffic on South Magnolia Avenue.
- **Location ST-2** was at the intersection of South Magnolia Avenue and West Evergreen Avenue, at the northeast corner of the Project area. The ambient noise levels measured at location ST-2 are considered representative of background daytime noise levels associated with the local commercial and other lands uses in the area, as well as traffic noise levels associated with I-210.
- **Location ST-3** was at the intersection of South Mayflower Avenue and West Evergreen Avenue, at the northwest corner of the Project area. The ambient noise levels measured at location ST-3 are considered representative of background daytime noise levels associated with the local commercial and other land uses in the area, as well as traffic noise levels associated with I-210.
- **Location ST-4** was at the intersection of South Mayflower Avenue and the METRO Gold Line, at the southwest corner of the Project area. The ambient noise levels measured at location ST-4 are considered representative of background daytime noise levels associated with the local residential land uses in the area, the METRO Gold Line, and traffic on South Mayflower Avenue.

- **Location ST-5** was on Evergreen Avenue, approximately 100 feet east of Mayflower Avenue. The ambient noise levels measured at location ST-5 are considered representative of background daytime noise levels associated with the local commercial and other land uses in the area, as well as traffic noise levels associated with I-210.
- **Location LT-1** was on Evergreen Avenue, approximately 205 feet west of South Magnolia Avenue. The ambient noise levels measured at location LT-1 are considered representative of 24-hour ambient noise exposure levels in the northern half of the Project area.
- **Location LT-2** was adjacent to the METRO Gold Line, approximately 215 feet west of South Magnolia Avenue (as measured along the METRO right-of-way [ROW]). The ambient noise levels measured at location LT-2 are considered representative of 24-hour ambient noise exposure levels in the southern half of the Project area.

Based on observations made during the ambient noise monitoring, the existing noise environment in the Project vicinity consists primarily of transportation noise sources, particularly vehicular traffic on I-210 and rail activity on the METRO Gold Line. Table 3-1 summarizes the results of the ambient noise monitoring conducted for this EIR.

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3 ENVIRONMENTAL SETTING

3.1 PROJECT LOCATION AND SITE DESCRIPTION

This report presents the environmental noise assessment for the proposed General Plan and Zoning Code Amendment (PD GPA and PD ZCA) and proposed Alexan Foothills Specific Plan within a portion of the area proposed for the GP/ZCA in Monrovia, California. The Project area, which comprises the entire area proposed for the PD GPA and PD ZCA, comprises one City block on approximately 9.6 acres (Figure 1-1 and Figure 1-2). The City block is bounded by West Evergreen Avenue to the north, South Magnolia Avenue to the east, South Mayflower Avenue to the west, and the METRO Gold Line to the south. The 6.77-acre Alexan Foothills Specific Plan area is depicted in Figure 1-3. The Specific Plan would allow a 436-unit, five-story apartment complex and an eight-level (seven stories) parking structure, containing 797 stalls. The area outside of the Specific Plan Area totals approximately 2.83 acres and would allow for the development of approximately 82 dwelling units in the future.

3.2 EXISTING NOISE AND VIBRATION ENVIRONMENT

Located Located in the southern part of the City of Monrovia, the Project area is generally configured in an east-west orientation and is bounded by South Magnolia Avenue to the east, South Mayflower Avenue to the west, Evergreen Avenue and Interstate-210 (I-210, or the Foothill Freeway) to the north, and the METRO Gold Line light rail to the south. The Project area consists mostly of a mix of light industrial and commercial land uses, although five residential units are present in the Project area. In general, medium and high density residential development borders the Project area, across Magnolia Avenue, Mayflower Avenue, and the METRO Gold Line.

The Project is adjacent to the City's Station Square Transit Village, and the Gold Line Monrovia Station is located less than 500 feet east of the Project (addressed at 1641 South Primrose Avenue). Several transit-oriented, multi-family developments are planned for the near future (e.g., the Station Square South project, located adjacent to the Project, across South Magnolia Avenue and South of the Gold Line). The closest airport to the Project is the San Gabriel Valley Airport, located approximately 3.7 miles southwest of the Project.

The General Plan Noise Element identifies traffic noise on major arterial streets and the I-210 as the most pervasive source of noise in certain areas of the City. The General Plan specifically notes that residential areas south of I-210 are impacted by freeway noise. The eastbound segment of I-210 includes an approximately 12-foot high wall that terminates on the eastern side of South Mayflower Avenue; a similar wall begins 200 feet west of South Magnolia Avenue. For the most part the segment of I-210 directly adjacent to the Project (i.e., between South Mayflower and South Magnolia Avenue) does not contain a sound wall. This portion of the I-210 is elevated, approximately 20 feet above the Project area.

The General Plan Noise Element was prepared in 2002, before the METRO Gold Line began operation, and does not identify potential noise levels associated with Gold Line operation; however, the Gold Line Foothill Extension Pasadena to Montclair Final Environmental Impact Report predicted the following noise levels for eastbound and westbound light rail service at residential receptors in the City:

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The City's 2008 General Plan Land Use Policy 6.1 requires that new residences proposed near the I-210 and METRO railroad tracks are designed to reduce the intrusion of sound into the dwellings.

The existing ambient noise and vibration environment at and near the Project area is described in more detail below.

3.2.1 Existing Ambient Noise Levels

The existing ambient noise levels in the Project area were monitored in June 2018 (MIG 2019; see Appendix A). Ambient noise levels were measured with two Larson Davis SoundTrack LxT Type 1 sound level meters; ambient noise measurements were collected in 10-minute intervals. Conditions during the monitoring were generally clear and sunny during the daytime, with a daily high of approximately 90 degrees Fahrenheit and winds from the west/southwest between approximately five to 10 miles per hour.

The ambient noise monitoring conducted for this Report included five short-term (ST) and two long-term (LT) measurements at locations selected to:

- Provide direct observations of existing noise sources at and in the vicinity of the Project;
- Determine typical ambient noise levels at and in the vicinity of the Project; and
- Evaluate potential Project noise levels at nearby sensitive receptors (see Noise Sensitive Receptors below).

The ambient noise monitoring location are described below and shown in Figure 3-1.

- **Location ST-1** was at the intersection of South Magnolia Avenue and the METRO Gold Line, at the southeast corner of the Project area. The ambient noise levels measured at location ST-1 are considered representative of background daytime noise levels associated with local commercial land uses in the area, the METRO Gold Line, and traffic on South Magnolia Avenue.
- **Location ST-2** was at the intersection of South Magnolia Avenue and West Evergreen Avenue, at the northeast corner of the Project area. The ambient noise levels measured at location ST-2 are considered representative of background daytime noise levels associated with the local commercial and other lands uses in the area, as well as traffic noise levels associated with I-210.
- **Location ST-3** was at the intersection of South Mayflower Avenue and West Evergreen Avenue, at the northwest corner of the Project area. The ambient noise levels measured at location ST-3 are considered representative of background daytime noise levels associated with the local commercial and other land uses in the area, as well as traffic noise levels associated with I-210.
- **Location ST-4** was at the intersection of South Mayflower Avenue and the METRO Gold Line, at the southwest corner of the Project area. The ambient noise levels measured at location ST-4 are considered representative of background daytime noise levels associated with the local residential land uses in the area, the METRO Gold Line, and traffic on South Mayflower Avenue.

- **Location ST-5** was on Evergreen Avenue, approximately 100 feet east of Mayflower Avenue. The ambient noise levels measured at location ST-5 are considered representative of background daytime noise levels associated with the local commercial and other land uses in the area, as well as traffic noise levels associated with I-210.
- **Location LT-1** was on Evergreen Avenue, approximately 205 feet west of South Magnolia Avenue. The ambient noise levels measured at location LT-1 are considered representative of 24-hour ambient noise exposure levels in the northern half of the Project area.
- **Location LT-2** was adjacent to the METRO Gold Line, approximately 215 feet west of South Magnolia Avenue (as measured along the METRO right-of-way [ROW]). The ambient noise levels measured at location LT-2 are considered representative of 24-hour ambient noise exposure levels in the southern half of the Project area.

Based on observations made during the ambient noise monitoring, the existing noise environment in the Project vicinity consists primarily of transportation noise sources, particularly vehicular traffic on I-210 and rail activity on the METRO Gold Line. Table 3-1 summarizes the results of the ambient noise monitoring conducted. Please refer to Appendix A for detailed ambient noise monitoring results and data sheets.

Table 3-1: Existing Ambient Noise Levels at the Project Area (dBA)

Monitoring Site	Duration	Lmin	Lmax	Leq Range			CNEL
				Daytime (7 AM – 7 PM)	Evening (7 PM – 10 PM)	Nightime (10 PM – 7 AM)	
ST-1	30 Minutes	49.7	87.9	63.7 - 70.3	--	--	--
ST-2	30 Minutes	60.3	79.4	66.2 - 77.4	--	--	--
ST-3	30 Minutes	57.9	86.7	67.8 - 68.7	--	--	--
ST-4	30 Minutes	53.5	94.4	67.5 - 73.9	--	--	--
ST-5	20 Minutes	61.1	78.2	66.5 - 66.9	--	--	--
LT-1	24-Hours	47.8	92.3	64.3 - 70.3	67.0 - 73.1	62.1 - 70.0	73.5
LT-2	24-Hours	39.2	93.5	68.9 - 73.5	68.2 - 71.8	61.6 - 71.5	75.1

Source: MIG, 2018 (See Appendix A.)

3.2.2 Existing METRO Gold Line Noise and Vibration Levels

The Project area is located adjacent to the METRO Gold Line. Rail-related noise comes from several potential sources. A locomotive engine's propulsion system generates noise from mechanical and electrical systems. The interaction of wheels with the track produces various noises, particularly where the wheel encounters a flaw or defect along smooth wheel / track surfaces. Finally, train horn or bells and railroad crossing warning devices generate short but loud alerts pursuant to federal safety regulations.

The METRO Gold Line is a commuter rail line with eastbound and westbound service at the Monrovia Station every 7 to 14 minutes Monday through Friday. Peak hourly weekday activity occurs during the AM and PM commuter periods when 9 eastbound and westbound trains can occur in an hour; typical service involves 4 to 5 eastbound and westbound trains per hour. During the weekday, service runs nearly 20 hours a day. Weekend service also runs nearly 24 hours a day, with 3 to 5 eastbound and westbound trains per hour. The METRO Gold Line crosses South Magnolia and South Mayflower Avenue at grade, with guards and warning bells provided for safety.

During the ambient noise monitoring, noise levels associated with the METRO Gold Line were observed to be in the range of 69 to 94 dB while passing at distance of approximately 5 to 20 feet from the center of the westbound track. The higher noise levels were associated with longer light rail trains (4 cars instead of 3 cars) accelerating westbound from the Monrovia Station.

Vibration monitoring was not conducted specifically for the Project; however, vibration monitoring was conducted in January 2018 for the Initial Study/Mitigated Negative Declaration for the adjacent South Station Square project (City of Monrovia 2018). The vibration monitoring for the South Station Square project was conducted approximately 525 feet from the Project, at a distance of 20 feet from the track centerline. The results of this monitoring indicate vibration levels generated by the existing METRO Gold Line are less than 0.002 PPV and 61 velocity decibels (VdB) (a measure of the vibration velocity level).

3.3 NOISE-SENSITIVE RECEPTORS

Noise sensitive receptors are buildings or areas where unwanted sound or increases in sound may have an adverse effect on people or land uses. Residential areas, motels and hotels, hospitals and health care facilities, school facilities, and parks are examples of noise receptors that could be sensitive to changes in existing environmental noise levels. Table 3-2 summarizes the noise sensitive receptors in proximity of the proposed boundary of the Alexan Specific Plan as well as the boundary of ZCA Areas A and C.

Table 3-2: Sensitive Receptor Locations

Receptor	Land Use	Direction / Location	Distance From	
			Alexan Foothills Specific Plan	ZCA Areas A and C(A)
R-1A	Single-Family Residential	East; along S. Magnolia Ave, W. Evergreen Ave, and Pomona Ave	60 ft	60ft
R-1B	Multi-Family Residential			
R-2	Multi-Family Residential	South; across the METRO Gold Line ROW (accessed via S. Mayflower Ave and Genoa St)	70 ft	70 ft
R-3	Single-Family Residential	West; along Diamond Street and the western portion of S. Mayflower Ave	260 ft	80 ft
R-4	Single-Family Residential	West; along the eastern portion of S. Mayflower Ave	70 ft	--(B)

Source: MIG 2019

(A) ZCA Areas A and C are comprised of a western portion (Parcels 4, 5, 6, 9, 14, and 15).

(B) There is no distance reported because R-4 is located within ZCA Areas A and C..

In addition, once constructed and occupied, the residential receptors associated within the Alexan Foothills Specific Plan would represent new sensitive noise receptors. However, the nearest receptor locations to each Project component are shown in Table 3-2.



Figure 4 Ambient Noise Measurement Locations

Trammel Crow Project Site, Monrovia, CA

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4 REGULATORY SETTING

4.1 FEDERAL NOISE REGULATIONS

4.1.1 Federal Transit Administration

Noise and Vibration Impact Assessment document sets ground-borne vibration annoyance criteria for general assessments. The criteria vary by the type of building being subjected to the vibrations, and the overall number of vibration events occurring each day. Category 1 buildings are considered buildings where vibration would interfere with operation, even at levels that are below human detection. These include buildings with sensitive equipment, such as research facilities and hospitals. Category 2 buildings include residential lands and buildings were people sleep, such as hotels and hospitals. Category 3 buildings consist of institutional land uses with primary daytime uses. The FTA standards vary for "frequent" events (occurring more than 70 times per day such as a rapid transit project), "occasional" events (occurring between 30 to 70 times per day) and "infrequent" events (occurring less than 30 times per day). The FTA's vibration annoyance criteria are summarized in Table 4-1.

Table 4-1: FTA Ground-Borne Vibration Impact Criteria for General Assessment

Vibration Land Use Category/Type	Frequent Events	Occasional Events	Infrequent Events
Category 1 – Buildings with sensitive equipment	65 VdB	65 VdB	65 VdB
Category 2 – Buildings where people sleep	72 VdB	75 VdB	80 VdB
Category 3 – Institutional buildings	75 VdB	78 VdB	83 VdB

Source: FTA 2006
Note: VdB = Velocity decibel

4.2 STATE NOISE REGULATIONS

4.2.1 California Building Standards Code

The California Building Standards Code is contained in Title 24 of the California Code of Regulations and consists of 11 different parts that set various construction and building requirements. Part 2, California Building Code, Section 1207, Sound Transmission, establishes sound transmission standards for interior walls, partitions, and floor/ceiling assemblies. Specifically, Section 1207.4 establishes that interior noise levels attributable to exterior noise sources shall not exceed 45 dBA DNL or CNEL (as set by the local General Plan) in any habitable room.

The California Green Building Standards Code is Part 11 to the California Building Standards Code. Relevant sections of Chapter 5, Nonresidential Mandatory Standards are noted below:

- Section 5.507.4.1.1 sets forth that buildings exposed to a noise level of 65 dB Leq (1-hour) during any hour of operation shall have exterior wall and roof-ceiling assemblies exposed to the noise source meeting a composting sound transmission class (STC) rating of at least 45 (or an outdoor indoor transmission class (OITC) of 35, with exterior windows of a minimum STC of 40.
- Section 5.507.4.2 sets forth that wall and roof assemblies for buildings exposed to a 65 dBA Leq pursuant to Section 5.507.4.1.1, shall be constructed to provide an interior noise environment

attributable to exterior sources that does not exceed 50 dBA Leq in occupied areas during any hour of operation. This requirement shall be documented by preparing an acoustical analysis documenting interior sound levels prepared by personnel approved by the architect or engineer of record.

4.2.2 CEQA

CEQA requires lead agencies to consider noise impacts. Under CEQA, lead agencies are directed to assess conformance to locally established noise standards or other agencies' noise standards; measure and identify the potentially significant exposure of people to or generation of excessive noise levels; measure and identify potentially significant permanent or temporary increase in ambient noise levels; and measure and identify potentially significant impacts associated with air traffic.

4.2.3 Caltrans

The California Department of Transportation's (Caltrans) Transportation and Construction Vibration Guidance Manual provides a summary of vibration criteria that have been reported by researchers, organizations, and governmental agencies (Caltrans 2013). Chapters Six and Seven of this manual summarize vibration detection and annoyance criteria from various agencies and provide Caltrans' recommended guidelines and thresholds for evaluating potential vibration impacts on buildings and humans from transportation and construction projects. These thresholds are summarized in Table 4-2 and Table 4-3.

Table 4-2: Caltrans' Vibration Threshold Criteria for Building Damage

Structural Integrity	Maximum PPV (in/sec)	
	Transient	Continuous
Extremely fragile buildings, ruins, monuments	0.12	0.08
Fragile buildings	0.2	0.1
Historic and some older buildings	0.50	0.25
Older residential structures	0.50	0.30
New residential structures	1.00	0.50
Modern industrial and commercial structures	2.00	0.50

Source: Caltrans,2013b
Note: PPV = peak particle velocity

Table 4-3: Caltrans' Vibration Threshold Criteria for Human Response		
Human Response	**Maximum PPV (in/sec)**	
	Transient	**Continuous**
Barely perceptible	0.035	0.012
Distinctly perceptible	0.24	0.035
Strongly perceptible	0.90	0.10
Severely perceptible	2.00	0.40
Source: Caltrans,2013b Note: PPV = peak particle velocity		

4.3 COUNTY NOISE REGULATIONS

Section 12.08.560 of the Los Angeles County Noise Control Ordinance limits vibration levels from a source to other properties of 0.01 in/sec PPV.

4.4 LOCAL NOISE REGULATIONS

The City of Monrovia General Plan and Municipal Code establish standards related to noise and vibration control.

4.4.1 City of Monrovia General Plan Noise Element

The City of Monrovia Noise Element includes several noise control programs designed to protect the City's residents from the adverse effects of uncontrolled noise by controlling noise at its source, as well as attenuating noise between the source and the receiver. The General Plan includes the following noise control programs that are relevant to the Project:

- Program No. 1: The City will continue to implement and enforce the City of Monrovia's noise ordinance for the control of unnecessary and unwanted noises. The ordinance should be enforced by the Building and Planning Department and the Police Department. The noise ordinance enforcement program should be provided with the necessary funding and expertise to ensure its effective enforcement.
- Program No. 2: The City will extend the California Building Code (California Code of Regulations, Title 24, Part 2, Appendix Chapter 12) requirements for noise mitigation in the design and construction of new multi-family residential developments, hotels, motels, dormitories, and apartment houses to include all types of residential developments. The regulations state: "Interior noise levels attributable to exterior sources shall not exceed 45 dB in any habitable room. The noise metric shall be either ... Ldn or ... CNEL, consistent with the noise element of the general plan." Additionally, an acoustical design analysis shall be required of any planned residential building or structure which is to be located where the exterior CNEL or Ldn exceed 60 dB. The residential design should be such that the interior living spaces are exposed to an Ldn or CNEL of no more than 45 dB. This may be accomplished by implementing a combination of the following:

    1. A reduction of the exterior noise to which the dwelling is exposed.
    2. Installing sound rated window suitable for the noise reduction required.

3. Configuring and insulating exterior wall and roofing systems to reduce the interior noise to acceptable levels.
4. Locating (or eliminating) vents, mail slots, etc., to minimize sound propagation into the home.
5. Installing forced air ventilation as needed to provide a habitable living space if the interior Ldn or CNEL level is to be met with all or some windows closed.

- **Program No. 3:** The City may implement a noise zoning code, defining compatible land usage requirements based on the guidelines of Figure 2. The City would require an analysis of whether or not the proposed development would be in compliance with this code. If the development falls in the CNEL or Ldn range above that indicated for the normally acceptable category, noise control design steps must be included in the project plans.
- **Program No. 6:** Future projects within the City will reflect a consciousness on the part of the City regarding the reduction of unnecessary noise near noise-sensitive areas such as residences, schools, parks, hospitals, libraries, and convalescent homes. Actions that can be taken to implement this program can include:
    1. Maintain liaison with transportation agencies such as Caltrans and the FHWA regarding the reduction of noise from existing facilities. The design and location of new facilities will also be considered.
    2. Consideration should be given to buffering noise-sensitive areas from noise-generating land uses.
    3. Noise monitoring within the City will be an ongoing process conducted by the appropriate departments.
    4. Ensure that the segment of the Pasadena Blue Line Extension project that would go through the City of Monrovia will be designed to meet FTA and other relevant noise criteria; close attention shall be paid to the potential adverse noise effects on residences and other noise sensitive receptors located in the vicinity of the proposed Blue Line station near the Myrtle Avenue / Duarte Road intersection, as well along the transit route.
    5. Close attention shall be paid to the noise evaluation in environmental assessments, environmental impact reports and environmental impact statements.

Regarding Noise Control Program No. 3, the land use compatibility guidelines referenced in the 2002 General Plan Noise Element are reproduced in Table 4-4; however, the City has not adopted nor incorporated land use noise compatibility standards into its zoning code.

Table 4-4: General Plan Land Use Compatibility Guidelines				
Land Use Category	**Community Noise Equivalent Level (in dBA, CNEL)**			
	Normally Acceptable	**Conditionally Acceptable**	**Normally Unacceptable**	**Clearly Unacceptable**
Residential – Low Density Single Family, Duplex, Mobile homes	≤ 60	≤ 70	≤ 75	> 75
Residential – Multi Family	≤ 65	≤ 70	≤ 75	> 75
Transient Lodging – Motels, Hotels	≤ 65	≤ 70	≤ 80	> 80
Schools, Libraries, Churches, Hospitals, Nursing Homes	≤ 70	≤ 70	≤ 80	> 80
Auditoriums, Concert Halls, Amphitheaters	--	≤ 65	--	> 80
Sports Arenas, Outdoor Spectator Sports	--	≤ 70	--	> 70
Playground, Neighborhood Parks	≤ 70	--	≤ 75	> 75
Golf Course, Riding Stables, Water Recreation, Cemeteries	≤ 75	--	≤ 80	> 80
Office Buildings, Business Commercial and Professional	≤ 70	≤ 77.5	> 77.5	--
Industrial, Manufacturing, Utilities, Agriculture	≤ 75	≤ 80	> 80	--
Land Use Compatibility Interpretation:				
Normally Acceptable:	*Specific land use is satisfactory based upon the assumption buildings involved are of normal conventional construction, without any special noise insulation requirements.*			
Conditionally Acceptable:	*New construction or development should be undertaken only after a detailed analyses of noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.*			
Normally Unacceptable:	*New construction or development should be generally discouraged. If new construction or development does proceed, a detailed analysis of noise reduction requirements must be made and needed noise insulation features included in the design.*			
Clearly Unacceptable:	*New development should generally not be undertaken.*			

Source: City of Monrovia General Plan Noise Element

4.4.2 City of Monrovia Municipal Code

The City's existing Municipal Code regulates unnecessary, excessive, and annoying noise and vibration generated by certain sources of noise. The City's code is intended to maintain quiet residential areas that exhibit low noise levels, and to implement programs that reduce noise in residential areas where noise levels are above acceptable values.

Existing Municipal Code Title 9, Public Peace, Morals, and Safety, Chapter 9.44, Noise, includes the following standards related to noise:

- **Section 9.44.030, General Prohibition,** sets forth that it is unlawful for any person to willfully generate any loud, unnecessary, or unusual noise which unreasonably disturbs the peace and quiet of any neighborhood or which causes any discomfort or annoyance to any reasonable person of normal sensitivity, given factors such as the volume, intensity, nature, duration, and timing of the noise.
- **Section 9.44.040, Allowable Noise Levels**, sets forth that no person shall create or allow the creation of noise on any residential property which causes the noise level to exceed the actual

measured median ambient noise level, or the following presumed ambient noise level, whichever is greater:

- During the daytime (7 AM to 9 PM), the allowable noise level is 55 dBA
- During the nighttime (9 PM to 7 AM), the allowable noise level is 50 dBA

If the intruding noise source is continuous and cannot be reasonably discontinued for sufficient time in which the ambient noise level can be determined, the presumed ambient noise level shall be used.

- **Section 9.44.060, Permitted Increases in Noise Levels,** sets forth that increase in the allowable noise levels described above are permitted as follows:
  - A 5 dBA increase is permitted for 15 minutes per hour
  - A 10 dBA increase is permitted for 5 minutes per hour
  - A 15 dBA increase is permitted for 1 minute per hour
  - A 20 dBA increase is permitted for less than one minute per hour.
- **Section 9.44.080, Exemptions**, sets forth that the following activities are exempt from the noise control provisions of the City's Municipal Code:
  - Emergency sounds
  - Noise generating activities made while performing governmental duties
  - Noise generating activities conducted on public playgrounds and public or private school grounds
  - The handling of boxes, crates, containers, garbage cans, or other similar objects between the hours of 7 AM and 7 PM
  - The operation of mechanically powered saws, drills, grinders, lawn or garden tool, or similar tool between 7 AM and 7 PM Monday to Friday and 10 AM and 10 PM on weekends and holidays
  - Construction or demolition work conducted between the hours of 7 AM and 7 PM Monday to Friday and 9 AM and 6 PM on weekends and holidays
- **Section 9.44.090, Radios, Television Sets, and Similar Devices**, sets forth that it is unlawful for any person within any residential zone to use or operate any radio, musical instrument, stereo system, entertainment system, television set, or other machine or device for producing or reproducing sound between the hours of 10 PM and 7 AM in a manner that disturbs the peace, quiet, and comfort of neighboring residents or any reasonable person of normal sensitivity residing in the area.

Existing Municipal Code Title 17, Zoning, Chapter 17.32, Performance Standards, includes the following standards related to noise and vibration:

- **Section 17.32.040, Noises**, sets forth that the maximum sound level radiated by any use of facility, when measured at the boundary line of the property on which the sound is generated, shall not be obnoxious by reason of its intensity, pitch or dynamic characteristics, as determined by the City.

- **Section 17.32.040, Vibration**, sets forth that no vibration shall be permitted which causes a noticeable tremor beyond the boundary line of the property upon which the vibration exists.

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5 PROPOSED PROJECT DESCRIPTION

The City of Monrovia (City) is proposing a new Planned Development (PD), Planned Development 27 (PD-27), Station Square West, within a 9.63-acre Project area. Within this area, a Planned Development General Plan Amendment (PD GPA) and Planned Development Zoning Code Amendment (PD ZCA) are proposed, as well as a proposed 6.77-acre Alexan Foothills Specific Plan (Specific Plan) within a portion of the area proposed for the GP/ZCA.

The City is in the San Gabriel Valley region of Los Angeles County. The Project area comprises one City block on approximately 9.63 acres. The block is bounded by West Evergreen Avenue to the north, South Magnolia Avenue to the east, South Mayflower Avenue to the west, and the METRO Gold Line light rail to the south. The Project area is located primarily within an urbanized industrial area.

General Plan Amendment

The GPA area encompasses the entire Project area. Current land uses within the 9.63-acre GPA area include a mix of residential, industrial, and institutional uses, which are described in more detail below under the ZCA area heading.

Zoning Code Amendment

The ZCA area encompasses the same 9.63 acres as the GPA area and involves establishment of new Planned Development 27. The Project area is currently developed with a mix of light industrial (approximately 70,750 square feet) and warehouse (approximately 10,120 square feet) uses with five single-family residences, an institutional place of worship (approximately 6,630 square feet), and an office. The Project area also contains private surface parking throughout the area and two cellular towers. Three areas have been defined with the ZCA area, referred to as Areas A, B, and C (Figure 3-3), which are described as follows:

- Area “A” encompasses 2.30 acres in the western portion of the Project area where there is a mix of residential and commercial/industrial buildings;
- Area “B” encompasses the middle 6.77-acre portion (the Alexan Foothills Specific Plan area). This area is developed with three light industrial structures, one residential unit, the institutional place of worship and associated trailers, the commercial office building, and one asphalt covered storage lot, all constructed between 1942 and 1987. The following parcels are within the Alexan Foothills Specific Plan boundaries (Assessor Parcel Numbers [APNs] 8507-006-016, -022, -024, -035, -041, -042, -043, and -044); and
- Area “C” encompasses the 0.56-acre northeastern portion of the Project area and is developed with three commercial/industrial buildings.

Alexan Foothills Specific Plan

The Alexan Foothills Specific Plan would allow a 436-unit, five-story apartment complex and an eight-level (seven stories) parking structure, containing 798 stalls. The apartment complex would include two pools and several tenant amenity courtyards. The Magnolia Avenue street frontage proposes a two-story lobby, fitness room, and four live-work units, all with apartments above. Three outdoor/rooftop amenity decks are planned on top of the apartment complex’s fourth level; two rooftop decks face the San Gabriel Mountains to the north, and the other faces west. Other tenant amenities include a pet spa, bike “kitchen” (i.e., bicycle repair area), tenant lounge, centralized mail/package delivery room, and a golf simulation room. No offsite improvements to utilities are proposed under the Specific Plan.

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6 NOISE IMPACT ANALYSIS

This chapter describes potential impacts related to noise and vibration that could result from the proposed Project. The chapter also recommends mitigation measures as needed to reduce significant impacts.

6.1 THRESHOLDS OF SIGNIFICANCE

Based on the CEQA Guidelines, Appendix G: Items XIII (a) through (c), implementation of the Project would have a significant impact related to noise and vibration if it would:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in:
    - The City of Monrovia Municipal Code Title 9, Public Peace, Morals, and Safety, Chapter 9.44, Noise; or
    - The City of Monrovia Municipal Code Title 17, Zoning, Chapter 17.31, Performance Standards; or
    - The City of Monrovia General Plan Noise Element; or
    - Other potentially applicable state or agency standards.
- Generate excessive ground vibration or ground-borne noise levels.
- For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would expose people residing or working in the project area to excessive noise levels.

For the purposes of this Report, the proposed Project would result in a substantial permanent increase in ambient noise levels if it would:

- Cause the Ldn at an adjacent land use to increase by 5.0 dBA or more where noise levels would remain below the land use compatibility guidelines referenced in the 2002 General Plan Noise Element (reproduced in Table 4-4); or
- Cause the Ldn at an adjacent land use to increase by 3.0 dBA or more where noise levels would equal or exceed the land use compatibility guidelines referenced in the 2002 General Plan Noise Element (reproduced in Table 4-4).

For the purposes of this Report, the proposed Project would result in a substantial temporary or periodic noise impact if it would:

- Result in a 10 dB or greater increase in hourly noise levels above ambient conditions for two or more hours per day, five days a week, for a period of 12 months or more.

For temporary construction noise, the City considers construction activities resulting in a 10 dB increase in hourly noise levels above ambient conditions to be a temporary and substantial increase in noise levels, provided this increase occurs for two or more hours a day, five days a week, for more than 12 months. A 10 dB increase above existing ambient conditions is typically perceived as a “doubling” of loudness, which in limited doses would not be substantial. Prolonged exposure to project-specific construction noise levels that are twice as loud as the ambient environmental level in which the receiver is

accustomed to, however, would be considered substantial, even if such noise levels occur on a temporary basis.

6.2 ENVIRONMENTAL IMPACTS

6.2.1 Noise and Land Use Compatibility / Compliance with Applicable Standards

The Project would result in the placement of new, noise-sensitive, residential land uses in close proximity to the I-210 and METRO Gold Line. The following analysis evaluates if new residential receptors in the Project area would be exposed to noise levels that exceed City standards. The analysis also evaluates if the new residential developments would generate noise levels that could exceed City standards.

Exposure to Noise Levels that Exceed Standards

As shown earlier in Table 3-1, the Project area is subject to high ambient noise levels that are primarily associated with traffic noise from I-210 and rail noise from the METRO Gold Line. Measures daytime and nighttime hourly noise levels were generally above 65 dBA Leq (as measured at the Project area boundary) and did not fluctuate significantly, indicating noise levels associated with the I-120 and the METRO Gold Line are consistent throughout the daytime and nighttime period.

The calculated CNEL (at the Project area boundary) adjacent to the I-210 and METRO Gold Line is 73.5 and 75.1 CNEL, respectively (Table 3-1). Although these noise levels represent existing conditions, they are not expected to change substantially in the future since traffic volumes on I-210 are already substantial and the METRO Gold Line currently operates with a high level of frequency.

Alexan Foothills Specific Plan Noise Exposure

The current conceptual site plan for the Alexan Foothills Specific Plan includes a number of design features that would reduce noise levels at exterior building facades and corresponding interior noise levels, including:

- Building setbacks of at least 20 feet or more from the edge of the West Evergreen and METRO Gold Line ROWs.
- Building orientation that limits exterior residential wall exposure to direct noise from the I-210 and the METRO Gold Line. The current conceptual site plan shows 27 units with exterior wall exposure to the I-210 (plus one exterior roof deck) and 45 units with exterior wall exposure to the METRO Gold Line. Thus, only 16% of the total available units would be subject to the worst-case noise levels at the site.
- Residential unit design that places bedrooms on the interior of the unit and less sensitive spaces (kitchens, closets, etc.) along the exterior wall facing the I-210 and METRO Gold Line ROW.
- Use of outdoor recreation space and the proposed parking garage to buffer residential units from noise associated with the I-210 and the METRO Gold Line. Higher noise levels are generally acceptable in outdoor recreation spaces due to the shorter exposure period (i.e., non-continuous, short-term exposure) and the fact that outdoor activities are typically less sensitive to the subjective and interference effects of noise (e.g., annoyance, nuisance, interference with sleep or speech).

- Incorporation of a vegetated screening wall along the southern property line to limit line of sight / direct observation of METRO Gold trains.

With building setbacks, the CNEL at exterior building facades for the Alexan Foothills Specific Plan would likely be in the range of 71 to 72 CNEL in the northern and southern parts of the Alexan Foothills Specific Plan area. Exterior noise levels at proposed Courtyard #3 and the secondary recreation courtyard would not exceed 70 dB CNEL.

ZCA Areas A and C Noise Exposure

The ZCA would allow for development of multi-family land use(s) in ZCA Areas A and C that would likely be similar to the proposed Alexan Foothills Specific Plan area (i.e., a multi-story residential development); however, no specific development is proposed at this time. Since building setbacks would be similar to those proposed for the Alexan Foothills Specific Plan, future residential buildings within the ZCA Areas A and C would likely be exposed to similar noise levels as the Alexan Foothills Specific Plan (72 to 74 CNEL in the northern and southern parts of the Project area, respectively).

Impact Significance Determination

Based on the ambient noise measurements performed for the Project, potential residential units within the Project area that front West Evergreen Avenue and the I-210 would be exposed to noise levels of approximately 72 CNEL, while potential residential units that front the METRO Gold Line ROW would be exposed to noise levels of approximately 74 CNEL.

Ambient noise levels greater than 70 dB CNEL in the Project area exceed the levels at which the California Building Standards Code, California Green Building Standards Code, and the General Plan require the preparation of an acoustical analysis documenting compliance with applicable interior noise standards of 45 CNEL in any habitable room (pursuant to the Section 1207.4 of the California Building Code, Part 2, Volume 1) and 50 dBA Leq (1-hour) for any occupied room (pursuant to Section 5.507.4.2 of the California Green Building Standards Code)[1].

Standard construction techniques and materials are commonly accepted to provide a minimum exterior to interior noise attenuation (i.e., reduction) of 22 to 25 dBA with all windows and doors closed, which would result in interior noise levels of approximately 47 to 50 CNEL dBA for units fronting I-210 and approximately 49 to 52 CNEL for units fronting the METRO Gold Line ROW[2]. Since interior noise levels

[1] Part 2 of the California Building Code, Section 1207, Sound Transmission, establishes sound transmission standards for interior walls, partitions, and floor/ceiling assemblies. Specifically, Section 1207.4 establishes that interior noise levels attributable to exterior noise sources shall not exceed 45 dBA DNL or CNEL (as set by the local General Plan) in any habitable room. Chapter 5 of the California Green Building Standards Code, Section 5.507 sets forth environmental comfort/acoustical control requirements for building assemblies that are prescriptive- based (i.e., assemblies meet certain prescribed exterior to interior noise attenuation levels) or performance-based (i.e., the interior noise environment shall not exceed 50 dBA on an hourly equivalent noise level basis in occupied areas. Both the prescriptive and performance standard contained in the Green Building Standards Code apply to projects located within a 65 CNEL noise contour of an airport, freeway, railroad, industrial source, etc. or otherwise exposed to a noise level of 65 dBA on an hourly Leq basis.

2 The U.S. Department of Housing and Urban Development (HUD) Noise Guidebook and supplement (2009a, 2009b) includes information on noise attenuation provided by building materials and different construction techniques. As a reference, a standard exterior wall consisting of 5/8-inch siding, wall sheathing, fiberglass insulation, two by four wall studs on 16-inch centers, and 1/2-inch gypsum wall board with single strength windows provides approximately 35 dBs of attenuation between exterior and interior noise levels. This reduction may be

would continue to exceed applicable City and State standards, this is considered a potentially significant impact.

To ensure potential interior noise levels meet applicable standards, the City shall require all development proposals in the Project area, including the Alexan Foothills Specific Plan, to implement mitigation measure MM NOI-1, which requires the preparation of an acoustical analysis to document compliance with interior noise level requirements. Mitigation measure MM NOI-1 would ensure applicable exterior and interior noise standards are met by new development within the Project area. Thus, this measure would ensure that buildout of the Project would not expose people to noise levels that exceed standards and impacts would be reduced to a less than significant level.

Mitigation Measures

Mitigation measure MM NOI-1 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

Mitigation Measure NOI-1: Prior to the issuance of a building permit for any development in the Project area, the City shall review and approve an acoustical analysis, prepared by or on behalf of the applicant, and based on the final design, that:

1. Identifies the exterior noise levels at the:
    a. Exterior building facades that face West Evergreen Avenue/I-210, South Magnolia Avenue, and the METRO Gold Line ROW; and
    b. Exterior recreation areas, including patios, that face and have a line of sight to West Evergreen Avenue/I-210, South Magnolia Avenue, and the METRO Gold Line ROW.
2. Identifies the final site and building design features that would:
    a. Attenuate exterior building façade noise levels to interior levels that do not exceed 45 CNEL in habitable rooms and 50 dBA Leq (1-hour) in other occupied rooms. Potential noise insulation site and building design features capable of achieving this requirement may include, but are not limited to:
        i. Sound barriers;
        ii. Enhanced exterior wall construction/noise insulation design;
        iii. Use of enhanced window, door, and roof assemblies with above average sound transmission class (STC) or outdoor/indoor transmission class (OITC) values; or
        iv. Use of mechanical, forced air ventilation systems to permit a windows closed condition in residential units.

Plan Requirements and Timing: An acoustical report shall be submitted to City Planning for review and approval prior to the issuance of building permits, documenting that actual interior and exterior noise level at the locations indicated in this measure, meet City and State standards.

Monitoring: City Planning staff shall approve the acoustical analysis prior to issuance of building permits.

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slightly lower (2-3 dBs) for traffic noise due to the specific frequencies associated with traffic noise. Increasing window space may also decrease attenuation, with a reduction of 10 dBs possible if windows occupy 30% of the exterior wall façade.

Proposed Project Generation of Noise Levels that Exceed Standards

Once constructed, the proposed Alexan Foothills Specific Plan and future development in ZCA Areas A and C would generate noise levels from increased vehicle parking activities, stationary sources of equipment such as potential heating, ventilation, and air conditioning (HVAC) equipment, and a back-up generator and fire pump. The potential noise levels generated by these activities and equipment are described below.

Alexan Foothills Specific Plan Operational Noise Generation

Parking Garage Noise. The proposed Alexan Foothills Specific Plan parking garage would increase the noise levels at the site by providing additional parking capacity, reflection of sound waves, etc. Noise sources associated with the parking garage (e.g., car horns, doors slamming, cars starting, etc.) would be intermittent. These types of noises would not differ substantially from the noise generated by existing parking activities in the Project area, but the frequency of these events would increase. Potential increases in noise resulting from the new parking garage were quantified using the following equations contained in the FTA's *Transit Noise and Vibration Impact Assessment* manual (FTA 2006).

$$\mathbf{Leq(h) = SEL_{ref} + C_N - 36.5}$$

and

$$\mathbf{C_N = 10 \times \log(N_A / 1{,}000)}$$

Where:

Leq(h)	=	Hourly Leq at 50 feet
SEL_{ref}	=	Source Reference Level at 50 feet
C_N	=	Volume Adjustment (SEL_{ref} is based on 1,000 cars in peak activity hour)
N_A	=	Number of Automobiles per Hour

To calculate the Leq and CNEL at 50 feet from the parking garage, hourly noise levels were first calculated throughout the day using the equations above, where, according to the FTA, the SELref for parking garages is 92 dBA. The AM peak hour calculations accounted for 143 hourly trips, the PM peak hour (calculations accounted for 194 hourly trips, and the remaining 1,601 trips were divided evenly throughout the remaining 22 hours in the day (i.e., approximately 73 average trips her hour). This methodology is considered conservative (i.e., likely to overestimate CNEL) since it likely overestimates activity at the parking garage from the hours of 10:00 PM to 7:00 AM, when a 10 dBA penalty is applied to the hourly noise levels used to calculate the CNEL (see Section 2.1.3).

The results of the calculation indicate the parking garage would result in a worst-case hourly Leq value of 49.3 dBA (during the PM peak hour activity) and a CNEL of 51.8, which is more than 20 dBA lower than the existing ambient noise level measured at LT-2 (75.1 CNEL). In general, when two noise levels are 10 dB or more apart, the lower value does not contribute significantly (less than 0.5 dB) to the total noise level. Thus, potential noise levels from the Alexan Foothills Specific Plan parking garage would comply with the standards contained in Municipal Code Section 9.44.040 and would not result in a substantial increase in ambient noise levels in the vicinity of the Project.

Mechanical Equipment. The proposed parking garage would be an open air structure and would not require fresh air supply or exhaust supply fans to provide ventilation throughout the garage.

Mechanical equipment associated with the Alexan Foothills Specific Plan would include pool equipment (e.g., pumps), elevators, and individual HVAC units. Pool and elevator equipment would be contained within mechanical rooms, and the HVAC units necessary to cool and ventilate residential units would be small charge/load units mounted on each rooftop and contained behind a parapet wall that would direct sound upwards. The mechanical equipment associated with the proposed Alexan Foothills Specific Plan would comply with the standards contained in Municipal Code Section 9.44.040 and would not result in a substantial increase in ambient noise levels in the vicinity of the Project.

Other Operational Noise Sources Including Stationary Noise Sources

The Alexan Foothills Specific Plan would include ground level and rooftop recreational spaces, resident amenities such as a pet spa and fitness center, refuse collection services, a 50-horsepower emergency generator, and a 50-horsepower emergency fire pump which could be tested approximately one-half hour to one-hour per month.

The Specific Plan's recreational spaces and amenities would provide residents recreation and residential services, including areas to sit, eat, and socialize. This type of anticipated activity is consistent with other land uses in the area and would not result in a substantial increase in noise levels in the immediate area.

Refuse collection services would be congregated in the center of the Specific Plan area, with collection services occurring on West Evergreen Avenue, adjacent to the I-210 and away from sensitive receptors. Thus, refuse collection services would not generate substantial noise levels at noise sensitive receptor locations.

The 50-horsepower back-up generator and 50 hp emergency fire pump would be located within designated mechanical rooms. These pieces of equipment would only be used on an intermittent emergency basis with the exception of regular testing (assumed to be one hour per month). Noise from these pieces of equipment would also be shielded by their enclosures, and therefore, would not exceed noise standards at the locations of residences.

Therefore, operational noise impacts generated by the proposed Alexan Foothills Specific Plan would be less than significant.

Mitigation Measures

No mitigation measures are required.

Operational Noise Generation in ZCA Areas A and C

Although a specific development is not proposed at this time, future development in the remaining Although a specific development is not proposed at this time, future development in ZCA Areas A and C would be likely to generate noise levels from the same type of sources as the Alexan Foothills Specific Plan. However, the overall noise generating activities in these areas would likely be approximately 80% less than that of the Alexan Foothills Specific Plan, based on potential development capacity in ZCA Areas A and C. As described above, the Alexan Foothills Specific Plan would not generate onsite noise levels that have the potential to exceed City standards or result in a substantial permanent increase in ambient noise levels. Since the ZCA would result in less noise generating activities and equipment than the Alexan Foothills Specific Plan, it would also not have the potential to generate onsite noise levels that have the potential to exceed City standards or result in a substantial permanent increase in ambient noise levels. Therefore, impacts would be less than significant.

Mitigation Measures

No mitigation measures are required.

Operational Noise Levels Associated with Entire Project

The potential for noise sources in the Alexan Foothills Specific Plan area and ZCA Areas A and C to combine is limited to two areas where the different properties would abut each other. Otherwise, residential buildings, parking garage, and other structures in the proposed development under the Alexan Foothills Specific Plan, would shield adjacent properties.

The first area would be in the northeast corner of the Project area, near the intersection of South Magnolia Avenue and West Evergreen Avenue. The noise generating activities from the Alexan Foothills Specific Plan in this area would generally be limited to low-speed vehicle noise associated with vehicles entering and exiting the development, as well as some office and commercial activities associated with the leasing office in this area. Although there is no specific development proposal for this ZCA area (Area C) at this time, because this area is currently an industrial use, sensitive receptors are not expected in this area in the future. Therefore, combined noise levels in this area could only affect receptors R-1A and R-1B, located approximately 60 feet east of the Project, across South Magnolia Avenue.

The second area would be in the interior of the Project area, where the western boundary of the Alexan Foothills Specific Plan abuts the eastern boundary of the ZCA Area A along Mayflower Avenue. The noise generating activities from the Alexan Foothills Specific Plan in this area would generally be limited to use of the secondary recreation courtyard, residential uses, and roof deck activities. Although there is no specific development proposal for ZCA Area A at this time, it is assumed that the noise generating activities from future development in this area would consist of similar noise generating activities. The combined noise levels in this area could only affect the residence located approximately 70 feet south of the Project, across the METRO Gold Line ROW (i.e., sensitive receptor location R-2; see Table 3-2).

The combined noise levels generated by the Alexan Foothills Specific Plan and future development in ZCA Areas A and C, would not be substantially different than the individual noise levels associated with each Project component. As described in Section 2.1.2, when two or more sources of equivalent noise are combined, the resulting increase in noise levels is approximately 3 dB. An increase in 3 dB is barely perceptible by humans and would not be significant. Therefore, this impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

6.2.2 Substantial Permanent Increases in Ambient Noise Levels

Alexan Foothills Specific Plan and ZCA Areas A and C

The Alexan Foothills Specific Plan and other future development in ZCA Areas A and C would not generate noise levels that exceed City standards or result in a substantial permanent increase in noise at or in the Project area.

However, the Alexan Foothills Specific Plan and future development in ZCA Areas A and C would generate traffic that would be distributed onto the local roadway system, potentially increasing noise levels along travel routes. The following analysis evaluates the potential increases in traffic noise levels resulting from the Alexan Foothills Specific Plan, future development of ZCA Areas A and C, and both combined.

Caltrans considers a doubling of total traffic volume to result in a 3 dBA increase in traffic-related noise levels (Caltrans 2013a). If the Project would not result in a doubling of traffic volumes on the local roadway system, it would not result in a substantial permanent increase in traffic-related noise levels. A noise level of less than 3 dBA is typically not perceptible to the human ear in an outdoor environment.

Alexan Foothills Specific Plan Increases in Traffic Noise Levels

The TIA identifies that the Alexan Foothills Specific Plan would result in a net increase in trip generation equal to 1,938 vehicle trips (LSA 2018). Table 6-1 and Table 6-2 identify the increases in traffic noise levels attributable to the Alexan Foothills Specific Plan under existing (2018) and cumulative (2035) conditions, based on the trip distribution assumptions contained in the TIA.

Table 6-1: Alexan Foothills Specific Plan Net Change in ADT (Existing 2017)

ID	Road	Segment	Existing ADT	Existing Plus SP ADT	Percent Change
1A	Duarte Road	West of Mayflower	21,445	21,545	0.47%
1B	Duarte Road	Mayflower to Magnolia	17,531	17,531	0.00%
1C	Duarte Road	Magnolia to Myrtle	17,531	17,731	1.14%
1D	Duarte Road	East of Myrtle	10,667	10,767	0.94%
2A	**W. Evergreen Avenue**	**Mayflower to Magnolia**	**2,300**	**2,900**	**26.09%**
2B	W. Evergreen Avenue	Magnolia to Myrtle	2,500	2,700	8.00%
3A	Huntington Drive	Mayflower to Magnolia	25,299	25,499	0.79%
3B	Huntington Drive	Magnolia to Myrtle	25,29	25,399	0.40%
4A	Mayflower Avenue	North of Evergreen	15,416	15,716	1.95%
4B	Mayflower Avenue	Evergreen to Duarte	15,236	15,336	0.66%
4C	Mayflower Avenue	South of Duarte	7,200	7,200	0.00%
5A	Magnolia Avenue	Huntington to Evergreen	6,790	7,490	10.31%
5B	Magnolia Avenue	Evergreen to Duarte	6,255	6,755	7.99%
6A	Myrtle Avenue	Huntington to Central	21,331	21,531	0.94%
6B	Myrtle Avenue	Central to Duarte	19,904	19,904	0.00%
6C	Myrtle Avenue	South of Duarte	21,578	21,678	0.46%

Source: LSA 2018

Table 6-2: Alexan Foothills Specific Plan Net Change in ADT (Future 2035)

ID	Road	Segment	Future ADT	Future Plus SP ADT	Percent Change
1A	Duarte Road	West of Mayflower	23,900	24,000	0.42%
1B	Duarte Road	Mayflower to Magnolia	19,700	19,700	0.00%
1C	Duarte Road	Magnolia to Myrtle	19,800	20,000	1.01%
1D	Duarte Road	East of Myrtle	12,100	12,200	0.83%
2A	**W. Evergreen Avenue**	**Mayflower to Magnolia**	**2,500**	**3,100**	**24.00%**

Table 6-2: Alexan Foothills Specific Plan Net Change in ADT (Future 2035)					
ID	**Road**	**Segment**	**Future ADT**	**Future Plus SP ADT**	**Percent Change**
2B	W. Evergreen Avenue	Magnolia to Myrtle	2,700	2,900	7.41%
3A	Huntington Drive	Mayflower to Magnolia	28,600	28,800	0.70%
3B	Huntington Drive	Magnolia to Myrtle	28,500	28,600	0.35%
4A	Mayflower Avenue	North of Evergreen	16,900	17,200	1.78%
4B	Mayflower Avenue	Evergreen to Duarte	16,700	16,800	0.60%
4C	Mayflower Avenue	South of Duarte	7,900	7,900	0.00%
5A	Magnolia Avenue	Huntington to Evergreen	8,100	8,800	8.64%
5B	Magnolia Avenue	Evergreen to Duarte	7,700	8,200	6.49%
6A	Myrtle Avenue	Huntington to Central	24,900	25,100	0.80%
6B	Myrtle Avenue	Central to Duarte	24,000	24,000	0.00%
6C	Myrtle Avenue	South of Duarte	24,100	24,200	0.41%
Source: LSA 2018					

As shown in Table 6-1 and Table 6-2, the Alexan Foothills Specific Plan could result in up to an additional 26% increase in traffic volumes on roadways segments near the Project (West Evergreen Avenue). Since the Alexan Foothills Specific Plan would not double traffic volumes on roadways in the Project vicinity, traffic noise would not increase by 3 dBA. Therefore, this impact is less than significant.

Mitigation Measures

No mitigation measures are required.

ZCA Areas A and C Increases in Traffic Noise Levels

TThe TIA identifies that future development in the ZCA Areas A and C would result in a net increase in trip generation equal to 425 vehicle trips (LSA 2018). Table 6-3 and Table 6-4 identify the increases in traffic noise levels attributable to future development in the ZCA areas under existing (2018) and cumulative (2035) conditions, based on the trip distribution assumptions contained in the TIA.

Table 6-3: GP/ZCA Net Change in ADT (Existing 2017)					
ID	**Road**	**Segment**	**Existing ADT**	**Existing Plus GP/ZCA ADT**	**Percent Change**
1A	Duarte Road	West of Mayflower	21,445	21,545	0.47%
1B	Duarte Road	Mayflower to Magnolia	17,531	17,531	0.00%
1C	Duarte Road	Magnolia to Myrtle	17,531	17,531	0.00%
1D	Duarte Road	East of Myrtle	10,667	10,767	0.94%
2A	**W. Evergreen Avenue**	**Mayflower to Magnolia**	**2,300**	**2,400**	**4.35%**
2B	W. Evergreen Avenue	Magnolia to Myrtle	2,500	2,500	0.00%
3A	Huntington Drive	Mayflower to Magnolia	25,299	25,399	0.40%
3B	Huntington Drive	Magnolia to Myrtle	25,29	25,299	0.00%
4A	Mayflower Avenue	North of Evergreen	15,416	15,416	0.00%

Table 6-3: GP/ZCA Net Change in ADT (Existing 2017)					
ID	**Road**	**Segment**	**Existing ADT**	**Existing Plus GP/ZCA ADT**	**Percent Change**
4B	Mayflower Avenue	Evergreen to Duarte	15,236	15,236	0.00%
4C	Mayflower Avenue	South of Duarte	7,200	7,200	0.00%
5A	Magnolia Avenue	Huntington to Evergreen	6,790	6,990	2.95%
5B	Magnolia Avenue	Evergreen to Duarte	6,255	6,355	1.60%
6A	Myrtle Avenue	Huntington to Central	21,331	21,331	0.00%
6B	Myrtle Avenue	Central to Duarte	19,904	19,904	0.00%
6C	Myrtle Avenue	South of Duarte	21,578	21,578	0.00%
Source: LSA 2018					

Table 6-4: GP/ZCA Net Change in ADT (Future 2035)					
ID	**Road**	**Segment**	**Future ADT**	**Future Plus GP/ZCA ADT**	**Percent Change**
1A	Duarte Road	West of Mayflower	23,900	24,000	0.42%
1B	Duarte Road	Mayflower to Magnolia	19,700	19,700	0.00%
1C	Duarte Road	Magnolia to Myrtle	19,800	19,800	0.00%
1D	Duarte Road	East of Myrtle	12,100	12,200	0.83%
2A	**W. Evergreen Avenue**	**Mayflower to Magnolia**	**2,500**	**2,600**	**4.00%**
2B	W. Evergreen Avenue	Magnolia to Myrtle	2,700	2,700	0.00%
3A	Huntington Drive	Mayflower to Magnolia	28,600	28,700	0.35%
3B	Huntington Drive	Magnolia to Myrtle	28,500	28,500	0.00%
4A	Mayflower Avenue	North of Evergreen	16,900	16,900	0.00%
4B	Mayflower Avenue	Evergreen to Duarte	16,700	16,700	0.00%
4C	Mayflower Avenue	South of Duarte	7,900	7,900	0.00%
5A	Magnolia Avenue	Huntington to Evergreen	8,100	8,300	2.47%
5B	Magnolia Avenue	Evergreen to Duarte	7,700	7,800	1.30%
6A	Myrtle Avenue	Huntington to Central	24,900	24,900	0.00%
6B	Myrtle Avenue	Central to Duarte	24,000	24,000	0.00%
6C	Myrtle Avenue	South of Duarte	24,100	24,100	0.00%
Source: LSA 2018					

As shown in Table 6-3 and Table 6-4, ZCA Areas A and C could result in up to an additional 4.35% increase in traffic volumes on roadways segments near the Project (West Evergreen Avenue). Since potential future development in ZCA Areas A and C would not double traffic volumes on roadways in the Project vicinity, traffic noise would not increase by 3 dBA. Therefore, this impact is less than significant.

Mitigation Measures

No mitigation measures are required.

Combined Increases in Traffic Noise Levels

The TIA identifies that the Alexan Foothills Specific Plan and potential future development in ZCA Areas A and C would result in a combined net increase in trip generation equal to 2,363 vehicle trips (LSA 2018). Table 6-5 and Table 6-6 identify the increases in traffic noise levels attributable to the Alexan Foothills Specific Plan and potential future development in ZCA Areas A and C under existing (2018) and cumulative (2035) conditions, based on the trip distribution assumptions contained in the TIA.

As shown in Table 6-5 and Table 6-6, the Project could result in up to an additional 30.4% increase in traffic volumes on roadway segments near the Project (West Evergreen Avenue). Since the combined Project development would not double traffic volumes on roadways in the Project vicinity, traffic noise would not increase by 3 dBA. Therefore, this impact is less than significant.

Mitigation Measures

No mitigation measures are required.

Table 6-5: Project Net Change in ADT (Existing 2017)

ID	Road	Segment	Existing ADT	Existing Plus Project ADT	Percent Change
1A	Duarte Road	West of Mayflower	21,445	21,645	0.93%
1B	Duarte Road	Mayflower to Magnolia	17,531	17,531	0.00%
1C	Duarte Road	Magnolia to Myrtle	17,531	17,731	1.14%
1D	Duarte Road	East of Myrtle	10,667	10,867	1.87%
2A	**W. Evergreen Avenue**	**Mayflower to Magnolia**	**2,300**	**3,000**	**30.43%**
2B	W. Evergreen Avenue	Magnolia to Myrtle	2,500	2,700	8.00%
3A	Huntington Drive	Mayflower to Magnolia	25,299	25,599	1.19%
3B	Huntington Drive	Magnolia to Myrtle	25,29	25,399	0.40%
4A	Mayflower Avenue	North of Evergreen	15,416	15,716	1.95%
4B	Mayflower Avenue	Evergreen to Duarte	15,236	15,336	0.66%
4C	Mayflower Avenue	South of Duarte	7,200	7,200	0.00%
5A	Magnolia Avenue	Huntington to Evergreen	6,790	7,690	13.25%
5B	Magnolia Avenue	Evergreen to Duarte	6,255	6,855	9.59%
6A	Myrtle Avenue	Huntington to Central	21,331	21,531	0.94%
6B	Myrtle Avenue	Central to Duarte	19,904	19,904	0.00%
6C	Myrtle Avenue	South of Duarte	21,578	21,678	0.46%

Source: LSA 2018

Table 6-6: Project Net Change in ADT (Future 2035)					
ID	**Road**	**Segment**	**Future ADT**	**Future Plus Project ADT**	**Percent Change**
1A	Duarte Road	West of Mayflower	23,900	24,100	0.84%
1B	Duarte Road	Mayflower to Magnolia	19,700	19,700	0.00%
1C	Duarte Road	Magnolia to Myrtle	19,800	20,000	1.01%
1D	Duarte Road	East of Myrtle	12,100	12,300	1.65%
2A	**W. Evergreen Avenue**	**Mayflower to Magnolia**	**2,500**	**3,200**	**28.00%**
2B	W. Evergreen Avenue	Magnolia to Myrtle	2,700	2,900	7.41%
3A	Huntington Drive	Mayflower to Magnolia	28,600	28,900	1.05%
3B	Huntington Drive	Magnolia to Myrtle	28,500	28,600	0.35%
4A	Mayflower Avenue	North of Evergreen	16,900	17,200	1.78%
4B	Mayflower Avenue	Evergreen to Duarte	16,700	16,800	0.60%
4C	Mayflower Avenue	South of Duarte	7,900	7,900	0.00%
5A	Magnolia Avenue	Huntington to Evergreen	8,100	9,000	11.11%
5B	Magnolia Avenue	Evergreen to Duarte	7,700	8,300	7.79%
6A	Myrtle Avenue	Huntington to Central	24,900	25,100	0.80%
6B	Myrtle Avenue	Central to Duarte	24,000	24,000	0.00%
6C	Myrtle Avenue	South of Duarte	24,100	24,200	0.41%
Source: LSA 2018					

6.2.3 Substantial Temporary or Periodic Increases in Ambient Noise Levels

Alexan Foothills Specific Plan and ZCA Areas A and C

The construction of the Alexan Foothills Specific Plan and other future development within ZCA Areas A and C would generate a temporary and periodic increase in ambient noise levels over an approximately two-and-a-half-year period. The construction of the Alexan Foothills Specific Plan is anticipated to occur over an approximately 30-month period between 2020 and 2022, while construction of future development in ZCA Areas A and C is anticipated to occur over a 12-month period between 2021 and 2022. As a conservative approach, this EIR's analysis assumes future development of the ZCA Areas A and C would occur during the final twelve months of the Alexan Foothills Specific Plan construction schedule (i.e., construction activities in the Alexan Foothills Specific Plan and ZCA Areas A and C would occur at the same time). The following analysis first presents the estimated construction noise levels associated with the Alexan Foothills Specific Plan, then the construction noise levels associated with future development in ZCA Areas A and C, and finally the combined noise levels associated with simultaneous development of both Project components.

Demolition of existing buildings as well as erection of new structures associated with the Alexan Foothills Specific Plan and buildout within ZCA Areas A and C would require the use of heavy-duty, off-road construction equipment throughout development activities. Table 6-7 presents the noise levels associated with typical types of construction equipment that could be used during construction activities.

Alexan Foothills Specific Plan Construction Noise Levels

The Alexan Foothills Specific Plan area is generally located within the center of the overall Project area and extends to the eastern boundary of the site. Parcel 7, located in the northwestern portion of the Project area is identified as ZCA Area C.

Table 6-7: Typical Construction Equipment Noise Levels (dBA)

Equipment	Reference Noise Level at 50 Feet (Lmax)(A)	Percent Usage Factor(B)	Predicted Noise Levels (Leq) at Distance(C)					
			50 Feet	100 Feet	150 Feet	250 Feet	350 Feet	450 Feet
Bulldozer	85	40	81	75	71	67	64	62
Backhoe	80	40	76	70	66	62	59	57
Compact Roller	80	20	73	67	63	59	56	54
Concrete Mixer	85	40	81	75	71	67	64	62
Crane	85	16	77	71	67	63	60	58
Excavator	85	40	81	75	71	67	64	62
Generator	82	50	79	73	69	65	62	60
Pneumatic tools	85	50	82	76	72	68	65	63
Scraper	85	40	82	76	72	68	64	62
Delivery Truck	85	40	81	75	71	67	64	62
Vibratory Roller	80	20	73	67	63	59	56	54

Sources: Caltrans 2013a and FHWA 2010.

(A) L_{max} noise levels based on manufacturer's specifications.
(B) Usage factor refers to the amount of time the equipment produces noise over the time period.
(C) Estimate does not account for any atmospheric or ground attenuation factors. Calculated noise levels based on Caltrans, 2009: L_{eq} (hourly) = L_{max} at 50 feet – 20log (D/50) + 10log (UF), where: L_{max} = reference L_{max} from manufacturer or other source; D = distance of interest; UF = usage fraction or fraction of time period of interest equipment is in use.

Construction activities associated with buildout of the five-story residential buildings and six-story parking structure would generate a variety of noise levels from operation of different kinds of construction equipment. Day-to-day noise levels at individual locations would vary depending on the equipment staging, location of operation, where materials are being stored onsite, and access routes used to import materials. Demolition, site preparation, grading / excavation, building construction, paving, and architectural coating processes involve equipment and vehicles that are known to produce temporary but intrusive levels of noise when operated in close proximity to sensitive residential receptors, particularly if equipment operation occurs during early morning, evening, or nighttime hours.

In general, construction noise levels would be highest during site preparation, grading, and excavation phases, when large pieces of earthmoving equipment would be required. Bulldozers, excavators, and graders would likely be the largest pieces of equipment operating at the same time during these phases. As a conservative approach, it is estimated up to three such pieces of equipment could be operating concurrently near a property line for an hour or two at a time. At a distance of 50 feet, the hourly Leq noise level associated with operation of a bulldozer, excavator, and grader would be approximately 86 dBA. Table 6-8 summarizes the hourly Leq noise levels that would be generated by the operation of these three pieces of equipment at sensitive receptor locations and compares these estimated noise levels against the existing ambient noise level environment.

Table 6-8: Alexan Foothills Specific Plan: Estimated Construction Noise Levels					
Receptor	**Distance from Construction Activity**	**Noise Level (dBA)**			
		Existing Ambient	**Construction**	**With Barrier Attenuation(A)**	**Change(B)**
R-1A / 1B	60 ft	63.7(C)	84.2	--	**+20.5**
R-2	70 ft	63.7(D)	82.9	72.9	+9.2
R-3	260 ft	67.5(E)	71.8	--	+4.3
R-4	70 ft	67.5(E)	82.9	--	**+15.4**

Source: MIG 2019

(A) A permanent noise barrier is located along the southern side of the METRO Gold Line, adjacent to receptors represented by R-2. Effective noise barriers can reduce noise levels by 10 to 15 dBA. The attenuation provided by this barrier (assumed to be 10 dBA) has been factored into the estimated noise level at R-2.

(B) Per the criterion outlined in Section 6.1, a significant temporary or periodic noise impact would occur if construction activities resulted in an increase of 10 dBA Leq or more at sensitive receptor locations. Bold values indicate an increase of more than 10 dBA above the ambient level.

(C) The Leq value measured at ST-1 is considered representative of ambient conditions at receptor location R-1A and R-1B. Both ST-1 and ST-2 were taken along South Magnolia Ave, along which Receptor R-1A and R-1B are located. Between ST-1 and ST-2, ST-1 had the lowest Leq value recorded, and therefore represents a conservative indication of ambient noise levels at receptor locations east of the Project.

(D) The Leq value measured at ST-1 is considered representative of ambient conditions at the property boundaries of receptor location R-2. Measurements at ST-1, LT-1, and ST-4 were all located along the southern boundary of the Project area, adjacent to the METRO Gold Line. ST-1 had the lowest Leq value recorded, and therefore represents a conservative indication of ambient noise levels at receptor locations south of the Project.

(E) The Leq value measured at ST-4 is considered representative of ambient conditions at receptor locations R-3 and R-4. Both ST-3 and ST-4 were taken along Mayflower Ave, along which Receptors R-3 and R-4 are located. Between ST-3 and ST-4, ST-4 had the lowest Leq value recorded, and therefore represents a conservative indication of ambient noise levels at receptor locations east of the Project.

The values presented in Table 6-8 reflect conservative (i.e., worst-case), yet realistic estimate of potential hourly Leq noise levels. The above estimates assume all equipment is operating at the Project's boundary nearest the receptor location. In actuality, equipment onsite would move around the work area and would generally not be situated at the same location for more than a few hours at a time. Equipment operating further away would produce lower noise levels than those presented. Nonetheless, as shown in Table 6-8, construction activities associated with the Alexan Foothills Specific Plan are anticipated to increase hourly ambient noise levels by 10 dB or more for two or more hours per day, seven days a week, for a period of 12 months or more. This is considered a potentially significant impact.

To reduce noise levels during construction of the Alexan Foothills Specific Plan, the City would require the applicant and/or the applicant's contractors to implement mitigation measure MM NOI-2, which requires preparation of a construction noise plan and implementation of the plan to minimize noise disturbance at adjacent sensitive receptor locations, to establish designated truck routes to minimize noise disturbance associated with deliveries to the site, and to install noise barriers along the eastern and western perimeters of the Alexan Foothills Specific Plan area to reduce noise levels by a minimum of 11 dBA. These requirements would reduce construction noise levels such that sensitive receptor locations would not be exposed to noise levels in excess of 10 dBA above ambient conditions for more than year. Implementation of this measure would reduce impacts to a less than significant level.

Mitigation Measures

Mitigation measure MM NOI-2 is applicable to the Alexan Foothills Specific Plan and future developments within ZCA Areas A and C.

Mitigation Measure NOI-2: To reduce temporary construction noise impacts on adjacent land uses, the applicant or the applicant's construction contractor shall implement the following construction-period noise abatement measures for any development within the Project area:

- *Construction Activity Notification.* All residential units located within 500 feet of the construction site shall be sent a notice regarding the construction schedule for the proposed development. A sign, legible at a distance of 50 feet shall also be posted at the construction site. All notices and signs shall indicate the dates and duration of construction activities, as well as provide a telephone number where residents can enquire about the construction process and register complaints.
- *Noise Disturbance Coordinator.* A "noise disturbance coordinator" shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator shall determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and shall be required to implement reasonable measures such that the complaint is resolved. All notices that are sent to residential units within 500 feet of the construction site and all signs posted at the construction site shall list the telephone number for the disturbance coordinator.
- *Construction Traffic.* Route all construction traffic to and from the construction site via designated truck routes to the maximum extent feasible. Prohibit construction-related heavy truck traffic in residential areas where feasible.
- *Noise Disturbance Coordinator.* A "noise disturbance coordinator" shall be established. The disturbance coordinator shall be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler, etc.) and would be required to implement reasonable measures such that the complaint is resolved. All notices that are sent to residential units within 500 feet of the construction site and all signs posted at the construction site shall list the telephone number for the disturbance coordinator.
- *Construction Traffic.* Route all construction traffic to and from the construction site via designated truck routes to the maximum extent feasible. Prohibit construction-related heavy truck traffic in residential areas where feasible.
- *Equipment Noise Controls:* The applicant and/or its construction contractor shall implement the following equipment noise control measures during all phases of construction:
    - *Mufflers*. All construction equipment shall be equipped with muffles and other suitable noise attenuation devices (e.g., engine shields).
    - *Equipment Selection*. Grading and construction contractors shall use quieter equipment as opposed to noisier equipment (such as rubber-tired equipment rather than track equipment), to the maximum extent feasible.
    - *Provide Electric Hook-Ups*. If feasible, electric hook-ups shall be provided to avoid the use of generators. If electric service is determined to be infeasible for the site, only whisper-quiet generators shall be used (i.e., inverter generators capable of providing variable load.
- *Temporary Barriers*. During all demolition and construction activities, one or more physical barriers capable of achieving a minimum reduction in predicated noise levels by 11 dB shall be installed between future development and Magnolia Avenue and Mayflower Avenue, and between the western boundary of the Alexan Foothills Specific Plan and ZCA Area A. Potential options for achieving this level of attenuation can include, but are not limited to:
    - A concrete, wood, or other barrier installed at-grade (or mounted to structures located at-grade, such as K-Rail) along the property line. Such a wall/barrier shall consist of material

that has a minimum rated transmission loss value of 21 dB (or equivalent rating) and shall contain no gaps in the structure through which noise may pass.

- Commercially available acoustic panels or other products such as acoustic barrier blankets installed along the property line, building envelope or, if feasible and necessary, at or near sensitive residential receptor areas.
- Any combination of noise barriers and commercial products capable of achieving an 11-dB reduction in construction noise levels at sensitive receptor locations.

Requirements and Planning: This measure shall be printed on all construction drawings and included in construction contracts.

Monitoring: City Planning staff shall ensure that this measure is located on final construction drawings. City Planning staff shall conduct inspections during construction to ensure that measures are implemented.

Construction Noise Levels in ZCA Areas A and C

The type of equipment required to buildout ZCA Areas A and C would be similar to those required for the Alexan Foothills Specific Plan. Based on the smaller area of ZCA Areas A and C, it is estimated that only two large pieces of off-road equipment would be needed during the most intensive phases of construction (e.g., bulldozers, graders, excavators) of future development in ZCA Area A, and one large and small piece of equipment (e.g., bulldozer and backhoe) are assumed to be involved in any future redevelopment of ZCA Area C. Table 6-9 summarizes the hourly Leq noise levels that would be generated by construction activities at the nearest sensitive receptor locations in ZCA Areas A and C and compares these estimated noise levels against the existing ambient noise level environment.

Table 6-9: Remaining GP/ZCA Area: Estimated Construction Noise Levels

Receptor	Distance from Construction Activity	Noise Level (dBA)			
		Existing Ambient	Construction	With Barrier Attenuation(A)	Change(B)
R-1A	60 ft	66.2(C)	80.6	--	**+14.4**
R-2	70 ft	67.5(D)	82.9	72.9	+5.4
R-3	80 ft	67.5(E)	81.7	--	**+14.2**

Source: MIG 2019

(A) A permanent noise barrier is located along the southern side of the METRO Gold Line, adjacent to receptors represented by R-2. Effective noise barriers can reduce noise levels by 10 to 15 dBA. The attenuation provided by this barrier (assumed to be 10 dBA) has been factored into the estimated noise level at R-2.

(B) Per the criterion outlined in Section 6.1, a significant temporary or periodic noise impact would occur if construction activities resulted in an increase of 10 dBA Leq or more at sensitive receptor locations. **Bold** values indicate an increase of more than 10 dBA above the ambient level.

(C) The Leq value measured at ST-2 is considered representative of ambient conditions at receptor location R-1A, because the eastern portion of construction associated with the ZCA areas is closest to ST-2.

(D) The Leq value measured at ST-4 is considered representative of ambient conditions at the property boundaries of receptor location R-2, because ST-4 is the closest measurement location to R-2 in relation to where construction activities associated with the western side of theZCA areas would occur.

(E) The Leq value measured at ST-4 is considered representative of ambient conditions at receptor location R-3. Both ST-3 and ST-4 were taken along S Mayflower Ave, along which Receptor R-3 is located. Between ST-3 and ST-4, ST-4 had the lowest Leq value recorded, and therefore represents a conservative indication of ambient noise levels at receptor locations east of the Project.

As shown in Table 6-9, the estimated construction noise levels attributable to development of ZCA Areas A and C would result in potentially significant impacts at receptor locations R-1A and R-3, whether or

not construction associated with ZCA Areas A and C were to occur concurrently with implementation of the Alexan Foothills Specific Plan. Consistent with the discussion presented under the construction noise analysis for the development of the Alexan Foothills Specific Plan, these noise values represent conservative (i.e., worst-case) yet realistic estimate of potential hourly Leq noise levels. In actuality, equipment onsite would move around the work area and would generally not be situated at the same location for more than a few hours at a time. Equipment operating further away would produce lower noise levels than those presented.

Nevertheless, impacts would be potentially significant. Implementation of mitigation measure MM NOI-2 would reduce impacts to less than significant levels.

Mitigation Measures

Refer to Mitigation Measure MM NOI-2.

Combined Project Noise Levels

As described previously, the Project being analyzed is the buildout of the Alexan Foothills Specific Plan over an approximately 30-month period, with future development of ZCA Areas A and C potentially occurring during the final 12 months of the Alexan Foothills Specific Plan construction.

Development in the Specific Plan area would be well underway by the time demolition and earthmoving activities would begin in ZCA Areas A and C. The residential buildings and parking garage would likely be into vertical building construction phases by the time site preparation, grading, and/or exaction would begin in ZCA Areas A and C. The types of equipment needed for vertical structure development would generally include a crane, pneumatic tools (e.g., nail gun), and a forklift (similar in terms of horsepower as a backhoe). At a distance of 50 feet, the hourly Leq noise level associated with operation of a crane, pneumatic tool, and forklift would be approximately 84 dBA. Table 6-10 summarizes the hourly Leq noise levels that would be generated by vertical structure development within the Alexan Foothills Specific Plan area, and Table 6-11 presents the worst-case, combined noise level under full buildout of the Project area.

Table 6-10: Alexan Foothills Specific Plan: Construction Noise Levels (Structure Development)

Receptor	Distance from Construction Activity	Construction Noise Level (dBA)
R-1A / R-1B	60 ft	82.4
R-2	70 ft	81.0
R-3	260 ft	69.6
Source: MIG 2018		

Table 6-11: Combined Construction Noise Levels of the Alexan Foothills Specific Plan and ZCA Areas A and C

Receptor	Distance from Construction Activity	Noise Level (dBA)			
		Existing Ambient	Construction	With Barrier Attenuation(A)	Change(B)
R-1A / R-1B	60 ft	66.2(C)	84.6	--	**+18.4**
R-2	70 ft	67.5(D)	85.1	75.1	+7.6
R-3	80 / 260 ft	67.5(E)	82.0	--	**+14.5**

Source: MIG 2018

(A) A permanent noise barrier is located along the southern side of the METRO Gold Line, adjacent to receptors represented by R-2. Effective noise barriers can reduce noise levels by 10 to 15 dBA. The attenuation provided by this barrier (assumed to be 10 dBA) has been factored into the estimated noise level at R-2.

(B) Per the criterion outlined in Section 6.1, a significant temporary or periodic noise impact would occur if construction activities resulted in an increase of 10 dBA Leq or more at sensitive receptor locations. **Bold** values indicate an increase of more than 10 dBA above the ambient level.

(C) The Leq value measured at ST-2 is considered representative of ambient conditions at receptor location R-1A and R-1B, because the most affected receptor by construction in the eastern portion of the Project would be across, or near, ST-2.

(D) The Leq value measured at ST-4 is considered representative of ambient conditions at the property boundaries of receptor location R-2, because the most affected receptor south of the Project would have combined noise levels from construction in the Alexan Foothills Specific Plan area and the ZCA areas (on the western side).

(E) The Leq value measured at ST-4 is considered representative of ambient conditions at receptor location R-3, because of ST-3 and ST-4, ST-4 had the lowest Leq value recorded. ST-4 therefore represents a conservative indication of ambient noise levels at receptor locations east of the Project.

As shown in Table 6-11, combined unmitigated construction noise levels could be as high as 18.4 dBA above the existing ambient environment, under a worst-case scenario at sensitive receptor locations R-1A and R-1B. This change is less than the incremental increase identified for R-1A and R-1B (see Table 6-8), which would occur during earthmoving activities associated with development of the Alexan Foothills Specific Plan. As such, implementation of mitigation measure MM NOI-2, which requires a noise barrier be constructed along the eastern and western portions of active construction areas, capable of reducing noise levels by a minimum of 11 dBA, would also ensure that combined, construction noise levels associated with development of the entire Project area would not increase ambient noise levels at sensitive receptor locations by more than 10 dBA during construction activities. With implementation of mitigation measure MM NOI-2, impacts would be reduced to less than significant impacts.

Mitigation Measures

Refer to mitigation measure MM NOI-2.

6.2.4 Expose People to or Generate Excessive Groundborne Vibration or Noise

Alexan Foothills Specific Plan and ZCA Areas A and C

Buildout of the Project would require the use of heavy construction equipment that could produce groundborne vibration. The following analysis evaluates if construction of the Project would generate excessive groundborne vibration levels. Once operational, development in the Project area would not result in the use of equipment or machinery that could generate significant groundborne vibration. However, the Project is situated adjacent to the METRO Gold Line ROW, and trains travelling within the ROW would generate groundborne vibration. The analysis also evaluates if new residential receptors in the Project area would be exposed to excessive groundborne vibration from the operation of the METRO Gold Line.

Construction Vibration in the Alexan Foothills Specific Plan and ZCA Areas A and C

There is the potential that site preparation, grading, foundation construction, and other construction activities associated with the Alexan Foothills Specific Plan and other future development in ZCA Areas A and C could result in groundborne vibration that would, at worst case, occur approximately 60 feet from existing structures on South Magnolia Ave (sensitive receptor locations R-1A and R-1B, see Table 3-2). Table 6-12 lists the groundborne vibration levels associated with the potential type of construction equipment that would most likely be required while undertaking construction in the Project area.

Table 6-12: Estimated Project Construction Groundborne Vibration Levels

Equipment	Peak Particle Velocity (in/sec) (A)			Velocity Decibels (VdB) (B)		
	25 feet	60 feet	100 feet	25 feet	60 feet	100 feet
Large bulldozer	0.089	0.034	0.019	87.0	75.6	68.9
Small bulldozer	0.03	0.011	0.007	58.0	46.6	39.9
Loaded truck	0.076	0.029	0.017	86.0	74.6	67.9
Jackhammer	0.035	0.013	0.008	79.0	67.6	60.9

Sources: Caltrans 2013b and FTA 2006.

Notes:

(A) Estimated PPV calculated as: PPV(D)=PPV(ref)*(25/D)^1.1 where PPV(D)= Estimated PPV at distance; PPVref= Reference PPV at 25 ft; D= Distance from equipment to receiver; and n= ground attenuation rate (1.1 for dense compacted hard soils).

(B) Estimated Lv calculated as: Lv(D)=Lv(25 feet)-30Log(D/25) where Lv(D)= estimated velocity level in decibels at distance, Lv(25 feet)= RMS velocity amplitude at 25 f; and D= distance from equipment to receiver.

As shown in Table 6-12, , receptors 60 feet away from construction activities could be exposed to groundborne vibration levels of up to 0.034 in/sec PPV and 75.6 VdB during operation of large bulldozers. Based on Caltrans' transient criteria (see Table 4-3), these vibration levels would be "barely perceptible." Therefore, groundborne vibration levels are not predicted to exceed Caltrans' vibration damage threshold criteria for historic or older buildings (0.25 in/sec PPV), a threshold considered protective of all nearby buildings, which are presumed to be of more recent construction, and thus, not as susceptible to damage from vibration as older, unreinforced structures. Groundborne vibration from construction activities would also be infrequent and short in duration (lasting a few hours or days as equipment would not operate in the same location for a prolonged amount of time), would not damage buildings or structures, would not result in long-term incompatibility with existing land uses, and would, therefore, not be excessive. Thus, this impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

Exposure to Excessive Groundborne Vibration from the METRO Gold Line in the Alexan Foothills Specific Plan and ZCA Areas A and C

The Monrovia General Plan Proposed Land Use and Circulation Elements EIR (City of Monrovia 2008) requires consideration of potential METRO Gold Line vibration impacts on residential projects located within 300 feet of the Gold Line (EIR Mitigation Measure NOI-B). Accordingly, a discussion of potential METRO Gold Line vibration impacts on development in the Project area is provided below.

The approval of the proposed Alexan Foothills Specific Plan and other future development within ZCA Areas A and C would result in the placement of new, sensitive residential land uses in close proximity to the METRO Gold Line. As explained in Section 7.1, "Existing METRO Gold Line Noise and Vibration Levels," vibration monitoring was not conducted for the Project; however, vibration monitoring was conducted in January 2018 for the Station Square South Specific Plan, an approximately 3.79-acre residential project located approximately 100 feet southwest of the Project (City of Monrovia 2018). The vibration monitoring for the South Station Square project was conducted approximately 525 feet from the Project, at a distance of 20 feet from the track centerline (Veneklassen 2018). The results of the vibration monitoring conducted for the Station Square South Specific Plan indicate groundborne vibration from passing METRO Gold Line trains was below 0.002 in/sec PPV and 65 VdB. These vibration levels are below both the Los Angeles County Vibration Limit of 0.01 in/sec PPV and the FTA's recommended vibration limit of 72 VdB for frequent events where people sleep (see Table 4-3).

The proposed Alexan Foothills Specific Plan and other future development within ZCA Areas A and C would not result in the placement of structures 20 feet or closer to the METRO Gold Line due to the width of the METRO ROW and City zoning setback requirements. Thus, the operation of the METRO Gold Line would not expose people living in the Project area to excessive groundborne vibration or groundborne noise levels. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

6.2.5 Airport-Related Noise Levels

Alexan Foothills Specific Plan and ZCA Areas A and C

The closest airport to the Project area is San Gabriel Valley Airport, located approximately 3.7 miles southwest of the Project area. This public airport has one runway and does not generate substantial airport-related noise in the City of Monrovia. Development of the Project would not expose people living or working in the Project area to excessive airport-related noise levels. This impact would be less than significant.

Mitigation Measures

No mitigation measures are required.

6.3 IMPACT CONCLUSIONS

Buildout of the Project has the potential to place residents in areas where ambient noise levels exceed City and State standards for interior noise levels due to the proximity of the Project to I-210 and the METRO line. Impacts would be potentially significant, but they would be reduced to less than significant levels with implementation of mitigation measure MM NOI-1, which requires implementation of design features to ensure interior noise standards can be met and an acoustical analysis to confirm that standards can be met.

In addition, construction under buildout of the Alexan Foothills Specific Plan, ZCA Areas A and C, and both have the potential to result in a significant temporary increase in noise at sensitive receptor locations along Mayflower Avenue and Magnolia Avenue or between the western boundary of the Alexan Foothills Specific Plan and ZCA Areas A and C. Mitigation measure MM NOI-2 would require installation of noise barriers to reduce construction noise at sensitive receptor locations, thereby reducing impacts to less than significant levels.

Traffic noise impacts, noise impacts associated with stationary equipment, and vibration impacts would be less than significant.

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7 Report Preparers and References

This report was prepared by MIG under contract to Trammel Crow Residential. This report reflects the independent, objective, professional opinion of MIG.

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APPENDIX A: Technical Noise Data

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Alexan SP Residential Development
Magnolia Avenue, Monrovia, CA
Appendix D: Ambient Noise Monitoring Data
Prepared by MIG, June 2018

Table l1: Summary of Site LT1 Noise Monitoring Data

Site LT1 (XYZLOCATION)											
Date	Time	Duration	Leq	CNEL	Lmin	Lmax	L(5)	L(10)	L(25)	L(50)	L(90)
6/28/2018	7:00 AM	1-hour	69.6	69.6	63.6	78.9	72.9	71.8	70.2	68.9	66.8
6/28/2018	8:00 AM	1-hour	69.3	69.3	62.0	84.9	72.6	71.3	69.5	68.1	66.0
6/28/2018	9:00 AM	1-hour	68.1	68.1	60.7	86.1	71.5	70.2	68.5	67.0	64.7
6/28/2018	10:00 AM	1-hour	67.4	67.4	57.2	82.7	70.6	69.4	67.7	66.3	63.8
6/28/2018	11:00 AM	1-hour	67.6	67.6	61.3	79.3	70.9	69.9	68.2	66.6	64.5
6/27/2018	12:00 PM	1-hour	68.3	68.3	60.0	89.9	71.3	69.9	68.3	66.6	64.4
6/27/2018	1:00 PM	1-hour	67.1	67.1	57.2	80.1	71.0	69.6	67.4	65.8	63.4
6/27/2018	2:00 PM	1-hour	65.6	65.6	56.8	83.6	70.4	68.3	64.6	62.3	59.8
6/27/2018	3:00 PM	1-hour	65.0	65.0	56.8	84.0	69.7	67.9	65.0	63.1	60.3
6/27/2018	4:00 PM	1-hour	64.3	64.3	54.5	81.5	69.8	68.1	64.4	61.2	58.0
6/27/2018	5:00 PM	1-hour	66.7	66.7	56.4	81.7	72.1	70.8	67.4	63.0	59.4
6/27/2018	6:00 PM	1-hour	70.3	70.3	56.6	78.4	71.7	69.3	64.7	61.5	58.9
6/27/2018	7:00 PM	1-hour	67.2	72.2	57.1	92.3	70.9	69.0	66.4	64.9	62.7
6/27/2018	8:00 PM	1-hour	73.1	78.1	61.5	77.8	71.5	69.8	67.7	66.5	64.7
6/27/2018	9:00 PM	1-hour	67.0	72.0	60.8	80.1	70.7	69.2	67.2	65.8	63.7
6/27/2018	10:00 PM	1-hour	66.4	76.4	60.3	83.5	69.7	68.4	66.9	65.4	63.2
6/27/2018	11:00 PM	1-hour	65.5	75.5	55.6	88.5	69.1	67.7	65.9	64.1	61.6
6/28/2018	12:00 AM	1-hour	63.9	73.9	51.3	77.9	68.0	66.7	64.6	62.5	59.4
6/28/2018	1:00 AM	1-hour	62.1	72.1	50.2	75.7	66.7	65.4	63.0	60.4	56.3
6/28/2018	2:00 AM	1-hour	63.6	73.6	47.8	85.1	67.2	65.9	63.6	60.7	56.8
6/28/2018	3:00 AM	1-hour	63.0	73.0	52.3	79.0	67.3	66.1	63.6	61.5	57.7
6/28/2018	4:00 AM	1-hour	65.3	75.3	56.4	77.0	68.9	67.8	66.2	64.3	61.5
6/28/2018	5:00 AM	1-hour	68.3	78.3	61.1	89.9	71.0	69.9	68.2	66.9	64.7
6/28/2018	6:00 AM	1-hour	70.0	80.0	62.5	87.1	73.2	72.0	70.4	69.0	66.5
		Daytime (7 AM to 7 PM)	*67.8*	*--*	*54.5*	*89.9*	*71.3*	*69.9*	*67.6*	*65.7*	*63.4*
		Evening (7 PM to 10 PM)	*70.1*	*--*	*57.1*	*92.3*	*71.0*	*69.4*	*67.1*	*65.8*	*63.8*
		Nighttime (10 PM to 7 AM)	*66.1*	*--*	*47.8*	*89.9*	*69.5*	*68.3*	*66.5*	*64.8*	*62.1*
		24-Hour	*--*	*73.5*	*47.8*	*92.3*	*70.7*	*69.3*	*67.1*	*65.4*	*63.0*

Alexan SP Residential Development
Magnolia Avenue, Monrovia, CA
Appendix D: Ambient Noise Monitoring Data
Prepared by MIG, June 2018

Table l2: Summary of Site LT2 Noise Monitoring Data

Site LT2											
Date	Time	Duration	Leq	CNEL	Lmin	Lmax	L(5)	L(10)	L(25)	L(50)	L(90)
6/28/2018	7:00 AM	1-hour	71.0	71.0	47.8	90.6	71.5	61.6	58.2	52.9	50.5
6/28/2018	8:00 AM	1-hour	70.7	70.7	46.3	91.2	70.3	61.0	57.5	51.8	49.3
6/28/2018	9:00 AM	1-hour	68.9	68.9	44.6	90.8	67.9	61.6	59.5	53.2	49.0
6/28/2018	10:00 AM	1-hour	68.9	68.9	45.3	91.3	67.0	61.4	58.6	52.2	48.2
6/28/2018	11:00 AM	1-hour	69.0	69.0	45.4	91.9	69.4	63.4	58.6	52.3	48.8
6/27/2018	12:00 PM	1-hour	70.2	70.2	45.4	92.4	67.0	61.1	58.2	51.5	48.6
6/27/2018	1:00 PM	1-hour	69.5	69.5	45.7	92.2	66.9	60.9	58.2	51.2	48.5
6/27/2018	2:00 PM	1-hour	72.0	72.0	45.8	92.9	70.3	62.1	57.2	50.9	48.3
6/27/2018	3:00 PM	1-hour	71.2	71.2	46.5	92.5	72.2	61.4	53.0	51.2	48.8
6/27/2018	4:00 PM	1-hour	73.5	73.5	43.9	92.3	76.7	65.1	53.9	50.3	47.5
6/27/2018	5:00 PM	1-hour	73.0	73.0	45.8	93.5	74.5	62.8	54.8	51.6	48.7
6/27/2018	6:00 PM	1-hour	72.3	72.3	46.1	91.9	73.8	63.7	55.2	51.6	48.6
6/27/2018	7:00 PM	1-hour	71.8	76.8	47.0	92.1	70.6	60.9	54.5	52.0	49.6
6/27/2018	8:00 PM	1-hour	69.6	74.6	47.6	91.6	67.7	58.9	53.4	51.2	49.2
6/27/2018	9:00 PM	1-hour	68.2	73.2	45.3	91.6	65.3	56.5	52.4	50.0	47.9
6/27/2018	10:00 PM	1-hour	67.4	77.4	45.4	91.0	57.6	53.4	50.4	48.8	47.2
6/27/2018	11:00 PM	1-hour	66.7	76.7	40.6	91.3	60.8	52.9	49.2	47.4	45.4
6/28/2018	12:00 AM	1-hour	66.7	76.7	40.2	90.5	59.7	52.5	48.4	46.3	44.1
6/28/2018	1:00 AM	1-hour	63.3	73.3	39.2	90.6	53.5	49.7	47.0	45.3	43.0
6/28/2018	2:00 AM	1-hour	63.7	73.7	40.5	90.6	56.5	50.5	47.7	46.3	43.8
6/28/2018	3:00 AM	1-hour	61.6	71.6	40.7	90.7	51.2	49.7	48.5	47.3	45.1
6/28/2018	4:00 AM	1-hour	67.7	77.7	44.0	90.8	62.1	59.9	57.9	53.3	48.7
6/28/2018	5:00 AM	1-hour	70.3	80.3	48.8	90.8	67.4	61.1	58.7	53.2	51.0
6/28/2018	6:00 AM	1-hour	71.5	81.5	47.9	90.8	71.6	61.7	59.2	54.2	51.5
		Daytime (7 AM to 7 PM)	*71.1*	--	*43.9*	*93.5*	*71.8*	*62.4*	*57.3*	*51.8*	*48.8*
		Evening (7 PM to 10 PM)	*70.1*	--	*45.3*	*92.1*	*68.4*	*59.1*	*53.5*	*51.2*	*49.0*
		Nighttime (10 PM to 7 AM)	*67.6*	--	*39.2*	*91.3*	*64.4*	*57.1*	*54.7*	*50.4*	*47.7*
		24-Hour	--	*75.1*	*39.2*	*93.5*	*69.7*	*60.6*	*56.1*	*51.2*	*48.4*

Alexan SP Residential Development
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Appendix D: Ambient Noise Monitoring Data
Prepared by MIG, June 2018

Table l3: Summary of Site ST-1 Noise Monitoring Data

Site ST-1 (Southeast corner of project area, S. Magnolia and Metro Gold Line)										
Date	Time Start	Duration	Leq	Lmin	Lmax	L(5)	L(10)	L(25)	L(50)	L(90)
6/27/2018	12:00 PM	10 mins	69.3	50.5	87.9	73.1	68.5	66.3	63.0	55.2
6/27/2018	12:10 PM	10 mins	70.3	49.7	86.9	75.7	71.0	67.3	64.8	56.5
6/27/2018	12:20 PM	10 mins	63.7	50.7	74.1	68.4	67.2	65.3	62.2	54.2
		Average:	*68.6*	*49.7*	*87.9*	*73.3*	*69.2*	*66.4*	*63.5*	*55.4*

Table l4: Summary of Site ST-2 Noise Monitoring Data

Site ST-2 (Northeast corner of project area, S. Magnolia and W. Evergreen)										
Date	Time Start	Duration	Leq	Lmin	Lmax	L(5)	L(10)	L(25)	L(50)	L(90)
6/27/2018	12:40 PM	10 mins	66.2	58.6	82.9	70.4	68.3	65.9	63.9	61.8
6/27/2018	12:50 PM	10 mins	66.9	57.0	81.0	72.3	69.2	66.6	64.3	61.2
6/27/2018	1:00 PM	10 mins	67.4	60.3	79.4	73.2	70.2	67.2	64.6	62.0
		Average:	*66.9*	*57.0*	*82.9*	*72.1*	*69.3*	*66.6*	*64.3*	*61.7*

Tramell Crowe Alexan Residential Development
Magnolia Avenue, Monrovia, CA
Appendix D: Ambient Noise Monitoring Data
Prepared by MIG, June 2018

Table I5: Summary of Site ST-3 Noise Monitoring Data

Site ST-3 (Northwest Corner of Project Area - Mayflower Ave. and W. Evergreen)										
Date	Time	Duration	Leq	Lmin	Lmax	L(5)	L(10)	L(25)	L(50)	L(90)
6/28/2018	9:55 AM	10 mins	67.8	57.9	83.7	71.1	68.9	66.7	65.2	62.0
6/28/2018	10:05 AM	10 mins	68.6	59.8	86.7	72.4	70.0	67.5	66.1	63.0
6/28/2018	10:15 AM	10 mins	68.7	61.0	84.1	72.2	69.8	67.7	66.3	63.9
		Average:	*68.4*	*57.9*	*86.7*	*71.9*	*69.6*	*67.3*	*65.9*	*63.0*

Table I6: Summary of Site ST-4 Noise Monitoring Data

Site ST-4 (Southwest Corner of Project Area - Mayflower Ave and Metro Gold Line)										
Date	Time	Duration	Leq	Lmin	Lmax	L(5)	L(10)	L(25)	L(50)	L(90)
6/28/2018	10:35 AM	10 mins	67.5	55.0	77.6	72.8	71.2	68.7	65.1	58.7
6/28/2018	10:45 AM	10 mins	73.9	54.8	94.4	74.0	71.7	68.7	65.6	58.7
6/28/2018	10:55 AM	10 mins	70.2	53.5	89.0	73.3	71.6	68.4	64.6	57.0
6/28/2018	11:05 AM	10 mins	67.6	57.9	81.6	71.8	69.9	67.9	66.0	61.4
		Average:	*70.7*	*53.5*	*94.4*	*73.0*	*71.2*	*68.4*	*65.4*	*59.2*

Tramell Crowe Alexan Residential Development
Magnolia Avenue, Monrovia, CA
Appendix D: Ambient Noise Monitoring Data
Prepared by MIG, June 2018

Table l7: Summary of Site ST-5 Noise Monitoring Data

Site ST-5 (On West Evergreen Ave., approximatley 210 feet west S. Magnolia Ave)										
Date	Time	Duration	Leq	Lmin	Lmax	L(5)	L(10)	L(25)	L(50)	L(90)
6/28/2018	11:10 AM	10 mins	66.5	59.4	77.8	70.7	69.0	66.7	65.0	62.3
6/28/2018	11:20 AM	10 mins	66.9	61.1	78.2	71.2	68.9	66.9	65.3	63.5

APPENDIX J
TRAFFIC AND CIRCULATION

APPENDIX J1
TRAFFIC IMPACT ANALYSIS REPORT

TRAFFIC IMPACT ANALYSIS

1625 MAGNOLIA AVENUE

MONROVIA, LOS ANGELES COUNTY, CALIFORNIA

This Traffic Impact Analysis has been prepared under the supervision of
Donson H. Liu, T.E.

Signed _____



LSA

May 2018

TRAFFIC IMPACT ANALYSIS

1625 MAGNOLIA AVENUE

MONROVIA, LOS ANGELES COUNTY, CALIFORNIA

Submitted to:

Trammell Crow Residential
5790 Fleet Street, Suite 140
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Project No. MMF1701

LSA

May 2018

EXECUTIVE SUMMARY

LSA has prepared the following Traffic Impact Analysis (TIA) to identify any traffic impacts that could result from the development of 432 apartment dwelling units (DU) and 4 live/work units (a total of 436 DU) at 1625 Magnolia Avenue in Monrovia. The existing site for the 1625 Magnolia Avenue Project (project) includes 53,717 square feet (sf) of industrial use, 30,000 sf of automobile-sales use, and two single-family detached housing units. The project will replace the existing structures and construct 432 apartment DUs and 4 live/work units. Access to the project site will be provided via a full-access driveway along Evergreen Avenue between Mayflower Avenue and Magnolia Avenue, and a full-access driveway along Magnolia Avenue between Evergreen Avenue and Pomona Avenue.

This study focuses on the daily, a.m. peak hour (one hour between 7:00 a.m. to 9:00 a.m.), and p.m. peak hour (one hour between 4:00 p.m. to 6:00 p.m.) levels of service (LOS) at 10 intersections. Project impacts were determined based on analysis of the following scenarios:

1. Existing condition;
2. Existing plus project condition;
3. Cumulative year (2020) condition; and
4. Cumulative year (2020) plus project condition.

The study also analyzed the California Department of Transportation (Caltrans) ramp intersections using *Highway Capacity Manual* (HCM 6th Edition, Transportation Resources Board 2016) methodology. The ramp intersection analysis is not part of the City of Monrovia's (City) TIA guidelines, but is included for Caltrans disclosure purposes.

A future year 2035 roadway link analysis has been performed consistent with the City of Monrovia's (City) *Traffic Study for the Proposed Amendment to the Land Use and Circulation Elements of the Monrovia General Plan* (General Plan Traffic Study, 2007). Daily traffic forecasts are estimated for a 2035 year horizon to reflect General Plan build out. The forecast roadway segment impacts were determined based on a comparison of these forecasts to theoretical daily capacities of General Plan arterials in the study area. Scenarios included are:

5. Future year 2035 condition; and
6. Future year 2035 plus project condition.

The project incorporates design features to accommodate pedestrian circulation on site. Pedestrian traffic is accommodated via sidewalks throughout the site that connect to the public street system. On-street (Class III) bicycle routes are available along Magnolia Avenue.

Transit facilities are accessible from the project site within a 0.25-mile (mi) radius. Metro bus stops are provided at the northeast and southwest corners of Mayflower Avenue/Duarte Road, and at the northwest and southeast corners of Magnolia Avenue/Duarte Road. The Metro Gold Line Station is southeast of the project site, within a 0.20 mi walk. The project site and the train station are accessible via sidewalk and crosswalk connections.

California has been preparing to move away from vehicle delay and LOS analysis as the primary measure of effectiveness for California Environmental Quality Act (CEQA) transportation analysis, and is switching to vehicle miles traveled (VMT). VMT is a measure of the number of miles traveled by vehicles within a specified region for a specific time period. A VMT analysis has been provided for disclosure purposes.

Based on the results of this TIA, the project can be implemented without creating significant impacts to the performance of the studied intersections or roadway segments, with the exception of the intersection of Magnolia Avenue/Evergreen Avenue and the intersection of Myrtle Avenue/Central Avenue and the Interstate 210 (I-210) westbound ramps. In order to mitigate the impact at the intersection of Magnolia Avenue/Evergreen Avenue, the centerline for the northern and southern legs of the intersection will be restriped and moved 2 feet to the west, to allow for de-facto northbound right-turns. In order to mitigate the impact at the intersection of Myrtle Avenue/Central Avenue and the I-210 westbound ramps, the intersection can be restriped from a shared southbound through-right lane and a southbound through lane to an exclusive southbound right-turn lane and two southbound through lanes. The center median on the southern leg of Myrtle Avenue at the intersection may require minor modifications. The City of Monrovia is in the process of studying an area-wide Transportation Impact Fee that would allow new development to pay a trip fee to assist in project mitigation. If this program is adopted prior to the final entitlement of the proposed project, the project may be asked to participate in the program rather than implement the improvement at Myrtle Avenue/Central Avenue and the I-210 westbound ramps.

Also included in this analysis is a future programmatic scenario of up to 518 apartment DUs that looks at the potential development over the balance across the entire block. Based on the results of this program scenario, the 518-unit potential development could be implemented in the future year 2035 condition without creating significant impacts to the performance of the studied roadway segments.

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LIST OF ABBREVIATIONS AND ACRONYMS

ADT	average daily traffic
CalEEMod	California Emissions Estimator Model
CEQA	California Environmental Quality Act
City	City of Monrovia
DU	dwelling unit/dwelling units
EB	eastbound
EBL	eastbound left
ft	foot/feet
General Plan Traffic Study	*Traffic Study for the Proposed Amendment to the Land Use and Circulation Elements of the Monrovia General Plan* (City of Monrovia 2007)
HCM	Highway Capacity Manual
I-210	Interstate 210
ICU	intersection capacity utilization
LOS	level of service
mi	mile/miles
NDS	National Data and Surveying Services
Project	1625 Magnolia Avenue Project
sf	square foot/square feet
TIA	Traffic Impact Analysis
v/c	volume-to-capacity
VMT	vehicle miles traveled
WB	westbound
WBL	westbound left

INTRODUCTION

LSA has prepared this Traffic Impact Analysis (TIA) to identify any traffic impacts that could result from the planned development of 432 apartment dwelling units (DU) and 4 live/work units (a total of 436 DU) at 1625 Magnolia Avenue in Monrovia. This TIA for the 1625 Magnolia Avenue Project (project) was prepared in accordance with the applicable sections of the City of Monrovia's (City) *General Plan Circulation Element* (adopted by the City on January 15, 2008, and amended on November 6, 2012) and guidance through discussions with the City traffic engineer.

PROJECT SITE

Figure 1 shows the project site location. The project includes the demolition of existing structures (53,717 square feet [sf] of industrial use, 30,000 sf of automobile-sales use, and two single-family detached housing units) and construction of 432 apartment DUs and 4 live/work units.

The project site is bound by Evergreen Avenue to the north, the Metro Gold Line light rail to the south, scattered residential units and Mayflower Avenue to the west, and Magnolia Avenue to the east. Access to the project site will be provided via a full-access driveway along Evergreen Avenue between Mayflower Avenue and Magnolia Avenue, and a full-access driveway along Magnolia Avenue between Evergreen Avenue and Pomona Avenue. Both full-access driveways will have one inbound lane and one outbound lane. Figure 2 shows the project site plan.

Study Area Boundary

As illustrated in Figure 1, the study area includes the following intersections:

1. Mayflower Avenue/Diamond Street-Evergreen Avenue (unsignalized)
2. Mayflower Avenue/Duarte Road (signalized)
3. Project Driveway 1/Evergreen Avenue (unsignalized)
4. Magnolia Avenue/Huntington Drive (signalized)
5. Magnolia Avenue/Evergreen Avenue (unsignalized)
6. Magnolia Avenue/Project Driveway 2 (unsignalized)
7. Magnolia Avenue/Duarte Road (signalized)
8. Myrtle Avenue/Central Avenue-Interstate 210 (I-210) Westbound (WB) Ramps (signalized)
9. Myrtle Avenue/Evergreen Avenue-I-210 Eastbound (EB) Ramps (signalized)
10. Myrtle Avenue/Duarte Road (signalized)
11. Myrtle Avenue/Huntington Drive (signalized)
12. Magnolia Avenue/Central Avenue (unsignalized)

PERFORMANCE CRITERIA

Intersection Criteria

The intersection capacity utilization (ICU) methodology was used to determine the peak-hour operations at signalized intersections within the study area. The ICU methodology compares the volume-to-capacity (v/c) ratios of conflicting turn movements at an intersection, sums these critical conflicting v/c ratios for each intersection approach, and determines the overall ICU. The resulting

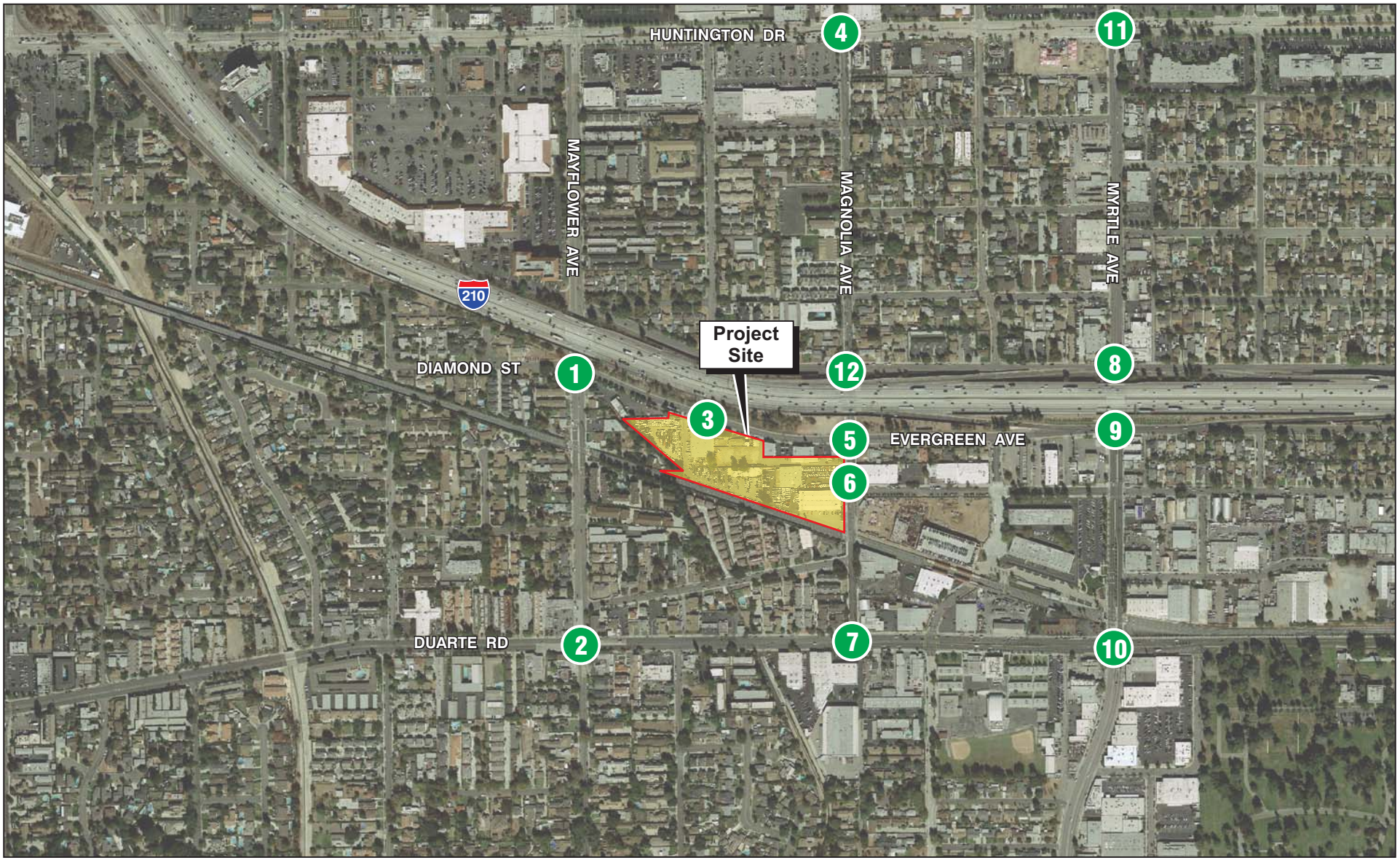


FIGURE 1

LSA

LEGEND

- Project Site
- # - Study Area Intersection

N

0 350 700

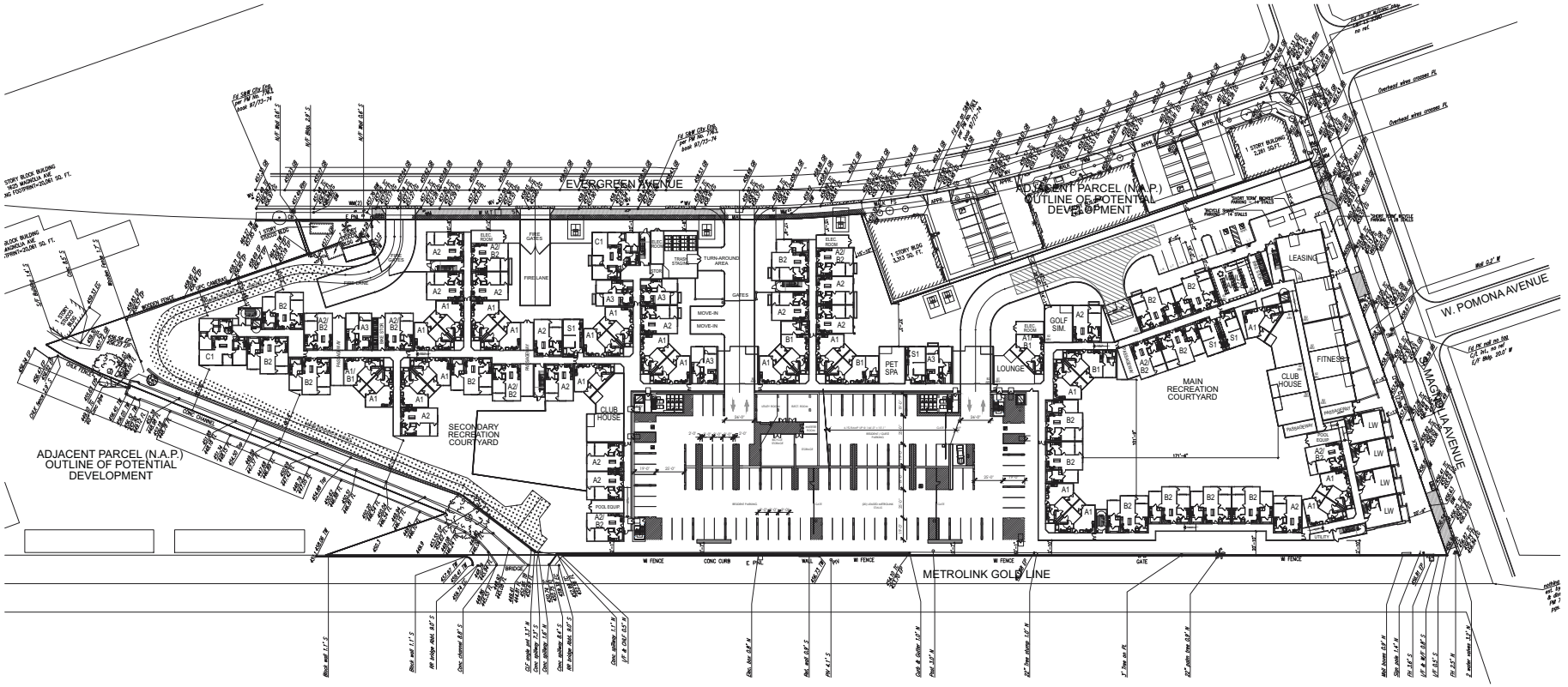
FEET

SOURCE: Google Earth

1625 Magnolia Avenue

Project Location and Study Area Intersections

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LSA

FIGURE 2

N

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SOURCE: Architects Orange

1625 Magnolia Avenue

Site Plan

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ICU is expressed in terms of level of service (LOS), where LOS A represents free-flow activity and LOS F represents overcapacity operation. Parameters set by the City for ICU calculations, including lane capacity, right-turn treatment, and clearance interval, are incorporated in the analysis.

According to the City's *General Plan Circulation Element* (2012), LOS at an intersection is considered to be unsatisfactory when the ICU exceeds 0.90 (LOS D) within the City, except at locations where LOS F conditions currently exist. The relationship of ICU to LOS is demonstrated in the following table.

Levels of Service	ICU
A	0.00–0.60
B	0.61–0.70
C	0.71–0.80
D	0.81–0.90
E	0.91–1.00
F	> 1.00

Source: *Highway Capacity Manual* (Transportation Research Board 2016).
ICU = intersection capacity utilization

Based on discussion with the City traffic engineer, a project impact occurs when the intersection in question exceeds the acceptable LOS of E or F, or the impact of the development results in an increase of 0.04 or greater for LOS C, 0.03 or greater for LOS D, 0.02 or greater for LOS E, or 0.01 or greater for LOS F. Project mitigation will be required back to acceptable levels, or baseline, if the baseline ICU is greater than 0.90.

In addition to the ICU methodology of calculating signalized intersection LOS, the *Highway Capacity Manual* (HCM 6th Edition, Transportation Resources Board 2016) methodology was used to determine the LOS at unsignalized study area intersections and signalized intersections at freeway interchanges. The HCM unsignalized and signalized intersection methodology looks at delay (in seconds per vehicle), as opposed to capacity, as the measure of effectiveness. The resulting delay is expressed in terms of LOS, much like the ICU methodology. The relationship of delay to LOS is illustrated in the following table.

Levels of Service	Signalized Intersection Delay (seconds)	Unsignalized Intersection Delay (seconds)
A	≤10.0	≤10.0
B	>10.0 and ≤20.0	>10.0 and ≤15.0
C	>20.0 and ≤35.0	>15.0 and ≤25.0
D	>35.0 and ≤55.0	>25.0 and ≤35.0
E	>55.0 and ≤80.0	>35.0 and ≤50.0
F	>80.0	>50.0

Source: *Highway Capacity Manual* (Transportation Research Board 2016).

This study, consistent with City guidelines, evaluates traffic impacts based on ICU methodology. The HCM methodology is another method to evaluate operational conditions at signalized intersections, and takes into consideration signal timing and can calculate queue lengths at turn lanes. HCM methodology is also required by the California Department of Transportation (Caltrans) to analyze Caltrans ramp intersections. Acceptable LOS for Caltrans intersections is considered to be LOS D or better.

Based on a discussion with the City Traffic Engineer, the Caltrans significant impact criteria specified in the *SANTEC/ITE Guidelines for Traffic Impact Studies in the San Diego Region* (San Diego Regional Traffic Engineers Council/ITE 2000) are used. These criteria identify a significant impact at a Caltrans ramp intersection when the intersection operates at unsatisfactory LOS, and the impact of the development results in an increase of at least 2 seconds of delay. All HCM analysis for this study has been developed using Synchro (Version 10.1) software.

Roadway Segment Criteria

A future year 2035 roadway link analysis has been performed consistent with the City's *Traffic Study for the Proposed Amendment to the Land Use and Circulation Elements of the Monrovia General Plan* (General Plan Traffic Study, 2007). The future year 2035 roadway link v/c ratios were determined using the City's theoretical daily capacity of 9,000 vehicles per lane for primary arterials, secondary arterials, and collector streets. Facility types for studied roadways were taken from the City's *General Plan Circulation Element* (2012). The roadway segments of Huntington Drive and Myrtle Avenue are classified as primary arterials, Duarte Road is classified as a secondary arterial, and the segments of Mayflower Avenue, Magnolia Avenue, and Evergreen Avenue are classified as collector streets.

The City has established the maximum desirable daily LOS for specific facility types, shown in the following table.

Type of Street	Maximum Desirable Daily LOS and v/c
Primary Arterial	LOS D (v/c ≤0.90)
Secondary Arterial	LOS Mid-D (v/c ≤0.85)
Collector Street	LOS C (v/c ≤0.80)
Local Street	LOS A (v/c ≤0.60)

Taken from the City of Monrovia's *General Plan Circulation Element* (2012)
LOS = level of service
v/c = volume-to-capacity ratio

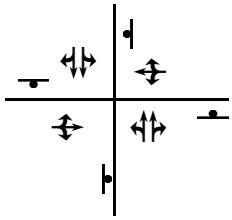
A project impact occurs when the roadway link in question exceeds the acceptable LOS and the project-related traffic increases the daily traffic by 2.5 percent or more.

EXISTING (2017) CONDITIONS

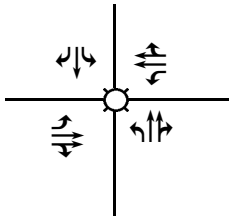
Existing Site Uses

The existing site currently includes 53,717 sf of industrial use, 30,000 sf of automobile sales use, and two single-family detached housing units. These uses will be replaced by the proposed 432 apartment DUs and 4 live/work units. In order to take the existing site traffic into account, 24-hour counts were taken at the shared driveways of the existing facilities. The 24-hour driveway counts were obtained from National Data and Surveying Services (NDS). Appendix A provides the existing driveway count data. Figure 3 illustrates existing lane configurations.

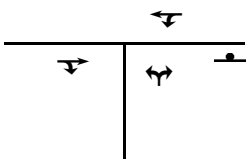




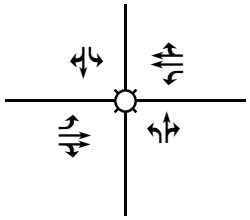
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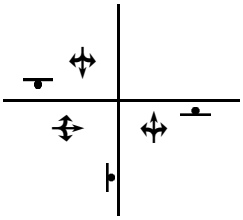
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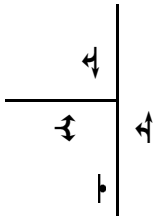
3 Project Dwy 1/Evergreen Ave



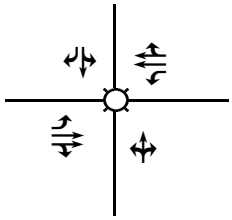
4 Magnolia Ave/Huntington Dr



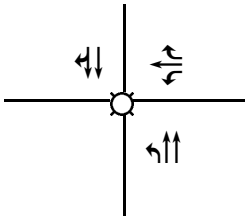
5 Magnolia Ave/Evergreen Ave



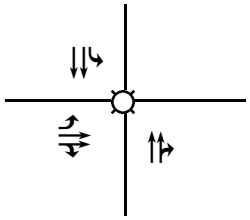
6 Magnolia Ave/Project Dwy 2



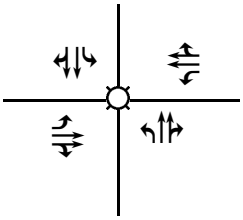
7 Magnolia Ave/Duarte Rd



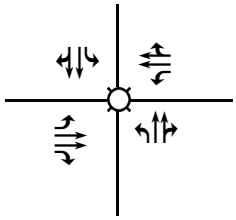
8 Myrtle Ave/Central Ave-I-210 WB



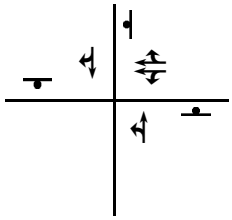
9 Myrtle Ave/Evergreen Ave-I-210 EB



10 Myrtle Ave/Duarte Rd



11 Myrtle Ave/Huntington Dr



12 Magnolia Ave/Central Ave

LSA

FIGURE 3

Legend

Signal

Stop Sign

1625 Magnolia Avenue

Existing Intersection Geometrics

Existing Baseline Traffic Volumes and LOS

Peak-hour intersection turn volumes and roadway segment average daily traffic (ADT) volumes for the study area intersections and roadway segments were obtained from the City and collected for LSA by NDS. All counts used in this traffic study were conducted on a Tuesday, Wednesday, or Thursday. Counts were collected at the time the initial TIA was prepared between 2016 and 2017.

The project application was filed after the TIA was started, and a period of time passed between the completion of the TIA and the processing of the project. The original counts must be factored up to account for any potential changes that occurred between the time the counts were taken and the beginning of 2018. A regional ambient growth rate of 0.82 percent per year was added to the existing traffic volumes to escalate the counts to the year 2018. This growth rate was obtained from the Los Angeles County *Congestion Management Program* (Appendix D, Exhibit D-1, 2010), for regional statistical area (RSA) 25. The growth rate per year was calculated from the growth of year 2015 to year 2020. Figure 4 presents the existing a.m. peak-hour (one hour between 7:00 a.m. to 9:00 a.m.) and p.m. peak-hour (one hour between 4:00 p.m. to 6:00 p.m.) turn-movement volumes at the study area intersections. Appendix A provides the existing count data.

The intersection of Myrtle Avenue/Duarte Road operates concurrently with a Metro Gold Line train crossing at the north leg of the intersection. LSA staff observed the train crossing times on June 20, 2017, recording the duration of when the train crossing gates moved down to when the gates completely opened. The train was observed to add approximately 20 percent of delay to the intersection per hour (approximately 12 minutes per hour). The train crossing adds delay to only conflicting movements and partially overlaps with the standard intersection loss time of 10 percent per hour (approximately 6 minutes per hour). However, to present a conservative analysis, the train crossing loss time was analyzed to affect the entire intersection. This loss time percentage is calculated by adding the total train loss time to the standard intersection loss time, for a total of 30 percent, and is reflected in the intersection analysis for Myrtle Avenue/Duarte Road.

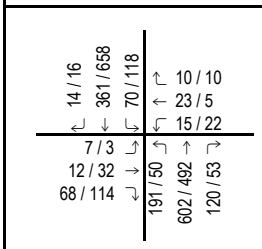
Table A summarizes the results of the existing a.m. and p.m. peak-hour LOS analysis. As previously discussed, the ICU methodology was used to determine the LOS at signalized study area intersections, and HCM methodology was used to determine the LOS at unsignalized study area intersections and the freeway ramp intersections. As shown in Table A, all study area intersections currently operate at satisfactory LOS.

PROPOSED PROJECT TRAFFIC

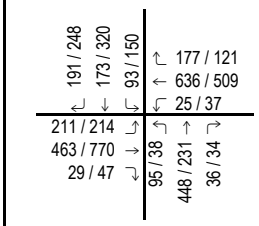
Trip Generation

Trip generation calculations for the project were based on the daily and peak-hour trip rates taken from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition (2012), shown in Table B. It is noted that the ITE recently published a 10th edition of this *Trip Generation Manual*. The trip rates for apartment use are greater in the 9th edition than the 10th edition. At the direction of City staff, the 9th edition rates were used for a more conservative assessment. Based on discussions with the City traffic engineer, vehicle trip generation has been reduced by 20 percent for trip credits based on transit use. The trip credits based on transit use accounts for the project site's

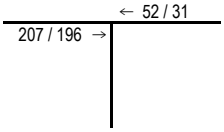




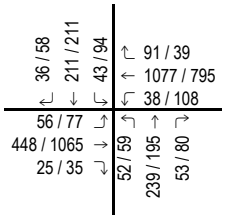
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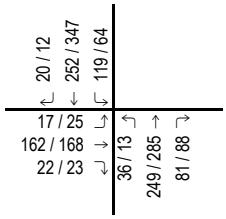
2 Mayflower Ave/Duarte Rd



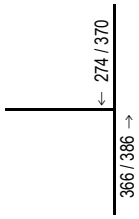
3 Project Dwy 1/Evergreen Ave



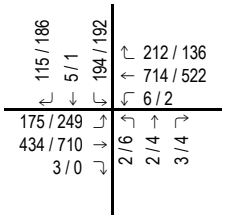
4 Magnolia Ave/Huntington Dr



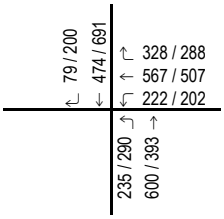
5 Magnolia Ave/Evergreen Ave



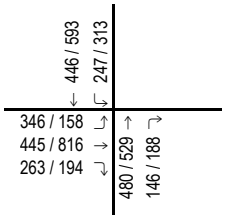
6 Magnolia Ave/Project Dwy 2



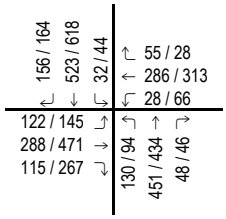
7 Magnolia Ave/Duarte Rd



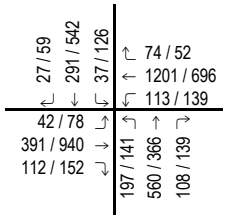
8 Myrtle Ave/Central Ave-I-210 WB



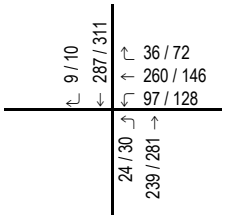
9 Myrtle Ave/Evergreen Ave-I-210 EB



10 Myrtle Ave/Duarte Rd



11 Myrtle Ave/Huntington Dr



12 Magnolia Ave/Central Ave

LSA

FIGURE 4

Legend

123 / 456 AM / PM Volume

1625 Magnolia Avenue

Existing Peak-Hour Volumes

P:\MMF1701\figures\Fig-04 Existing Volumes.xls\Figure (5/10/2018)

Table A: Existing LOS Summary

	Intersection	Existing			
		AM Peak Hour		PM Peak Hour	
		ICU/HCM	LOS	ICU/HCM	LOS
1	*Mayflower Avenue/Diamond Street-Evergreen Avenue (unsignalized)*	*22.6*	*C*	*19.7*	*C*
2	Mayflower Avenue/Duarte Road	0.695	B	0.654	B
3	*Project Driveway 1/Evergreen Avenue (unsignalized)*	*N/A*	-	*N/A*	-
4	Magnolia Avenue/Huntington Drive	0.709	C	0.742	C
5	*Magnolia Avenue/Evergreen Avenue (unsignalized)*	15.5	C	18.2	C
6	*Magnolia Avenue/Project Driveway 2 (unsignalized)*	*N/A*	-	*N/A*	-
7	Magnolia Avenue/Duarte Road	0.628	B	0.591	A
8	Myrtle Avenue/Central Avenue-I-210 WB Ramps	0.774	C	0.877	D
9	Myrtle Avenue/Evergreen Avenue-I-210 EB Ramps	0.671	B	0.835	D
10	Myrtle Avenue/Duarte Road	0.776	C	0.875	D

EB = eastbound, WB = westbound
I-210 = Interstate 210
ICU = intersection capacity utilization ratio
LOS = level of service
N/A = not applicable; driveway does not currently exist
HCM = Highway Capacity Manual delay (seconds per vehicle)

Table B: Trip Generation Summary

Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Trip Rates[1]									
Apartment		DU	6.65	0.10	0.41	0.51	0.40	0.22	0.62
Office		TSF	11.03	1.37	0.19	1.56	0.25	1.24	1.49
Office Trip Generation[2]	*2.185*	*TSF*	*24*	*3*	*0*	*3*	*1*	*3*	*4*
Workspace Trip Rate per Unit[3]		*DU*	*6.00*	*0.75*	*0.00*	*0.75*	*0.25*	*0.75*	*1.00*
Residential Trip Rate per Unit[4]		*DU*	*4.32*	*0.07*	*0.27*	*0.33*	*0.26*	*0.14*	*0.40*
Live/Work Unit[5]		DU	10.32	0.82	0.27	1.08	0.51	0.89	1.40
Project Trip Generation									
Apartment	432	DU	2,873	43	177	220	173	95	268
Live/Work Unit[6]	4	DU	41	3	1	4	2	4	6
Trip Credits for transit (20%)[7]			*583*	*9*	*36*	*45*	*35*	*20*	*55*
Subtotal			**2,331**	**37**	**142**	**179**	**140**	**79**	**219**
Existing Trip Generation									
Existing Uses[8]			393	25	11	36	8	17	25
Net Trip Generation			**1,938**	**12**	**131**	**143**	**132**	**62**	**194**

1 Trip rates referenced from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition (2012).
2 Office trip generation calculated from the total office space in the live/work units.
3 Workspace trip rate per unit is based on total workspace divided by the number of live/work units.
4 Residential trip rate is calculated by multiplying the apartment trip rate with the residential ratio in the live/work unit. The ratio is 65% residential space/ 35% office space.
5 Blended trip rate is calculated by taking the sum of the Workspace Trip Rate and Residential Trip Rate.
6 Live/Work peak-hour trips use the calculated Live/Work Unit trip rates.
7 Based on local observations from City of Monrovia staff, the trip generation rate has been adjusted by 20 percent.
8 Existing Uses taken from 24-hour driveway counts.
ADT = average daily traffic, DU = dwelling unit

proximity to the Metro Gold Line Station, as well as four bus stations at Mayflower Avenue/Duarte Road and Magnolia Avenue/Duarte Road.

As Table B indicates, the existing land uses generate 393 trips per day, including 36 trips during the a.m. peak hour (25 inbound and 11 outbound) and 25 trips in the p.m. peak hour (8 inbound and 17 outbound). The project trips, with transit use, will result in a net project trip generation of 2,331 trips per day, including 179 trips in the a.m. peak hour (37 inbound and 142 outbound) and 219 trips in the p.m. peak hour (140 inbound and 79 outbound). The total net trip generation will add 1,938 trips per day, including 143 trips in the a.m. peak hour (12 inbound and 131 outbound) and 194 trips in the p.m. peak hour (132 inbound and 62 outbound).

Trip Distribution and Assignment

Trip distribution for the project was based on the project's location in relation to local and regional transportation facilities and origins/destinations, along with input and concurrence from the City Traffic Engineer. Figure 5 shows the trip distribution for the project. Figure 6 displays the resulting project trip assignment for study area intersections.

Existing Baseline and Plus Project Traffic Volumes and LOS

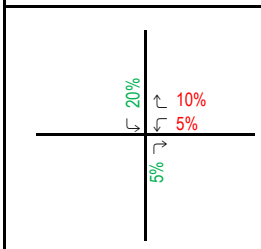
To demonstrate the effect that the project would have on the study area intersections in the existing condition, an existing plus project LOS analysis was prepared. This analysis assumes that the existing land uses are removed and replaced by the proposed project of 432 apartment DUs and 4 live/work units. Figure 7 displays the existing plus project peak-hour volumes for the study area intersections. The existing and plus project LOS worksheets are provided in Appendix B. A summary of existing and plus project intersection LOS is presented in Table C, which indicates all study area intersections currently operate at satisfactory LOS. With the addition of the project in the existing setting, all study area intersections would continue to operate at satisfactory LOS. The increase in ICU does not exceed the threshold of significance at any of the intersections; therefore, the project can be implemented in the existing setting with no significant peak-hour intersection impacts.

CUMULATIVE (2020) CONDITIONS

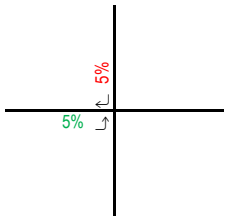
To present a cumulative (2020) traffic condition, a regional ambient growth rate was determined and traffic volumes for the related projects in the vicinity were developed, which were added to the existing traffic counts.

To reflect regional growth in the study area, a growth rate of 0.82 percent per year (total of 1.64 percent) was calculated from the growth of year 2015 to year 2020 for RSA 25 and was added to the existing (2018) traffic volumes. This growth rate was obtained from the Los Angeles County *Congestion Management Program* (Appendix D, Exhibit D-1, 2010). A list of cumulative projects was provided by the City of Monrovia Planning Division (Appendix C). Significant projects located near the proposed project were analyzed as cumulative projects and are illustrated on Figure 8. Table D shows the cumulative projects and their respective trip generations. It should be noted that there are a total of fifteen cumulative projects listed in Appendix C. Of these fifteen projects, only seven have the ability to measurably affect traffic within the study area. The remaining eight projects were

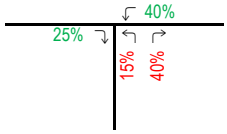




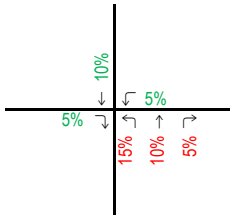
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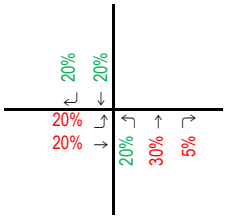
2 Mayflower Ave/Duarte Rd



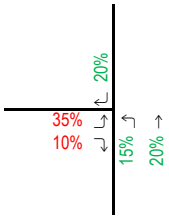
3 Project Dwy 1/Evergreen Ave



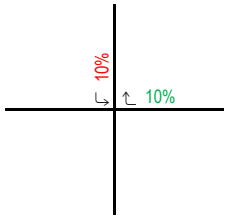
4 Magnolia Ave/Huntington Dr



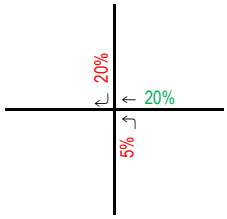
5 Magnolia Ave/Evergreen Ave



6 Magnolia Ave/Project Dwy 2



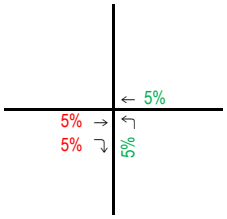
7 Magnolia Ave/Duarte Rd



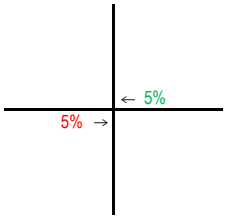
8 Myrtle Ave/Central Ave-I-210 WB



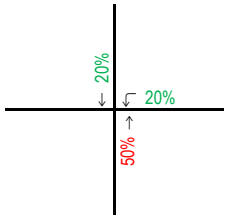
9 Myrtle Ave/Evergreen Ave-I-210 EB



10 Myrtle Ave/Duarte Rd



11 Myrtle Ave/Huntington Dr



12 Magnolia Ave/Central Ave

LSA

FIGURE 5

Legend

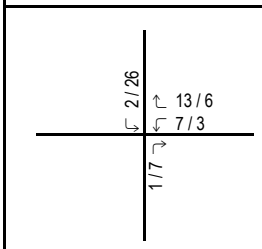
% Project Trip Distribution Percentages

Inbound Trip Distribution

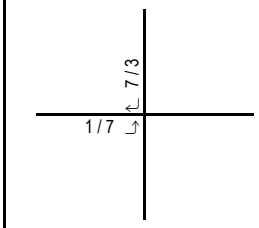
Outbound Trip Distribution

1625 Magnolia Avenue
Project Trip Distribution

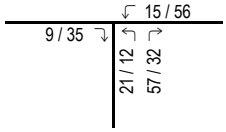




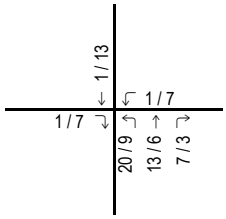
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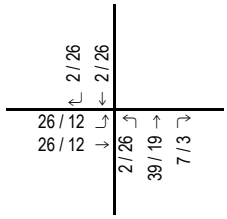
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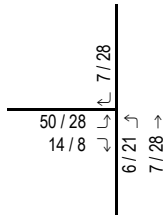
3 Project Dwy 1/Evergreen Ave



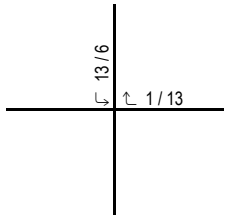
4 Magnolia Ave/Huntington Dr



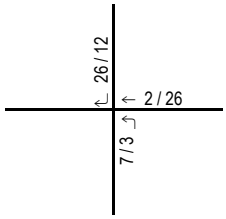
5 Magnolia Ave/Evergreen Ave



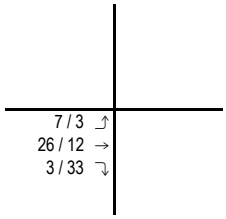
6 Magnolia Ave/Project Dwy 2



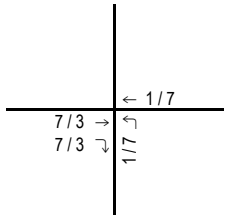
7 Magnolia Ave/Duarte Rd



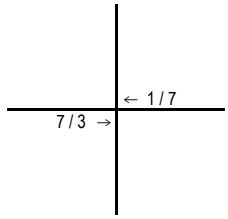
8 Myrtle Ave/Central Ave-I-210 WB



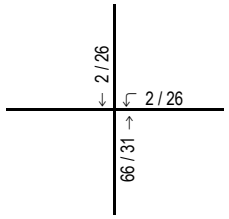
9 Myrtle Ave/Evergreen Ave-I-210 EB



10 Myrtle Ave/Duarte Rd



11 Myrtle Ave/Huntington Dr



12 Magnolia Ave/Central Ave

LSA

FIGURE 6

Legend

123 / 456 AM / PM Volume

1625 Magnolia Avenue
Project Trip Assignment

P:\MMF1701\figures\Fig-06 Project Trip Assignment.xls\Figure (5/10/2018)



1 Mayflower Ave/Evergreen Ave

	14 / 16	↰ 23 / 16
	361 / 658	← 23 / 5
7 / 3 ↰	72 / 144	↰ 22 / 25
12 / 32 →	191 / 50	↰
68 / 114 ↴	602 / 492	↑
	121 / 60	↱

2 Mayflower Ave/Duarte Rd

	198 / 251	↰ 177 / 121
	173 / 320	← 636 / 509
212 / 221 ↰	93 / 150	↰ 25 / 37
463 / 770 →	95 / 38	↰
29 / 47 ↴	448 / 231	↑
	36 / 34	↱

3 Project Dwy 1/Evergreen Ave

		← 52 / 31
		↰ 15 / 56
207 / 196 →	21 / 12	↰
9 / 35 ↴	57 / 32	↱

4 Magnolia Ave/Huntington Dr

36 / 58	43 / 94	↰ 91 / 39
212 / 224		← 1077 / 795
		↰ 39 / 115
56 / 77 ↰	72 / 68	↰
448 / 1065 →	252 / 201	↑
26 / 42 ↴	60 / 83	↱

5 Magnolia Ave/Evergreen Ave

22 / 38	119 / 64	
254 / 373		
43 / 37 ↰	38 / 39	↰
188 / 180 →	288 / 304	↑
22 / 23 ↴	88 / 91	↱

6 Magnolia Ave/Project Dwy 2

7 / 28		
274 / 370		
50 / 28 ↰	6 / 21	↰
14 / 8 ↴	373 / 414	↑
		↱

7 Magnolia Ave/Duarte Rd

115 / 186	207 / 198	↰ 213 / 149
5 / 1		← 714 / 522
		↰ 6 / 2
175 / 249 ↰	2 / 6	↰
434 / 710 →	2 / 4	↑
3 / 0 ↴	3 / 4	↱

8 Myrtle Ave/Central Ave-I-210 WB

105 / 212		↰ 328 / 288
474 / 691		← 569 / 533
		↰ 222 / 202
	242 / 293	↰
	600 / 393	↑
		↱

9 Myrtle Ave/Evergreen Ave-I-210 EB

446 / 593	247 / 313	
353 / 161 ↰	480 / 529	↑
471 / 828 →	146 / 188	↱
266 / 227 ↴		

10 Myrtle Ave/Duarte Rd

156 / 164	32 / 44	↰ 55 / 28
523 / 618		← 287 / 320
		↰ 28 / 66
122 / 145 ↰	131 / 101	↰
295 / 474 →	451 / 434	↑
122 / 270 ↴	48 / 46	↱

11 Myrtle Ave/Huntington Dr

27 / 59	37 / 126	↰ 74 / 52
291 / 542		← 1202 / 703
		↰ 113 / 139
42 / 78 ↰	197 / 141	↰
398 / 943 →	560 / 366	↑
112 / 152 ↴	108 / 139	↱

12 Magnolia Ave/Central Ave

9 / 10		↰ 36 / 72
289 / 337		← 260 / 146
		↰ 99 / 154
	24 / 30	↰
	305 / 312	↑
		↱

LSA

FIGURE 7

Legend

123 / 456 AM / PM Volume

1625 Magnolia Avenue

Existing Plus Project Peak-Hour Volumes

Table C: Existing Baseline and Existing Plus Project LOS Summary

	Intersection	Existing				Plus Project				Peak-Hour Δ ICU/HCM		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	AM	PM	
1	*Mayflower Avenue/Diamond Street-Evergreen Avenue (unsignalized)*	*22.6*	*C*	*19.7*	*C*	*23.8*	*C*	*22.1*	*C*	*1.2*	*2.4*	No
2	Mayflower Avenue/Duarte Road	0.695	B	0.654	B	0.696	B	0.659	B	0.001	0.005	No
3	*Project Driveway 1/Evergreen Avenue (unsignalized)*	*N/A*	-	*N/A*	-	*10.3*	*B*	*10.3*	*B*	-	-	No
4	Magnolia Avenue/Huntington Drive	0.709	C	0.742	C	0.722	C	0.754	C	0.013	0.012	No
5	*Magnolia Avenue/Evergreen Avenue (unsignalized)*	*15.5*	*C*	*18.2*	*C*	*19.2*	*C*	*25.8*	*D*	*3.7*	*7.6*	No
6	*Magnolia Avenue/Project Driveway 2 (unsignalized)*	*N/A*	-	*N/A*	-	*14.8*	*B*	*17.1*	*C*	-	-	No
7	Magnolia Avenue/Duarte Road	0.628	B	0.591	A	0.636	B	0.598	A	0.008	0.007	No
8	Myrtle Avenue/Central Avenue-I-210 WB Ramps	0.774	C	0.877	D	0.788	C	0.898	D	0.014	0.021	No
9	Myrtle Avenue/Evergreen Avenue-I-210 EB Ramps	0.671	B	0.835	D	0.680	B	0.849	D	0.009	0.014	No
10	Myrtle Avenue/Duarte Road	0.776	C	0.875	D	0.777	C	0.881	D	0.001	0.006	No

Δ = change
EB = eastbound
I-210 = Interstate 210
ICU = intersection capacity utilization ratio
HCM = Highway Capacity Manual delay (seconds per vehicle)
LOS = level of Service
N/A = not applicable; driveway does not currently exist
WB = westbound

Table D: Cumulative Project Trip Generation Summary

	Land Use	Size	Unit	ADT	AM Peak Hour			PM Peak Hour		
					In	Out	Total	In	Out	Total
Trip Rates[1]										
Apartment			DU	6.65	0.10	0.41	0.51	0.40	0.22	0.62
High-Turnover Restaurant			TSF	127.15	5.95	4.86	10.81	5.91	3.94	9.85
Coffee/Donut Shop without Drive-Through Window[2]			TSF	818.58	52.72	50.66	103.38	22.88	22.87	45.75
Shopping Center			TSF	42.70	0.60	0.36	0.96	1.78	1.93	3.71
General Light Industrial			TSF	6.97	0.81	0.11	0.92	0.12	0.85	0.97
Cumulative Trip Generation*										
1	MODA Apartments	261	DU	1,302	20	80	100	78	43	121
2[3]	High-Turnover Restaurant	12.617	TSF	1,203	56	46	102	56	37	93
	Coffee/Donut Shop without Drive-Through Window	2.165	TSF	1,329	86	82	168	37	37	74
	Shopping Center	2.675	TSF	86	1	1	2	4	4	8
	Brewery Manufacturing[4]	3.477	TSF	18	2	0	2	1	2	3
3	Duarte Road Apartments[5]	296	DU	925	-10	80	70	66	7	73
4	Station Square Apartments	280	DU	1,397	21	86	107	84	46	130
5	1601 Myrtle Avenue Apartments	103	DU	514	8	32	40	31	17	48
6	Towneplace Suites Hotel	109	Rooms	891	34	24	58	34	31	65
7	1110-1212 Fifth Avenue Apartments	154	DU	1,024	15	63	78	62	34	96
			Trip Generation	**8,689**	**233**	**494**	**727**	**453**	**258**	**711**

Note: Land Use Code (110) - General Light Industrial
Land Use Code (220) - Apartment
Land Use Code (932) - High-Turnover (Sit-Down) Restaurant
Land Use Code (936) - Coffee/Donut Shop without Drive-Through Window
Land Use Code (820) - Shopping Center

[1] Trip rates referenced from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 9th Edition (2012).
[2] ADT for Coffee/Donut Shop without Drive-Through Window is not available. The ADT was taken from the related land use 937 - Coffee/Donut Shop with Drive-Through Window.
[3] Cumulative project #2 is the Lumber Yard project.
[4] Brewery Manufacturing land use was analyzed with the General Light Industrial trip rates.
[5] The net trip generation was taken from the *Duarte Road Apartments Traffic Impact Analysis* (LSA 2017).
* 25% trip credits have been taken from projects 1, 2, 4, and 5 due to their proximity to the Metro Gold Line Station.

ADT = average daily traffic
DU = dwelling unit
TSF = thousand square feet

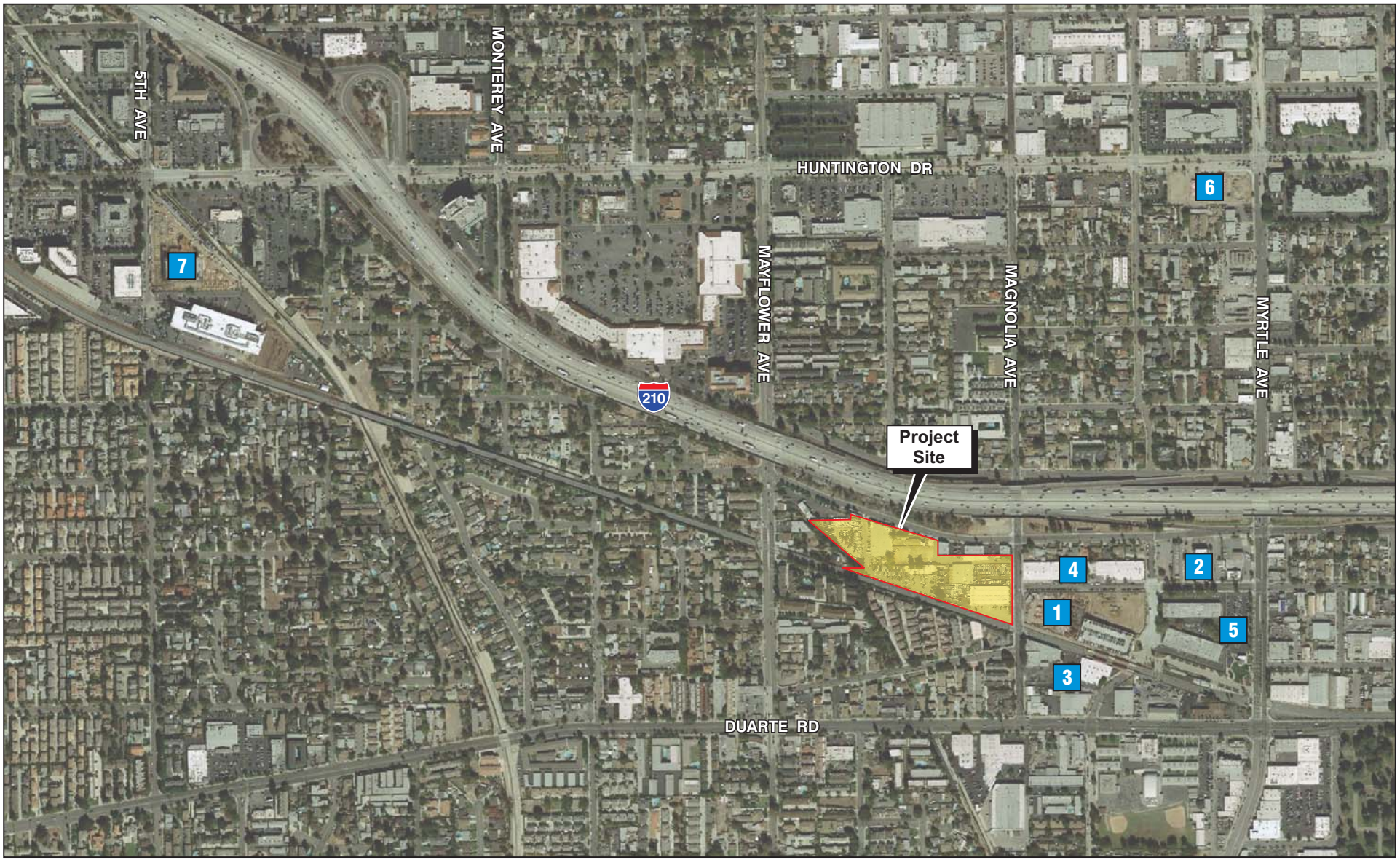


FIGURE 8

LSA

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0 385 770
FEET

SOURCE: Google Earth

LEGEND

- Project Site

Cumulative Projects:

1 - MODA Residential Development
2 - The Lumber Yard - An Artisan Food Village
3 - Duarte Road Apartments Residential Development
4 - Station Square North Residential Development
5 - 1601 Myrtle Avenue Residential Development
6 - Towneplace Suites Hotel
7 - 1110 - 1212 Fifth Avenue Residential Development

1625 Magnolia Avenue
Cumulative Project Locations

I:\MMF1701\G\Cumulative Projects-Expanded.cdr (4/30/2018)

too far to affect traffic in the study area, or were included as part of the regional annual growth rate, due to their small project sizes.

The cumulative project trip distribution was determined based on each project's land use and location. The residential development used the same regional trip distribution as the project, due to its close proximity and similar land use type. The Artisan Food Village (The Lumberyard) regional trip distribution was distributed 15 percent to the north, 10 percent to the south, 45 percent to the west, and 30 percent to the east, favoring local routes. A 25 percent trip credit was taken for transit use. The cumulative project trip distribution for the Duarte Road Apartments project is from the Duarte Road Apartments TIA. The resulting combined trip assignment at the study intersections for the cumulative projects is provided on Figure 9.

The cumulative future condition was developed by adding ambient growth and cumulative project traffic to existing traffic volumes. The resulting cumulative (2020) peak-hour traffic volumes are shown on Figure 10. The cumulative plus project peak-hour traffic volumes are shown on Figure 11. In order to assess the project's potential impact in cumulative conditions, an analysis of future LOS was prepared for the study area intersections. This analysis assumes existing intersection geometrics. As Table E indicates, all study area intersections are anticipated to operate at satisfactory LOS during the cumulative baseline setting, with the exception of Myrtle Avenue/ Central Avenue–I-210 WB Ramps during the p.m. peak hour, Myrtle Avenue/Evergreen Avenue–I-210 EB Ramps during the p.m. peak hour, and Myrtle Avenue/Duarte Road during the p.m. peak hour. With the addition of the project in the cumulative baseline setting, all study area intersections would continue to operate at satisfactory LOS, with the exception of the previously identified deficient intersections and Magnolia Avenue/Evergreen Avenue during the p.m. peak hour. The addition of project trips will exceed the threshold of significance at the intersections of Magnolia Avenue/Evergreen Avenue and Myrtle Avenue/Central Avenue–I-210 WB Ramps. Mitigation measures to reduce the project's impact to less-than-significant levels are discussed later in this report. The LOS worksheets are included in Appendix B.

RAMP INTERSECTION ANALYSIS

Existing and Existing Plus Project Ramp Intersection Analysis

To demonstrate the effect that the project would have on the Caltrans jurisdiction ramp intersections in the existing condition, an existing plus project HCM analysis was prepared. Appendix D provides the ramp intersection HCM LOS worksheets. Table F presents a summary of existing and existing plus project ramp intersections, which indicates that all study area ramp intersections currently operate at satisfactory LOS during the a.m. and p.m. peak hours. With the addition of the project in the existing setting, all study area freeway ramp intersections would continue to operate at satisfactory LOS. Therefore, the project can be implemented in the existing setting with no significant peak-hour ramp intersection impacts.



1 Mayflower Ave/Evergreen Ave

2 Mayflower Ave/Duarte Rd

← 27 / 13
16 / 23 →

3 Project Dwy 1/Evergreen Ave

4 Magnolia Ave/Huntington Dr

6 / 18 ↓
← 21 / 28
↰ 1 / 4
31 / 27 →
6 / 14 ↲
16 / 9 ↰ 21 / 9 ↑ 4 / 2 ↱

5 Magnolia Ave/Evergreen Ave

13 / 37 ↓
56 / 22 → 24 / 2 ↱

6 Magnolia Ave/Project Dwy 2

13 / 37 ↓
80 / 24 ↑

7 Magnolia Ave/Duarte Rd

25 / 14 ↲ -1 / 3 ↳
↱ 48 / 20
← 6 / 1
18 / 22 ↱
-1 / 5 →

8 Myrtle Ave/Central Ave-I-210 WB

18 / 4 ↲ 50 / 56 ↓
↱ 7 / 7
↰ 30 / 67
121 / 59 ↰ 74 / 37 ↑

9 Myrtle Ave/Evergreen Ave-I-210 EB

75 / 124 ↓ 5 / 6 ↳
19 / 4 ↳
25 / 10 →
44 / 123 ↲
142 / 75 ↑ 49 / 25 ↱

10 Myrtle Ave/Duarte Rd

-3 / 63 ↲ 23 / 13 ↓ 23 / 13 ↳
↱ 17 / 20
← -1 / 3
25 / 5 ↳
4 / 0 →
4 / 0 ↲
-1 / 3 ↰ 17 / 20 ↑

11 Myrtle Ave/Huntington Dr

10 / 18 ↓
← 3 / 13
↰ 11 / 21
2 / 3 ↳
15 / 10 →
6 / 10 ↲
23 / 19 ↰ 30 / 15 ↑ 27 / 13 ↱

12 Magnolia Ave/Central Ave

13 / 37 ↓
56 / 22 ↑

LSA

FIGURE 9

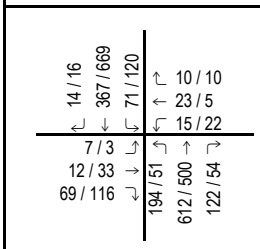
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123 / 456 AM / PM Volume

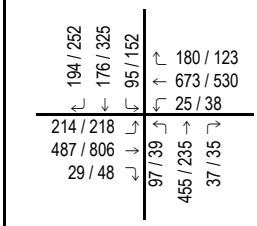
1625 Magnolia Avenue

Cumulative Project Trip Assignment

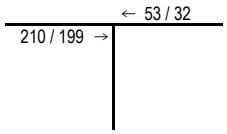




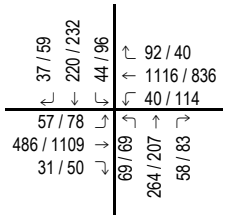
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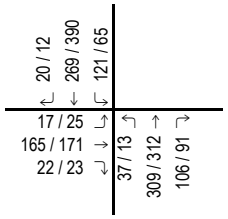
2 Mayflower Ave/Duarte Rd



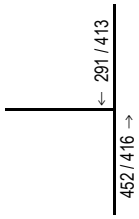
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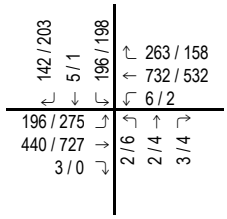
4 Magnolia Ave/Huntington Dr



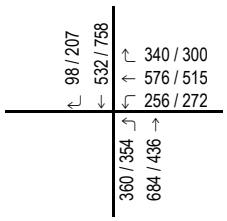
5 Magnolia Ave/Evergreen Ave



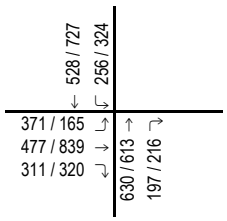
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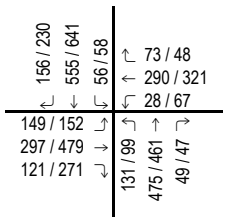
7 Magnolia Ave/Duarte Rd



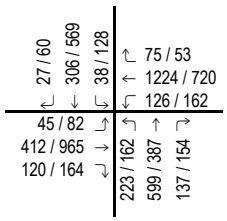
8 Myrtle Ave/Central Ave-I-210 WB



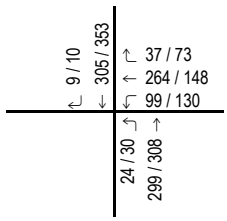
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10 Myrtle Ave/Duarte Rd



11 Myrtle Ave/Huntington Dr



12 Magnolia Ave/Central Ave

LSA

FIGURE 10

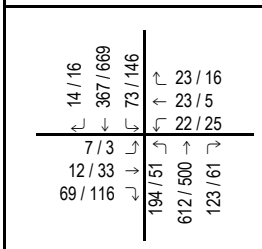
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123 / 456 AM / PM Volume

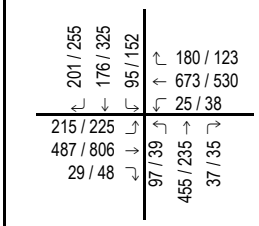
1625 Magnolia Avenue

Cumulative Peak-Hour Volumes

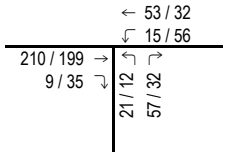




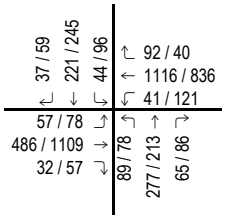
1 Mayflower Ave/Evergreen Ave



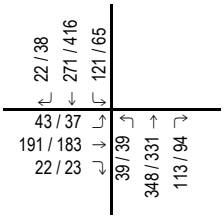
2 Mayflower Ave/Duarte Rd



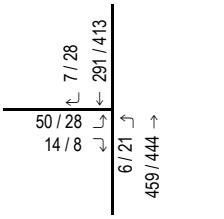
3 Project Dwy 1/Evergreen Ave



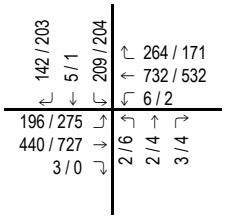
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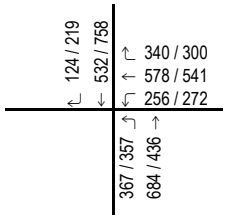
5 Magnolia Ave/Evergreen Ave



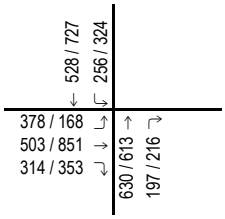
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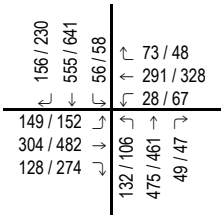
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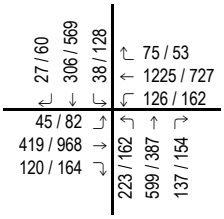
8 Myrtle Ave/Central Ave-I-210 WB



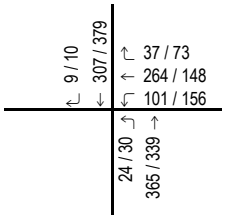
9 Myrtle Ave/Evergreen Ave-I-210 EB



10 Myrtle Ave/Duarte Rd



11 Myrtle Ave/Huntington Dr



12 Magnolia Ave/Central Ave

LSA

FIGURE 11

Legend

123 / 456 AM / PM Volume

1625 Magnolia Avenue

Cumulative Plus Project Peak-Hour Volumes

Table E: Cumulative Baseline and Cumulative Plus Project LOS Summary

	Intersection	Cumulative				Cumulative Plus Project				Peak-Hour Δ ICU/HCM		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	ICU/HCM	LOS	AM	PM	
1	*Mayflower Avenue/Diamond Street-Evergreen Avenue (unsignalized)*	*23.7*	*C*	*20.6*	*C*	*25.1*	*D*	*23.2*	*C*	*1.4*	*2.6*	No
2	Mayflower Avenue/Duarte Road	0.713	C	0.668	B	0.714	C	0.672	B	0.001	0.004	No
3	*Project Driveway 1/Evergreen Avenue (unsignalized)*	*N/A*	-	*N/A*	-	*10.3*	*B*	*10.3*	*B*	-	-	No
4	Magnolia Avenue/Huntington Drive	0.742	C	0.775	C	0.754	C	0.787	D	0.012	0.012	No
5	*Magnolia Avenue/Evergreen Avenue (unsignalized)*	*19.6*	*C*	*22.6*	*C*	*27.1*	*D*	*37.7*	*E*	*7.5*	*15.1*	Yes
6	*Magnolia Avenue/Project Driveway 2 (unsignalized)*	*N/A*	-	*N/A*	-	*16.6*	*C*	*18.7*	*C*	-	-	No
7	Magnolia Avenue/Duarte Road	0.663	B	0.623	B	0.671	B	0.628	B	0.008	0.005	No
8	Myrtle Avenue/Central Avenue-I-210 WB Ramps	0.882	D	0.945	E	0.895	D	0.967	E	0.013	0.022	Yes
9	Myrtle Avenue/Evergreen Avenue-I-210 EB Ramps	0.765	C	0.923	E	0.774	C	0.937	E	0.009	0.014	No
10	Myrtle Avenue/Duarte Road	0.810	D	0.910	E	0.811	D	0.917	E	0.001	0.007	No

Note: Gray shading indicates that values exceed City of Monrovia's level of service criteria.

Δ = change
I-210 = Interstate 210
EB = eastbound
HCM = Highway Capacity Manual delay (seconds per vehicle)
ICU = intersection capacity utilization ratio
LOS = level of service
N/A = not applicable; driveway does not currently exist
WB = westbound

Table F: Existing and Existing Plus Project Ramp Intersection Summary

Intersection		Existing				Existing Plus Project				Peak-Hour Δ HCM		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		HCM	LOS	HCM	LOS	HCM	LOS	HCM	LOS	AM	PM	
8	Myrtle Avenue/ Central Avenue-I-210 WB Ramps	21.4	C	33.6	C	22.2	C	36.6	D	0.8	3.0	No
9	Myrtle Avenue/ Evergreen Avenue-I-210 EB Ramps	21.9	C	30.2	C	22.1	C	32.5	C	0.2	2.3	No

Δ = change
EB = eastbound
HCM = Highway Capacity Manual delay (seconds per vehicle)
I-210 = Interstate 210
LOS = level of Service
WB = westbound

Cumulative and Cumulative Plus Project Ramp Intersection Analysis

To demonstrate the effect that the project would have on the Caltrans jurisdiction ramp intersections in the cumulative (2020) condition, a cumulative plus project HCM analysis was prepared.

Table G presents a summary of cumulative and cumulative plus project ramp intersections, which indicates all study area freeway ramp intersections are projected to operate at satisfactory LOS during the a.m. and p.m. peak hours. With the addition of the project in the cumulative setting, all study area intersections would continue to operate at satisfactory LOS. Therefore, the project can be implemented in the cumulative setting with no significant peak-hour ramp intersection impacts.

Table G: Cumulative and Cumulative Plus Project Ramp Intersection Summary

Intersection		Cumulative				Cumulative Plus Project				Peak-Hour Δ HCM		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
		HCM	LOS	HCM	LOS	HCM	LOS	HCM	LOS	AM	PM	
8	Myrtle Avenue/ Central Avenue-I-210 WB Ramps	38.6	D	45.1	D	41.1	D	48.8	D	2.5	3.7	No
9	Myrtle Avenue/ Evergreen Avenue-I-210 EB Ramps	27.4	C	46.8	D	28.4	C	51.8	D	1.0	5.0	No

Δ = change
EB = eastbound
HCM = Highway Capacity Manual delay (seconds per vehicle)
I-210 = Interstate 210
LOS = level of Service
WB = westbound

FUTURE YEAR 2035 CONDITIONS

A future year 2035 roadway link analysis has been performed acknowledging the City's *General Plan Traffic Study* (2007). The regional ambient growth rate (7.65 percent, 0.45 percent per year for 17 years) and traffic volumes from the related projects identified earlier in the report were applied to the existing roadway segment ADT in order to arrive at forecast 2035 conditions. The growth rate for the future year 2035 conditions was calculated from the growth of year 2015 to year 2035 for

RSA 25, obtained from the Los Angeles County *Congestion Management Program* (Appendix D, Exhibit D-1, 2010).

Project traffic added to the future year 2035 roadway link analysis uses the same trip generation and trip distribution as in the existing and cumulative conditions, based on the daily and peak-hour trip rates taken from the *Trip Generation Manual,* 9th Edition (ITE 2012), with a 20 percent trip credit based on transit use. The trip generation and trip distribution for project traffic are found in Table B and Figure 5. The project trip assignment for the studied roadway segments is shown in Table H, under Project ADT.

This analysis uses existing roadway segment lane assignments. Appendix E provides the roadway segment ADT counts, provided by the City Traffic Engineer. As Table H indicates, all study area roadway segments are anticipated to operate at satisfactory LOS during the future year 2035 baseline setting. All study area roadway segments would continue to operate at satisfactory LOS with the addition of the project traffic in the future year 2035 baseline setting. Therefore, the project can be implemented in a future year 2035 setting with no significant roadway segment impacts.

FUTURE YEAR 2035 CONDITIONS – PROGRAM SCENARIO

The 9.6-acre block where the project is located is bounded by Evergreen Avenue, Magnolia Avenue, Mayflower Avenue, and the Metro Gold Line. The entire block will undergo a General Plan Amendment and a Zoning Code Amendment. The entire block can be divided into two pieces – the project area (6.77 acres) and the remaining parcels (totaling 2.83 acres). The remaining parcels are privately owned but do not have any specific development/redevelopment plans at this time. As a result, the proposed Alexan Specific Plan project will be subject to an environmental analysis at a "project level", while the redesignation of the remaining parcels will be subject to an environmental analysis at a program level scenario.

The future program level analysis analyzes up to 518 apartment DUs using the same roadway segment analysis as the future year 2035 traffic condition. The purpose of this analysis is to examine the maximum development potential and the potential to create any circulation impacts for development over the entire block.

Trip generation calculations for the program scenario were based on the daily trip rates taken from the *Trip Generation Manual*, 9th Edition (ITE 2012). Project traffic added to the future year 2035 roadway link analysis compares 518 apartment DUs with the existing uses, with a 20 percent trip credit for transit use, for a net trip generation of 2,363 ADT. This program scenario assumes existing roadway segment geometrics and a similar trip distribution to the existing, cumulative, and future year 2035 conditions. The project trip assignment for the studied roadway segments is shown in Table I, under Project ADT.

As Table I indicates, all study area roadway segments will operate at satisfactory LOS during the potential maximum project's future year 2035 baseline setting. All study area roadway segments would continue to operate at satisfactory LOS with the addition of the 518 potential apartment DUs in the project's future year 2035 baseline setting. Therefore, the 518 potential apartment DUs can

Table H: Future Year 2035 Condition ADT Volumes and V/C Ratios

Segment #	Roadway	Segment	Capacity[1]	Future Year 2035			Future Year 2035 Plus Project				Δ v/c Ratio	Increase	Significant Impact?[3]
				ADT[2]	v/c Ratio	LOS	Project ADT	ADT[2]	v/c Ratio	LOS			
1	Duarte Road	west of Mayflower	36,000	23,900	0.67	B	96	24,000	0.67	B	0.000	0.40%	No
2		Mayflower to Magnolia	36,000	19,700	0.55	A	0	19,700	0.55	A	0.000	0.00%	No
3		Magnolia to Myrtle	36,000	19,800	0.55	A	193	20,000	0.56	A	0.010	0.98%	No
4		east of Myrtle	18,000	12,100	0.67	B	96	12,200	0.68	B	0.010	0.79%	No
5	Evergreen Avenue	Mayflower to Magnolia	18,000	2,500	0.14	A	582	3,100	0.17	A	0.030	23.12%	No
6		Magnolia to Myrtle	18,000	2,700	0.15	A	218	2,900	0.16	A	0.010	8.13%	No
7	Huntington Drive	Mayflower to Magnolia	36,000	28,600	0.80	C	193	28,800	0.80	C	0.000	0.67%	No
8		Magnolia to Myrtle	36,000	28,500	0.79	C	96	28,600	0.79	C	0.000	0.34%	No
9	Mayflower Avenue	north of Evergreen	36,000	16,900	0.47	A	291	17,200	0.48	A	0.010	1.73%	No
10		Evergreen to Duarte	36,000	16,700	0.46	A	96	16,800	0.47	A	0.010	0.58%	No
11		south of Duarte	18,000	7,900	0.44	A	0	7,900	0.44	A	0.000	0.00%	No
12	Magnolia Avenue	Huntington to Evergreen	18,000	8,100	0.45	A	678	8,800	0.49	A	0.040	8.34%	No
13		Evergreen to Duarte	18,000	7,700	0.43	A	461	8,200	0.45	A	0.020	5.97%	No
14	Myrtle Avenue	Huntington to Central	36,000	24,900	0.69	B	194	25,100	0.70	B	0.010	0.78%	No
15		Central to Duarte	36,000	24,000	0.67	B	24	24,000	0.67	B	0.000	0.10%	No
16		south of Duarte	36,000	24,100	0.67	B	96	24,200	0.67	B	0.000	0.40%	No

[1] Average daily traffic roadway segment capacity is determined as 9,000 vehicles per lane, per the City of Monrovia's *General Plan Circulation Element* (2012).

[2] Average daily traffic volume is displayed with rounding to the nearest hundredths digit. However, the v/c ratio is calculated using the unrounded volume.

[3] A significant impact occurs when when the roadway link exceeds the acceptable LOS and the project-related traffic increases the ADT by 2.5 percent or more.

Δ = change
ADT = average daily traffic
LOS = level of service
v/c = volume-to-capacity

Table I: Program Scenario Future Year 2035 Condition ADT Volumes and v/c Ratios

Segment #	Roadway	Segment	Capacity[1]	Future Year 2035			Future Year 2035 Plus Maximum Potential Project				Δ v/c Ratio	Increase	Significant Impact?[3]
				ADT[2]	v/c Ratio	LOS	Project ADT	ADT[2]	v/c Ratio	LOS			
1	Duarte Road	west of Mayflower	36,000	23,900	0.67	B	118	24,100	0.67	B	0.000	0.49%	No
2		Mayflower to Magnolia	36,000	19,700	0.55	A	0	19,700	0.55	A	0.000	0.00%	No
3		Magnolia to Myrtle	36,000	19,800	0.55	A	236	20,000	0.56	A	0.010	1.19%	No
4		east of Myrtle	18,000	12,100	0.67	B	118	12,300	0.68	B	0.000	0.97%	No
5	Evergreen Avenue	Mayflower to Magnolia	18,000	2,500	0.14	A	708	3,200	0.18	A	0.040	28.13%	No
6		Magnolia to Myrtle	18,000	2,700	0.15	A	266	2,900	0.16	A	0.010	9.93%	No
7	Huntington Drive	Mayflower to Magnolia	36,000	28,600	0.80	C	236	28,900	0.80	C	0.000	0.82%	No
8		Magnolia to Myrtle	36,000	28,500	0.79	C	118	28,600	0.79	C	0.000	0.41%	No
9	Mayflower Avenue	north of Evergreen	36,000	16,900	0.47	A	354	17,200	0.48	A	0.010	2.10%	No
10		Evergreen to Duarte	36,000	16,700	0.46	A	118	16,800	0.47	A	0.010	0.71%	No
11		south of Duarte	18,000	7,900	0.44	A	0	7,900	0.44	A	0.000	0.00%	No
12	Magnolia Avenue	Huntington to Evergreen	18,000	8,100	0.45	A	826	9,000	0.50	A	0.050	10.15%	No
13		Evergreen to Duarte	18,000	7,700	0.43	A	561	8,300	0.46	A	0.030	7.26%	No
14	Myrtle Avenue	Huntington to Central	36,000	24,900	0.69	B	236	25,100	0.70	B	0.010	0.95%	No
15		Central to Duarte	36,000	24,000	0.67	B	30	24,000	0.67	B	0.000	0.13%	No
16		south of Duarte	36,000	24,100	0.67	B	118	24,200	0.67	B	0.000	0.49%	No

[1] Average daily traffic roadway segment capacity is determined as 9,000 vehicles per lane, per the City of Monrovia's *General Plan Circulation Element* (2012).
[2] Average daily traffic volume is displayed with rounding to the nearest hundredths digit. However, the V/C ratio is calculated using the unrounded volume.
[3] A significant impact occurs when when the roadway link exceeds the acceptable LOS and the project-related traffic increases the ADT by 2.5 percent or more.

Δ = change
ADT = average daily traffic
LOS = level of service
v/c = volume-to-capacity

be implemented in the project's future year 2035 setting with no significant roadway segment impacts.

SPECIAL ISSUES

Access Analysis

Access to the 1625 Magnolia Avenue project site will be provided via two full-access driveways along Evergreen Avenue and Magnolia Avenue. Both driveways will have one lane of travel for inbound and outbound directions. HCM based intersection analysis has been utilized as the metric to evaluate the adequacy and performance of the two unsignalized driveways.

As presented previously in Tables C and E, the intersections of Project Driveway 1/Evergreen Avenue and Magnolia Avenue/Project Driveway 2 are anticipated to operate at satisfactory LOS during the a.m. and p.m. peak-hour periods in both the existing plus project and cumulative plus project scenarios.

Consistent with HCM unsignalized intersection analysis methodology, the LOS results shown in Tables C and E represent the delay in seconds for the worst affected movement, in this case the outbound left-turn movements. In the interest of assessing the performance of inbound vehicles coming off of Evergreen Avenue and Magnolia Avenue, the calculated delay values of the inbound left-turn movements are presented in Table J. As shown in the table, all inbound left-turn movements are anticipated to operate at LOS A.

Table J: Access Analysis

Intersection		Movement	Existing Plus Project				Cumulative Plus Project			
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
			Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS	Delay (seconds)	LOS
3	Project Driveway 1/ Evergreen Avenue	WBL	7.7	A	7.9	A	7.7	A	7.9	A
6	Magnolia Avenue/ Project Driveway 2	NBL	7.9	A	8.3	A	7.9	A	8.4	A

LOS = level of service
NBL = Northbound left
WBL = Westbound left

Right-turning vehicles entering either driveway from an uncontrolled adjacent roadway should not experience any control delay and, therefore, are not represented in Table J.

Sight Distance Analysis

Sight distance has been reviewed at both project driveways. Evergreen Avenue and Magnolia Avenue have a speed limit of 35 miles per hour (mph). The Caltrans *Highway Design Manual* (2017) recommends a corner sight distance of 385 feet (ft) for a design speed of 35 mph.

More than 385 ft of sight distance is available for the driveway along Evergreen Avenue in both directions. More than 385 ft of sight distance is available for the driveway along Magnolia Avenue in

both directions. Based on this analysis, no obstructions are anticipated for outbound project vehicles exiting onto the circulation system from the project site based on existing roadway design and the proposed site plan layout. The sight distance lines are presented in Figure 12.

Alternative Mobility Modes

The project incorporates design features to accommodate pedestrian circulation on site. Pedestrian traffic is afforded safe travel via sidewalks throughout the site that connect to the public right-of-way.

Transit facilities are accessible to and from the project site within a 0.25 mi (mi) radius. Metro bus stops are provided at the northeast and southwest corners of Mayflower Avenue/Duarte Road (Routes 264 and 267), and at the northwest and southeast corners of Magnolia Avenue/Duarte Road (Routes 264 and 267). These Metro bus routes provide transportation to the cities of Altadena, Pasadena, Arcadia, El Monte, and Duarte. The Metro Gold Line Station is southeast of the project site, within a 0.2 mi walk. The project site and the Metro Gold Line Station are accessible via the existing pedestrian connection across the street at Magnolia Avenue, north of the railroad tracks. The Metro Gold Line provides transportation from Azusa to East Los Angeles via downtown Los Angeles. Figure 13 presents the locations of the transit stations near the project site. In the vicinity of the project site, on-street (Class III) bicycle routes are indicated by the City along Magnolia Avenue in the General Plan.

Vehicle Miles Traveled Analysis

California has been preparing to move away from vehicle delay and LOS analysis as the primary measure of effectiveness for California Environmental Quality Act (CEQA) transportation analysis, and is switching to vehicle miles traveled (VMT). VMT is a measure of the number of miles traveled by vehicles within a specified region for a specific time period. The purpose of this disclosure is to provide an alternative to LOS that may be used to evaluate transportation impacts in the future. Based on the California Emissions Estimator Model (CalEEMod), the VMT calculations for apartment land use are presented in Table K. The City has not yet adopted specific criteria for VMT analysis; therefore, the estimated VMT is provided for disclosure purposes only. Because the existing uses were taken together and are indistinguishable, the existing ADT will be split based on a ratio created from the square footages of the existing uses.



FIGURE 12

LSA

N

0 80 160
FEET

SOURCE: Google Earth

LEGEND

- Project Driveway
- Corner Sight Distance
- Sight Clearance Zone

Design Speed of 35 Miles Per Hour

1625 Magnolia Avenue

Project Access Sight Distances

I:\MMF1701\G\Sight Distances.cdr (5/10/2018)



FIGURE 13

LSA

LEGEND

- Project Site
- Metro Gold Line Station
- Metro Bus Stop

N

0 190 380

FEET

SOURCE: Google Earth

1625 Magnolia Avenue

Transit Locations

I:\MMF1701\G\Transit Locations.cdr (6/28/2017)

Table K: Project VMT Analysis

	Trip Length (miles)	Distribution Percentage	ADT	Total
Project VMT				
Apartment Use				
Home to Work	14.7	40.2%	2,914	17,220
Home to Shopping	5.9	19.2%		3,301
Home to Other	8.7	40.6%		10,293
Total Project VMT				**30,814**
Project with Transit Credits VMT				
Apartment Use				
Home to Work	14.7	40.2%	2,331	13,775
Home to Shopping	5.9	19.2%		2,641
Home to Other	8.7	40.6%		8,234
Total Project with Transit Credits VMT				**24,650**
Existing VMT				
General Light Industrial Use				
Commercial to Commercial	8.4	28.0%	252	593
Commercial to Work	16.6	59.0%		2,468
Commercial to Non-work	6.9	13.0%		226
Subtotal of General Light Industrial Use				*3,287*
Automobile Sales Use				
Commercial to Commercial	8.4	48.0%	141	569
Commercial to Work	16.6	33.0%		772
Commercial to Non-work	6.9	19.0%		185
Subtotal of Automobile Sales Use				*1,526*
Total Existing VMT				**4,813**
VMT Comparison (Total Project VMT – Total Project with Transit Credits VMT)				**6,164**
VMT Comparison (Total Project with Transit Credits VMT – Total Existing VMT)				**19,837**

Source: California Emissions Estimator Model
ADT = average daily traffic
VMT = vehicle miles traveled

Off-Ramp Queuing Analysis

A queuing analysis was conducted using Synchro (Version 10.1) software at the I-210 eastbound and westbound off-ramps intersecting Myrtle Avenue during the a.m. and p.m. peak-hours, in order to anticipate any spill-back of vehicles from the off-ramps onto the I-210 freeway.

The I-210 eastbound off-ramp is a dual-lane ramp approximately 815 ft long (total of 1,630 ft) of queue storage. The off-ramp queuing analysis utilized the traffic volumes available at the intersection of Myrtle Avenue/Evergreen Avenue-I-210 eastbound off-ramp. The eastbound traffic data at this intersection is the sum of the I-210 eastbound off-ramp traffic and eastbound through traffic along Evergreen Avenue. This data is compared to the 95th percentile queue formed from the combined off-ramp and Evergreen Avenue volumes to the vehicle storage capacity along the off-ramp to see if the queues would not spill back onto the I-210 freeway. It should be noted that there is an additional storage length of 360 ft (dual-lane of 180 ft each) between the intersection's eastbound stop bar and the off-ramp. This distance is not accounted for in the total queue distance. The queue distance is measured from the gore point to the entrance of the ramp.

The I-210 westbound off-ramp is a single-lane ramp approximately 990 ft long of queue storage. The off-ramp queuing analysis utilized the traffic volumes available at the intersection of Myrtle Avenue/Central Avenue-I-210 westbound off-ramp. The westbound traffic data at this intersection is the sum of the I-210 westbound off-ramp traffic and westbound through traffic along Central Avenue. This data is compared to the 95th percentile queue formed from the combined off-ramp and Central Avenue volumes to the vehicle storage capacity along the off-ramp to see if the queues would not spill back onto the I-210 freeway. It should be noted that there is an additional storage length of 420 ft between the intersection's westbound stop bar and the off-ramp. This distance is not accounted for in the total queue distance. The queue distance is measured from the gore point to the entrance of the ramp.

The queuing analysis worksheets for the existing (baseline and plus project) and cumulative (baseline and plus project) settings are provided in Appendix F and presented in Tables L and M. As shown in the tables, all queues are projected to fit within the provided capacity along the I-210 eastbound and westbound off-ramps.

Table L: Existing and Existing Plus Project Off-Ramp Queue Summary

Freeway Off-Ramp	Lane Description	Vehicle Storage Capacity (ft)	Vehicle Queue Length (ft)[1]				Exceeds Capacity?
			Existing		Existing Plus Project		
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
Myrtle Avenue/Central Avenue-I-210 WB Off-Ramp	Single-Lane Ramp	990	628	751	670	865	No
Myrtle Avenue/Evergreen Avenue-I-210 EB Off-Ramp	Dual-Lane Ramp	1,630	376	468	404	490	No

[1] 95th percentile queues were calculated by the Synchro 10 software.
EB = eastbound I-210 = Interstate 210
ft = foot/feet WB = westbound

Table M: Cumulative and Cumulative Plus Project Off-Ramp Queue Summary

Freeway Off-Ramp	Lane Description	Vehicle Storage Capacity (ft)	Vehicle Queue Length (ft)[1]				Exceeds Capacity?
			Cumulative		Cumulative Plus Project		
			AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	
Myrtle Avenue/Central Avenue-I-210 WB Off-Ramp	Single Lane Ramp	990	739	881	739	933	No
Myrtle Avenue/Evergreen Avenue-I-210 EB Off-Ramp	Dual Lane Ramp	1,630	1,504	1,220	1,504	1,578	No

[1] 95th percentile queues were calculated by the Synchro 10 software.
EB = eastbound I-210 = Interstate 210
ft = foot/feet WB = westbound

REQUIRED MITIGATION MEASURES AND/OR RECOMMENDATIONS

Based on the results of this analysis, the development of the 1625 Magnolia Avenue Project will result in a significant impact to the intersections of Magnolia Avenue/Evergreen Avenue and Myrtle Avenue/Central Avenue–I-210 WB ramps in the cumulative year horizon. The addition of project traffic exceeds City thresholds for performance at both intersections of Magnolia Avenue/Evergreen Avenue and Myrtle Avenue/Central Avenue–I-210 WB Ramps during the p.m. peak hour for the cumulative plus project scenario. Therefore, project mitigation measures are required.

In order to mitigate the impact at the intersection of Magnolia Avenue/Evergreen Avenue, the centerline for the northern and southern legs of the intersection is recommended to be restriped and moved 2 feet to the west, to allow for de-facto northbound right-turns.

The southbound travel lanes at this intersection are recommended to be re-striped from a shared southbound through-right lane and a southbound through lane to an exclusive southbound right-turn lane and two southbound through lanes. This appears to be favorable within the existing right of way without modifying the existing curb or centerline. An analysis of this improvement is prepared in Table N and indicates the intersection would operate at levels of service better than in the baseline setting. These recommended improvements are anticipated to bring the project-related difference to an acceptable threshold of significance. The mitigation LOS worksheets are provided in Appendix G.

Table N: Cumulative Plus Project Mitigation LOS Summary

Intersection		Cumulative				Cumulative Plus Project				Cumulative Plus Project with Mitigation			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS	ICU/ Delay	LOS
5	Magnolia Avenue/ Evergreen Avenue (unsignalized)	*19.6*	*C*	*22.6*	*C*	*27.1*	*D*	*37.7*	*E*	*21.9*	*C*	*32.4*	*D*
8	Myrtle Avenue/Central Avenue-I-210 WB Ramps	0.882	D	0.945	E	0.895	D	0.967	E	0.850	D	0.894	D

I-210 = Interstate 210
HCM = Highway Capacity Manual
ICU = intersection capacity utilization
LOS = level of service
WB = westbound

The City of Monrovia is in the process of studying an area-wide Transportation Impact Fee that would allow new development to pay a trip fee to assist in project mitigation. If this program is adopted prior to the final entitlement of the proposed project, the project may be asked to participate in the program rather than implement the improvement at Myrtle Avenue/Central Avenue and the I-210 westbound ramps.

APPENDIX A

EXISTING INTERSECTION COUNTS

ITM Peak Hour Summary

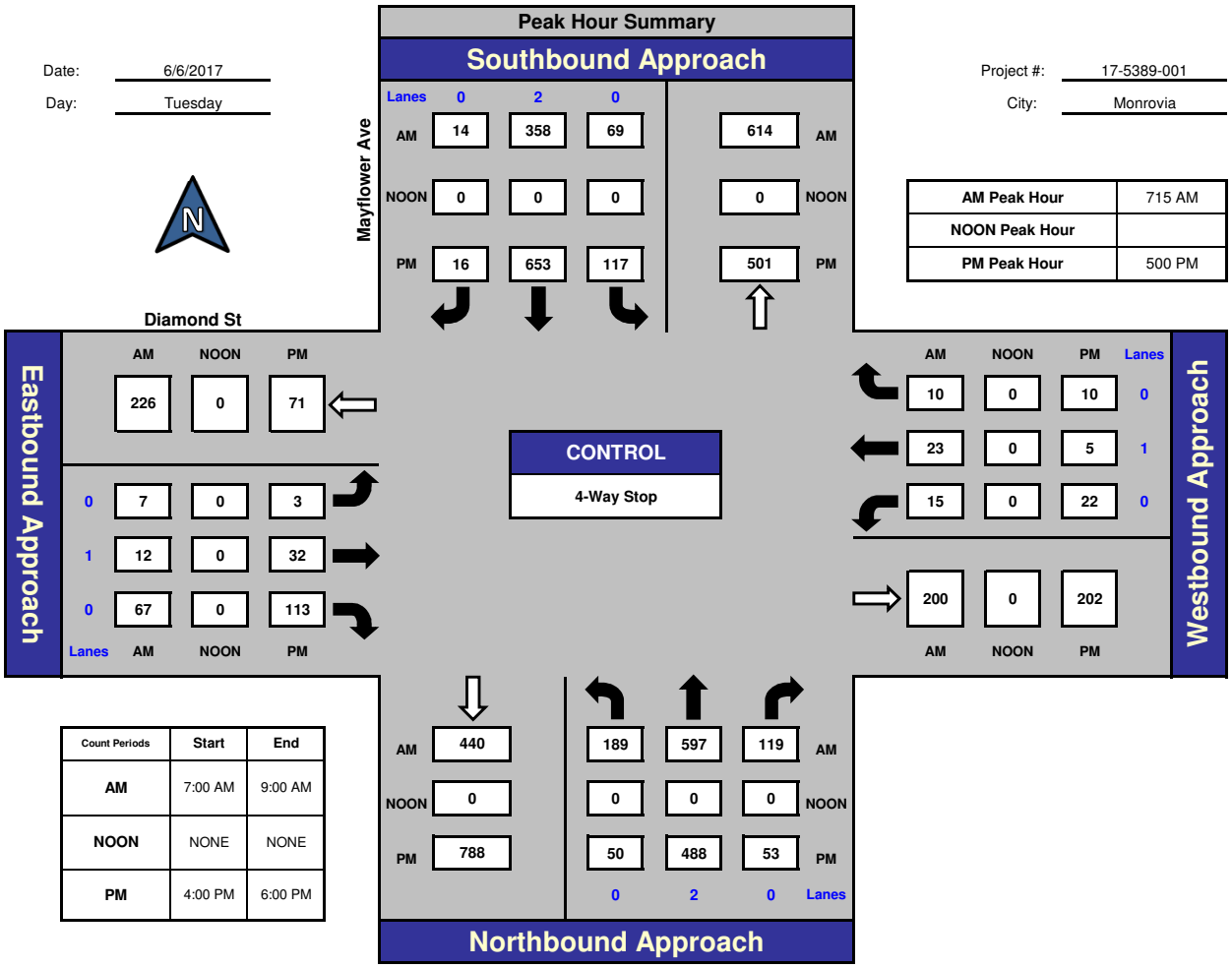
Prepared by:

National Data & Surveying Services

Mayflower Ave and Diamond St , Monrovia

Date: 6/6/2017
Day: Tuesday

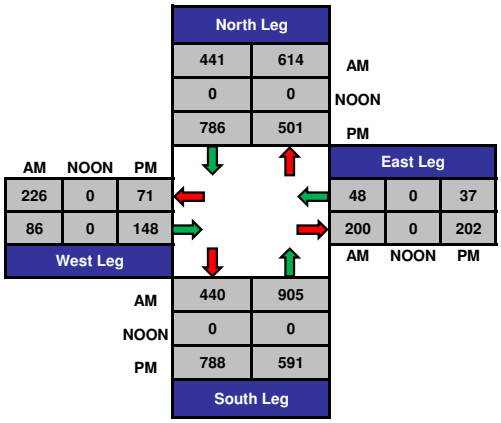
Project #: 17-5389-001
City: Monrovia



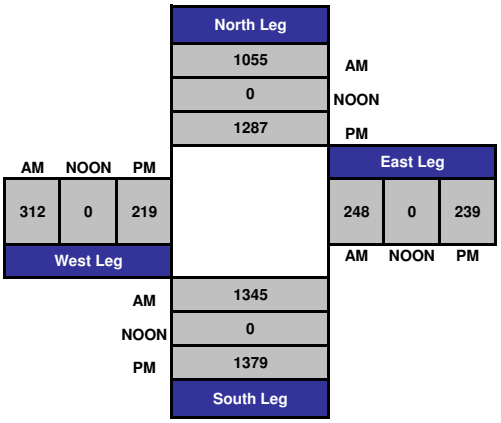
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	500 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

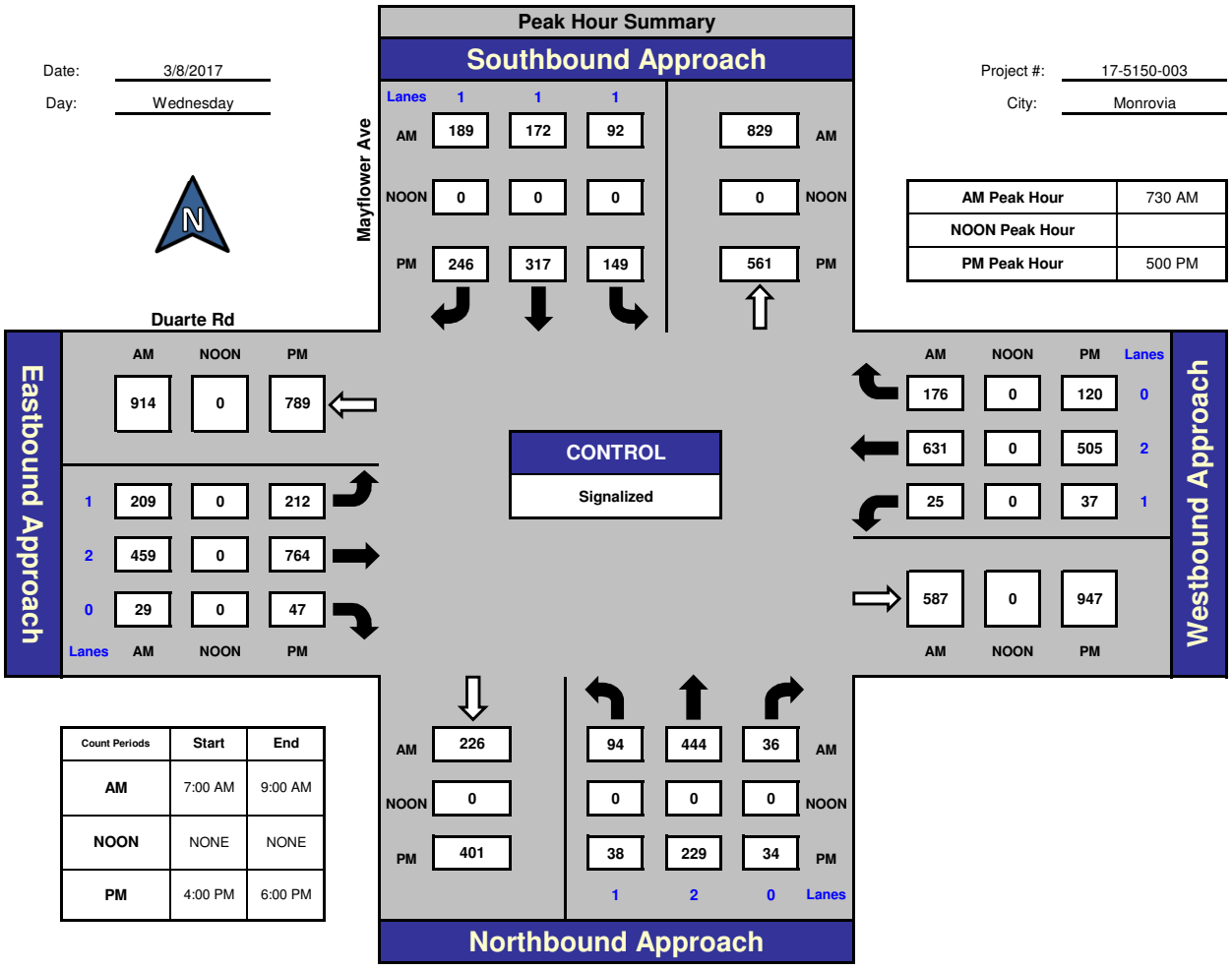
National Data & Surveying Services

Mayflower Ave and Duarte Rd , Monrovia

Date: 3/8/2017
Day: Wednesday

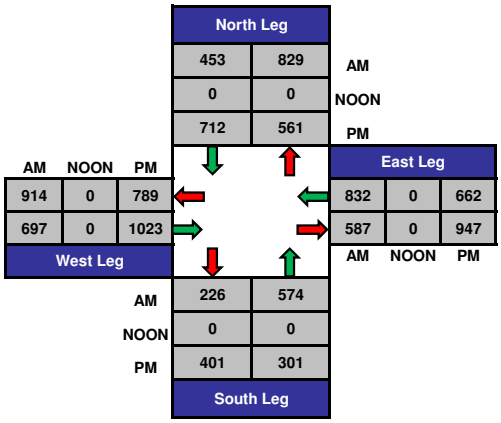
Project #: 17-5150-003
City: Monrovia

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	500 PM

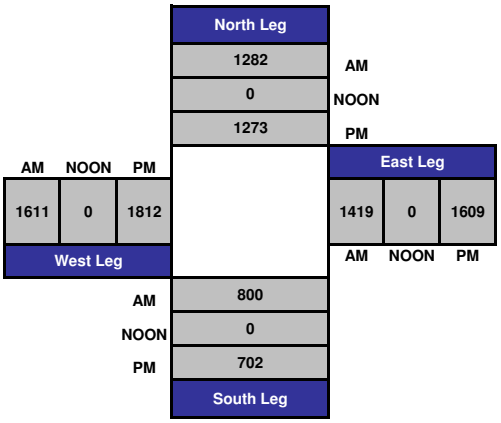


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Prepared by National Data & Surveying Services

Magnolia Ave & W Huntington Dr

Peak Hour Turning Movement Count

ID: 18-05167-002
City: Monrovia

Day: Thursday
Date: 03/08/2018

PEAK HOURS

AM: 07:30 AM - 08:30 AM
NOON: NONE
PM: 05:00 PM - 06:00 PM

COUNT PERIODS

AM: 07:00 AM - 09:00 AM
NOON: NONE
PM: 04:00 PM - 06:00 PM

Magnolia Ave — SOUTHBOUND

AM	36	211	43	0	386	AM
NOON	0	0	0	0	0	NOON
PM	58	211	94	0	311	PM

W Huntington Dr — EASTBOUND

AM	NOON	PM		
1165	0	912	⇦	
0	0	0	↶	0
56	0	77	↱	1
448	0	1065	→	2
25	0	35	↴	0
AM	NOON	PM		

CONTROL

Signalized

TEV	2369 AM	0 NOON	2816 PM
PHF	0.95		0.97

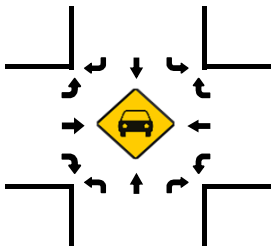
W Huntington Dr — WESTBOUND

PM	NOON	AM		
39	0	91	↰	0
795	0	1077	←	2
103	0	38	↰	1
5	0	0	↰	0
1244	0	544	⇨	
PM	NOON	AM		

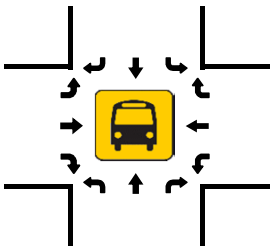
Magnolia Ave — NORTHBOUND

PM	349	0	59	195	80	PM
NOON	0	0	0	0	0	NOON
AM	274	0	52	239	53	AM

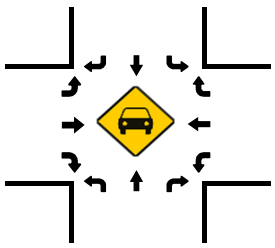
Total Vehicles (AM)



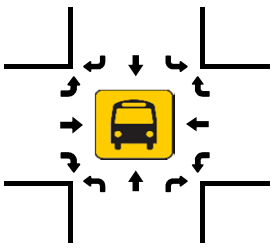
Total Vehicles (AM)



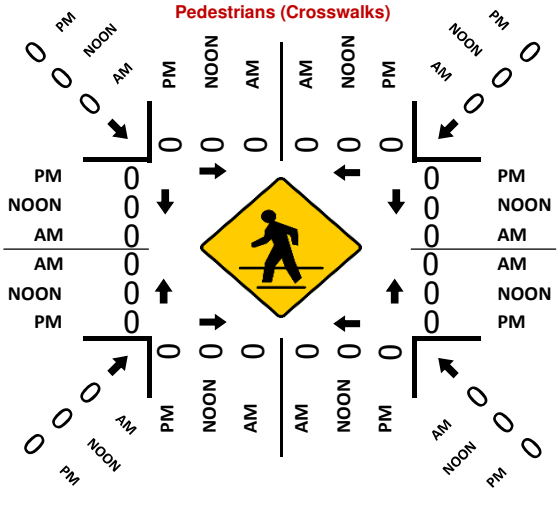
Total Vehicles (NOON)



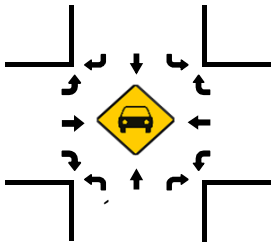
Total Vehicles (NOON)



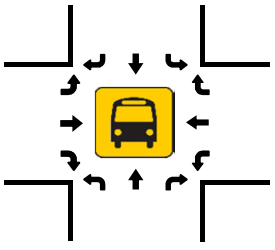
Pedestrians (Crosswalks)



Total Vehicles (PM)



Total Vehicles (PM)



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

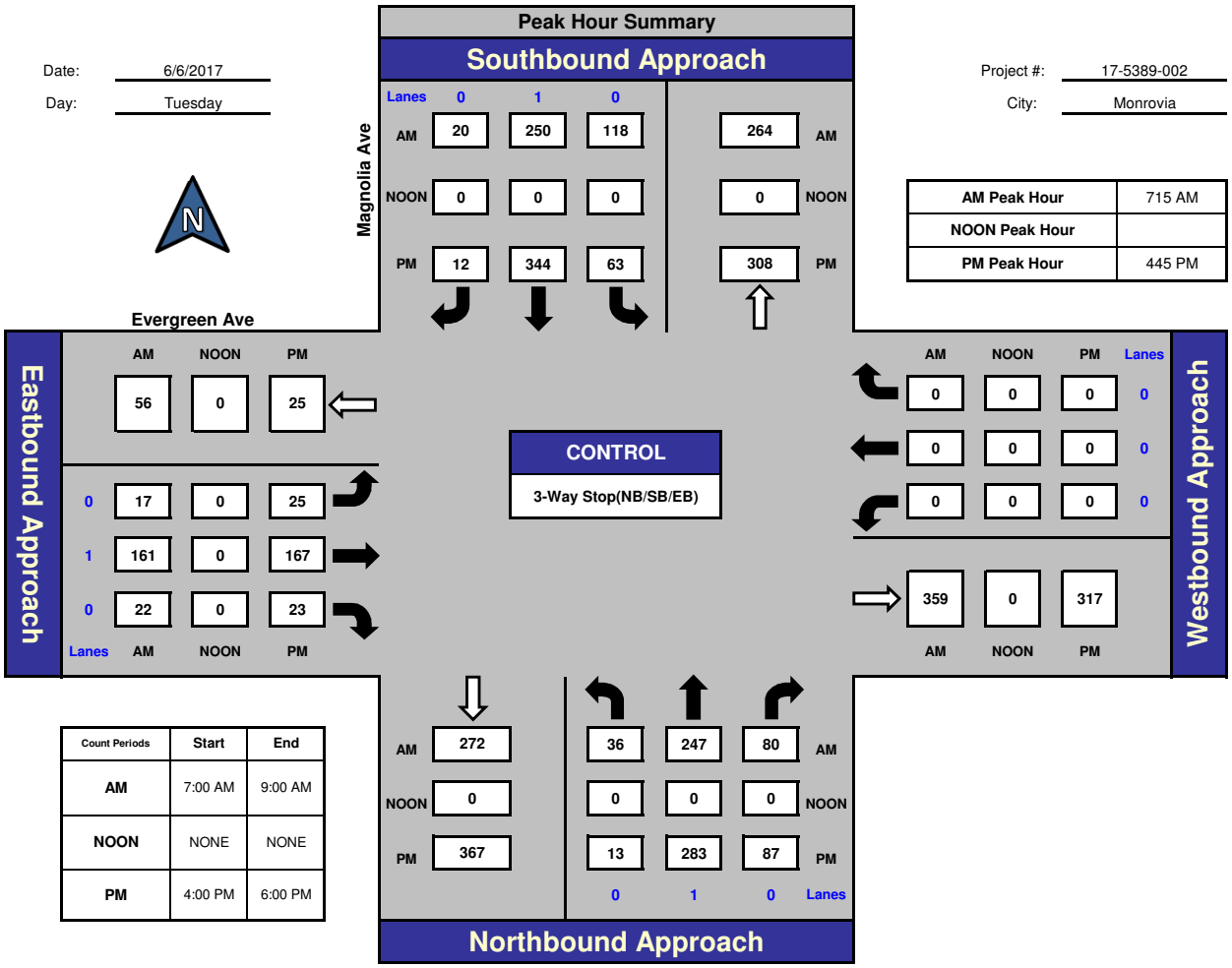
Magnolia Ave and Evergreen Ave , Monrovia

Date: 6/6/2017

Day: Tuesday

Project #: 17-5389-002

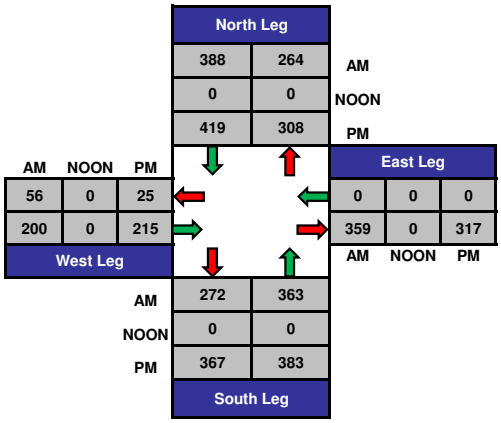
City: Monrovia



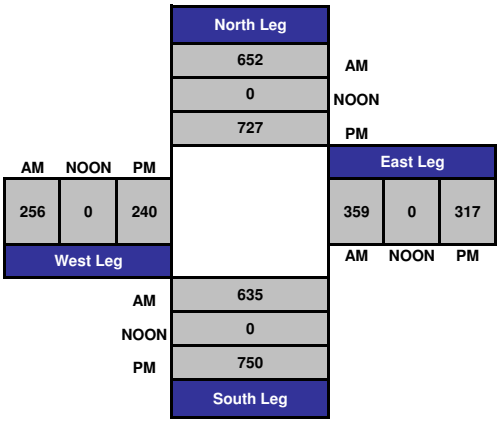
AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Magnolia Ave and Duarte Rd , Monrovia

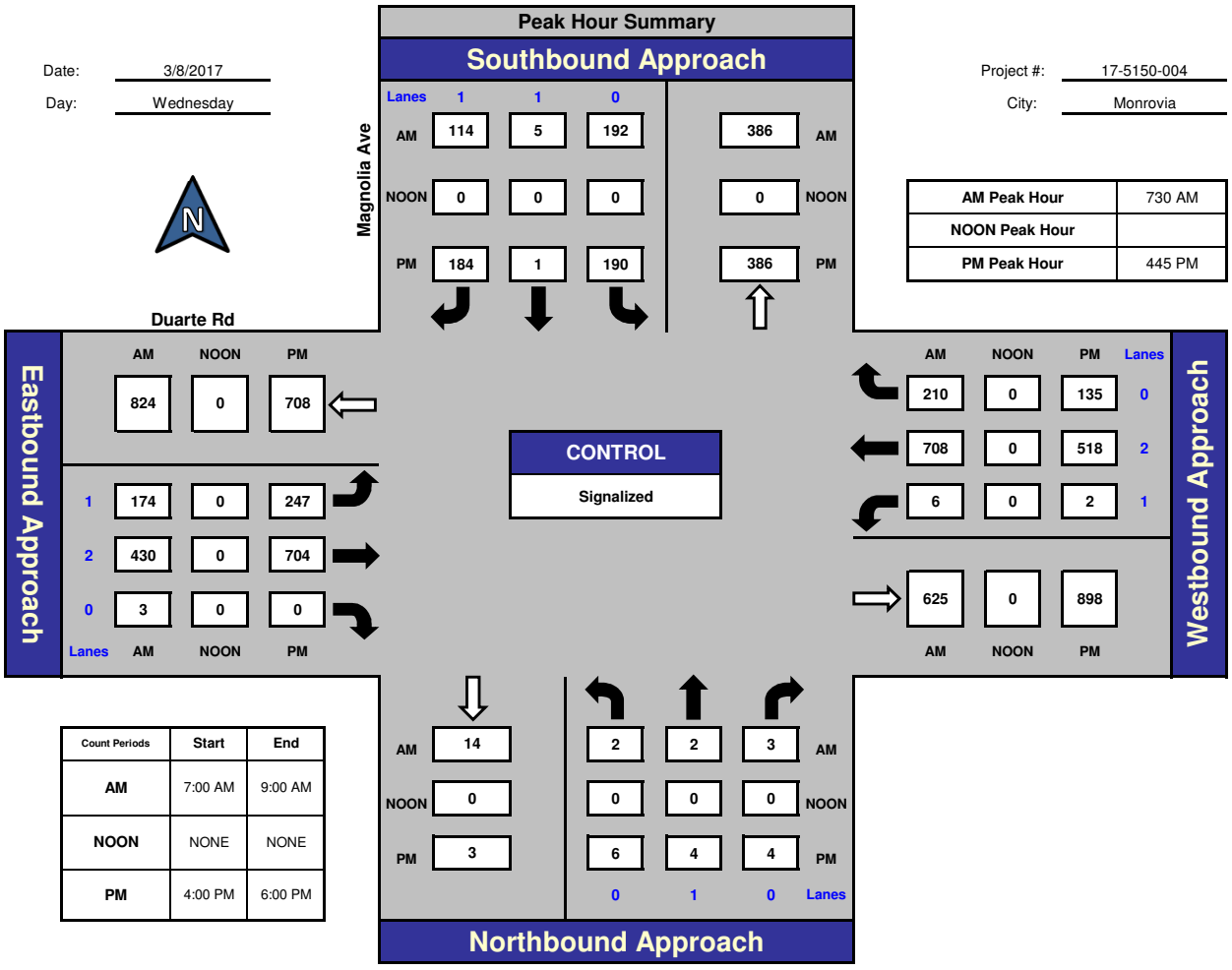
Date: 3/8/2017

Day: Wednesday

Project #: 17-5150-004

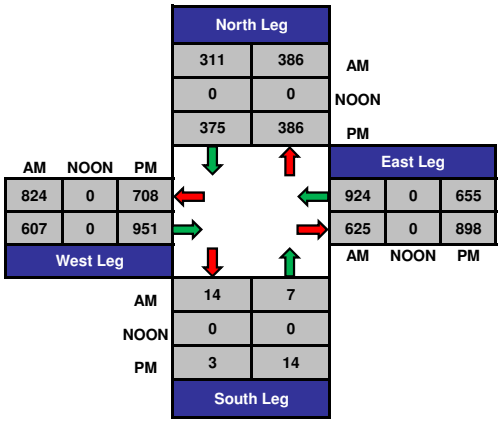
City: Monrovia

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

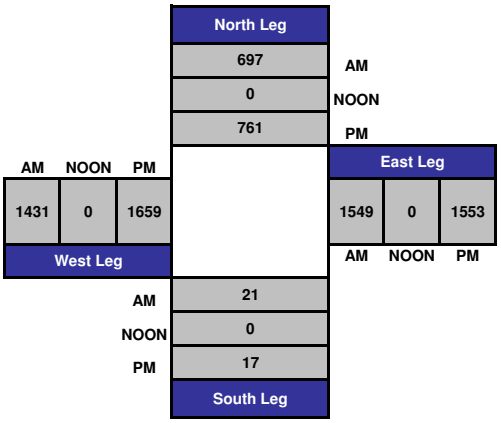


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

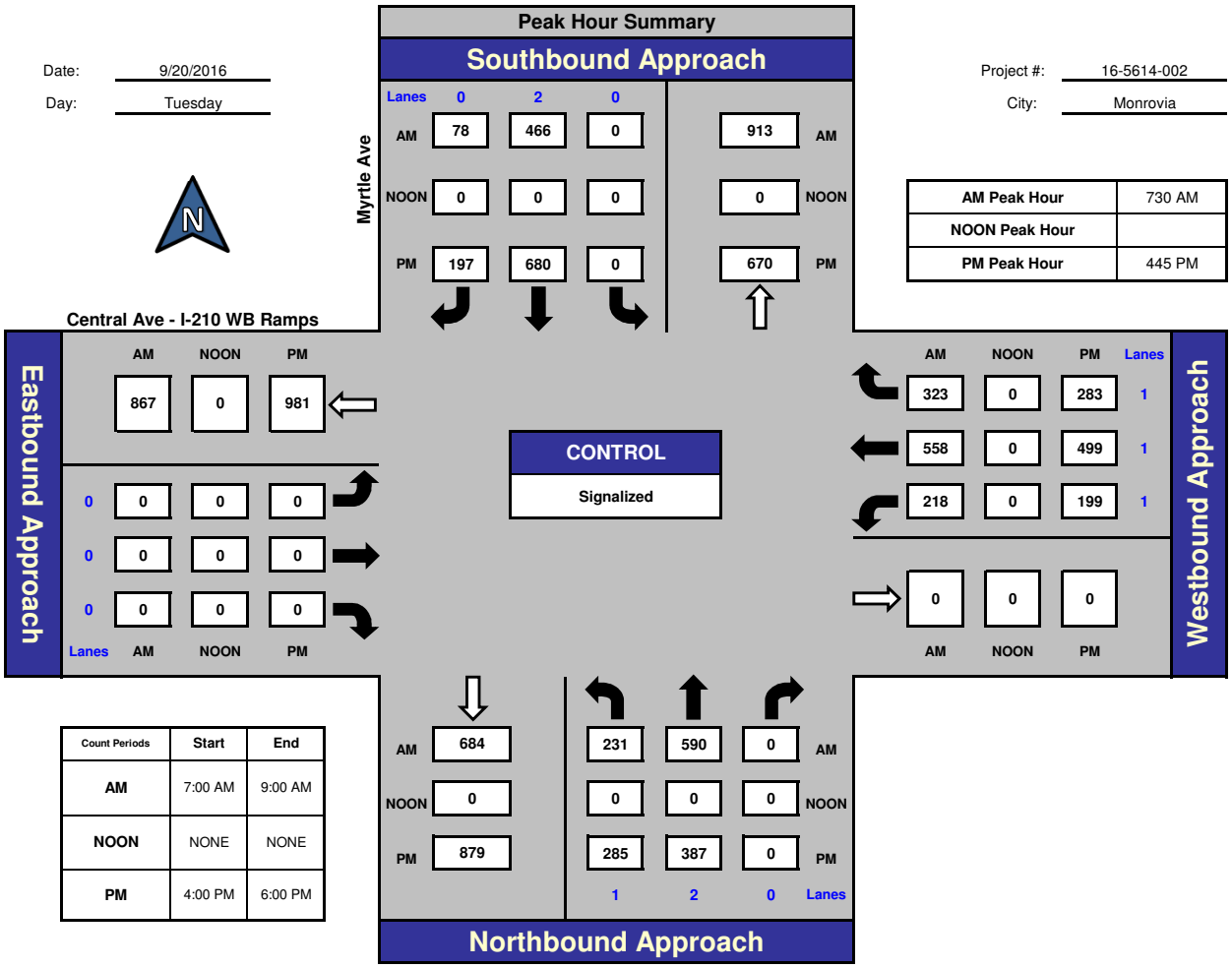
National Data & Surveying Services

Myrtle Ave and Central Ave - I-210 WB Ramps , Monrovia

Date: 9/20/2016
Day: Tuesday

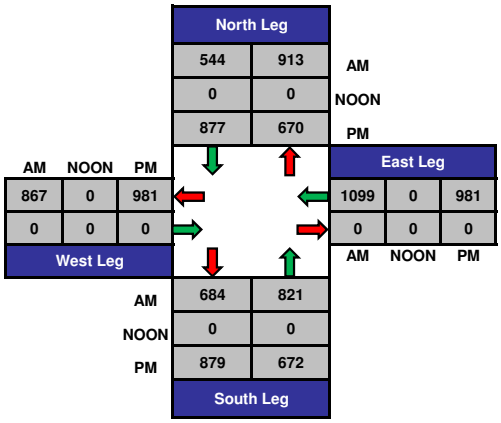
Project #: 16-5614-002
City: Monrovia

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

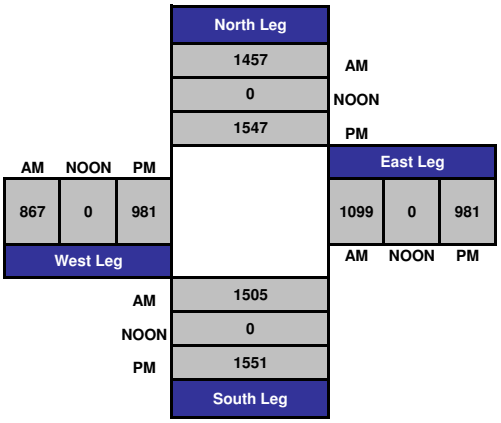


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

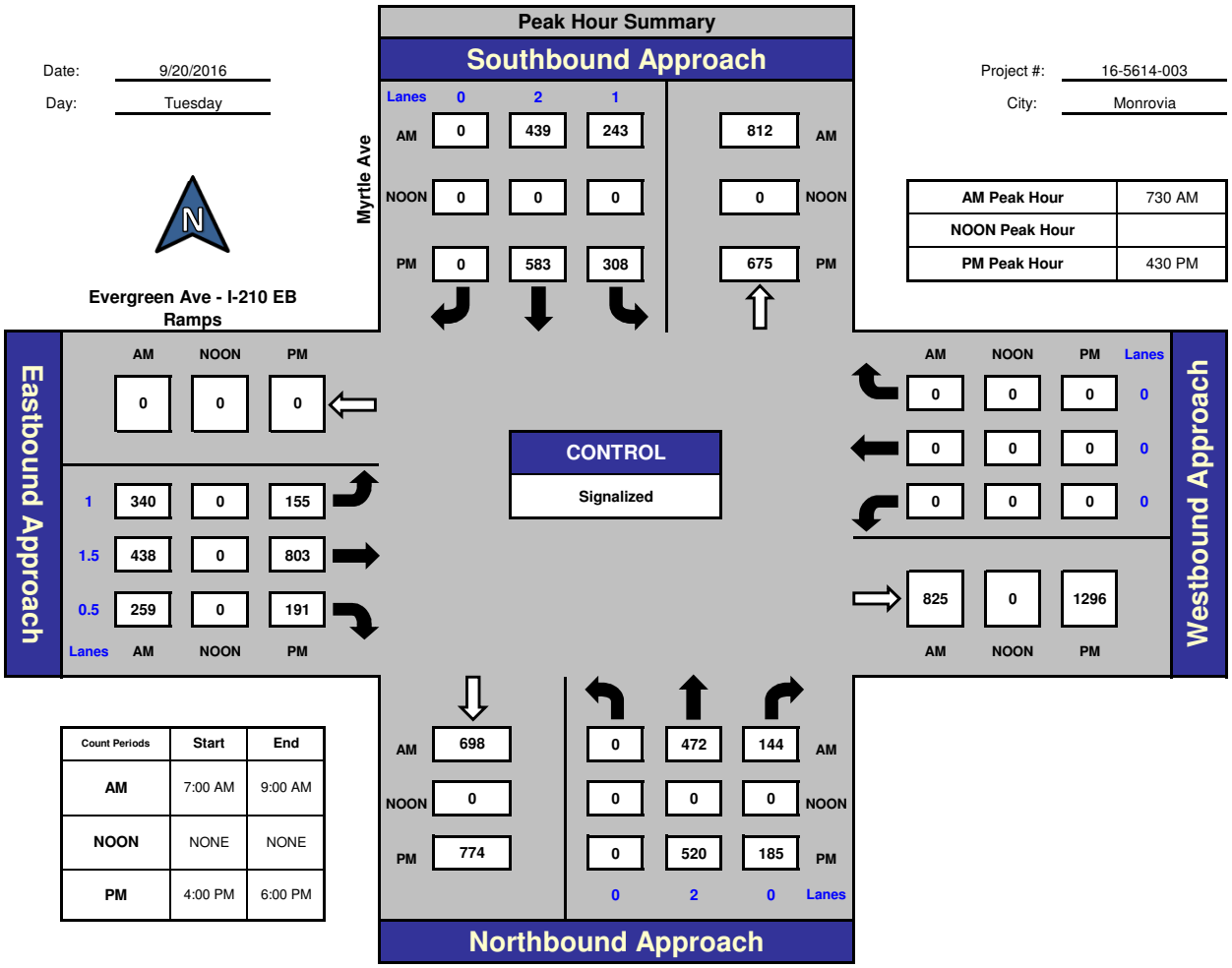
National Data & Surveying Services

Myrtle Ave and Evergreen Ave - I-210 EB Ramps , Monrovia

Date: 9/20/2016
Day: Tuesday

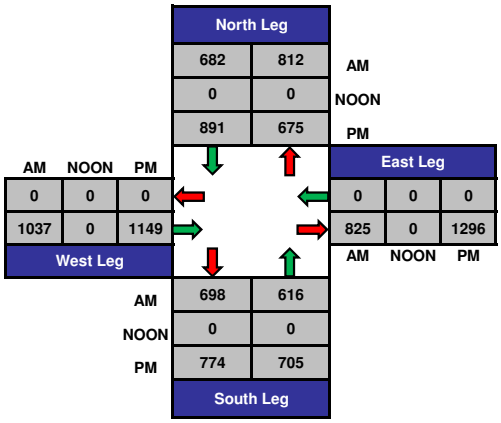
Project #: 16-5614-003
City: Monrovia

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	430 PM

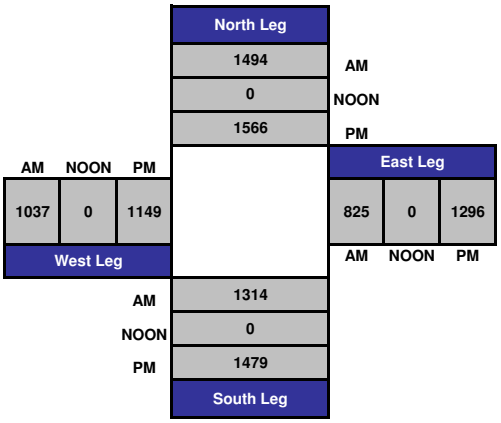


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



Turning Movement Count Report AM

Location ID: 1
North/South: Myrtle Ave
East/West: Duarte Rd

Date: 08/18/16
City: Monrovia, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
7:00	19	80	4	1	60	7	5	83	23	22	40	22	366
7:15	30	103	4	4	73	17	7	139	20	10	41	16	464
7:30	29	119	4	6	100	17	8	88	33	34	55	40	533
7:45	29	152	7	11	60	14	12	119	34	34	95	39	606
8:00	38	139	9	7	69	19	12	99	34	38	57	19	540
8:15	36	123	5	6	72	9	11	95	31	20	72	26	506
8:30	50	101	10	4	80	12	12	131	29	21	59	36	545
8:45	49	104	13	7	66	18	7	97	28	29	64	36	518
9:00													0
9:15													0
9:30													0
9:45													0
Total Volume:	280	921	56	46	580	113	74	851	232	208	483	234	4078
Approach %	22%	73%	4%	6%	78%	15%	6%	74%	20%	22%	52%	25%	
Peak Hr Begin:	7:45												
PHV	153	515	31	28	281	54	47	444	128	113	283	120	2197
PHF	0.930			0.945			0.900			0.768			0.906

Turning Movement Count Report PM

Location ID: 1
North/South: Myrtle Ave
East/West: Duarte Rd

Date: 08/18/16
City: Monrovia, CA

	Southbound			*Westbound*			*Northbound*			*Eastbound*			
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	Totals:
Movements:	R	T	L	R	T	L	R	T	L	R	T	L	
15:00	29	105	10	5	49	21	12	69	19	25	77	38	459
15:15	32	102	7	10	46	10	21	162	20	21	74	32	537
15:30	37	145	4	10	61	16	7	81	23	45	93	22	544
15:45	28	149	8	2	60	11	19	109	25	42	96	33	582
16:00	29	127	7	9	45	15	11	103	20	48	87	24	525
16:15	27	123	7	5	51	10	11	111	19	40	107	41	552
16:30	23	118	7	4	77	18	9	100	25	54	107	38	580
16:45	39	135	10	12	70	10	13	103	14	56	120	36	618
17:00	45	165	6	6	70	8	19	87	20	70	97	42	635
17:15	28	154	10	8	82	15	14	120	25	82	126	26	690
17:30	54	160	16	7	56	11	14	125	20	58	107	36	664
17:45	32	139	7	7	88	13	9	96	31	63	130	35	650
18:00	47	155	10	6	82	26	8	86	16	60	100	46	642
18:15	35	139	4	7	57	13	13	117	33	61	112	31	622
18:30	24	137	7	5	56	14	8	85	13	59	107	29	544
18:45	21	146	4	3	68	13	12	85	18	53	69	29	521
Total Volume:	530	2199	124	106	1018	224	200	1639	341	837	1609	538	9365
Approach %	19%	77%	4%	8%	76%	17%	9%	75%	16%	28%	54%	18%	
Peak Hr Begin:	17:15												
PHV	161	608	43	28	308	65	45	427	92	263	463	143	2646
PHF	0.883			0.879			0.887			0.928			0.959

ITM Peak Hour Summary

Prepared by:

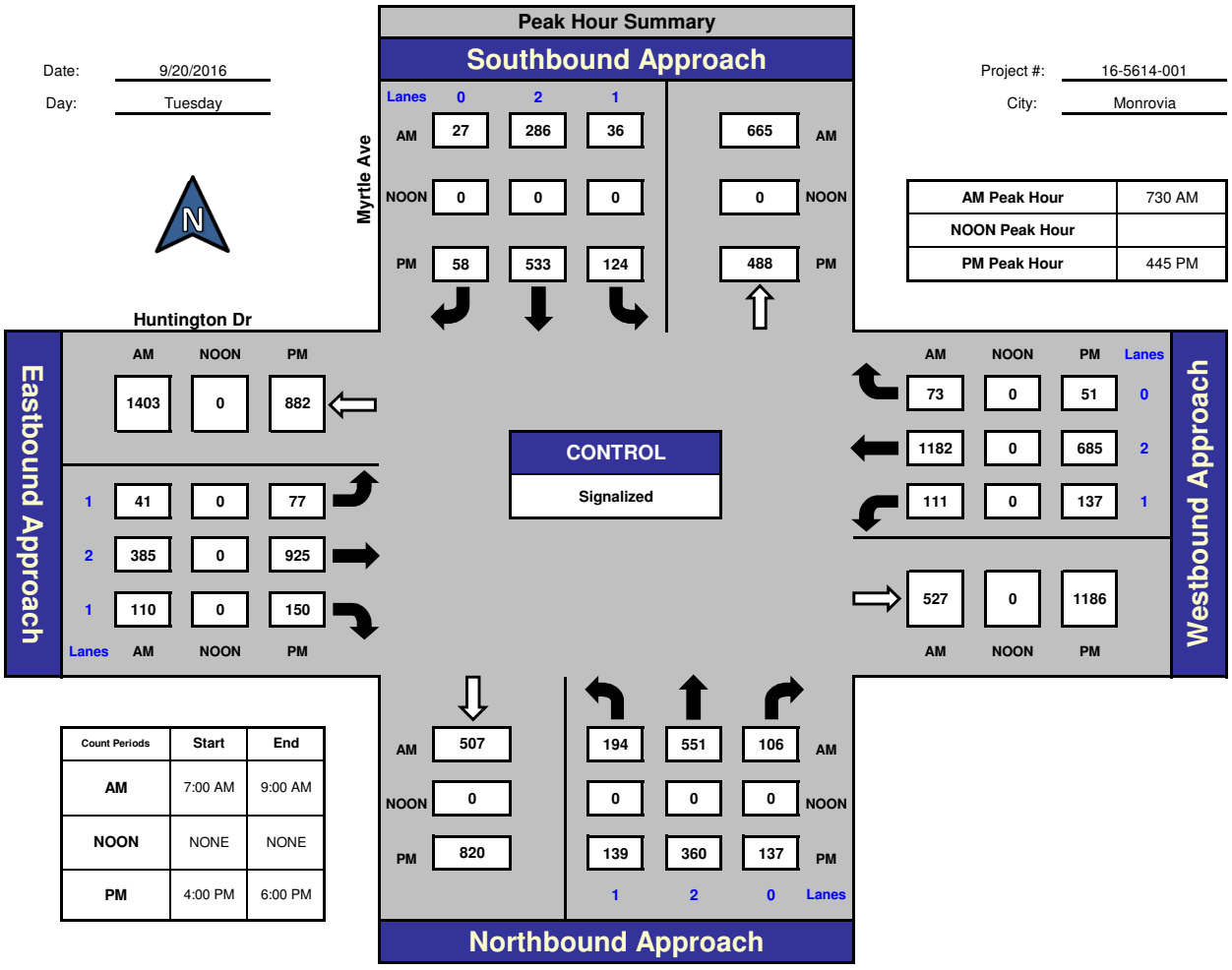
National Data & Surveying Services

Myrtle Ave and Huntington Dr , Monrovia

Date: 9/20/2016
Day: Tuesday

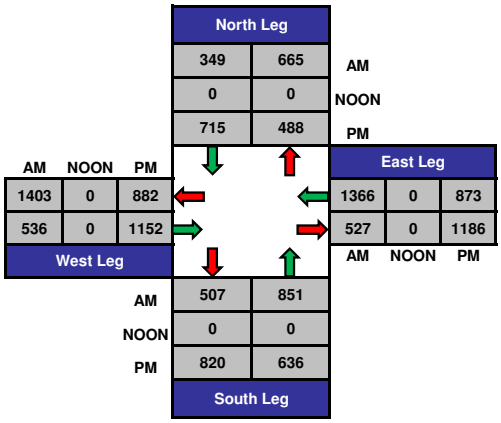
Project #: 16-5614-001
City: Monrovia

AM Peak Hour	730 AM
NOON Peak Hour	
PM Peak Hour	445 PM

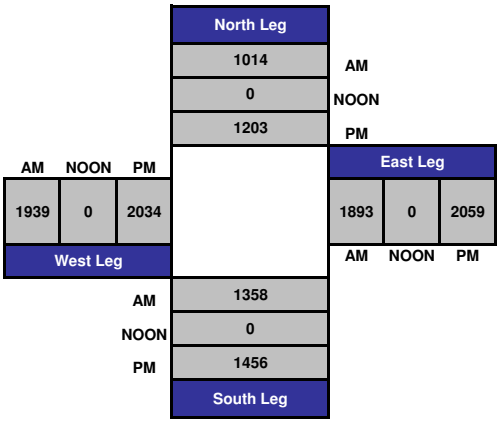


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



ITM Peak Hour Summary

Prepared by:

National Data & Surveying Services

Magnolia Ave and Central Ave , Monrovia

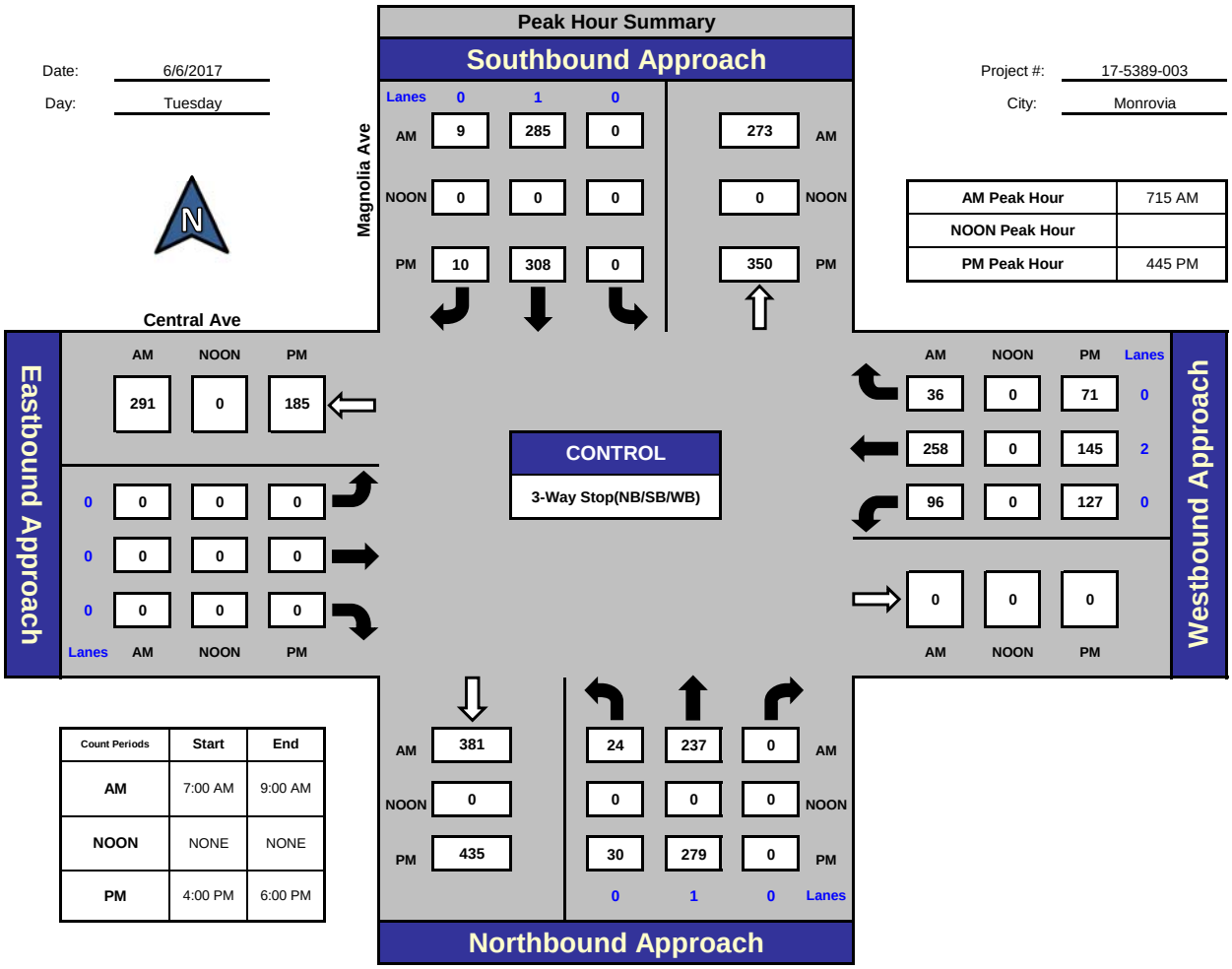
Date: 6/6/2017

Day: Tuesday

Project #: 17-5389-003

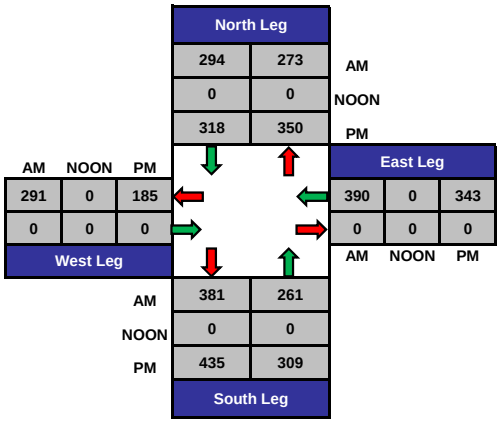
City: Monrovia

AM Peak Hour	715 AM
NOON Peak Hour	
PM Peak Hour	445 PM

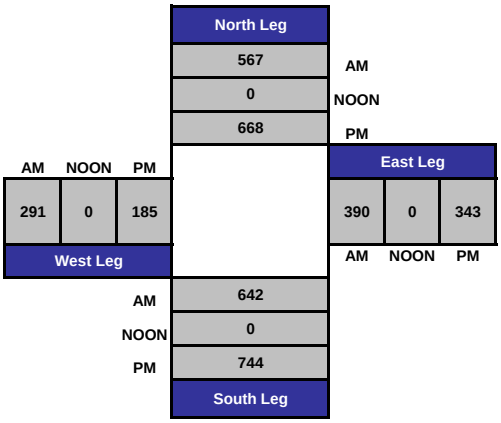


Count Periods	Start	End
AM	7:00 AM	9:00 AM
NOON	NONE	NONE
PM	4:00 PM	6:00 PM

Total Ins & Outs



Total Volume Per Leg



APPENDIX B

LOS WORKSHEETS

Intersection	
Intersection Delay, s/veh	22.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	12	68	15	23	10	191	602	120	70	361	14
Future Vol, veh/h	7	12	68	15	23	10	191	602	120	70	361	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	13	74	16	25	11	208	654	130	76	392	15
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.7	10.7	28.6	14
HCM LOS	B	B	D	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	39%	0%	8%	31%	28%	0%
Vol Thru, %	61%	71%	14%	48%	72%	93%
Vol Right, %	0%	29%	78%	21%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	492	421	87	48	251	195
LT Vol	191	0	7	15	70	0
Through Vol	301	301	12	23	181	181
RT Vol	0	120	68	10	0	14
Lane Flow Rate	535	458	95	52	272	211
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.873	0.696	0.168	0.1	0.486	0.366
Departure Headway (Hd)	5.874	5.476	6.38	6.921	6.42	6.227
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	615	659	562	517	561	577
Service Time	3.61	3.212	4.421	4.97	4.171	3.978
HCM Lane V/C Ratio	0.87	0.695	0.169	0.101	0.485	0.366
HCM Control Delay	36.1	19.8	10.7	10.7	15.1	12.6
HCM Lane LOS	E	C	B	B	C	B
HCM 95th-tile Q	10.1	5.6	0.6	0.3	2.6	1.7

1625 Magnolia Avenue
MMF1701
Existing AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Mayflower Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.695
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	Level Of Service:	B

Street Name:	Mayflower Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	95	448	36	93	173	191	211	463	29	25	636	177
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	95	448	36	93	173	191	211	463	29	25	636	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	95	448	36	93	173	191	211	463	29	25	636	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	448	36	93	173	191	211	463	29	25	636	177
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	448	36	93	173	191	211	463	29	25	636	177
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.00	1.00	1.00	1.88	0.12	1.00	1.56	0.44
Final Sat.:	1600	2962	238	1600	1600	1600	1600	3011	189	1600	2503	697
Capacity Analysis Module:												
Vol/Sat:	0.06	0.15	0.15	0.06	0.11	0.12	0.13	0.15	0.15	0.02	0.25	0.25
Crit Moves:		****			****			****			****	

1625 Magnolia Avenue
MMF1701
Existing AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Magnolia Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.709
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	51	Level Of Service:	C

Street Name:	Magnolia Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	52	239	53	43	211	36	56	448	25	38	1077	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	52	239	53	43	211	36	56	448	25	38	1077	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	52	239	53	43	211	36	56	448	25	38	1077	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	52	239	53	43	211	36	56	448	25	38	1077	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	52	239	53	43	211	36	56	448	25	38	1077	91
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.82	0.18	1.00	0.85	0.15	1.00	1.89	0.11	1.00	1.84	0.16
Final Sat.:	1600	1310	290	1600	1367	233	1600	3031	169	1600	2951	249
Capacity Analysis Module:												
Vol/Sat:	0.03	0.18	0.18	0.03	0.15	0.15	0.04	0.15	0.15	0.02	0.37	0.36
Crit Moves:		****			****			****			****	

Intersection	
Intersection Delay, s/veh	15.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	17	162	22	0	0	0	36	249	81	119	252	20
Future Vol, veh/h	17	162	22	0	0	0	36	249	81	119	252	20
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	182	25	0	0	0	40	280	91	134	283	22
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	12.6	15.4	17.2
HCM LOS	B	C	C

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	10%	8%	30%
Vol Thru, %	68%	81%	64%
Vol Right, %	22%	11%	5%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	366	201	391
LT Vol	36	17	119
Through Vol	249	162	252
RT Vol	81	22	20
Lane Flow Rate	411	226	439
Geometry Grp	1	1	1
Degree of Util (X)	0.589	0.375	0.641
Departure Headway (Hd)	5.157	5.981	5.252
Convergence, Y/N	Yes	Yes	Yes
Cap	699	601	685
Service Time	3.196	4.029	3.289
HCM Lane V/C Ratio	0.588	0.376	0.641
HCM Control Delay	15.4	12.6	17.2
HCM Lane LOS	C	B	C
HCM 95th-tile Q	3.9	1.7	4.6

1625 Magnolia Avenue
MMF1701
Existing AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Magnolia Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.628
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	B

Street Name:	Magnolia Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	0	1	1	0	1	1	0	1	0	1	1	0
Volume Module:												
Base Vol:	2	2	3	194	5	115	175	434	3	6	714	212
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	2	3	194	5	115	175	434	3	6	714	212
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	2	3	194	5	115	175	434	3	6	714	212
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	2	3	194	5	115	175	434	3	6	714	212
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	2	3	194	5	115	175	434	3	6	714	212
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.29	0.43	0.97	0.03	1.00	1.00	1.99	0.01	1.00	1.54	0.46
Final Sat.:	457	457	686	1560	40	1600	1600	3178	22	1600	2467	733
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.12	0.12	0.07	0.11	0.14	0.14	0.00	0.29	0.29
Crit Moves:		****			****			****			****	

1625 Magnolia Avenue
MMF1701
Existing AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.774
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	C

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	0 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	235	600	0	0	474	79	0	0	0	222	567	328
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	235	600	0	0	474	79	0	0	0	222	567	328
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	235	600	0	0	474	79	0	0	0	222	567	328
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	235	600	0	0	474	79	0	0	0	222	567	328
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	235	600	0	0	474	79	0	0	0	222	567	328
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.71	0.29	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	2743	457	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.15	0.19	0.00	0.00	0.17	0.17	0.00	0.00	0.00	0.14	0.35	0.21
Crit Moves:	****				****						****	

1625 Magnolia Avenue
MMF1701
Existing AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Myrtle Avenue/Evergreen Avenue - I-210 EB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.671
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	B

Street Name:	Myrtle Avenue						Evergreen Avenue - I-210 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	1 0	1	1 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	480	146	247	446	0	346	445	263	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	480	146	247	446	0	346	445	263	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	480	146	247	446	0	346	445	263	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	480	146	247	446	0	346	445	263	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	480	146	247	446	0	346	445	263	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.53	0.47	1.00	2.00	0.00	1.00	1.26	0.74	0.00	0.00	0.00
Final Sat.:	0	2454	746	1600	3200	0	1600	2011	1189	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.20	0.20	0.15	0.14	0.00	0.22	0.22	0.22	0.00	0.00	0.00
Crit Moves:		****		****					****			

1625 Magnolia Avenue
MMF1701
Existing AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Myrtle Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.776
Loss Time (sec):	30	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	92	Level Of Service:	C

Street Name:	Myrtle Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	130	451	48	32	523	156	122	288	115	28	286	55
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	130	451	48	32	523	156	122	288	115	28	286	55
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	130	451	48	32	523	156	122	288	115	28	286	55
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	130	451	48	32	523	156	122	288	115	28	286	55
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	130	451	48	32	523	156	122	288	115	28	286	55
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.54	0.46	1.00	1.43	0.57	1.00	1.68	0.32
Final Sat.:	1600	2892	308	1600	2465	735	1600	2287	913	1600	2684	516
Capacity Analysis Module:												
Vol/Sat:	0.08	0.16	0.16	0.02	0.21	0.21	0.08	0.13	0.13	0.02	0.11	0.11
Crit Moves:	****			****			****			****		

1625 Magnolia Avenue
MMF1701
Existing AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Myrtle Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.757
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Street Name:	Myrtle Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	197	560	108	37	291	27	42	391	112	113	1201	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	197	560	108	37	291	27	42	391	112	113	1201	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	197	560	108	37	291	27	42	391	112	113	1201	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	197	560	108	37	291	27	42	391	112	113	1201	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	197	560	108	37	291	27	42	391	112	113	1201	74
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.68	0.32	1.00	1.83	0.17	1.00	2.00	1.00	1.00	1.88	0.12
Final Sat.:	1600	2683	517	1600	2928	272	1600	3200	1600	1600	3014	186
Capacity Analysis Module:												
Vol/Sat:	0.12	0.21	0.21	0.02	0.10	0.10	0.03	0.12	0.07	0.07	0.40	0.40
Crit Moves:		****			****			****			****	

Intersection	
Intersection Delay, s/veh	15.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	97	260	36	24	239	0	0	287	9
Future Vol, veh/h	0	0	0	97	260	36	24	239	0	0	287	9
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	117	313	43	29	288	0	0	346	11
Number of Lanes	0	0	0	0	2	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	14.4	15.1	16.3
HCM LOS	B	C	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	9%	43%	0%	0%
Vol Thru, %	91%	57%	78%	97%
Vol Right, %	0%	0%	22%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	263	227	166	296
LT Vol	24	97	0	0
Through Vol	239	130	130	287
RT Vol	0	0	36	9
Lane Flow Rate	317	273	200	357
Geometry Grp	2	7	7	2
Degree of Util (X)	0.516	0.504	0.348	0.572
Departure Headway (Hd)	5.868	6.634	6.263	5.77
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	612	542	574	624
Service Time	3.923	4.385	4.014	3.822
HCM Lane V/C Ratio	0.518	0.504	0.348	0.572
HCM Control Delay	15.1	16	12.3	16.3
HCM Lane LOS	C	C	B	C
HCM 95th-tile Q	3	2.8	1.5	3.6

Intersection	
Intersection Delay, s/veh	19.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	32	114	22	5	10	50	492	53	118	658	16
Future Vol, veh/h	3	32	114	22	5	10	50	492	53	118	658	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	33	119	23	5	10	52	513	55	123	685	17
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11.9	11	16.3	24.2
HCM LOS	B	B	C	C

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	17%	0%	2%	59%	26%	0%
Vol Thru, %	83%	82%	21%	14%	74%	95%
Vol Right, %	0%	18%	77%	27%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	296	299	149	37	447	345
LT Vol	50	0	3	22	118	0
Through Vol	246	246	32	5	329	329
RT Vol	0	53	114	10	0	16
Lane Flow Rate	308	311	155	39	466	359
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.547	0.535	0.277	0.078	0.8	0.601
Departure Headway (Hd)	6.392	6.18	6.416	7.278	6.183	6.016
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	561	582	559	490	582	600
Service Time	4.156	3.945	4.472	5.353	3.938	3.771
HCM Lane V/C Ratio	0.549	0.534	0.277	0.08	0.801	0.598
HCM Control Delay	16.7	15.9	11.9	11	29.3	17.5
HCM Lane LOS	C	C	B	B	D	C
HCM 95th-tile Q	3.3	3.2	1.1	0.3	7.8	4

1625 Magnolia Avenue
MMF1701
Existing PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Mayflower Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.654
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

Street Name:	Mayflower Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	38	231	34	150	320	248	214	770	47	37	509	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	231	34	150	320	248	214	770	47	37	509	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	231	34	150	320	248	214	770	47	37	509	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	231	34	150	320	248	214	770	47	37	509	121
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	38	231	34	150	320	248	214	770	47	37	509	121
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	1.00	1.00	1.00	1.88	0.12	1.00	1.62	0.38
Final Sat.:	1600	2789	411	1600	1600	1600	1600	3016	184	1600	2585	615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.08	0.09	0.20	0.16	0.13	0.26	0.26	0.02	0.20	0.20
Crit Moves:	****			****			****			****		

1625 Magnolia Avenue
MMF1701
Existing PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Magnolia Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.742
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	56	Level Of Service:	C

Street Name:	Magnolia Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	0	1 0	1	0
Volume Module:												
Base Vol:	59	195	80	94	211	58	77	1065	35	108	795	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	59	195	80	94	211	58	77	1065	35	108	795	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	59	195	80	94	211	58	77	1065	35	108	795	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	59	195	80	94	211	58	77	1065	35	108	795	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	59	195	80	94	211	58	77	1065	35	108	795	39
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.71	0.29	1.00	0.78	0.22	1.00	1.94	0.06	1.00	1.91	0.09
Final Sat.:	1600	1135	465	1600	1255	345	1600	3098	102	1600	3050	150
Capacity Analysis Module:												
Vol/Sat:	0.04	0.17	0.17	0.06	0.17	0.17	0.05	0.34	0.34	0.07	0.26	0.26
Crit Moves:		****		****				****		****		

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	168	23	0	0	0	13	285	88	64	347	12
Future Vol, veh/h	25	168	23	0	0	0	13	285	88	64	347	12
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	191	26	0	0	0	15	324	100	73	394	14
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	13.7	17.6	21.1
HCM LOS	B	C	C

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	3%	12%	15%
Vol Thru, %	74%	78%	82%
Vol Right, %	23%	11%	3%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	386	216	423
LT Vol	13	25	64
Through Vol	285	168	347
RT Vol	88	23	12
Lane Flow Rate	439	245	481
Geometry Grp	1	1	1
Degree of Util (X)	0.647	0.422	0.719
Departure Headway (Hd)	5.31	6.182	5.384
Convergence, Y/N	Yes	Yes	Yes
Cap	680	579	668
Service Time	3.363	4.243	3.435
HCM Lane V/C Ratio	0.646	0.423	0.72
HCM Control Delay	17.6	13.7	21.1
HCM Lane LOS	C	B	C
HCM 95th-tile Q	4.7	2.1	6.1

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Existing PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Magnolia Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.591
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	39	Level Of Service:	A

Street Name:	Magnolia Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	0	1	1	0	1	0	1	1	0
Volume Module:												
Base Vol:	6	4	4	192	1	186	249	710	0	2	522	136
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	4	4	192	1	186	249	710	0	2	522	136
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	4	4	192	1	186	249	710	0	2	522	136
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	4	4	192	1	186	249	710	0	2	522	136
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	4	4	192	1	186	249	710	0	2	522	136
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.43	0.29	0.28	0.99	0.01	1.00	1.00	2.00	0.00	1.00	1.59	0.41
Final Sat.:	686	457	457	1592	8	1600	1600	3200	0	1600	2539	661
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.12	0.12	0.12	0.16	0.22	0.00	0.00	0.21	0.21
Crit Moves:	****			****			****				****	

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MMF1701
Existing PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.877
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	90	Level Of Service:	D

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	0 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	290	393	0	0	691	200	0	0	0	202	507	288
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	290	393	0	0	691	200	0	0	0	202	507	288
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	290	393	0	0	691	200	0	0	0	202	507	288
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	290	393	0	0	691	200	0	0	0	202	507	288
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	290	393	0	0	691	200	0	0	0	202	507	288
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.55	0.45	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	2482	718	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.18	0.12	0.00	0.00	0.28	0.28	0.00	0.00	0.00	0.13	0.32	0.18
Crit Moves:	****				****						****	

1625 Magnolia Avenue
MMF1701
Existing PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Myrtle Avenue/Evergreen Avenue - I-210 EB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.835
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	76	Level Of Service:	D

Street Name:	Myrtle Avenue						Evergreen Avenue - I-210 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	1 0	1	1 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	529	188	313	593	0	158	816	194	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	529	188	313	593	0	158	816	194	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	529	188	313	593	0	158	816	194	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	529	188	313	593	0	158	816	194	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	529	188	313	593	0	158	816	194	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.48	0.52	1.00	2.00	0.00	1.00	1.62	0.38	0.00	0.00	0.00
Final Sat.:	0	2361	839	1600	3200	0	1600	2585	615	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.22	0.20	0.19	0.00	0.10	0.32	0.32	0.00	0.00	0.00
Crit Moves:		****		****				****				

1625 Magnolia Avenue
MMF1701
Existing PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Myrtle Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.875
Loss Time (sec):	30	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	113	Level Of Service:	D

Street Name:	Myrtle Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	94	434	46	44	618	164	145	471	267	66	313	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	94	434	46	44	618	164	145	471	267	66	313	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	94	434	46	44	618	164	145	471	267	66	313	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	94	434	46	44	618	164	145	471	267	66	313	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	94	434	46	44	618	164	145	471	267	66	313	28
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.58	0.42	1.00	1.28	0.72	1.00	1.84	0.16
Final Sat.:	1600	2893	307	1600	2529	671	1600	2042	1158	1600	2937	263
Capacity Analysis Module:												
Vol/Sat:	0.06	0.15	0.15	0.03	0.24	0.24	0.09	0.23	0.23	0.04	0.11	0.11
Crit Moves:	****			****			****			****		

1625 Magnolia Avenue
MMF1701
Existing PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Myrtle Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.757
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Street Name:	Myrtle Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	141	366	139	126	542	59	78	940	152	139	696	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	141	366	139	126	542	59	78	940	152	139	696	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	141	366	139	126	542	59	78	940	152	139	696	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	366	139	126	542	59	78	940	152	139	696	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	141	366	139	126	542	59	78	940	152	139	696	52
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.45	0.55	1.00	1.80	0.20	1.00	2.00	1.00	1.00	1.86	0.14
Final Sat.:	1600	2319	881	1600	2886	314	1600	3200	1600	1600	2978	222
Capacity Analysis Module:												
Vol/Sat:	0.09	0.16	0.16	0.08	0.19	0.19	0.05	0.29	0.10	0.09	0.23	0.23
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	14.1
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	128	146	72	30	281	0	0	311	10
Future Vol, veh/h	0	0	0	128	146	72	30	281	0	0	311	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	139	159	78	33	305	0	0	338	11
Number of Lanes	0	0	0	0	2	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	12.7	14.7	14.9
HCM LOS	B	B	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	10%	64%	0%	0%
Vol Thru, %	90%	36%	50%	97%
Vol Right, %	0%	0%	50%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	311	201	145	321
LT Vol	30	128	0	0
Through Vol	281	73	73	311
RT Vol	0	0	72	10
Lane Flow Rate	338	218	158	349
Geometry Grp	2	7	7	2
Degree of Util (X)	0.525	0.407	0.264	0.537
Departure Headway (Hd)	5.593	6.705	6.028	5.541
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	642	537	596	649
Service Time	3.636	4.45	3.773	3.584
HCM Lane V/C Ratio	0.526	0.406	0.265	0.538
HCM Control Delay	14.7	14	10.9	14.9
HCM Lane LOS	B	B	B	B
HCM 95th-tile Q	3.1	2	1.1	3.2

Intersection	
Intersection Delay, s/veh	23.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	12	68	22	23	23	191	602	121	72	361	14
Future Vol, veh/h	7	12	68	22	23	23	191	602	121	72	361	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	13	74	24	25	25	208	654	132	78	392	15
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.9	11.1	30.5	14.4
HCM LOS	B	B	D	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	39%	0%	8%	32%	29%	0%
Vol Thru, %	61%	71%	14%	34%	71%	93%
Vol Right, %	0%	29%	78%	34%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	492	422	87	68	253	195
LT Vol	191	0	7	22	72	0
Through Vol	301	301	12	23	181	181
RT Vol	0	121	68	23	0	14
Lane Flow Rate	535	459	95	74	274	211
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.888	0.711	0.17	0.141	0.498	0.372
Departure Headway (Hd)	5.981	5.581	6.487	6.873	6.534	6.338
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	604	647	552	521	552	567
Service Time	3.722	3.322	4.537	4.924	4.291	4.095
HCM Lane V/C Ratio	0.886	0.709	0.172	0.142	0.496	0.372
HCM Control Delay	38.7	20.9	10.9	11.1	15.7	12.8
HCM Lane LOS	E	C	B	B	C	B
HCM 95th-tile Q	10.5	5.9	0.6	0.5	2.8	1.7

1625 Magnolia Avenue
MMF1701
Existing Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Mayflower Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.696
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	49	Level Of Service:	B

Street Name:	Mayflower Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	95	448	36	93	173	198	212	463	29	25	636	177
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	95	448	36	93	173	198	212	463	29	25	636	177
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	95	448	36	93	173	198	212	463	29	25	636	177
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	95	448	36	93	173	198	212	463	29	25	636	177
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	95	448	36	93	173	198	212	463	29	25	636	177
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.00	1.00	1.00	1.88	0.12	1.00	1.56	0.44
Final Sat.:	1600	2962	238	1600	1600	1600	1600	3011	189	1600	2503	697
Capacity Analysis Module:												
Vol/Sat:	0.06	0.15	0.15	0.06	0.11	0.12	0.13	0.15	0.15	0.02	0.25	0.25
Crit Moves:		****			****			****			****	

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	207	9	15	52	21	57
Future Vol, veh/h	207	9	15	52	21	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	225	10	16	57	23	62

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	235	0	319	230
Stage 1	-	-	-	-	230	-
Stage 2	-	-	-	-	89	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1332	-	674	809
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1332	-	666	809
Mov Cap-2 Maneuver	-	-	-	-	666	-
Stage 1	-	-	-	-	798	-
Stage 2	-	-	-	-	934	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	765	-	-	1332	-
HCM Lane V/C Ratio	0.111	-	-	0.012	-
HCM Control Delay (s)	10.3	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

1625 Magnolia Avenue
MMF1701
Existing Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Magnolia Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.722
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	C

Street Name:	Magnolia Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	0	1 0	1	0
Volume Module:												
Base Vol:	72	252	60	43	212	36	56	448	26	39	1077	91
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	72	252	60	43	212	36	56	448	26	39	1077	91
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	72	252	60	43	212	36	56	448	26	39	1077	91
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	252	60	43	212	36	56	448	26	39	1077	91
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	72	252	60	43	212	36	56	448	26	39	1077	91
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.81	0.19	1.00	0.85	0.15	1.00	1.89	0.11	1.00	1.84	0.16
Final Sat.:	1600	1292	308	1600	1368	232	1600	3024	176	1600	2951	249
Capacity Analysis Module:												
Vol/Sat:	0.05	0.20	0.19	0.03	0.15	0.16	0.04	0.15	0.15	0.02	0.37	0.36
Crit Moves:		****			****			****			****	

Intersection	
Intersection Delay, s/veh	19.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	43	188	22	0	0	0	38	288	88	119	254	22
Future Vol, veh/h	43	188	22	0	0	0	38	288	88	119	254	22
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	211	25	0	0	0	43	324	99	134	285	25
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	15.3	20.5	20.4
HCM LOS	C	C	C

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	9%	17%	30%
Vol Thru, %	70%	74%	64%
Vol Right, %	21%	9%	6%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	414	253	395
LT Vol	38	43	119
Through Vol	288	188	254
RT Vol	88	22	22
Lane Flow Rate	465	284	444
Geometry Grp	1	1	1
Degree of Util (X)	0.704	0.493	0.691
Departure Headway (Hd)	5.452	6.24	5.604
Convergence, Y/N	Yes	Yes	Yes
Cap	661	574	644
Service Time	3.516	4.308	3.668
HCM Lane V/C Ratio	0.703	0.495	0.689
HCM Control Delay	20.5	15.3	20.4
HCM Lane LOS	C	C	C
HCM 95th-tile Q	5.8	2.7	5.5

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	14	6	373	274	7
Future Vol, veh/h	50	14	6	373	274	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	15	7	405	298	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	721	302	306	0	-	0
Stage 1	302	-	-	-	-	-
Stage 2	419	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	394	738	1255	-	-	-
Stage 1	750	-	-	-	-	-
Stage 2	664	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	391	738	1255	-	-	-
Mov Cap-2 Maneuver	391	-	-	-	-	-
Stage 1	745	-	-	-	-	-
Stage 2	664	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	14.8	0.1	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1255	-	436	-	-
HCM Lane V/C Ratio	0.005	-	0.16	-	-
HCM Control Delay (s)	7.9	0	14.8	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0	-	0.6	-	-

1625 Magnolia Avenue
MMF1701
Existing Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Magnolia Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.636
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	B

Street Name:	Magnolia Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	1	1	0	1	0
Volume Module:												
Base Vol:	2	2	3	207	5	115	175	434	3	6	714	213
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	2	3	207	5	115	175	434	3	6	714	213
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	2	3	207	5	115	175	434	3	6	714	213
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	2	3	207	5	115	175	434	3	6	714	213
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	2	3	207	5	115	175	434	3	6	714	213
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.29	0.43	0.98	0.02	1.00	1.00	1.99	0.01	1.00	1.54	0.46
Final Sat.:	457	457	686	1562	38	1600	1600	3178	22	1600	2465	735
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.13	0.07	0.11	0.14	0.14	0.00	0.29	0.29
Crit Moves:	****			****			****				****	

1625 Magnolia Avenue
MMF1701
Existing Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.788
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	C

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	0 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	242	600	0	0	474	105	0	0	0	222	569	328
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	242	600	0	0	474	105	0	0	0	222	569	328
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	242	600	0	0	474	105	0	0	0	222	569	328
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	242	600	0	0	474	105	0	0	0	222	569	328
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	242	600	0	0	474	105	0	0	0	222	569	328
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.64	0.36	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	2620	580	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.15	0.19	0.00	0.00	0.18	0.18	0.00	0.00	0.00	0.14	0.36	0.21
Crit Moves:	****				****						****	

1625 Magnolia Avenue
MMF1701
Existing Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Myrtle Avenue/Evergreen Avenue - I-210 EB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.680
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Street Name:	Myrtle Avenue						Evergreen Avenue - I-210 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	1 0	1	1 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	480	146	247	446	0	353	471	266	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	480	146	247	446	0	353	471	266	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	480	146	247	446	0	353	471	266	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	480	146	247	446	0	353	471	266	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	480	146	247	446	0	353	471	266	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.53	0.47	1.00	2.00	0.00	1.00	1.28	0.72	0.00	0.00	0.00
Final Sat.:	0	2454	746	1600	3200	0	1600	2045	1155	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.20	0.20	0.15	0.14	0.00	0.22	0.23	0.23	0.00	0.00	0.00
Crit Moves:		****		****					****			

1625 Magnolia Avenue
MMF1701
Existing Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Myrtle Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.777
Loss Time (sec):	30	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	92	Level Of Service:	C

Street Name:	Myrtle Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	131	451	48	32	523	156	122	295	122	28	287	55
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	131	451	48	32	523	156	122	295	122	28	287	55
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	131	451	48	32	523	156	122	295	122	28	287	55
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	451	48	32	523	156	122	295	122	28	287	55
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	451	48	32	523	156	122	295	122	28	287	55
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.54	0.46	1.00	1.41	0.59	1.00	1.68	0.32
Final Sat.:	1600	2892	308	1600	2465	735	1600	2264	936	1600	2685	515
Capacity Analysis Module:												
Vol/Sat:	0.08	0.16	0.16	0.02	0.21	0.21	0.08	0.13	0.13	0.02	0.11	0.11
Crit Moves:	****			****			****			****		

1625 Magnolia Avenue
MMF1701
Existing Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Myrtle Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.757
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Street Name:	Myrtle Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	197	560	108	37	291	27	42	398	112	113	1202	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	197	560	108	37	291	27	42	398	112	113	1202	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	197	560	108	37	291	27	42	398	112	113	1202	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	197	560	108	37	291	27	42	398	112	113	1202	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	197	560	108	37	291	27	42	398	112	113	1202	74
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.68	0.32	1.00	1.83	0.17	1.00	2.00	1.00	1.00	1.88	0.12
Final Sat.:	1600	2683	517	1600	2928	272	1600	3200	1600	1600	3014	186
Capacity Analysis Module:												
Vol/Sat:	0.12	0.21	0.21	0.02	0.10	0.10	0.03	0.12	0.07	0.07	0.40	0.40
Crit Moves:		****			****			****			****	

Intersection	
Intersection Delay, s/veh	17.3
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	99	260	36	24	305	0	0	289	9
Future Vol, veh/h	0	0	0	99	260	36	24	305	0	0	289	9
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	119	313	43	29	367	0	0	348	11
Number of Lanes	0	0	0	0	2	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	15.3	19.5	17.4
HCM LOS	C	C	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	7%	43%	0%	0%
Vol Thru, %	93%	57%	78%	97%
Vol Right, %	0%	0%	22%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	329	229	166	298
LT Vol	24	99	0	0
Through Vol	305	130	130	289
RT Vol	0	0	36	9
Lane Flow Rate	396	276	200	359
Geometry Grp	2	7	7	2
Degree of Util (X)	0.652	0.527	0.361	0.594
Departure Headway (Hd)	5.926	6.872	6.497	5.958
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	606	524	552	603
Service Time	3.991	4.635	4.26	4.024
HCM Lane V/C Ratio	0.653	0.527	0.362	0.595
HCM Control Delay	19.5	17.1	12.9	17.4
HCM Lane LOS	C	C	B	C
HCM 95th-tile Q	4.8	3	1.6	3.9

Intersection	
Intersection Delay, s/veh	22.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	32	114	25	5	16	50	492	60	144	658	16
Future Vol, veh/h	3	32	114	25	5	16	50	492	60	144	658	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	33	119	26	5	17	52	513	63	150	685	17
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.1	11.2	16.9	28.4
HCM LOS	B	B	C	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	17%	0%	2%	54%	30%	0%
Vol Thru, %	83%	80%	21%	11%	70%	95%
Vol Right, %	0%	20%	77%	35%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	296	306	149	46	473	345
LT Vol	50	0	3	25	144	0
Through Vol	246	246	32	5	329	329
RT Vol	0	60	114	16	0	16
Lane Flow Rate	308	319	155	48	493	359
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.556	0.554	0.281	0.097	0.858	0.607
Departure Headway (Hd)	6.488	6.262	6.51	7.288	6.27	6.082
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	552	574	549	489	576	593
Service Time	4.26	4.034	4.571	5.368	4.033	3.845
HCM Lane V/C Ratio	0.558	0.556	0.282	0.098	0.856	0.605
HCM Control Delay	17.2	16.6	12.1	11.2	36	17.9
HCM Lane LOS	C	C	B	B	E	C
HCM 95th-tile Q	3.4	3.4	1.1	0.3	9.4	4.1

1625 Magnolia Avenue
MMF1701
Existing Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Mayflower Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.659
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	45	Level Of Service:	B

Street Name:	Mayflower Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	38	231	34	150	320	251	221	770	47	37	509	121
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	231	34	150	320	251	221	770	47	37	509	121
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	231	34	150	320	251	221	770	47	37	509	121
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	231	34	150	320	251	221	770	47	37	509	121
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	38	231	34	150	320	251	221	770	47	37	509	121
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	1.00	1.00	1.00	1.88	0.12	1.00	1.62	0.38
Final Sat.:	1600	2789	411	1600	1600	1600	1600	3016	184	1600	2585	615
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.08	0.09	0.20	0.16	0.14	0.26	0.26	0.02	0.20	0.20
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	196	35	56	31	12	32
Future Vol, veh/h	196	35	56	31	12	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	213	38	61	34	13	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	251	0	388	232
Stage 1	-	-	-	-	232	-
Stage 2	-	-	-	-	156	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1314	-	616	807
Stage 1	-	-	-	-	807	-
Stage 2	-	-	-	-	872	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1314	-	587	807
Mov Cap-2 Maneuver	-	-	-	-	587	-
Stage 1	-	-	-	-	769	-
Stage 2	-	-	-	-	872	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.1	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	732	-	-	1314	-
HCM Lane V/C Ratio	0.065	-	-	0.046	-
HCM Control Delay (s)	10.3	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

1625 Magnolia Avenue
MMF1701
Existing Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Magnolia Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.754
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Street Name:	Magnolia Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	0	1 0	1	0
Volume Module:												
Base Vol:	68	201	83	94	224	58	77	1065	42	115	795	39
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	68	201	83	94	224	58	77	1065	42	115	795	39
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	68	201	83	94	224	58	77	1065	42	115	795	39
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	68	201	83	94	224	58	77	1065	42	115	795	39
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	68	201	83	94	224	58	77	1065	42	115	795	39
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.71	0.29	1.00	0.79	0.21	1.00	1.92	0.08	1.00	1.91	0.09
Final Sat.:	1600	1132	468	1600	1271	329	1600	3079	121	1600	3050	150
Capacity Analysis Module:												
Vol/Sat:	0.04	0.18	0.18	0.06	0.18	0.18	0.05	0.35	0.35	0.07	0.26	0.26
Crit Moves:		****		****				****		****		

Intersection	
Intersection Delay, s/veh	25.8
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	180	23	0	0	0	39	304	91	64	373	38
Future Vol, veh/h	37	180	23	0	0	0	39	304	91	64	373	38
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	205	26	0	0	0	44	345	103	73	424	43
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	15.9	24.9	31.6
HCM LOS	C	C	D

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	9%	15%	13%
Vol Thru, %	70%	75%	79%
Vol Right, %	21%	10%	8%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	434	240	475
LT Vol	39	37	64
Through Vol	304	180	373
RT Vol	91	23	38
Lane Flow Rate	493	273	540
Geometry Grp	1	1	1
Degree of Util (X)	0.767	0.494	0.842
Departure Headway (Hd)	5.6	6.522	5.614
Convergence, Y/N	Yes	Yes	Yes
Cap	641	548	642
Service Time	3.678	4.608	3.688
HCM Lane V/C Ratio	0.769	0.498	0.841
HCM Control Delay	24.9	15.9	31.6
HCM Lane LOS	C	C	D
HCM 95th-tile Q	7.1	2.7	9.2

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	8	21	414	370	28
Future Vol, veh/h	28	8	21	414	370	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	9	23	450	402	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	913	417	432	0	-	0
Stage 1	417	-	-	-	-	-
Stage 2	496	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	304	636	1128	-	-	-
Stage 1	665	-	-	-	-	-
Stage 2	612	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	296	636	1128	-	-	-
Mov Cap-2 Maneuver	296	-	-	-	-	-
Stage 1	647	-	-	-	-	-
Stage 2	612	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17.1	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1128	-	336	-	-
HCM Lane V/C Ratio	0.02	-	0.116	-	-
HCM Control Delay (s)	8.3	0	17.1	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

1625 Magnolia Avenue
MMF1701
Existing Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Magnolia Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.598
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	40	Level Of Service:	A

Street Name:	Magnolia Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	1	1	0	1	0
Volume Module:												
Base Vol:	6	4	4	198	1	186	249	710	0	2	522	149
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	4	4	198	1	186	249	710	0	2	522	149
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	4	4	198	1	186	249	710	0	2	522	149
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	4	4	198	1	186	249	710	0	2	522	149
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	4	4	198	1	186	249	710	0	2	522	149
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.43	0.29	0.28	0.99	0.01	1.00	1.00	2.00	0.00	1.00	1.56	0.44
Final Sat.:	686	457	457	1592	8	1600	1600	3200	0	1600	2489	711
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.12	0.12	0.12	0.16	0.22	0.00	0.00	0.21	0.21
Crit Moves:	****			****			****				****	

1625 Magnolia Avenue
MMF1701
Existing Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.898
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	99	Level Of Service:	D

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	0 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	293	393	0	0	691	212	0	0	0	202	533	288
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	293	393	0	0	691	212	0	0	0	202	533	288
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	293	393	0	0	691	212	0	0	0	202	533	288
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	293	393	0	0	691	212	0	0	0	202	533	288
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	293	393	0	0	691	212	0	0	0	202	533	288
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.53	0.47	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	2449	751	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.18	0.12	0.00	0.00	0.28	0.28	0.00	0.00	0.00	0.13	0.33	0.18
Crit Moves:	****				****						****	

1625 Magnolia Avenue
MMF1701
Existing Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Myrtle Avenue/Evergreen Avenue - I-210 EB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.849
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	80	Level Of Service:	D

Street Name:	Myrtle Avenue						Evergreen Avenue - I-210 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	1 0	1	1 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	529	188	313	593	0	161	828	227	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	529	188	313	593	0	161	828	227	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	529	188	313	593	0	161	828	227	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	529	188	313	593	0	161	828	227	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	529	188	313	593	0	161	828	227	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.48	0.52	1.00	2.00	0.00	1.00	1.57	0.43	0.00	0.00	0.00
Final Sat.:	0	2361	839	1600	3200	0	1600	2511	689	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.22	0.22	0.20	0.19	0.00	0.10	0.33	0.33	0.00	0.00	0.00
Crit Moves:		****		****				****				

1625 Magnolia Avenue
MMF1701
Existing Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Myrtle Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.881
Loss Time (sec):	30	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	115	Level Of Service:	D

Street Name:	Myrtle Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	101	434	46	44	618	164	145	474	270	66	320	28
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	101	434	46	44	618	164	145	474	270	66	320	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	101	434	46	44	618	164	145	474	270	66	320	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	101	434	46	44	618	164	145	474	270	66	320	28
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	101	434	46	44	618	164	145	474	270	66	320	28
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.58	0.42	1.00	1.27	0.73	1.00	1.84	0.16
Final Sat.:	1600	2893	307	1600	2529	671	1600	2039	1161	1600	2943	257
Capacity Analysis Module:												
Vol/Sat:	0.06	0.15	0.15	0.03	0.24	0.24	0.09	0.23	0.23	0.04	0.11	0.11
Crit Moves:	****			****			****			****		

1625 Magnolia Avenue
MMF1701
Existing Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Myrtle Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.757
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Street Name:	Myrtle Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	141	366	139	126	542	59	78	943	152	139	703	52
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	141	366	139	126	542	59	78	943	152	139	703	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	141	366	139	126	542	59	78	943	152	139	703	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	366	139	126	542	59	78	943	152	139	703	52
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	141	366	139	126	542	59	78	943	152	139	703	52
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.45	0.55	1.00	1.80	0.20	1.00	2.00	1.00	1.00	1.86	0.14
Final Sat.:	1600	2319	881	1600	2886	314	1600	3200	1600	1600	2980	220
Capacity Analysis Module:												
Vol/Sat:	0.09	0.16	0.16	0.08	0.19	0.19	0.05	0.29	0.10	0.09	0.24	0.24
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	16
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	154	146	72	30	312	0	0	337	10
Future Vol, veh/h	0	0	0	154	146	72	30	312	0	0	337	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	167	159	78	33	339	0	0	366	11
Number of Lanes	0	0	0	0	2	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	14	17	17.1
HCM LOS	B	C	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	9%	68%	0%	0%
Vol Thru, %	91%	32%	50%	97%
Vol Right, %	0%	0%	50%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	342	227	145	347
LT Vol	30	154	0	0
Through Vol	312	73	73	337
RT Vol	0	0	72	10
Lane Flow Rate	372	247	158	377
Geometry Grp	2	7	7	2
Degree of Util (X)	0.596	0.475	0.273	0.6
Departure Headway (Hd)	5.767	6.925	6.226	5.726
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	625	518	575	626
Service Time	3.825	4.683	3.983	3.785
HCM Lane V/C Ratio	0.595	0.477	0.275	0.602
HCM Control Delay	17	15.8	11.3	17.1
HCM Lane LOS	C	C	B	C
HCM 95th-tile Q	3.9	2.5	1.1	4

Intersection	
Intersection Delay, s/veh	23.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	12	69	15	23	10	194	612	122	71	367	14
Future Vol, veh/h	7	12	69	15	23	10	194	612	122	71	367	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	13	75	16	25	11	211	665	133	77	399	15
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.8	10.8	30.2	14.2
HCM LOS	B	B	D	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	39%	0%	8%	31%	28%	0%
Vol Thru, %	61%	71%	14%	48%	72%	93%
Vol Right, %	0%	29%	78%	21%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	500	428	88	48	255	198
LT Vol	194	0	7	15	71	0
Through Vol	306	306	12	23	184	184
RT Vol	0	122	69	10	0	14
Lane Flow Rate	543	465	96	52	277	215
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.89	0.71	0.17	0.101	0.496	0.373
Departure Headway (Hd)	5.894	5.496	6.403	6.954	6.453	6.261
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	614	656	560	515	559	573
Service Time	3.631	3.233	4.446	5.001	4.205	4.013
HCM Lane V/C Ratio	0.884	0.709	0.171	0.101	0.496	0.375
HCM Control Delay	38.5	20.6	10.8	10.8	15.4	12.7
HCM Lane LOS	E	C	B	B	C	B
HCM 95th-tile Q	10.7	5.9	0.6	0.3	2.7	1.7

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Mayflower Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.713
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	Mayflower Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	97	455	37	95	176	194	214	486	29	25	673	180
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	97	455	37	95	176	194	214	486	29	25	673	180
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	97	455	37	95	176	194	214	486	29	25	673	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	97	455	37	95	176	194	214	486	29	25	673	180
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	97	455	37	95	176	194	214	486	29	25	673	180
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.00	1.00	1.00	1.89	0.11	1.00	1.58	0.42
Final Sat.:	1600	2959	241	1600	1600	1600	1600	3020	180	1600	2525	675
Capacity Analysis Module:												
Vol/Sat:	0.06	0.15	0.15	0.06	0.11	0.12	0.13	0.16	0.16	0.02	0.27	0.27
Crit Moves:		****			****			****			****	

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Magnolia Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.742
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	56	Level Of Service:	C

Street Name:	Magnolia Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	0	1 0	1	0
Volume Module:												
Base Vol:	69	264	58	44	220	37	57	486	31	40	1116	92
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	264	58	44	220	37	57	486	31	40	1116	92
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	264	58	44	220	37	57	486	31	40	1116	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	264	58	44	220	37	57	486	31	40	1116	92
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	264	58	44	220	37	57	486	31	40	1116	92
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.82	0.18	1.00	0.86	0.14	1.00	1.88	0.12	1.00	1.85	0.15
Final Sat.:	1600	1312	288	1600	1370	230	1600	3008	192	1600	2956	244
Capacity Analysis Module:												
Vol/Sat:	0.04	0.20	0.20	0.03	0.16	0.16	0.04	0.16	0.16	0.03	0.38	0.38
Crit Moves:	****			****			****				****	

Intersection	
Intersection Delay, s/veh	19.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	17	165	22	0	0	0	37	309	106	121	269	20
Future Vol, veh/h	17	165	22	0	0	0	37	309	106	121	269	20
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	19	185	25	0	0	0	42	347	119	136	302	22
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	13.5	21.8	20.1
HCM LOS	B	C	C

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	8%	8%	30%
Vol Thru, %	68%	81%	66%
Vol Right, %	23%	11%	5%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	452	204	410
LT Vol	37	17	121
Through Vol	309	165	269
RT Vol	106	22	20
Lane Flow Rate	508	229	461
Geometry Grp	1	1	1
Degree of Util (X)	0.74	0.4	0.697
Departure Headway (Hd)	5.246	6.276	5.444
Convergence, Y/N	Yes	Yes	Yes
Cap	686	571	663
Service Time	3.296	4.34	3.496
HCM Lane V/C Ratio	0.741	0.401	0.695
HCM Control Delay	21.8	13.5	20.1
HCM Lane LOS	C	B	C
HCM 95th-tile Q	6.6	1.9	5.6

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Magnolia Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.663
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	B

Street Name:	Magnolia Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	0	1	1	0	1	0	1	1	0
Volume Module:												
Base Vol:	2	2	3	196	5	142	195	440	3	6	732	263
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	2	3	196	5	142	195	440	3	6	732	263
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	2	3	196	5	142	195	440	3	6	732	263
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	2	3	196	5	142	195	440	3	6	732	263
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	2	3	196	5	142	195	440	3	6	732	263
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.29	0.43	0.98	0.02	1.00	1.00	1.99	0.01	1.00	1.47	0.53
Final Sat.:	457	457	686	1560	40	1600	1600	3178	22	1600	2354	846
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.13	0.09	0.12	0.14	0.14	0.00	0.31	0.31
Crit Moves:		****			****			****			****	

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.882
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	92	Level Of Service:	D

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	0 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	360	684	0	0	531	98	0	0	0	255	576	340
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	360	684	0	0	531	98	0	0	0	255	576	340
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	360	684	0	0	531	98	0	0	0	255	576	340
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	360	684	0	0	531	98	0	0	0	255	576	340
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	360	684	0	0	531	98	0	0	0	255	576	340
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.69	0.31	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	2701	499	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.23	0.21	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.16	0.36	0.21
Crit Moves:	****				****						****	

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Myrtle Avenue/Evergreen Avenue - I-210 EB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.765
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Street Name:	Myrtle Avenue						Evergreen Avenue - I-210 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	1 0	1	1 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	630	197	256	527	0	371	477	311	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	630	197	256	527	0	371	477	311	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	630	197	256	527	0	371	477	311	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	630	197	256	527	0	371	477	311	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	630	197	256	527	0	371	477	311	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.52	0.48	1.00	2.00	0.00	1.00	1.21	0.79	0.00	0.00	0.00
Final Sat.:	0	2438	762	1600	3200	0	1600	1937	1263	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.26	0.16	0.16	0.00	0.23	0.25	0.25	0.00	0.00	0.00
Crit Moves:		****		****					****			

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Myrtle Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.810
Loss Time (sec):	30	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	98	Level Of Service:	D

Street Name:	Myrtle Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	131	474	49	56	555	156	149	297	121	28	290	72
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	131	474	49	56	555	156	149	297	121	28	290	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	131	474	49	56	555	156	149	297	121	28	290	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	131	474	49	56	555	156	149	297	121	28	290	72
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	131	474	49	56	555	156	149	297	121	28	290	72
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.56	0.44	1.00	1.42	0.58	1.00	1.60	0.40
Final Sat.:	1600	2900	300	1600	2498	702	1600	2274	926	1600	2564	636
Capacity Analysis Module:												
Vol/Sat:	0.08	0.16	0.16	0.04	0.22	0.22	0.09	0.13	0.13	0.02	0.11	0.11
Crit Moves:	****				****		****				****	

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Myrtle Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.788
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	C

Street Name:	Myrtle Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	223	599	137	38	306	27	45	412	120	126	1224	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	223	599	137	38	306	27	45	412	120	126	1224	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	223	599	137	38	306	27	45	412	120	126	1224	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	599	137	38	306	27	45	412	120	126	1224	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	223	599	137	38	306	27	45	412	120	126	1224	75
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.84	0.16	1.00	2.00	1.00	1.00	1.88	0.12
Final Sat.:	1600	2604	596	1600	2941	259	1600	3200	1600	1600	3015	185
Capacity Analysis Module:												
Vol/Sat:	0.14	0.23	0.23	0.02	0.10	0.10	0.03	0.13	0.08	0.08	0.41	0.41
Crit Moves:	****			****			****				****	

Intersection	
Intersection Delay, s/veh	17.7
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	99	264	37	24	299	0	0	305	9
Future Vol, veh/h	0	0	0	99	264	37	24	299	0	0	305	9
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	119	318	45	29	360	0	0	367	11
Number of Lanes	0	0	0	0	2	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	15.6	19.5	18.6
HCM LOS	C	C	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	7%	43%	0%	0%
Vol Thru, %	93%	57%	78%	97%
Vol Right, %	0%	0%	22%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	323	231	169	314
LT Vol	24	99	0	0
Through Vol	299	132	132	305
RT Vol	0	0	37	9
Lane Flow Rate	389	278	204	378
Geometry Grp	2	7	7	2
Degree of Util (X)	0.647	0.534	0.37	0.627
Departure Headway (Hd)	5.982	6.91	6.535	5.971
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	599	520	548	602
Service Time	4.049	4.676	4.301	4.039
HCM Lane V/C Ratio	0.649	0.535	0.372	0.628
HCM Control Delay	19.5	17.4	13.1	18.6
HCM Lane LOS	C	C	B	C
HCM 95th-tile Q	4.7	3.1	1.7	4.4

Intersection	
Intersection Delay, s/veh	20.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	33	116	22	5	10	51	500	54	120	669	16
Future Vol, veh/h	3	33	116	22	5	10	51	500	54	120	669	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	34	121	23	5	10	53	521	56	125	697	17
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.1	11	16.7	25.5
HCM LOS	B	B	C	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	17%	0%	2%	59%	26%	0%
Vol Thru, %	83%	82%	22%	14%	74%	95%
Vol Right, %	0%	18%	76%	27%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	301	304	152	37	455	351
LT Vol	51	0	3	22	120	0
Through Vol	250	250	33	5	335	335
RT Vol	0	54	116	10	0	16
Lane Flow Rate	314	317	158	39	473	365
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.56	0.547	0.284	0.078	0.818	0.614
Departure Headway (Hd)	6.432	6.22	6.45	7.327	6.218	6.051
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	558	576	556	487	582	595
Service Time	4.198	3.986	4.504	5.406	3.975	3.809
HCM Lane V/C Ratio	0.563	0.55	0.284	0.08	0.813	0.613
HCM Control Delay	17.1	16.3	12.1	11	31.2	18
HCM Lane LOS	C	C	B	B	D	C
HCM 95th-tile Q	3.4	3.3	1.2	0.3	8.3	4.2

1625 Magnolia Avenue
MMF1701
Cumulative PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Mayflower Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.668
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	46	Level Of Service:	B

Street Name:	Mayflower Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	39	235	35	152	325	252	218	806	48	38	530	123
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	235	35	152	325	252	218	806	48	38	530	123
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	235	35	152	325	252	218	806	48	38	530	123
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	235	35	152	325	252	218	806	48	38	530	123
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	235	35	152	325	252	218	806	48	38	530	123
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	1.00	1.00	1.00	1.89	0.11	1.00	1.62	0.38
Final Sat.:	1600	2785	415	1600	1600	1600	1600	3020	180	1600	2597	603
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.08	0.10	0.20	0.16	0.14	0.27	0.27	0.02	0.20	0.20
Crit Moves:	****			****			****			****		

1625 Magnolia Avenue
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Cumulative PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Magnolia Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.775
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	C

Street Name:	Magnolia Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	0	1 0	1	0
Volume Module:												
Base Vol:	69	207	83	96	232	59	78	1109	50	114	836	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	69	207	83	96	232	59	78	1109	50	114	836	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	69	207	83	96	232	59	78	1109	50	114	836	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	69	207	83	96	232	59	78	1109	50	114	836	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	69	207	83	96	232	59	78	1109	50	114	836	40
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.71	0.29	1.00	0.80	0.20	1.00	1.91	0.09	1.00	1.91	0.09
Final Sat.:	1600	1142	458	1600	1276	324	1600	3062	138	1600	3054	146
Capacity Analysis Module:												
Vol/Sat:	0.04	0.18	0.18	0.06	0.18	0.18	0.05	0.36	0.36	0.07	0.27	0.27
Crit Moves:		****		****				****		****		

Intersection	
Intersection Delay, s/veh	22.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	25	171	23	0	0	0	13	312	91	65	390	12
Future Vol, veh/h	25	171	23	0	0	0	13	312	91	65	390	12
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	28	194	26	0	0	0	15	355	103	74	443	14
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	14.5	21.1	27.8
HCM LOS	B	C	D

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	3%	11%	14%
Vol Thru, %	75%	78%	84%
Vol Right, %	22%	11%	3%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	416	219	467
LT Vol	13	25	65
Through Vol	312	171	390
RT Vol	91	23	12
Lane Flow Rate	473	249	531
Geometry Grp	1	1	1
Degree of Util (X)	0.715	0.442	0.809
Departure Headway (Hd)	5.443	6.4	5.489
Convergence, Y/N	Yes	Yes	Yes
Cap	662	560	658
Service Time	3.505	4.475	3.549
HCM Lane V/C Ratio	0.715	0.445	0.807
HCM Control Delay	21.1	14.5	27.8
HCM Lane LOS	C	B	D
HCM 95th-tile Q	6	2.2	8.3

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Magnolia Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.623
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	B

Street Name:	Magnolia Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	0	1	1	0	1	0	1	1	0
Volume Module:												
Base Vol:	6	4	4	198	1	203	275	727	0	2	532	158
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	4	4	198	1	203	275	727	0	2	532	158
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	4	4	198	1	203	275	727	0	2	532	158
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	4	4	198	1	203	275	727	0	2	532	158
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	4	4	198	1	203	275	727	0	2	532	158
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.43	0.29	0.28	0.99	0.01	1.00	1.00	2.00	0.00	1.00	1.54	0.46
Final Sat.:	686	457	457	1592	8	1600	1600	3200	0	1600	2467	733
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.12	0.12	0.13	0.17	0.23	0.00	0.00	0.22	0.22
Crit Moves:	****					****	****				****	

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Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.945
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	129	Level Of Service:	E

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	0 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	354	435	0	0	758	207	0	0	0	272	515	300
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	354	435	0	0	758	207	0	0	0	272	515	300
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	354	435	0	0	758	207	0	0	0	272	515	300
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	354	435	0	0	758	207	0	0	0	272	515	300
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	354	435	0	0	758	207	0	0	0	272	515	300
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.57	0.43	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	2514	686	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.22	0.14	0.00	0.00	0.30	0.30	0.00	0.00	0.00	0.17	0.32	0.19
Crit Moves:	****				****						****	

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Cumulative PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Myrtle Avenue/Evergreen Avenue - I-210 EB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.923
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	113	Level Of Service:	E

Street Name:	Myrtle Avenue						Evergreen Avenue - I-210 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	1 0	1	1 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	612	216	324	727	0	165	839	319	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	612	216	324	727	0	165	839	319	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	612	216	324	727	0	165	839	319	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	612	216	324	727	0	165	839	319	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	612	216	324	727	0	165	839	319	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.48	0.52	1.00	2.00	0.00	1.00	1.45	0.55	0.00	0.00	0.00
Final Sat.:	0	2365	835	1600	3200	0	1600	2318	882	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.26	0.20	0.23	0.00	0.10	0.36	0.36	0.00	0.00	0.00
Crit Moves:		****		****					****			

1625 Magnolia Avenue
MMF1701
Cumulative PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Myrtle Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.910
Loss Time (sec):	30	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	123	Level Of Service:	E

Street Name:	Myrtle Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	99	461	47	58	641	230	152	479	271	67	321	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	99	461	47	58	641	230	152	479	271	67	321	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	99	461	47	58	641	230	152	479	271	67	321	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	99	461	47	58	641	230	152	479	271	67	321	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	99	461	47	58	641	230	152	479	271	67	321	48
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.47	0.53	1.00	1.28	0.72	1.00	1.74	0.26
Final Sat.:	1600	2904	296	1600	2355	845	1600	2044	1156	1600	2784	416
Capacity Analysis Module:												
Vol/Sat:	0.06	0.16	0.16	0.04	0.27	0.27	0.10	0.23	0.23	0.04	0.12	0.12
Crit Moves:	****			****			****			****		

1625 Magnolia Avenue
MMF1701
Cumulative PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Myrtle Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.801
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

Street Name:	Myrtle Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	162	387	154	128	569	60	82	965	164	162	720	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	162	387	154	128	569	60	82	965	164	162	720	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	162	387	154	128	569	60	82	965	164	162	720	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	162	387	154	128	569	60	82	965	164	162	720	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	162	387	154	128	569	60	82	965	164	162	720	53
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.43	0.57	1.00	1.81	0.19	1.00	2.00	1.00	1.00	1.86	0.14
Final Sat.:	1600	2289	911	1600	2895	305	1600	3200	1600	1600	2981	219
Capacity Analysis Module:												
Vol/Sat:	0.10	0.17	0.17	0.08	0.20	0.20	0.05	0.30	0.10	0.10	0.24	0.24
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	15.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	130	148	73	30	308	0	0	353	10
Future Vol, veh/h	0	0	0	130	148	73	30	308	0	0	353	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	141	161	79	33	335	0	0	384	11
Number of Lanes	0	0	0	0	2	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	13.3	16.6	17.5
HCM LOS	B	C	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	9%	64%	0%	0%
Vol Thru, %	91%	36%	50%	97%
Vol Right, %	0%	0%	50%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	338	204	147	363
LT Vol	30	130	0	0
Through Vol	308	74	74	353
RT Vol	0	0	73	10
Lane Flow Rate	367	222	160	395
Geometry Grp	2	7	7	2
Degree of Util (X)	0.584	0.426	0.277	0.619
Departure Headway (Hd)	5.718	6.917	6.238	5.645
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	628	519	574	639
Service Time	3.772	4.673	3.994	3.698
HCM Lane V/C Ratio	0.584	0.428	0.279	0.618
HCM Control Delay	16.6	14.7	11.4	17.5
HCM Lane LOS	C	B	B	C
HCM 95th-tile Q	3.8	2.1	1.1	4.3

Intersection	
Intersection Delay, s/veh	25.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	12	69	22	23	23	194	612	123	73	367	14
Future Vol, veh/h	7	12	69	22	23	23	194	612	123	73	367	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	13	75	24	25	25	211	665	134	79	399	15
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.9	11.1	32.5	14.7
HCM LOS	B	B	D	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	39%	0%	8%	32%	28%	0%
Vol Thru, %	61%	71%	14%	34%	72%	93%
Vol Right, %	0%	29%	78%	34%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	500	429	88	68	257	198
LT Vol	194	0	7	22	73	0
Through Vol	306	306	12	23	184	184
RT Vol	0	123	69	23	0	14
Lane Flow Rate	543	466	96	74	279	215
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.906	0.726	0.173	0.142	0.509	0.38
Departure Headway (Hd)	6.001	5.602	6.514	6.904	6.566	6.371
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	603	644	550	518	546	562
Service Time	3.746	3.347	4.564	4.959	4.328	4.133
HCM Lane V/C Ratio	0.9	0.724	0.175	0.143	0.511	0.383
HCM Control Delay	41.6	21.8	10.9	11.1	16	13
HCM Lane LOS	E	C	B	B	C	B
HCM 95th-tile Q	11.1	6.2	0.6	0.5	2.9	1.8

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Mayflower Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.714
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	52	Level Of Service:	C

Street Name:	Mayflower Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	97	455	37	95	176	201	215	486	29	25	673	180
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	97	455	37	95	176	201	215	486	29	25	673	180
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	97	455	37	95	176	201	215	486	29	25	673	180
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	97	455	37	95	176	201	215	486	29	25	673	180
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	97	455	37	95	176	201	215	486	29	25	673	180
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.00	1.00	1.00	1.89	0.11	1.00	1.58	0.42
Final Sat.:	1600	2959	241	1600	1600	1600	1600	3020	180	1600	2525	675
Capacity Analysis Module:												
Vol/Sat:	0.06	0.15	0.15	0.06	0.11	0.13	0.13	0.16	0.16	0.02	0.27	0.27
Crit Moves:		****			****			****			****	

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	210	9	15	53	21	57
Future Vol, veh/h	210	9	15	53	21	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	228	10	16	58	23	62

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	238	0	323	233
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	90	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1329	-	671	806
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	934	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1329	-	663	806
Mov Cap-2 Maneuver	-	-	-	-	663	-
Stage 1	-	-	-	-	796	-
Stage 2	-	-	-	-	934	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	762	-	-	1329	-
HCM Lane V/C Ratio	0.111	-	-	0.012	-
HCM Control Delay (s)	10.3	-	-	7.7	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Magnolia Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.754
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	58	Level Of Service:	C

Street Name:	Magnolia Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	0	1 0	1	0
Volume Module:												
Base Vol:	89	277	65	44	221	37	57	486	32	41	1116	92
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	89	277	65	44	221	37	57	486	32	41	1116	92
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	89	277	65	44	221	37	57	486	32	41	1116	92
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	89	277	65	44	221	37	57	486	32	41	1116	92
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	89	277	65	44	221	37	57	486	32	41	1116	92
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.81	0.19	1.00	0.86	0.14	1.00	1.88	0.12	1.00	1.85	0.15
Final Sat.:	1600	1296	304	1600	1371	229	1600	3002	198	1600	2956	244
Capacity Analysis Module:												
Vol/Sat:	0.06	0.21	0.21	0.03	0.16	0.16	0.04	0.16	0.16	0.03	0.38	0.38
Crit Moves:	****			****			****				****	

Intersection	
Intersection Delay, s/veh	27.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	191	22	0	0	0	39	348	113	121	271	22
Future Vol, veh/h	43	191	22	0	0	0	39	348	113	121	271	22
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	215	25	0	0	0	44	391	127	136	304	25
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	16.7	34.4	24.7
HCM LOS	C	D	C

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	8%	17%	29%
Vol Thru, %	70%	75%	65%
Vol Right, %	23%	9%	5%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	500	256	414
LT Vol	39	43	121
Through Vol	348	191	271
RT Vol	113	22	22
Lane Flow Rate	562	288	465
Geometry Grp	1	1	1
Degree of Util (X)	0.867	0.523	0.753
Departure Headway (Hd)	5.558	6.542	5.824
Convergence, Y/N	Yes	Yes	Yes
Cap	646	547	614
Service Time	3.639	4.634	3.909
HCM Lane V/C Ratio	0.87	0.527	0.757
HCM Control Delay	34.4	16.7	24.7
HCM Lane LOS	D	C	C
HCM 95th-tile Q	10	3	6.7

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	14	6	459	291	7
Future Vol, veh/h	50	14	6	459	291	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	15	7	499	316	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	833	320	324	0	-	0
Stage 1	320	-	-	-	-	-
Stage 2	513	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	339	721	1236	-	-	-
Stage 1	736	-	-	-	-	-
Stage 2	601	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	336	721	1236	-	-	-
Mov Cap-2 Maneuver	336	-	-	-	-	-
Stage 1	730	-	-	-	-	-
Stage 2	601	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.6	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1236	-	380	-	-
HCM Lane V/C Ratio	0.005	-	0.183	-	-
HCM Control Delay (s)	7.9	0	16.6	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Magnolia Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.671
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	B

Street Name:	Magnolia Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1! 0	0	0 1	0 0	1	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	2	2	3	209	5	142	195	440	3	6	732	264
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	2	3	209	5	142	195	440	3	6	732	264
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	2	3	209	5	142	195	440	3	6	732	264
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	2	3	209	5	142	195	440	3	6	732	264
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	2	3	209	5	142	195	440	3	6	732	264
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.29	0.43	0.98	0.02	1.00	1.00	1.99	0.01	1.00	1.47	0.53
Final Sat.:	457	457	686	1563	37	1600	1600	3178	22	1600	2352	848
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.13	0.09	0.12	0.14	0.14	0.00	0.31	0.31
Crit Moves:	****			****			****			****		

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.895
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	98	Level Of Service:	D

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	0 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	367	684	0	0	531	124	0	0	0	255	578	340
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	367	684	0	0	531	124	0	0	0	255	578	340
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	367	684	0	0	531	124	0	0	0	255	578	340
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	367	684	0	0	531	124	0	0	0	255	578	340
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	367	684	0	0	531	124	0	0	0	255	578	340
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.62	0.38	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	2594	606	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.23	0.21	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.16	0.36	0.21
Crit Moves:	****				****						****	

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Myrtle Avenue/Evergreen Avenue - I-210 EB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.774
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	C

Street Name:	Myrtle Avenue						Evergreen Avenue - I-210 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	1 0	1	1 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	630	197	256	527	0	378	503	314	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	630	197	256	527	0	378	503	314	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	630	197	256	527	0	378	503	314	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	630	197	256	527	0	378	503	314	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	630	197	256	527	0	378	503	314	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.52	0.48	1.00	2.00	0.00	1.00	1.23	0.77	0.00	0.00	0.00
Final Sat.:	0	2438	762	1600	3200	0	1600	1970	1230	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.26	0.16	0.16	0.00	0.24	0.26	0.26	0.00	0.00	0.00
Crit Moves:		****		****					****			

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Myrtle Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.811
Loss Time (sec):	30	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	98	Level Of Service:	D

Street Name:	Myrtle Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	132	474	49	56	555	156	149	304	128	28	291	72
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	132	474	49	56	555	156	149	304	128	28	291	72
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	132	474	49	56	555	156	149	304	128	28	291	72
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	132	474	49	56	555	156	149	304	128	28	291	72
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	132	474	49	56	555	156	149	304	128	28	291	72
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.56	0.44	1.00	1.41	0.59	1.00	1.60	0.40
Final Sat.:	1600	2900	300	1600	2498	702	1600	2252	948	1600	2565	635
Capacity Analysis Module:												
Vol/Sat:	0.08	0.16	0.16	0.04	0.22	0.22	0.09	0.14	0.13	0.02	0.11	0.11
Crit Moves:	****			****			****			****		

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Myrtle Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.788
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	C

Street Name:	Myrtle Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	223	599	137	38	306	27	45	419	120	126	1225	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	223	599	137	38	306	27	45	419	120	126	1225	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	223	599	137	38	306	27	45	419	120	126	1225	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	599	137	38	306	27	45	419	120	126	1225	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	223	599	137	38	306	27	45	419	120	126	1225	75
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.84	0.16	1.00	2.00	1.00	1.00	1.88	0.12
Final Sat.:	1600	2604	596	1600	2941	259	1600	3200	1600	1600	3015	185
Capacity Analysis Module:												
Vol/Sat:	0.14	0.23	0.23	0.02	0.10	0.10	0.03	0.13	0.08	0.08	0.41	0.41
Crit Moves:		****			****			****			****	

Intersection	
Intersection Delay, s/veh	21.6
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	101	264	37	24	365	0	0	307	9
Future Vol, veh/h	0	0	0	101	264	37	24	365	0	0	307	9
Peak Hour Factor	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.83
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	122	318	45	29	440	0	0	370	11
Number of Lanes	0	0	0	0	2	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	16.5	28	20.2
HCM LOS	C	D	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	6%	43%	0%	0%
Vol Thru, %	94%	57%	78%	97%
Vol Right, %	0%	0%	22%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	389	233	169	316
LT Vol	24	101	0	0
Through Vol	365	132	132	307
RT Vol	0	0	37	9
Lane Flow Rate	469	281	204	381
Geometry Grp	2	7	7	2
Degree of Util (X)	0.787	0.557	0.383	0.652
Departure Headway (Hd)	6.043	7.146	6.768	6.164
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	595	502	529	583
Service Time	4.12	4.929	4.551	4.247
HCM Lane V/C Ratio	0.788	0.56	0.386	0.654
HCM Control Delay	28	18.6	13.7	20.2
HCM Lane LOS	D	C	B	C
HCM 95th-tile Q	7.5	3.4	1.8	4.7

Intersection	
Intersection Delay, s/veh	23.2
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	33	116	25	5	16	51	500	61	146	669	16
Future Vol, veh/h	3	33	116	25	5	16	51	500	61	146	669	16
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	34	121	26	5	17	53	521	64	152	697	17
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.3	11.2	17.4	30.2
HCM LOS	B	B	C	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	17%	0%	2%	54%	30%	0%
Vol Thru, %	83%	80%	22%	11%	70%	95%
Vol Right, %	0%	20%	76%	35%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	301	311	152	46	481	351
LT Vol	51	0	3	25	146	0
Through Vol	250	250	33	5	335	335
RT Vol	0	61	116	16	0	16
Lane Flow Rate	314	324	158	48	501	365
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.569	0.567	0.288	0.098	0.877	0.621
Departure Headway (Hd)	6.531	6.305	6.544	7.34	6.308	6.122
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	549	570	548	486	571	588
Service Time	4.305	4.079	4.605	5.42	4.072	3.885
HCM Lane V/C Ratio	0.572	0.568	0.288	0.099	0.877	0.621
HCM Control Delay	17.7	17.1	12.3	11.2	38.7	18.5
HCM Lane LOS	C	C	B	B	E	C
HCM 95th-tile Q	3.5	3.5	1.2	0.3	10	4.3

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Mayflower Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.672
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	B

Street Name:	Mayflower Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	39	235	35	152	325	255	225	806	48	38	530	123
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	235	35	152	325	255	225	806	48	38	530	123
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	235	35	152	325	255	225	806	48	38	530	123
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	235	35	152	325	255	225	806	48	38	530	123
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	235	35	152	325	255	225	806	48	38	530	123
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	1.00	1.00	1.00	1.89	0.11	1.00	1.62	0.38
Final Sat.:	1600	2785	415	1600	1600	1600	1600	3020	180	1600	2597	603
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.08	0.10	0.20	0.16	0.14	0.27	0.27	0.02	0.20	0.20
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	199	35	56	32	12	32
Future Vol, veh/h	199	35	56	32	12	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	216	38	61	35	13	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	254	0	392	235
Stage 1	-	-	-	-	235	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1311	-	612	804
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1311	-	583	804
Mov Cap-2 Maneuver	-	-	-	-	583	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	729	-	-	1311	-
HCM Lane V/C Ratio	0.066	-	-	0.046	-
HCM Control Delay (s)	10.3	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Magnolia Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.787
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	C

Street Name:	Magnolia Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	0	1 0	1	1 0
Volume Module:												
Base Vol:	78	213	86	96	245	59	78	1109	57	121	836	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	78	213	86	96	245	59	78	1109	57	121	836	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	78	213	86	96	245	59	78	1109	57	121	836	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	78	213	86	96	245	59	78	1109	57	121	836	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	78	213	86	96	245	59	78	1109	57	121	836	40
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.71	0.29	1.00	0.81	0.19	1.00	1.90	0.10	1.00	1.91	0.09
Final Sat.:	1600	1140	460	1600	1289	311	1600	3044	156	1600	3054	146
Capacity Analysis Module:												
Vol/Sat:	0.05	0.19	0.19	0.06	0.19	0.19	0.05	0.36	0.36	0.08	0.27	0.27
Crit Moves:		****		****				****		****		

Intersection	
Intersection Delay, s/veh	37.7
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕						↕			↕	
Traffic Vol, veh/h	37	183	23	0	0	0	39	331	94	65	416	38
Future Vol, veh/h	37	183	23	0	0	0	39	331	94	65	416	38
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	208	26	0	0	0	44	376	107	74	473	43
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	17.3	34.3	50.3
HCM LOS	C	D	F

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	8%	15%	13%
Vol Thru, %	71%	75%	80%
Vol Right, %	20%	9%	7%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	464	243	519
LT Vol	39	37	65
Through Vol	331	183	416
RT Vol	94	23	38
Lane Flow Rate	527	276	590
Geometry Grp	1	1	1
Degree of Util (X)	0.858	0.525	0.957
Departure Headway (Hd)	5.855	6.844	5.839
Convergence, Y/N	Yes	Yes	Yes
Cap	622	527	625
Service Time	3.874	4.891	3.857
HCM Lane V/C Ratio	0.847	0.524	0.944
HCM Control Delay	34.3	17.3	50.3
HCM Lane LOS	D	C	F
HCM 95th-tile Q	9.6	3	13.3

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	8	21	444	413	28
Future Vol, veh/h	28	8	21	444	413	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	9	23	483	449	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	993	464	479	0	-	0
Stage 1	464	-	-	-	-	-
Stage 2	529	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	272	598	1083	-	-	-
Stage 1	633	-	-	-	-	-
Stage 2	591	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	264	598	1083	-	-	-
Mov Cap-2 Maneuver	264	-	-	-	-	-
Stage 1	615	-	-	-	-	-
Stage 2	591	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	18.7	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1083	-	301	-	-
HCM Lane V/C Ratio	0.021	-	0.13	-	-
HCM Control Delay (s)	8.4	0	18.7	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.4	-	-

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Magnolia Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.628
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	B

Street Name:	Magnolia Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	1	1	0	1	0
Volume Module:												
Base Vol:	6	4	4	204	1	203	275	727	0	2	532	171
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	4	4	204	1	203	275	727	0	2	532	171
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	4	4	204	1	203	275	727	0	2	532	171
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	4	4	204	1	203	275	727	0	2	532	171
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	4	4	204	1	203	275	727	0	2	532	171
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.43	0.29	0.28	0.99	0.01	1.00	1.00	2.00	0.00	1.00	1.51	0.49
Final Sat.:	686	457	457	1592	8	1600	1600	3200	0	1600	2422	778
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.13	0.13	0.13	0.17	0.23	0.00	0.00	0.22	0.22
Crit Moves:	****			****			****				****	

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.967
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	150	Level Of Service:	E

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 2		0 0	0 0 1		1 0	0 0 0		0 0	1 0 1		0 1
Volume Module:												
Base Vol:	357	435	0	0	758	219	0	0	0	272	541	300
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	357	435	0	0	758	219	0	0	0	272	541	300
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	357	435	0	0	758	219	0	0	0	272	541	300
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	357	435	0	0	758	219	0	0	0	272	541	300
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	357	435	0	0	758	219	0	0	0	272	541	300
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.55	0.45	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	2483	717	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.22	0.14	0.00	0.00	0.31	0.31	0.00	0.00	0.00	0.17	0.34	0.19
Crit Moves:	****				****						****	

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Myrtle Avenue/Evergreen Avenue - I-210 EB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.937
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	123	Level Of Service:	E

Street Name:	Myrtle Avenue						Evergreen Avenue - I-210 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	1 0	1	1 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	612	216	324	727	0	168	851	352	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	612	216	324	727	0	168	851	352	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	612	216	324	727	0	168	851	352	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	612	216	324	727	0	168	851	352	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	612	216	324	727	0	168	851	352	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.48	0.52	1.00	2.00	0.00	1.00	1.41	0.59	0.00	0.00	0.00
Final Sat.:	0	2365	835	1600	3200	0	1600	2264	936	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.26	0.20	0.23	0.00	0.11	0.38	0.38	0.00	0.00	0.00
Crit Moves:		****		****					****			

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Myrtle Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.917
Loss Time (sec):	30	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	125	Level Of Service:	E

Street Name:	Myrtle Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	106	461	47	58	641	230	152	482	274	67	328	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	106	461	47	58	641	230	152	482	274	67	328	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	106	461	47	58	641	230	152	482	274	67	328	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	106	461	47	58	641	230	152	482	274	67	328	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	106	461	47	58	641	230	152	482	274	67	328	48
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.47	0.53	1.00	1.28	0.72	1.00	1.74	0.26
Final Sat.:	1600	2904	296	1600	2355	845	1600	2040	1160	1600	2791	409
Capacity Analysis Module:												
Vol/Sat:	0.07	0.16	0.16	0.04	0.27	0.27	0.10	0.24	0.24	0.04	0.12	0.12
Crit Moves:	****			****			****			****		

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Myrtle Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.802
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

Street Name:	Myrtle Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	162	387	154	128	569	60	82	968	164	162	727	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	162	387	154	128	569	60	82	968	164	162	727	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	162	387	154	128	569	60	82	968	164	162	727	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	162	387	154	128	569	60	82	968	164	162	727	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	162	387	154	128	569	60	82	968	164	162	727	53
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.43	0.57	1.00	1.81	0.19	1.00	2.00	1.00	1.00	1.86	0.14
Final Sat.:	1600	2289	911	1600	2895	305	1600	3200	1600	1600	2983	217
Capacity Analysis Module:												
Vol/Sat:	0.10	0.17	0.17	0.08	0.20	0.20	0.05	0.30	0.10	0.10	0.24	0.24
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	18.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	156	148	73	30	339	0	0	379	10
Future Vol, veh/h	0	0	0	156	148	73	30	339	0	0	379	10
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	170	161	79	33	368	0	0	412	11
Number of Lanes	0	0	0	0	2	0	0	1	0	0	1	0

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	1	2	0
HCM Control Delay	14.9	19.7	20.8
HCM LOS	B	C	C

Lane	NBLn1	WBLn1	WBLn2	SBLn1
Vol Left, %	8%	68%	0%	0%
Vol Thru, %	92%	32%	50%	97%
Vol Right, %	0%	0%	50%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	369	230	147	389
LT Vol	30	156	0	0
Through Vol	339	74	74	379
RT Vol	0	0	73	10
Lane Flow Rate	401	250	160	423
Geometry Grp	2	7	7	2
Degree of Util (X)	0.657	0.496	0.286	0.685
Departure Headway (Hd)	5.898	7.137	6.436	5.835
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	610	503	556	617
Service Time	3.967	4.907	4.206	3.904
HCM Lane V/C Ratio	0.657	0.497	0.288	0.686
HCM Control Delay	19.7	16.8	11.8	20.8
HCM Lane LOS	C	C	B	C
HCM 95th-tile Q	4.8	2.7	1.2	5.3

APPENDIX C

CUMULATIVE PROJECT LIST

City of Monrovia
Cumulative Project List – Land Development Projects

1. **725 East Huntington Drive (Former Albertsons Center)**
    - Commercial center façade renovations and interior tenant improvements. Possible future addition of square footage to west end of center. Potential subdivision of center into 3 potential brand name retails stores.
    - Lot Size: 6.06 Acres
    - Building Area: 98,000 SF (Existing area under proposed Tenant Improvement)
    - Under Construction

2. **530 Fano Street (12-Unit, 3-story, Residential Condominium Development)**
    - (New Construction) 12 unit residential condominium development with attached two car garages and six guest parking spaces.
    - Lot Size: 22,393 SF
    - Building Area: ±16,920 SF
    - In Building Plan Check

3. **1218 South 5th Avenue (City of Hope –Tenant Improvement)**
    - A façade remodel and additional roof-top equipment and ground level mechanical equipment for a new laboratory and research space.
    - Lot Size: 38,277 SF
    - Building Area: 42,936 SF (Existing area under proposed Tenant Improvement)
    - Under Construction

4. **SWC of Pomona Avenue between Primrose and Magnolia (MODA)**
    - 261 residential units for lease, including 2 courtyards totaling 18,500 sf and a two-story fitness gym. Total building height is 5 stories.
    - Lot Size: 2.8 acres (93 units per acre)
    - Building Area: 225,220 SF
    - Under Construction

5. **1110 – 1212 South Fifth Avenue (5th and Huntington)**
    - Residential/Commercial Mixed-Use Project, 4-story mixed use containing 154 residential units for lease and a ground floor retail space.
    - Lot Size: +/- 2.86 Acres
    - Building Area: 131,400 SF (154 Units) + 1,340 Retail Use
    - Under Construction

6. **137 West Pomona Avenue (The Lumber Yard) An Artisan Food Village**
    - Repurpose of two existing industrial buildings into chic food-hall. Existing *Building 1* totals ±9,490 square feet and existing *Building 2* totals ±15,364 square feet. A new ±2,040 square foot building will be added to the site.
    - Lot Size: ± 59,368
    - Total Floor Area Breakdown:
        i. Restaurant - 12,617 sf

ii. Coffee Shop - 2,165 sf
iii. Brewery Manufacturing - 3,477 sf
iv. Retail (Wine Retail and Tasting) - 2,675 sf
v. Mezzanine Storage- 4,841 sf

- Entitlements Approved

7. **239 West Chestnut Avenue (10-Unit Development)**
    - New 10 unit industrial condominium development with 38 parking spaces
    - Lot Size: 34,212 SF
    - Building Area: 16,349 SF
    - In Building Plan Check

8. **303 South Madison Avenue (6-Unit Planned Unit Development)**
    - 6 detached, two-story residential units for sale.
    - Lot Size: 20,241 SF
    - Building Area: 9,305 SF
    - Under Construction

9. **717-721 West Duarte Road-(8-Unit Residential Condominium Development)**
    - 8-unit residential condominium development (replacing two existing units)
    - Lot Size:18,652 SF
    - Building Area: 13,667 SF
    - In Planning Review (entitlements not yet granted)

10. **N/E Corner of Magnolia Avenue and Duarte Road (296 Residential Apartments)**
    - 205 and 225 W Duarte Road, 1725 Peck Rd (8507-003-045, 046, 047 and 048)
    - Site Area: 163,254 SF (3.75 Acres)
    - Density: 79 units per acre
    - Total New Residential Square Footage: 251,348 SF
    - In Planning Review (entitlements not yet granted)

11. **8251 South Myrtle Avenue (113 Units Residential Units)**
    - APNs: 8508-006-040, 0039,038, 037, 055, 054)
    - Site Area: 2.1 acres
    - Concept Stage – Currently On Hold.

12. **Corner of Myrtle and Lime - Myrtle Lime Apartments (140 Residential Units)**\
    - Former Frontier and Existing City Parking Lot Property
    - Concept Stage - Massing Study Submitted

City of Monrovia (City) staff requested for the analysis of additional cumulative projects that were not included in the original cumulative project list, dated June 5, 2017. This request was made on April 18, 2018, in the City's screencheck comment letter for the 1625 Magnolia Avenue project Traffic Impact Analysis in the City of Monrovia, California. The additional cumulative projects are shown below:

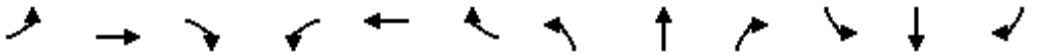
- Station Square North Burke North – 280 dwelling units
- Marriott Town Place Suites – 109 rooms (Southwest corner of Huntington Drive and Myrtle Avenue)
- Thomas & Saffron Associates Residential Development – 103 dwelling units (current City park-and-ride lot)

APPENDIX D

RAMP LOS WORKSHEETS

HCM 6th Signalized Intersection Summary
8: Myrtle Avenue & Central Avenue

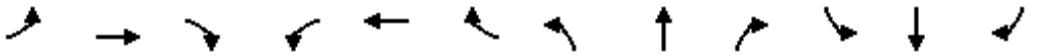
04/29/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	222	567	328	235	600	0	0	474	79
Future Volume (veh/h)	0	0	0	222	567	328	235	600	0	0	474	79
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				239	610	353	253	645	0	0	510	85
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				649	681	577	291	1701	0	0	775	129
Arrive On Green				0.36	0.36	0.36	0.33	0.96	0.00	0.00	0.25	0.25
Sat Flow, veh/h				1781	1870	1585	1781	3647	0	0	3143	506
Grp Volume(v), veh/h				239	610	353	253	645	0	0	296	299
Grp Sat Flow(s),veh/h/ln				1781	1870	1585	1781	1777	0	0	1777	1779
Q Serve(g_s), s				6.4	20.0	11.8	8.7	0.8	0.0	0.0	9.7	9.8
Cycle Q Clear(g_c), s				6.4	20.0	11.8	8.7	0.8	0.0	0.0	9.7	9.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.28
Lane Grp Cap(c), veh/h				649	681	577	291	1701	0	0	451	452
V/C Ratio(X)				0.37	0.90	0.61	0.87	0.38	0.00	0.00	0.66	0.66
Avail Cap(c_a), veh/h				682	716	607	301	1701	0	0	451	452
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.65	0.65	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.2	19.5	16.9	21.3	0.7	0.0	0.0	21.7	21.7
Incr Delay (d2), s/veh				0.3	13.5	1.7	15.9	0.4	0.0	0.0	7.3	7.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.4	10.1	4.1	4.0	0.3	0.0	0.0	4.6	4.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				15.5	32.9	18.6	37.2	1.2	0.0	0.0	29.0	29.1
LnGrp LOS				B	C	B	D	A	A	A	C	C
Approach Vol, veh/h					1202			898			595	
Approach Delay, s/veh					25.3			11.3			29.1	
Approach LOS					C			B			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		36.2			14.6	21.6		28.8				
Change Period (Y+Rc), s		5.1			4.0	5.1		5.1				
Max Green Setting (Gmax), s		29.9			11.0	14.9		24.9				
Max Q Clear Time (g_c+I1), s		2.8			10.7	11.8		22.0				
Green Ext Time (p_c), s		4.6			0.0	1.1		1.7				

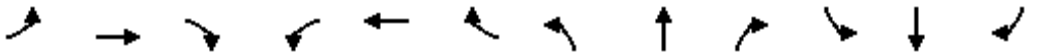
Intersection Summary												
HCM 6th Ctrl Delay			21.4									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	346	445	263	0	0	0	0	480	146	247	446	0
Future Volume (veh/h)	346	445	263	0	0	0	0	480	146	247	446	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	380	489	289				0	527	160	271	490	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	532	643	378				0	843	255	301	1934	0
Arrive On Green	0.30	0.30	0.30				0.00	0.31	0.31	0.34	1.00	0.00
Sat Flow, veh/h	1781	2152	1267				0	2782	813	1781	3647	0
Grp Volume(v), veh/h	380	403	375				0	348	339	271	490	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1642				0	1777	1724	1781	1777	0
Q Serve(g_s), s	12.4	13.4	13.5				0.0	10.8	10.9	9.4	0.0	0.0
Cycle Q Clear(g_c), s	12.4	13.4	13.5				0.0	10.8	10.9	9.4	0.0	0.0
Prop In Lane	1.00		0.77				0.00		0.47	1.00		0.00
Lane Grp Cap(c), veh/h	532	531	491				0	557	541	301	1934	0
V/C Ratio(X)	0.71	0.76	0.76				0.00	0.62	0.63	0.90	0.25	0.00
Avail Cap(c_a), veh/h	658	656	606				0	557	541	301	1934	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.77	0.77	0.00
Uniform Delay (d), s/veh	20.3	20.7	20.7				0.0	19.0	19.1	21.0	0.0	0.0
Incr Delay (d2), s/veh	2.8	4.1	4.6				0.0	5.2	5.4	22.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	5.6	5.3				0.0	4.8	4.7	4.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.1	24.8	25.3				0.0	24.2	24.5	43.9	0.2	0.0
LnGrp LOS	C	C	C				A	C	C	D	A	A
Approach Vol, veh/h		1158						687			761	
Approach Delay, s/veh		24.4						24.4			15.8	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.0	25.5		24.5		40.5
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	11.0	15.8		24.0		30.8
Max Q Clear Time (g_c+I1), s	11.4	12.9		15.5		2.0
Green Ext Time (p_c), s	0.0	1.2		3.9		3.4

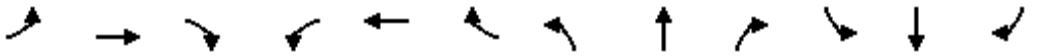
Intersection Summary		
HCM 6th Ctrl Delay		21.9
HCM 6th LOS		C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	202	507	288	290	393	0	0	691	200
Future Volume (veh/h)	0	0	0	202	507	288	290	393	0	0	691	200
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				217	545	310	312	423	0	0	743	215
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				560	588	498	333	1953	0	0	842	244
Arrive On Green				0.31	0.31	0.31	0.37	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				1781	1870	1585	1781	3647	0	0	2812	787
Grp Volume(v), veh/h				217	545	310	312	423	0	0	486	472
Grp Sat Flow(s),veh/h/ln				1781	1870	1585	1781	1777	0	0	1777	1729
Q Serve(g_s), s				7.1	21.1	12.5	12.7	0.0	0.0	0.0	19.5	19.5
Cycle Q Clear(g_c), s				7.1	21.1	12.5	12.7	0.0	0.0	0.0	19.5	19.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.46
Lane Grp Cap(c), veh/h				560	588	498	333	1953	0	0	550	535
V/C Ratio(X)				0.39	0.93	0.62	0.94	0.22	0.00	0.00	0.88	0.88
Avail Cap(c_a), veh/h				568	596	505	333	1953	0	0	550	535
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.62	0.62	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.1	24.9	21.9	23.1	0.0	0.0	0.0	24.6	24.6
Incr Delay (d2), s/veh				0.4	20.6	2.3	24.5	0.2	0.0	0.0	18.3	18.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.8	12.0	4.6	6.1	0.0	0.0	0.0	10.3	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				20.5	45.5	24.2	47.6	0.2	0.0	0.0	42.9	43.3
LnGrp LOS				C	D	C	D	A	A	A	D	D
Approach Vol, veh/h					1072			735			958	
Approach Delay, s/veh					34.3			20.3			43.1	
Approach LOS					C			C			D	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	46.3		18.0	28.3		28.7						
Change Period (Y+Rc), s	5.1		4.0	5.1		5.1						
Max Green Setting (Gmax), s	40.9		14.0	22.9		23.9						
Max Q Clear Time (g_c+I1), s	2.0		14.7	21.5		23.1						
Green Ext Time (p_c), s	3.0		0.0	0.8		0.4						

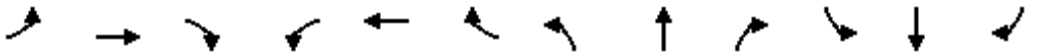
Intersection Summary		
HCM 6th Ctrl Delay	33.6	
HCM 6th LOS	C	



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	158	816	194	0	0	0	0	529	188	313	593	0
Future Volume (veh/h)	158	816	194	0	0	0	0	529	188	313	593	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	168	868	206				0	563	200	333	631	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	599	958	227				0	695	246	364	1875	0
Arrive On Green	0.34	0.34	0.34				0.00	0.27	0.27	0.41	1.00	0.00
Sat Flow, veh/h	1781	2850	676				0	2666	911	1781	3647	0
Grp Volume(v), veh/h	168	541	533				0	388	375	333	631	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1749				0	1777	1706	1781	1777	0
Q Serve(g_s), s	5.2	21.8	21.8				0.0	15.3	15.4	13.2	0.0	0.0
Cycle Q Clear(g_c), s	5.2	21.8	21.8				0.0	15.3	15.4	13.2	0.0	0.0
Prop In Lane	1.00		0.39				0.00		0.53	1.00		0.00
Lane Grp Cap(c), veh/h	599	598	588				0	480	461	364	1875	0
V/C Ratio(X)	0.28	0.91	0.91				0.00	0.81	0.81	0.92	0.34	0.00
Avail Cap(c_a), veh/h	615	614	604				0	480	461	380	1875	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.51	0.51	0.00
Uniform Delay (d), s/veh	18.2	23.8	23.8				0.0	25.6	25.6	21.6	0.0	0.0
Incr Delay (d2), s/veh	0.3	16.9	17.2				0.0	13.7	14.5	15.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	11.1	11.0				0.0	7.8	7.7	5.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.5	40.6	40.9				0.0	39.3	40.1	37.1	0.2	0.0
LnGrp LOS	B	D	D				A	D	D	D	A	A
Approach Vol, veh/h		1242						763			964	
Approach Delay, s/veh		37.7						39.7			13.0	
Approach LOS		D						D			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.3	25.4		30.3		44.7
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	16.0	18.9		25.9		38.9
Max Q Clear Time (g_c+I1), s	15.2	17.4		23.8		2.0
Green Ext Time (p_c), s	0.1	0.7		1.4		4.7

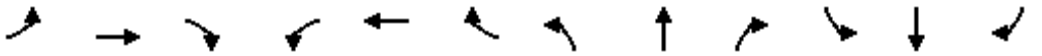
Intersection Summary	
HCM 6th Ctrl Delay	30.2
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	222	569	328	242	600	0	0	474	105
Future Volume (veh/h)	0	0	0	222	569	328	242	600	0	0	474	105
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				239	612	353	260	645	0	0	510	113
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				650	683	578	297	1699	0	0	723	159
Arrive On Green				0.36	0.36	0.36	0.33	0.96	0.00	0.00	0.25	0.25
Sat Flow, veh/h				1781	1870	1585	1781	3647	0	0	2988	638
Grp Volume(v), veh/h				239	612	353	260	645	0	0	312	311
Grp Sat Flow(s),veh/h/ln				1781	1870	1585	1781	1777	0	0	1777	1755
Q Serve(g_s), s				6.4	20.1	11.8	8.9	0.8	0.0	0.0	10.4	10.5
Cycle Q Clear(g_c), s				6.4	20.1	11.8	8.9	0.8	0.0	0.0	10.4	10.5
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.36
Lane Grp Cap(c), veh/h				650	683	578	297	1699	0	0	444	439
V/C Ratio(X)				0.37	0.90	0.61	0.88	0.38	0.00	0.00	0.70	0.71
Avail Cap(c_a), veh/h				682	716	607	301	1699	0	0	444	439
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.65	0.65	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.1	19.5	16.9	21.0	0.8	0.0	0.0	22.2	22.2
Incr Delay (d2), s/veh				0.3	13.6	1.7	16.7	0.4	0.0	0.0	9.0	9.3
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.4	10.2	4.1	4.2	0.3	0.0	0.0	5.1	5.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				15.5	33.1	18.5	37.8	1.2	0.0	0.0	31.2	31.5
LnGrp LOS				B	C	B	D	A	A	A	C	C
Approach Vol, veh/h					1204			905			623	
Approach Delay, s/veh					25.3			11.7			31.4	
Approach LOS					C			B			C	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		36.2			14.8	21.3		28.8				
Change Period (Y+Rc), s		5.1			4.0	5.1		5.1				
Max Green Setting (Gmax), s		29.9			11.0	14.9		24.9				
Max Q Clear Time (g_c+I1), s		2.8			10.9	12.5		22.1				
Green Ext Time (p_c), s		4.6			0.0	0.9		1.6				

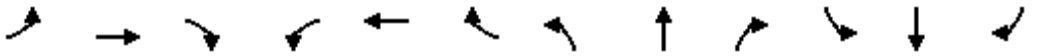
Intersection Summary												
HCM 6th Ctrl Delay			22.2									
HCM 6th LOS			C									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	353	471	266	0	0	0	0	480	146	247	446	0
Future Volume (veh/h)	353	471	266	0	0	0	0	480	146	247	446	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	388	518	292				0	527	160	271	490	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	546	672	378				0	823	249	301	1908	0
Arrive On Green	0.31	0.31	0.31				0.00	0.31	0.31	0.34	1.00	0.00
Sat Flow, veh/h	1781	2193	1233				0	2782	813	1781	3647	0
Grp Volume(v), veh/h	388	420	390				0	348	339	271	490	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1648				0	1777	1724	1781	1777	0
Q Serve(g_s), s	12.6	13.9	14.0				0.0	11.0	11.1	9.4	0.0	0.0
Cycle Q Clear(g_c), s	12.6	13.9	14.0				0.0	11.0	11.1	9.4	0.0	0.0
Prop In Lane	1.00		0.75				0.00		0.47	1.00		0.00
Lane Grp Cap(c), veh/h	546	544	505				0	544	528	301	1908	0
V/C Ratio(X)	0.71	0.77	0.77				0.00	0.64	0.64	0.90	0.26	0.00
Avail Cap(c_a), veh/h	658	656	609				0	544	528	301	1908	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.74	0.74	0.00
Uniform Delay (d), s/veh	20.0	20.5	20.5				0.0	19.5	19.5	21.0	0.0	0.0
Incr Delay (d2), s/veh	2.8	4.6	5.1				0.0	5.7	5.9	22.2	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	5.9	5.5				0.0	4.9	4.9	4.8	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	25.1	25.6				0.0	25.1	25.4	43.2	0.2	0.0
LnGrp LOS	C	C	C				A	C	C	D	A	A
Approach Vol, veh/h		1198						687			761	
Approach Delay, s/veh		24.5						25.3			15.5	
Approach LOS		C						C			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.0	25.0		25.0		40.0
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	11.0	15.8		24.0		30.8
Max Q Clear Time (g_c+I1), s	11.4	13.1		16.0		2.0
Green Ext Time (p_c), s	0.0	1.1		3.9		3.4

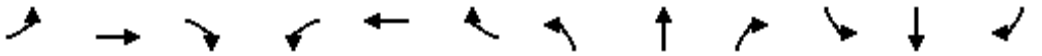
Intersection Summary	
HCM 6th Ctrl Delay	22.1
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	202	533	288	293	393	0	0	691	212
Future Volume (veh/h)	0	0	0	202	533	288	293	393	0	0	691	212
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				217	573	310	315	423	0	0	743	228
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				568	596	505	333	1938	0	0	818	251
Arrive On Green				0.32	0.32	0.32	0.37	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				1781	1870	1585	1781	3647	0	0	2771	822
Grp Volume(v), veh/h				217	573	310	315	423	0	0	493	478
Grp Sat Flow(s),veh/h/ln				1781	1870	1585	1781	1777	0	0	1777	1722
Q Serve(g_s), s				7.1	22.6	12.4	12.9	0.0	0.0	0.0	20.0	20.0
Cycle Q Clear(g_c), s				7.1	22.6	12.4	12.9	0.0	0.0	0.0	20.0	20.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.48
Lane Grp Cap(c), veh/h				568	596	505	333	1938	0	0	543	526
V/C Ratio(X)				0.38	0.96	0.61	0.95	0.22	0.00	0.00	0.91	0.91
Avail Cap(c_a), veh/h				568	596	505	333	1938	0	0	543	526
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.59	0.59	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				19.8	25.1	21.6	23.1	0.0	0.0	0.0	25.0	25.0
Incr Delay (d2), s/veh				0.4	27.4	2.2	25.4	0.2	0.0	0.0	21.6	22.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.8	13.7	4.6	6.2	0.0	0.0	0.0	11.0	10.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				20.2	52.5	23.8	48.6	0.2	0.0	0.0	46.7	47.2
LnGrp LOS				C	D	C	D	A	A	A	D	D
Approach Vol, veh/h					1100			738			971	
Approach Delay, s/veh					38.1			20.8			46.9	
Approach LOS					D			C			D	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	46.0		18.0	28.0		29.0						
Change Period (Y+Rc), s	5.1		4.0	5.1		5.1						
Max Green Setting (Gmax), s	40.9		14.0	22.9		23.9						
Max Q Clear Time (g_c+I1), s	2.0		14.9	22.0		24.6						
Green Ext Time (p_c), s	3.0		0.0	0.5		0.0						

Intersection Summary		
HCM 6th Ctrl Delay	36.6	
HCM 6th LOS	D	



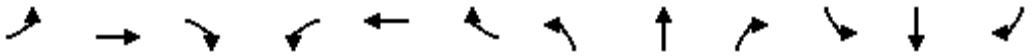
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	161	828	227	0	0	0	0	529	188	313	593	0
Future Volume (veh/h)	161	828	227	0	0	0	0	529	188	313	593	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	171	881	241				0	563	200	333	631	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	610	945	258				0	678	240	364	1852	0
Arrive On Green	0.34	0.34	0.34				0.00	0.26	0.26	0.41	1.00	0.00
Sat Flow, veh/h	1781	2758	754				0	2666	911	1781	3647	0
Grp Volume(v), veh/h	171	567	555				0	388	375	333	631	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1735				0	1777	1706	1781	1777	0
Q Serve(g_s), s	5.2	23.1	23.2				0.0	15.5	15.5	13.2	0.0	0.0
Cycle Q Clear(g_c), s	5.2	23.1	23.2				0.0	15.5	15.5	13.2	0.0	0.0
Prop In Lane	1.00		0.43				0.00		0.53	1.00		0.00
Lane Grp Cap(c), veh/h	610	609	595				0	469	450	364	1852	0
V/C Ratio(X)	0.28	0.93	0.93				0.00	0.83	0.83	0.92	0.34	0.00
Avail Cap(c_a), veh/h	615	614	599				0	469	450	380	1852	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.48	0.48	0.00
Uniform Delay (d), s/veh	17.9	23.8	23.8				0.0	26.0	26.0	21.6	0.0	0.0
Incr Delay (d2), s/veh	0.2	21.1	21.7				0.0	15.5	16.3	14.9	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	12.4	12.2				0.0	8.1	7.9	5.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	44.9	45.5				0.0	41.5	42.4	36.4	0.2	0.0
LnGrp LOS	B	D	D				A	D	D	D	A	A
Approach Vol, veh/h		1293						763			964	
Approach Delay, s/veh		41.6						42.0			12.7	
Approach LOS		D						D			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.3	24.9		30.8		44.2
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	16.0	18.9		25.9		38.9
Max Q Clear Time (g_c+I1), s	15.2	17.5		25.2		2.0
Green Ext Time (p_c), s	0.1	0.7		0.5		4.7

Intersection Summary	
HCM 6th Ctrl Delay	32.5
HCM 6th LOS	C

HCM 6th Signalized Intersection Summary
8: Myrtle Avenue & Central Avenue

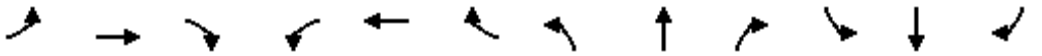
05/01/2018



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	255	576	340	360	684	0	0	531	98
Future Volume (veh/h)	0	0	0	255	576	340	360	684	0	0	531	98
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				274	619	366	387	735	0	0	571	105
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				655	688	583	301	1690	0	0	734	135
Arrive On Green				0.37	0.37	0.37	0.34	0.95	0.00	0.00	0.24	0.24
Sat Flow, veh/h				1781	1870	1585	1781	3647	0	0	3092	550
Grp Volume(v), veh/h				274	619	366	387	735	0	0	338	338
Grp Sat Flow(s),veh/h/ln				1781	1870	1585	1781	1777	0	0	1777	1771
Q Serve(g_s), s				7.5	20.3	12.3	11.0	1.1	0.0	0.0	11.5	11.6
Cycle Q Clear(g_c), s				7.5	20.3	12.3	11.0	1.1	0.0	0.0	11.5	11.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.31
Lane Grp Cap(c), veh/h				655	688	583	301	1690	0	0	435	434
V/C Ratio(X)				0.42	0.90	0.63	1.28	0.43	0.00	0.00	0.78	0.78
Avail Cap(c_a), veh/h				682	716	607	301	1690	0	0	435	434
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.33	0.33	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.4	19.4	16.9	21.5	0.9	0.0	0.0	22.9	22.9
Incr Delay (d2), s/veh				0.4	14.1	1.9	136.1	0.3	0.0	0.0	12.8	13.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.8	10.4	4.3	14.7	0.3	0.0	0.0	5.9	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				15.8	33.6	18.8	157.6	1.1	0.0	0.0	35.7	36.0
LnGrp LOS				B	C	B	F	A	A	A	D	D
Approach Vol, veh/h					1259			1122			676	
Approach Delay, s/veh					25.4			55.1			35.8	
Approach LOS					C			E			D	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		36.0			15.0	21.0		29.0				
Change Period (Y+Rc), s		5.1			4.0	5.1		5.1				
Max Green Setting (Gmax), s		29.9			11.0	14.9		24.9				
Max Q Clear Time (g_c+I1), s		3.1			13.0	13.6		22.3				
Green Ext Time (p_c), s		5.3			0.0	0.6		1.6				

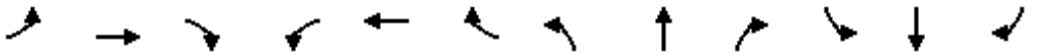
Intersection Summary												
HCM 6th Ctrl Delay			38.6									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	371	477	311	0	0	0	0	630	197	256	527	0
Future Volume (veh/h)	371	477	311	0	0	0	0	630	197	256	527	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	408	524	342				0	692	216	281	579	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	571	661	431				0	778	243	301	1857	0
Arrive On Green	0.32	0.32	0.32				0.00	0.29	0.29	0.34	1.00	0.00
Sat Flow, veh/h	1781	2062	1344				0	2759	832	1781	3647	0
Grp Volume(v), veh/h	408	452	414				0	461	447	281	579	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1628				0	1777	1721	1781	1777	0
Q Serve(g_s), s	13.1	15.0	15.1				0.0	16.1	16.1	9.9	0.0	0.0
Cycle Q Clear(g_c), s	13.1	15.0	15.1				0.0	16.1	16.1	9.9	0.0	0.0
Prop In Lane	1.00		0.83				0.00		0.48	1.00		0.00
Lane Grp Cap(c), veh/h	571	569	522				0	519	502	301	1857	0
V/C Ratio(X)	0.71	0.79	0.79				0.00	0.89	0.89	0.93	0.31	0.00
Avail Cap(c_a), veh/h	658	656	601				0	519	502	301	1857	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.62	0.62	0.00
Uniform Delay (d), s/veh	19.5	20.1	20.1				0.0	22.0	22.0	21.1	0.0	0.0
Incr Delay (d2), s/veh	3.1	5.8	6.4				0.0	19.9	20.5	25.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	6.5	6.0				0.0	8.9	8.7	5.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	26.0	26.5				0.0	41.9	42.5	46.1	0.3	0.0
LnGrp LOS	C	C	C				A	D	D	D	A	A
Approach Vol, veh/h		1274						908			860	
Approach Delay, s/veh		25.1						42.2			15.3	
Approach LOS		C						D			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.0	24.1		25.9		39.1
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	11.0	15.8		24.0		30.8
Max Q Clear Time (g_c+I1), s	11.9	18.1		17.1		2.0
Green Ext Time (p_c), s	0.0	0.0		3.7		4.1

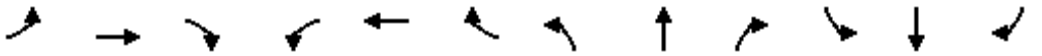
Intersection Summary	
HCM 6th Ctrl Delay	27.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	272	515	300	354	435	0	0	758	207
Future Volume (veh/h)	0	0	0	272	515	300	354	435	0	0	758	207
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				292	554	323	381	468	0	0	815	223
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				565	593	502	333	1944	0	0	847	232
Arrive On Green				0.32	0.32	0.32	0.37	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				1781	1870	1585	1781	3647	0	0	2851	754
Grp Volume(v), veh/h				292	554	323	381	468	0	0	525	513
Grp Sat Flow(s),veh/h/ln				1781	1870	1585	1781	1777	0	0	1777	1735
Q Serve(g_s), s				10.0	21.6	13.1	14.0	0.0	0.0	0.0	21.8	21.8
Cycle Q Clear(g_c), s				10.0	21.6	13.1	14.0	0.0	0.0	0.0	21.8	21.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.43
Lane Grp Cap(c), veh/h				565	593	502	333	1944	0	0	546	533
V/C Ratio(X)				0.52	0.93	0.64	1.15	0.24	0.00	0.00	0.96	0.96
Avail Cap(c_a), veh/h				568	596	505	333	1944	0	0	546	533
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.40	0.40	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.9	24.9	22.0	23.5	0.0	0.0	0.0	25.6	25.6
Incr Delay (d2), s/veh				0.8	22.0	2.8	79.6	0.1	0.0	0.0	30.3	30.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.0	12.4	4.9	11.5	0.0	0.0	0.0	13.0	12.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.7	46.9	24.7	103.1	0.1	0.0	0.0	55.9	56.4
LnGrp LOS				C	D	C	F	A	A	A	E	E
Approach Vol, veh/h					1169			849			1038	
Approach Delay, s/veh					34.5			46.4			56.1	
Approach LOS					C			D			E	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		46.1			18.0	28.1		28.9				
Change Period (Y+Rc), s		5.1			4.0	5.1		5.1				
Max Green Setting (Gmax), s		40.9			14.0	22.9		23.9				
Max Q Clear Time (g_c+I1), s		2.0			16.0	23.8		23.6				
Green Ext Time (p_c), s		3.3			0.0	0.0		0.2				

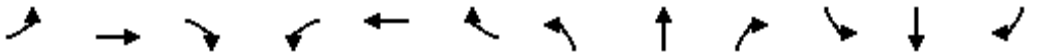
Intersection Summary												
HCM 6th Ctrl Delay			45.1									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	839	319	0	0	0	0	612	216	324	727	0
Future Volume (veh/h)	165	839	319	0	0	0	0	612	216	324	727	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	176	893	339				0	651	230	345	773	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	615	871	329				0	657	232	374	1843	0
Arrive On Green	0.35	0.35	0.35				0.00	0.26	0.26	0.42	1.00	0.00
Sat Flow, veh/h	1781	2522	953				0	2668	909	1781	3647	0
Grp Volume(v), veh/h	176	628	604				0	449	432	345	773	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1699				0	1777	1707	1781	1777	0
Q Serve(g_s), s	5.4	25.9	25.9				0.0	18.9	18.9	13.7	0.0	0.0
Cycle Q Clear(g_c), s	5.4	25.9	25.9				0.0	18.9	18.9	13.7	0.0	0.0
Prop In Lane	1.00		0.56				0.00		0.53	1.00		0.00
Lane Grp Cap(c), veh/h	615	614	587				0	453	435	374	1843	0
V/C Ratio(X)	0.29	1.02	1.03				0.00	0.99	0.99	0.92	0.42	0.00
Avail Cap(c_a), veh/h	615	614	587				0	453	435	380	1843	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.38	0.38	0.00
Uniform Delay (d), s/veh	17.8	24.5	24.6				0.0	27.8	27.9	21.1	0.0	0.0
Incr Delay (d2), s/veh	0.3	42.3	45.0				0.0	40.1	41.1	13.3	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	17.1	16.8				0.0	12.5	12.1	5.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	66.9	69.6				0.0	67.9	69.0	34.5	0.3	0.0
LnGrp LOS	B	F	F				A	E	E	C	A	A
Approach Vol, veh/h		1408						881			1118	
Approach Delay, s/veh		61.9						68.4			10.8	
Approach LOS		E						E			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.8	24.2		31.0		44.0
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	16.0	18.9		25.9		38.9
Max Q Clear Time (g_c+I1), s	15.7	20.9		27.9		2.0
Green Ext Time (p_c), s	0.0	0.0		0.0		6.0

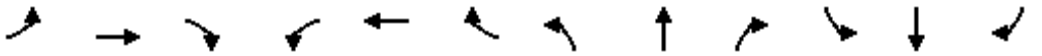
Intersection Summary	
HCM 6th Ctrl Delay	46.8
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	255	578	340	367	684	0	0	531	124
Future Volume (veh/h)	0	0	0	255	578	340	367	684	0	0	531	124
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				274	622	366	395	735	0	0	571	133
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				656	689	584	301	1687	0	0	698	162
Arrive On Green				0.37	0.37	0.37	0.34	0.95	0.00	0.00	0.24	0.24
Sat Flow, veh/h				1781	1870	1585	1781	3647	0	0	2956	665
Grp Volume(v), veh/h				274	622	366	395	735	0	0	354	350
Grp Sat Flow(s),veh/h/ln				1781	1870	1585	1781	1777	0	0	1777	1751
Q Serve(g_s), s				7.5	20.5	12.3	11.0	1.2	0.0	0.0	12.2	12.3
Cycle Q Clear(g_c), s				7.5	20.5	12.3	11.0	1.2	0.0	0.0	12.2	12.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.38
Lane Grp Cap(c), veh/h				656	689	584	301	1687	0	0	433	427
V/C Ratio(X)				0.42	0.90	0.63	1.31	0.44	0.00	0.00	0.82	0.82
Avail Cap(c_a), veh/h				682	716	607	301	1687	0	0	433	427
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.32	0.32	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.3	19.4	16.9	21.5	0.9	0.0	0.0	23.2	23.2
Incr Delay (d2), s/veh				0.4	14.4	1.9	147.3	0.3	0.0	0.0	15.6	16.1
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.8	10.5	4.3	15.6	0.3	0.0	0.0	6.5	6.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				15.7	33.9	18.8	168.8	1.2	0.0	0.0	38.8	39.3
LnGrp LOS				B	C	B	F	A	A	A	D	D
Approach Vol, veh/h					1262			1130			704	
Approach Delay, s/veh					25.5			59.8			39.0	
Approach LOS					C			E			D	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		35.9			15.0	20.9		29.1				
Change Period (Y+Rc), s		5.1			4.0	5.1		5.1				
Max Green Setting (Gmax), s		29.9			11.0	14.9		24.9				
Max Q Clear Time (g_c+I1), s		3.2			13.0	14.3		22.5				
Green Ext Time (p_c), s		5.3			0.0	0.3		1.5				

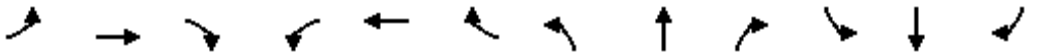
Intersection Summary												
HCM 6th Ctrl Delay			41.1									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	378	503	314	0	0	0	0	630	197	256	527	0
Future Volume (veh/h)	378	503	314	0	0	0	0	630	197	256	527	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	415	553	345				0	692	216	281	579	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	582	687	428				0	761	237	301	1834	0
Arrive On Green	0.33	0.33	0.33				0.00	0.29	0.29	0.34	1.00	0.00
Sat Flow, veh/h	1781	2101	1310				0	2759	832	1781	3647	0
Grp Volume(v), veh/h	415	468	430				0	461	447	281	579	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1635				0	1777	1721	1781	1777	0
Q Serve(g_s), s	13.3	15.6	15.6				0.0	16.3	16.3	9.9	0.0	0.0
Cycle Q Clear(g_c), s	13.3	15.6	15.6				0.0	16.3	16.3	9.9	0.0	0.0
Prop In Lane	1.00		0.80				0.00		0.48	1.00		0.00
Lane Grp Cap(c), veh/h	582	581	534				0	507	491	301	1834	0
V/C Ratio(X)	0.71	0.80	0.81				0.00	0.91	0.91	0.93	0.32	0.00
Avail Cap(c_a), veh/h	658	656	604				0	507	491	301	1834	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.59	0.59	0.00
Uniform Delay (d), s/veh	19.2	20.0	20.0				0.0	22.4	22.4	21.1	0.0	0.0
Incr Delay (d2), s/veh	3.2	6.5	7.1				0.0	22.9	23.5	24.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	6.8	6.3				0.0	9.3	9.1	5.1	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.3	26.5	27.1				0.0	45.3	45.9	45.3	0.3	0.0
LnGrp LOS	C	C	C				A	D	D	D	A	A
Approach Vol, veh/h		1313						908			860	
Approach Delay, s/veh		25.4						45.6			15.0	
Approach LOS		C						D			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.0	23.6		26.4		38.6
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	11.0	15.8		24.0		30.8
Max Q Clear Time (g_c+I1), s	11.9	18.3		17.6		2.0
Green Ext Time (p_c), s	0.0	0.0		3.6		4.1

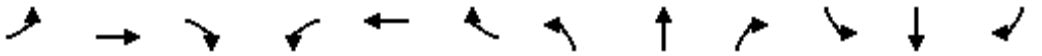
Intersection Summary	
HCM 6th Ctrl Delay	28.4
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	272	541	300	357	435	0	0	758	219
Future Volume (veh/h)	0	0	0	272	541	300	357	435	0	0	758	219
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				292	582	323	384	468	0	0	815	235
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				568	596	505	333	1938	0	0	831	240
Arrive On Green				0.32	0.32	0.32	0.37	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				1781	1870	1585	1781	3647	0	0	2815	784
Grp Volume(v), veh/h				292	582	323	384	468	0	0	532	518
Grp Sat Flow(s),veh/h/ln				1781	1870	1585	1781	1777	0	0	1777	1729
Q Serve(g_s), s				10.0	23.1	13.1	14.0	0.0	0.0	0.0	22.3	22.3
Cycle Q Clear(g_c), s				10.0	23.1	13.1	14.0	0.0	0.0	0.0	22.3	22.3
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.45
Lane Grp Cap(c), veh/h				568	596	505	333	1938	0	0	543	528
V/C Ratio(X)				0.51	0.98	0.64	1.15	0.24	0.00	0.00	0.98	0.98
Avail Cap(c_a), veh/h				568	596	505	333	1938	0	0	543	528
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.40	0.40	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.8	25.3	21.9	23.5	0.0	0.0	0.0	25.8	25.8
Incr Delay (d2), s/veh				0.8	30.8	2.7	83.2	0.1	0.0	0.0	34.2	34.8
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.0	14.5	4.9	11.8	0.0	0.0	0.0	13.8	13.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.6	56.1	24.6	106.7	0.1	0.0	0.0	60.0	60.6
LnGrp LOS				C	E	C	F	A	A	A	E	E
Approach Vol, veh/h					1197			852			1050	
Approach Delay, s/veh					39.2			48.2			60.3	
Approach LOS					D			D			E	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		46.0			18.0	28.0		29.0				
Change Period (Y+Rc), s		5.1			4.0	5.1		5.1				
Max Green Setting (Gmax), s		40.9			14.0	22.9		23.9				
Max Q Clear Time (g_c+I1), s		2.0			16.0	24.3		25.1				
Green Ext Time (p_c), s		3.3			0.0	0.0		0.0				

Intersection Summary												
HCM 6th Ctrl Delay			48.8									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	851	352	0	0	0	0	612	216	324	727	0
Future Volume (veh/h)	168	851	352	0	0	0	0	612	216	324	727	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	179	905	374				0	651	230	345	773	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	615	849	348				0	657	232	374	1843	0
Arrive On Green	0.35	0.35	0.35				0.00	0.26	0.26	0.42	1.00	0.00
Sat Flow, veh/h	1781	2457	1008				0	2668	909	1781	3647	0
Grp Volume(v), veh/h	179	653	626				0	449	432	345	773	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1689				0	1777	1707	1781	1777	0
Q Serve(g_s), s	5.5	25.9	25.9				0.0	18.9	18.9	13.7	0.0	0.0
Cycle Q Clear(g_c), s	5.5	25.9	25.9				0.0	18.9	18.9	13.7	0.0	0.0
Prop In Lane	1.00		0.60				0.00		0.53	1.00		0.00
Lane Grp Cap(c), veh/h	615	614	583				0	453	435	374	1843	0
V/C Ratio(X)	0.29	1.06	1.07				0.00	0.99	0.99	0.92	0.42	0.00
Avail Cap(c_a), veh/h	615	614	583				0	453	435	380	1843	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.37	0.37	0.00
Uniform Delay (d), s/veh	17.9	24.5	24.6				0.0	27.8	27.9	21.1	0.0	0.0
Incr Delay (d2), s/veh	0.3	54.4	58.7				0.0	40.1	41.1	13.0	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	19.1	18.9				0.0	12.5	12.1	5.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	79.0	83.2				0.0	67.9	69.0	34.2	0.3	0.0
LnGrp LOS	B	F	F				A	E	E	C	A	A
Approach Vol, veh/h		1458						881			1118	
Approach Delay, s/veh		73.3						68.4			10.7	
Approach LOS		E						E			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.8	24.2		31.0		44.0
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	16.0	18.9		25.9		38.9
Max Q Clear Time (g_c+I1), s	15.7	20.9		27.9		2.0
Green Ext Time (p_c), s	0.0	0.0		0.0		6.0

Intersection Summary			
HCM 6th Ctrl Delay			51.8
HCM 6th LOS			D

APPENDIX E

EXISTING ADT COUNTS

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Duarte Road - 5th to Mayflower

Day: Tuesday, February 2, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	0	0	10804	10641	21445

AM	NB	SB	EB		WB		Total		PM	NB	SB	EB		WB		Total	
00:00			19		10		29		12:00			151		163		314	
00:15			14		12		26		12:15			145		147		292	
00:30			14		9		23		12:30			156		171		327	
00:45			4	51	4	35	8	86	12:45			159	611	133	614	292	1225
01:00			7		3		10		13:00			144		156		300	
01:15			5		6		11		13:15			150		131		281	
01:30			5		6		11		13:30			139		154		293	
01:45			3	20	4	19	7	39	13:45			128	561	140	581	268	1142
02:00			4		3		7		14:00			141		157		298	
02:15			3		2		5		14:15			142		146		288	
02:30			2		4		6		14:30			186		157		343	
02:45			6	15	1	10	7	25	14:45			165	634	150	610	315	1244
03:00			3		4		7		15:00			226		167		393	
03:15			8		1		9		15:15			211		163		374	
03:30			8		7		15		15:30			211		149		360	
03:45			9	28	3	15	12	43	15:45			223	871	180	659	403	1530
04:00			3		7		10		16:00			275		166		441	
04:15			12		12		24		16:15			265		177		442	
04:30			10		18		28		16:30			285		170		455	
04:45			11	36	20	57	31	93	16:45			324	1149	182	695	506	1844
05:00			17		16		33		17:00			336		220		556	
05:15			18		28		46		17:15			361		206		567	
05:30			36		35		71		17:30			335		227		562	
05:45			35	106	49	128	84	234	17:45			311	1343	210	863	521	2206
06:00			45		41		86		18:00			317		177		494	
06:15			58		80		138		18:15			249		172		421	
06:30			62		156		218		18:30			251		164		415	
06:45			94	259	214	491	308	750	18:45			202	1019	147	660	349	1679
07:00			87		260		347		19:00			174		130		304	
07:15			74		293		367		19:15			123		131		254	
07:30			139		326		465		19:30			116		122		238	
07:45			139	439	280	1159	419	1598	19:45			123	536	88	471	211	1007
08:00			198		293		491		20:00			114		100		214	
08:15			168		263		431		20:15			84		81		165	
08:30			143		247		390		20:30			80		112		192	
08:45			131	640	210	1013	341	1653	20:45			71	349	81	374	152	723
09:00			122		164		286		21:00			89		79		168	
09:15			111		156		267		21:15			70		65		135	
09:30			112		151		263		21:30			72		45		117	
09:45			133	478	141	612	274	1090	21:45			70	301	53	242	123	543
10:00			121		124		245		22:00			60		63		123	
10:15			122		135		257		22:15			45		45		90	
10:30			112		148		260		22:30			43		35		78	
10:45			134	489	132	539	266	1028	22:45			28	176	23	166	51	342
11:00			143		133		276		23:00			26		27		53	
11:15			148		137		285		23:15			27		13		40	
11:30			135		137		272		23:30			18		15		33	
11:45			163	589	145	552	308	1141	23:45			33	104	21	76	54	180
Totals				3150		4630	7780		Totals				7654		6011	13665	
Split %				40.5%		59.5%	36.3%		Split %				56.0%		44.0%	63.7%	

Daily Totals	NB	SB	EB	WB	Total
	0	0	10804	10641	21445

AM Peak Hour	07:45	07:15	07:30	PM Peak Hour	16:45	17:00	17:00
AM Peak Hr Volume	648	1192	1806	PM Peak Hr Volume	1356	863	2206
AM Pk Hr Factor	0.818	0.914	0.920	PM Pk Hr Factor	0.939	0.950	0.973

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Duarte Road - Mayflower to Myrtle

Day: Tuesday, February 2, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	0	0	9306	8225	17531

AM	NB	SB	EB		WB		Total		PM	NB	SB	EB		WB		Total	
00:00			18		9		27		12:00			157		129		286	
00:15			13		8		21		12:15			132		112		244	
00:30			6		8		14		12:30			164		148		312	
00:45			4	41	4	29	8	70	12:45			151	604	135	524	286	1128
01:00			9		0		9		13:00			146		109		255	
01:15			4		6		10		13:15			132		107		239	
01:30			5		5		10		13:30			191		135		326	
01:45			0	18	1	12	1	30	13:45			136	605	106	457	242	1062
02:00			1		2		3		14:00			151		130		281	
02:15			2		1		3		14:15			149		112		261	
02:30			4		2		6		14:30			168		132		300	
02:45			4	11	3	8	7	19	14:45			142	610	117	491	259	1101
03:00			2		2		4		15:00			212		146		358	
03:15			6		2		8		15:15			197		143		340	
03:30			13		6		19		15:30			218		151		369	
03:45			7	28	3	13	10	41	15:45			189	816	147	587	336	1403
04:00			4		1		5		16:00			232		134		366	
04:15			6		7		13		16:15			210		147		357	
04:30			9		14		23		16:30			246		150		396	
04:45			15	34	20	42	35	76	16:45			227	915	161	592	388	1507
05:00			12		20		32		17:00			233		167		400	
05:15			21		19		40		17:15			251		165		416	
05:30			38		37		75		17:30			254		172		426	
05:45			38	109	45	121	83	230	17:45			205	943	155	659	360	1602
06:00			40		31		71		18:00			256		152		408	
06:15			61		49		110		18:15			191		127		318	
06:30			63		97		160		18:30			183		112		295	
06:45			72	236	143	320	215	556	18:45			152	782	109	500	261	1282
07:00			98		143		241		19:00			138		108		246	
07:15			106		194		300		19:15			95		76		171	
07:30			202		206		408		19:30			82		86		168	
07:45			190	596	173	716	363	1312	19:45			86	401	65	335	151	736
08:00			157		196		353		20:00			96		55		151	
08:15			139		206		345		20:15			75		69		144	
08:30			112		162		274		20:30			58		81		139	
08:45			106	514	175	739	281	1253	20:45			66	295	54	259	120	554
09:00			120		129		249		21:00			71		61		132	
09:15			93		138		231		21:15			47		43		90	
09:30			114		117		231		21:30			51		32		83	
09:45			103	430	110	494	213	924	21:45			33	202	34	170	67	372
10:00			123		117		240		22:00			35		37		72	
10:15			104		116		220		22:15			23		36		59	
10:30			100		126		226		22:30			32		26		58	
10:45			117	444	117	476	234	920	22:45			30	120	26	125	56	245
11:00			121		124		245		23:00			14		24		38	
11:15			113		112		225		23:15			26		19		45	
11:30			125		106		231		23:30			18		18		36	
11:45			120	479	140	482	260	961	23:45			15	73	13	74	28	147
Totals				2940		3452	6392		Totals				6366		4773	11139	
Split %				46.0%		54.0%	36.5%		Split %				57.2%		42.8%	63.5%	

Daily Totals	NB	SB	EB	WB	Total
	0	0	9306	8225	17531

AM Peak Hour	07:30	07:30	07:30	PM Peak Hour	17:15	16:45	16:45
AM Peak Hr Volume	688	781	1469	PM Peak Hr Volume	966	665	1630
AM Pk Hr Factor	0.851	0.948	0.900	PM Pk Hr Factor	0.943	0.967	0.957

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Duarte Road - Myrtle to California

Day: Tuesday, February 2, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	0	0	5286	5381	10667

AM	NB	SB	EB		WB		Total		PM	NB	SB	EB		WB		Total	
00:00			10		10		20		12:00			105		84		189	
00:15			10		13		23		12:15			76		91		167	
00:30			5		6		11		12:30			87		112		199	
00:45			1	26	8	37	9	63	12:45			83	351	69	356	152	707
01:00			2		2		4		13:00			98		78		176	
01:15			4		3		7		13:15			62		76		138	
01:30			4		1		5		13:30			112		79		191	
01:45			1	11	4	10	5	21	13:45			82	354	80	313	162	667
02:00			1		1		2		14:00			85		83		168	
02:15			0		2		2		14:15			72		55		127	
02:30			4		0		4		14:30			116		103		219	
02:45			1	6	3	6	4	12	14:45			93	366	87	328	180	694
03:00			0		1		1		15:00			136		117		253	
03:15			1		3		4		15:15			118		91		209	
03:30			10		6		16		15:30			127		91		218	
03:45			3	14	3	13	6	27	15:45			130	511	96	395	226	906
04:00			0		2		2		16:00			132		104		236	
04:15			2		4		6		16:15			125		98		223	
04:30			3		8		11		16:30			150		112		262	
04:45			6	11	11	25	17	36	16:45			116	523	96	410	212	933
05:00			2		11		13		17:00			110		99		209	
05:15			6		10		16		17:15			119		96		215	
05:30			12		20		32		17:30			115		91		206	
05:45			14	34	17	58	31	92	17:45			116	460	88	374	204	834
06:00			23		27		50		18:00			106		78		184	
06:15			17		44		61		18:15			108		75		183	
06:30			27		60		87		18:30			105		75		180	
06:45			51	118	93	224	144	342	18:45			75	394	62	290	137	684
07:00			33		117		150		19:00			75		68		143	
07:15			60		141		201		19:15			63		73		136	
07:30			95		140		235		19:30			53		49		102	
07:45			83	271	113	511	196	782	19:45			52	243	33	223	85	466
08:00			95		127		222		20:00			60		35		95	
08:15			75		141		216		20:15			35		38		73	
08:30			75		93		168		20:30			38		46		84	
08:45			62	307	100	461	162	768	20:45			43	176	30	149	73	325
09:00			71		74		145		21:00			36		39		75	
09:15			58		84		142		21:15			32		31		63	
09:30			55		86		141		21:30			32		24		56	
09:45			80	264	74	318	154	582	21:45			27	127	22	116	49	243
10:00			69		69		138		22:00			26		30		56	
10:15			67		62		129		22:15			11		21		32	
10:30			55		75		130		22:30			25		24		49	
10:45			80	271	78	284	158	555	22:45			13	75	23	98	36	173
11:00			76		103		179		23:00			9		20		29	
11:15			87		68		155		23:15			9		16		25	
11:30			90		71		161		23:30			11		16		27	
11:45			82	335	77	319	159	654	23:45			9	38	11	63	20	101
Totals				1668		2266	3934		Totals				3618		3115	6733	
Split %				42.4%		57.6%	36.9%		Split %				53.7%		46.3%	63.1%	

Daily Totals	NB	SB	EB	WB	Total
	0	0	5286	5381	10667

AM Peak Hour	07:30	07:30	07:30	PM Peak Hour	15:45	16:00	15:45
AM Peak Hr Volume	348	521	869	PM Peak Hr Volume	537	410	947
AM Pk Hr Factor	0.916	0.924	0.924	PM Pk Hr Factor	0.895	0.915	0.904

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Evergreen Avenue - Mayflower to Magnolia

Day: Wednesday, February 3, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	0	0	2067	233	2300

AM	NB	SB	EB		WB		Total		PM	NB	SB	EB		WB		Total	
00:00			2		1		3		12:00			33		7		40	
00:15			2		0		2		12:15			34		3		37	
00:30			1		0		1		12:30			27		5		32	
00:45			0	5	0	1	0	6	12:45			24	118	3	18	27	136
01:00			1		0		1		13:00			30		0		30	
01:15			0		0		0		13:15			38		5		43	
01:30			1		0		1		13:30			35		4		39	
01:45			0	2	0	0	0	2	13:45			33	136	1	10	34	146
02:00			1		0		1		14:00			49		4		53	
02:15			0		0		0		14:15			52		3		55	
02:30			1		0		1		14:30			34		3		37	
02:45			0	2	0	0	0	2	14:45			38	173	2	12	40	185
03:00			0		0		0		15:00			36		4		40	
03:15			0		0		0		15:15			28		5		33	
03:30			2		0		2		15:30			42		10		52	
03:45			2	4	0	0	2	4	15:45			44	150	1	20	45	170
04:00			1		0		1		16:00			35		7		42	
04:15			3		1		4		16:15			33		2		35	
04:30			6		0		6		16:30			50		2		52	
04:45			7	17	1	2	8	19	16:45			51	169	0	11	51	180
05:00			6		1		7		17:00			62		3		65	
05:15			8		3		11		17:15			64		8		72	
05:30			6		7		13		17:30			48		5		53	
05:45			11	31	5	16	16	47	17:45			45	219	1	17	46	236
06:00			17		1		18		18:00			40		1		41	
06:15			25		0		25		18:15			28		4		32	
06:30			33		2		35		18:30			36		1		37	
06:45			28	103	3	6	31	109	18:45			19	123	1	7	20	130
07:00			34		4		38		19:00			22		2		24	
07:15			27		2		29		19:15			15		2		17	
07:30			40		10		50		19:30			16		2		18	
07:45			36	137	8	24	44	161	19:45			24	77	1	7	25	84
08:00			32		1		33		20:00			30		1		31	
08:15			23		6		29		20:15			15		3		18	
08:30			38		6		44		20:30			13		3		16	
08:45			25	118	4	17	29	135	20:45			15	73	2	9	17	82
09:00			30		1		31		21:00			15		1		16	
09:15			28		3		31		21:15			9		1		10	
09:30			30		6		36		21:30			14		2		16	
09:45			17	105	3	13	20	118	21:45			14	52	4	8	18	60
10:00			22		4		26		22:00			15		1		16	
10:15			22		2		24		22:15			11		0		11	
10:30			23		1		24		22:30			7		1		8	
10:45			31	98	5	12	36	110	22:45			3	36	2	4	5	40
11:00			22		2		24		23:00			5		0		5	
11:15			27		2		29		23:15			3		0		3	
11:30			32		6		38		23:30			3		0		3	
11:45			26	107	9	19	35	126	23:45			1	12	0	0	1	12
Totals				729		110	839		Totals				1338		123	1461	
Split %				86.9%		13.1%	36.5%		Split %				91.6%		8.4%	63.5%	

Daily Totals	NB	SB	EB	WB	Total
	0	0	2067	233	2300

AM Peak Hour	07:00	07:30	07:00	PM Peak Hour	16:30	15:15	16:45
AM Peak Hr Volume	137	25	161	PM Peak Hr Volume	227	23	241
AM Pk Hr Factor	0.856	0.625	0.805	PM Pk Hr Factor	0.887	0.575	0.837

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Evergreen Avenue - Myrtle to California

Day: Wednesday, February 3, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	0	0	14299	0	14299

AM	NB	SB	EB		WB		Total		PM	NB	SB	EB		WB		Total	
00:00			39		0		39		12:00			218		0		218	
00:15			41		0		41		12:15			206		0		206	
00:30			29		0		29		12:30			199		0		199	
00:45			22	131	0	0	22	131	12:45			208	831	0	0	208	831
01:00			35		0		35		13:00			219		0		219	
01:15			23		0		23		13:15			224		0		224	
01:30			19		0		19		13:30			202		0		202	
01:45			16	93	0	0	16	93	13:45			232	877	0	0	232	877
02:00			11		0		11		14:00			239		0		239	
02:15			8		0		8		14:15			264		0		264	
02:30			8		0		8		14:30			283		0		283	
02:45			5	32	0	0	5	32	14:45			244	1030	0	0	244	1030
03:00			4		0		4		15:00			252		0		252	
03:15			14		0		14		15:15			264		0		264	
03:30			10		0		10		15:30			272		0		272	
03:45			14	42	0	0	14	42	15:45			234	1022	0	0	234	1022
04:00			17		0		17		16:00			313		0		313	
04:15			27		0		27		16:15			299		0		299	
04:30			25		0		25		16:30			312		0		312	
04:45			47	116	0	0	47	116	16:45			320	1244	0	0	320	1244
05:00			54		0		54		17:00			350		0		350	
05:15			59		0		59		17:15			317		0		317	
05:30			81		0		81		17:30			358		0		358	
05:45			82	276	0	0	82	276	17:45			314	1339	0	0	314	1339
06:00			113		0		113		18:00			287		0		287	
06:15			120		0		120		18:15			253		0		253	
06:30			159		0		159		18:30			234		0		234	
06:45			139	531	0	0	139	531	18:45			228	1002	0	0	228	1002
07:00			194		0		194		19:00			213		0		213	
07:15			225		0		225		19:15			168		0		168	
07:30			237		0		237		19:30			157		0		157	
07:45			226	882	0	0	226	882	19:45			159	697	0	0	159	697
08:00			204		0		204		20:00			159		0		159	
08:15			189		0		189		20:15			129		0		129	
08:30			185		0		185		20:30			130		0		130	
08:45			162	740	0	0	162	740	20:45			106	524	0	0	106	524
09:00			157		0		157		21:00			138		0		138	
09:15			152		0		152		21:15			108		0		108	
09:30			178		0		178		21:30			100		0		100	
09:45			155	642	0	0	155	642	21:45			66	412	0	0	66	412
10:00			161		0		161		22:00			69		0		69	
10:15			161		0		161		22:15			55		0		55	
10:30			180		0		180		22:30			51		0		51	
10:45			200	702	0	0	200	702	22:45			56	231	0	0	56	231
11:00			179		0		179		23:00			45		0		45	
11:15			183		0		183		23:15			49		0		49	
11:30			168		0		168		23:30			46		0		46	
11:45			189	719	0	0	189	719	23:45			44	184	0	0	44	184
Totals				4906		0	4906		Totals				9393		0	9393	
Split %				100.0%		0.0%	34.3%		Split %				100.0%		0.0%	65.7%	

Daily Totals	NB	SB	EB	WB	Total
	0	0	14299	0	14299

AM Peak Hour	07:15	11:00	07:15	PM Peak Hour	16:45	23:00	16:45
AM Peak Hr Volume	892	0	892	PM Peak Hr Volume	1345	0	1345
AM Pk Hr Factor	0.941	#DIV/0!	0.941	PM Pk Hr Factor	0.939	#DIV/0!	0.939

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Huntington Avenue - Mayflower to Myrtle

Day: Wednesday, February 17, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	0	0	11306	13993	25299

AM	NB	SB	EB		WB		Total		PM	NB	SB	EB		WB		Total	
00:00			13		12		25		12:00			220		234		454	
00:15			6		11		17		12:15			219		244		463	
00:30			15		15		30		12:30			235		215		450	
00:45			5	39	9	47	14	86	12:45			252	926	235	928	487	1854
01:00			13		8		21		13:00			221		196		417	
01:15			4		5		9		13:15			209		167		376	
01:30			7		2		9		13:30			215		148		363	
01:45			3	27	5	20	8	47	13:45			183	828	187	698	370	1526
02:00			7		6		13		14:00			221		146		367	
02:15			5		4		9		14:15			188		162		350	
02:30			3		8		11		14:30			191		201		392	
02:45			4	19	6	24	10	43	14:45			190	790	152	661	342	1451
03:00			2		2		4		15:00			230		214		444	
03:15			0		5		5		15:15			219		165		384	
03:30			2		3		5		15:30			262		198		460	
03:45			5	9	2	12	7	21	15:45			273	984	235	812	508	1796
04:00			8		9		17		16:00			255		185		440	
04:15			9		11		20		16:15			276		196		472	
04:30			11		15		26		16:30			302		235		537	
04:45			25	53	12	47	37	100	16:45			289	1122	198	814	487	1936
05:00			10		16		26		17:00			305		235		540	
05:15			23		37		60		17:15			288		286		574	
05:30			20		52		72		17:30			289		238		527	
05:45			30	83	60	165	90	248	17:45			276	1158	285	1044	561	2202
06:00			34		106		140		18:00			211		235		446	
06:15			39		185		224		18:15			181		235		416	
06:30			46		260		306		18:30			192		245		437	
06:45			60	179	300	851	360	1030	18:45			250	834	235	950	485	1784
07:00			61		289		350		19:00			211		212		423	
07:15			92		340		432		19:15			197		196		393	
07:30			116		302		418		19:30			149		157		306	
07:45			144	413	308	1239	452	1652	19:45			132	689	126	691	258	1380
08:00			132		351		483		20:00			127		111		238	
08:15			131		348		479		20:15			123		145		268	
08:30			96		351		447		20:30			113		125		238	
08:45			111	470	257	1307	368	1777	20:45			92	455	98	479	190	934
09:00			108		257		365		21:00			93		95		188	
09:15			101		240		341		21:15			78		87		165	
09:30			116		234		350		21:30			76		76		152	
09:45			124	449	239	970	363	1419	21:45			61	308	45	303	106	611
10:00			121		188		309		22:00			48		65		113	
10:15			149		210		359		22:15			36		42		78	
10:30			144		205		349		22:30			25		38		63	
10:45			140	554	208	811	348	1365	22:45			21	130	25	170	46	300
11:00			149		218		367		23:00			14		35		49	
11:15			182		190		372		23:15			12		24		36	
11:30			192		222		414		23:30			27		22		49	
11:45			194	717	230	860	424	1577	23:45			17	70	9	90	26	160
Totals				3012		6353	9365		Totals				8294		7640	15934	
Split %				32.2%		67.8%	37.0%		Split %				52.1%		47.9%	63.0%	

Daily Totals	NB	SB	EB	WB	Total
	0	0	11306	13993	25299

AM Peak Hour	11:00	07:45	07:45	PM Peak Hour	16:30	17:15	17:00
AM Peak Hr Volume	717	1358	1861	PM Peak Hr Volume	1184	1044	2202
AM Pk Hr Factor	0.924	0.967	0.963	PM Pk Hr Factor	0.970	0.913	0.959

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Mayflower Avenue - Huntington to Central

Day: Thursday, February 4, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	8610	6806	0	0	15416

AM	NB		SB		EB	WB	Total		PM	NB		SB		EB	WB	Total	
00:00	14		20				34		12:00	160		119				279	
00:15	11		13				24		12:15	127		116				243	
00:30	3		15				18		12:30	116		113				229	
00:45	5	33	2	50			7	83	12:45	138	541	89	437			227	978
01:00	3		5				8		13:00	125		110				235	
01:15	2		4				6		13:15	128		95				223	
01:30	4		1				5		13:30	143		103				246	
01:45	0	9	2	12			2	21	13:45	102	498	102	410			204	908
02:00	1		2				3		14:00	123		86				209	
02:15	5		4				9		14:15	121		95				216	
02:30	4		2				6		14:30	133		121				254	
02:45	4	14	4	12			8	26	14:45	149	526	95	397			244	923
03:00	6		1				7		15:00	134		128				262	
03:15	4		1				5		15:15	134		141				275	
03:30	2		7				9		15:30	120		106				226	
03:45	13	25	5	14			18	39	15:45	151	539	128	503			279	1042
04:00	6		5				11		16:00	159		123				282	
04:15	9		1				10		16:15	139		153				292	
04:30	14		9				23		16:30	142		164				306	
04:45	23	52	8	23			31	75	16:45	148	588	169	609			317	1197
05:00	29		11				40		17:00	139		174				313	
05:15	28		9				37		17:15	153		165				318	
05:30	35		14				49		17:30	162		166				328	
05:45	54	146	20	54			74	200	17:45	163	617	170	675			333	1292
06:00	84		25				109		18:00	141		186				327	
06:15	69		34				103		18:15	146		141				287	
06:30	109		37				146		18:30	138		151				289	
06:45	159	421	45	141			204	562	18:45	112	537	128	606			240	1143
07:00	157		59				216		19:00	134		126				260	
07:15	205		100				305		19:15	90		130				220	
07:30	245		86				331		19:30	84		110				194	
07:45	251	858	111	356			362	1214	19:45	64	372	90	456			154	828
08:00	221		95				316		20:00	80		94				174	
08:15	188		85				273		20:15	75		98				173	
08:30	187		69				256		20:30	59		92				151	
08:45	171	767	64	313			235	1080	20:45	41	255	85	369			126	624
09:00	130		74				204		21:00	56		71				127	
09:15	121		96				217		21:15	37		74				111	
09:30	123		62				185		21:30	39		65				104	
09:45	133	507	59	291			192	798	21:45	42	174	44	254			86	428
10:00	120		65				185		22:00	32		29				61	
10:15	101		67				168		22:15	22		37				59	
10:30	94		53				147		22:30	24		41				65	
10:45	127	442	70	255			197	697	22:45	15	93	27	134			42	227
11:00	128		79				207		23:00	12		32				44	
11:15	125		110				235		23:15	10		21				31	
11:30	131		80				211		23:30	9		17				26	
11:45	172	556	89	358			261	914	23:45	9	40	7	77			16	117
Totals		3830		1879			5709		Totals		4780		4927			9707	
Split %		67.1%		32.9%			37.0%		Split %		49.2%		50.8%			63.0%	

Daily Totals	NB	SB	EB	WB	Total
	8610	6806	0	0	15416

AM Peak Hour	07:15	07:15	07:15	PM Peak Hour	17:15	17:15	17:15	
AM Peak Volume	922	392	1314	PM Peak Volume	619	687	1306	
AM Pk Hr Factor	0.918	0.883	0.907	PM Pk Hr Factor	0.949	0.923	0.980	

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Mayflower Avenue - Central to Duarte

Day: Wednesday, February 3, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	7830	7406	0	0	15236

AM	NB		SB		EB	WB	Total		PM	NB		SB		EB	WB	Total	
00:00	5		8				13		12:00	138		113				251	
00:15	7		10				17		12:15	101		115				216	
00:30	2		11				13		12:30	112		122				234	
00:45	0	14	8	37			8	51	12:45	131	482	116	466			247	948
01:00	3		7				10		13:00	93		114				207	
01:15	3		5				8		13:15	115		120				235	
01:30	2		4				6		13:30	115		112				227	
01:45	5	13	5	21			10	34	13:45	107	430	121	467			228	897
02:00	3		7				10		14:00	108		137				245	
02:15	4		4				8		14:15	122		145				267	
02:30	4		6				10		14:30	116		107				223	
02:45	2	13	3	20			5	33	14:45	133	479	98	487			231	966
03:00	1		2				3		15:00	151		163				314	
03:15	4		0				4		15:15	119		149				268	
03:30	4		6				10		15:30	115		148				263	
03:45	6	15	2	10			8	25	15:45	121	506	131	591			252	1097
04:00	2		2				4		16:00	122		149				271	
04:15	2		4				6		16:15	144		123				267	
04:30	6		5				11		16:30	143		159				302	
04:45	9	19	5	16			14	35	16:45	139	548	154	585			293	1133
05:00	13		6				19		17:00	149		186				335	
05:15	21		9				30		17:15	125		168				293	
05:30	39		12				51		17:30	143		193				336	
05:45	54	127	18	45			72	172	17:45	161	578	207	754			368	1332
06:00	56		18				74		18:00	136		205				341	
06:15	81		32				113		18:15	130		173				303	
06:30	102		43				145		18:30	114		154				268	
06:45	130	369	55	148			185	517	18:45	110	490	157	689			267	1179
07:00	143		79				222		19:00	106		109				215	
07:15	202		97				299		19:15	94		124				218	
07:30	283		140				423		19:30	66		141				207	
07:45	246	874	119	435			365	1309	19:45	82	348	94	468			176	816
08:00	233		126				359		20:00	72		89				161	
08:15	182		78				260		20:15	57		84				141	
08:30	155		75				230		20:30	50		108				158	
08:45	161	731	62	341			223	1072	20:45	30	209	88	369			118	578
09:00	109		63				172		21:00	45		71				116	
09:15	109		77				186		21:15	37		83				120	
09:30	103		82				185		21:30	38		63				101	
09:45	101	422	66	288			167	710	21:45	31	151	50	267			81	418
10:00	113		64				177		22:00	17		39				56	
10:15	103		82				185		22:15	18		33				51	
10:30	92		72				164		22:30	18		36				54	
10:45	90	398	61	279			151	677	22:45	18	71	27	135			45	206
11:00	109		83				192		23:00	18		27				45	
11:15	120		97				217		23:15	12		22				34	
11:30	131		103				234		23:30	10		11				21	
11:45	132	492	119	402			251	894	23:45	11	51	26	86			37	137
Totals		3487		2042			5529		Totals		4343		5364			9707	
Split %		63.1%		36.9%			36.3%		Split %		44.7%		55.3%			63.7%	

Daily Totals	NB	SB	EB	WB	Total
	7830	7406	0	0	15236

AM Peak Hour	07:15	07:15	07:15	PM Peak Hour	17:00	17:30	17:30
AM Peak Volume	964	482	1446	PM Peak Volume	578	778	1348
AM Pk Hr Factor	0.852	0.861	0.855	PM Pk Hr Factor	0.898	0.940	0.916

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Mayflower Avenue - Duarte to South City Limit

Day: Thursday, February 4, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	3563	3637	0	0	7200

AM	NB		SB		EB	WB	Total		PM	NB		SB		EB	WB	Total	
00:00	1		6				7		12:00	84		47				131	
00:15	0		4				4		12:15	42		60				102	
00:30	1		3				4		12:30	45		50				95	
00:45	0	2	7	20			7	22	12:45	56	227	61	218			117	445
01:00	1		4				5		13:00	56		70				126	
01:15	1		0				1		13:15	48		55				103	
01:30	3		2				5		13:30	48		53				101	
01:45	1	6	5	11			6	17	13:45	40	192	50	228			90	420
02:00	0		4				4		14:00	46		45				91	
02:15	0		1				1		14:15	62		64				126	
02:30	2		0				2		14:30	47		65				112	
02:45	2	4	2	7			4	11	14:45	65	220	68	242			133	462
03:00	2		1				3		15:00	57		75				132	
03:15	0		2				2		15:15	48		87				135	
03:30	1		1				2		15:30	52		64				116	
03:45	3	6	0	4			3	10	15:45	55	212	71	297			126	509
04:00	3		1				4		16:00	62		65				127	
04:15	4		1				5		16:15	66		84				150	
04:30	6		2				8		16:30	68		91				159	
04:45	9	22	2	6			11	28	16:45	59	255	90	330			149	585
05:00	10		3				13		17:00	54		96				150	
05:15	17		2				19		17:15	59		83				142	
05:30	12		11				23		17:30	65		96				161	
05:45	20	59	5	21			25	80	17:45	51	229	89	364			140	593
06:00	34		11				45		18:00	59		98				157	
06:15	32		12				44		18:15	53		80				133	
06:30	59		18				77		18:30	42		80				122	
06:45	92	217	35	76			127	293	18:45	41	195	73	331			114	526
07:00	98		36				134		19:00	31		56				87	
07:15	120		46				166		19:15	30		59				89	
07:30	133		56				189		19:30	22		51				73	
07:45	136	487	76	214			212	701	19:45	22	105	46	212			68	317
08:00	125		57				182		20:00	18		49				67	
08:15	99		43				142		20:15	19		46				65	
08:30	76		35				111		20:30	19		45				64	
08:45	65	365	19	154			84	519	20:45	18	74	39	179			57	253
09:00	64		43				107		21:00	13		37				50	
09:15	61		39				100		21:15	16		39				55	
09:30	41		26				67		21:30	12		36				48	
09:45	51	217	31	139			82	356	21:45	12	53	21	133			33	186
10:00	44		44				88		22:00	15		21				36	
10:15	40		37				77		22:15	11		8				19	
10:30	29		35				64		22:30	10		13				23	
10:45	41	154	29	145			70	299	22:45	4	40	16	58			20	98
11:00	49		52				101		23:00	5		20				25	
11:15	48		46				94		23:15	7		7				14	
11:30	46		44				90		23:30	6		5				11	
11:45	59	202	69	211			128	413	23:45	2	20	5	37			7	57
Totals		1741		1008			2749		Totals		1822		2629			4451	
Split %		63.3%		36.7%			38.2%		Split %		40.9%		59.1%			61.8%	

Daily Totals	NB	SB	EB	WB	Total
	3563	3637	0	0	7200

AM Peak Hour	07:15	07:15	07:15	PM Peak Hour	16:00	17:15	16:15
AM Peak Volume	514	235	749	PM Peak Volume	255	366	608
AM Pk Hr Factor	0.945	0.773	0.883	PM Pk Hr Factor	0.938	0.934	0.956

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Magnolia Avenue - Huntington to Central

Day: Wednesday, February 3, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	3197	3593	0	0	6790

AM	NB		SB		EB	WB	Total		PM	NB		SB		EB	WB	Total	
00:00	0		4				4		12:00	52		57				109	
00:15	3		3				6		12:15	56		56				112	
00:30	2		3				5		12:30	56		70				126	
00:45	1	6	3	13			4	19	12:45	53	217	58	241			111	458
01:00	1		0				1		13:00	60		59				119	
01:15	2		2				4		13:15	46		73				119	
01:30	0		1				1		13:30	67		58				125	
01:45	2	5	1	4			3	9	13:45	49	222	77	267			126	489
02:00	0		3				3		14:00	50		69				119	
02:15	3		1				4		14:15	54		68				122	
02:30	0		0				0		14:30	47		52				99	
02:45	2	5	1	5			3	10	14:45	51	202	65	254			116	456
03:00	0		3				3		15:00	54		52				106	
03:15	1		1				2		15:15	56		62				118	
03:30	0		0				0		15:30	78		70				148	
03:45	1	2	1	5			2	7	15:45	72	260	68	252			140	512
04:00	2		2				4		16:00	44		64				108	
04:15	3		3				6		16:15	69		69				138	
04:30	0		5				5		16:30	57		98				155	
04:45	4	9	2	12			6	21	16:45	85	255	74	305			159	560
05:00	2		6				8		17:00	54		90				144	
05:15	7		9				16		17:15	65		89				154	
05:30	11		8				19		17:30	67		88				155	
05:45	13	33	11	34			24	67	17:45	83	269	94	361			177	630
06:00	18		15				33		18:00	67		82				149	
06:15	24		16				40		18:15	56		50				106	
06:30	29		21				50		18:30	47		62				109	
06:45	49	120	32	84			81	204	18:45	50	220	68	262			118	482
07:00	36		44				80		19:00	61		54				115	
07:15	64		45				109		19:15	40		51				91	
07:30	84		72				156		19:30	25		43				68	
07:45	84	268	62	223			146	491	19:45	38	164	65	213			103	377
08:00	64		79				143		20:00	31		45				76	
08:15	43		44				87		20:15	31		36				67	
08:30	50		48				98		20:30	26		35				61	
08:45	46	203	40	211			86	414	20:45	34	122	24	140			58	262
09:00	29		40				69		21:00	17		38				55	
09:15	28		28				56		21:15	13		25				38	
09:30	55		30				85		21:30	9		17				26	
09:45	29	141	30	128			59	269	21:45	17	56	15	95			32	151
10:00	43		35				78		22:00	12		16				28	
10:15	36		35				71		22:15	13		16				29	
10:30	41		49				90		22:30	7		10				17	
10:45	42	162	47	166			89	328	22:45	5	37	12	54			17	91
11:00	48		53				101		23:00	5		3				8	
11:15	47		61				108		23:15	5		12				17	
11:30	54		58				112		23:30	3		5				8	
11:45	55	204	69	241			124	445	23:45	2	15	3	23			5	38
Totals		1158		1126			2284		Totals		2039		2467			4506	
Split %		50.7%		49.3%			33.6%		Split %		45.3%		54.7%			66.4%	

Daily Totals	NB	SB	EB	WB	Total
	3197	3593	0	0	6790

AM Peak Hour	07:15	07:15	07:15	PM Peak Hour	17:15	17:00	17:15
AM Peak Volume	296	258	554	PM Peak Volume	282	361	635
AM Pk Hr Factor	0.881	0.816	0.888	PM Pk Hr Factor	0.849	0.960	0.897

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Magnolia Avenue - Central to Duarte

Day: Tuesday, February 2, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	2923	3332	0	0	6255

AM	NB		SB		EB	WB	Total		PM	NB		SB		EB	WB	Total	
00:00	5		8				13		12:00	39		58				97	
00:15	1		2				3		12:15	32		61				93	
00:30	3		1				4		12:30	30		44				74	
00:45	1	10	5	16			6	26	12:45	55	156	50	213			105	369
01:00	1		2				3		13:00	45		60				105	
01:15	1		2				3		13:15	38		51				89	
01:30	2		2				4		13:30	79		67				146	
01:45	0	4	2	8			2	12	13:45	49	211	54	232			103	443
02:00	2		2				4		14:00	56		44				100	
02:15	1		1				2		14:15	39		43				82	
02:30	0		2				2		14:30	46		64				110	
02:45	3	6	1	6			4	12	14:45	51	192	64	215			115	407
03:00	0		0				0		15:00	65		73				138	
03:15	2		0				2		15:15	55		64				119	
03:30	0		1				1		15:30	60		77				137	
03:45	3	5	0	1			3	6	15:45	62	242	68	282			130	524
04:00	2		3				5		16:00	67		75				142	
04:15	6		2				8		16:15	69		75				144	
04:30	8		5				13		16:30	77		72				149	
04:45	7	23	6	16			13	39	16:45	63	276	71	293			134	569
05:00	9		5				14		17:00	60		83				143	
05:15	12		9				21		17:15	78		96				174	
05:30	13		11				24		17:30	70		100				170	
05:45	16	50	18	43			34	93	17:45	72	280	70	349			142	629
06:00	21		10				31		18:00	53		76				129	
06:15	19		18				37		18:15	53		64				117	
06:30	34		32				66		18:30	55		52				107	
06:45	37	111	34	94			71	205	18:45	45	206	63	255			108	461
07:00	45		37				82		19:00	38		44				82	
07:15	37		49				86		19:15	30		47				77	
07:30	61		62				123		19:30	19		37				56	
07:45	74	217	64	212			138	429	19:45	15	102	37	165			52	267
08:00	73		59				132		20:00	25		45				70	
08:15	42		40				82		20:15	29		38				67	
08:30	36		23				59		20:30	13		36				49	
08:45	23	174	41	163			64	337	20:45	12	79	20	139			32	218
09:00	24		40				64		21:00	17		30				47	
09:15	44		41				85		21:15	12		20				32	
09:30	23		30				53		21:30	10		21				31	
09:45	42	133	29	140			71	273	21:45	10	49	19	90			29	139
10:00	43		38				81		22:00	13		16				29	
10:15	40		38				78		22:15	12		20				32	
10:30	36		33				69		22:30	7		10				17	
10:45	43	162	32	141			75	303	22:45	12	44	10	56			22	100
11:00	38		43				81		23:00	5		5				10	
11:15	32		52				84		23:15	4		4				8	
11:30	40		45				85		23:30	4		4				8	
11:45	59	169	44	184			103	353	23:45	9	22	6	19			15	41
Totals		1064		1024			2088		Totals		1859		2308			4167	
Split %		51.0%		49.0%			33.4%		Split %		44.6%		55.4%			66.6%	

Daily Totals	NB	SB	EB	WB	Total
	2923	3332	0	0	6255

AM Peak Hour	07:30	07:15	07:15	PM Peak Hour	17:00	16:45	17:00
AM Peak Volume	250	234	479	PM Peak Volume	280	350	629
AM Pk Hr Factor	0.845	0.914	0.868	PM Pk Hr Factor	0.897	0.875	0.904

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Myrtle Avenue - Huntington to Central

Day: Thursday, February 4, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	10870	10461	0	0	21331

AM	NB		SB		EB	WB	Total		PM	NB		SB		EB	WB	Total	
00:00	17		33				50		12:00	194		193				387	
00:15	19		20				39		12:15	221		163				384	
00:30	15		13				28		12:30	176		181				357	
00:45	7	58	10	76			17	134	12:45	192	783	188	725			380	1508
01:00	7		14				21		13:00	171		175				346	
01:15	12		8				20		13:15	183		165				348	
01:30	7		19				26		13:30	206		169				375	
01:45	11	37	15	56			26	93	13:45	184	744	196	705			380	1449
02:00	8		8				16		14:00	134		169				303	
02:15	6		11				17		14:15	157		180				337	
02:30	7		11				18		14:30	159		172				331	
02:45	12	33	4	34			16	67	14:45	188	638	183	704			371	1342
03:00	8		12				20		15:00	161		165				326	
03:15	10		7				17		15:15	161		154				315	
03:30	11		10				21		15:30	162		195				357	
03:45	12	41	11	40			23	81	15:45	173	657	169	683			342	1340
04:00	10		20				30		16:00	160		181				341	
04:15	9		15				24		16:15	165		161				326	
04:30	12		19				31		16:30	153		195				348	
04:45	18	49	25	79			43	128	16:45	159	637	169	706			328	1343
05:00	23		38				61		17:00	158		266				424	
05:15	40		50				90		17:15	162		183				345	
05:30	60		49				109		17:30	157		219				376	
05:45	81	204	50	187			131	391	17:45	172	649	181	849			353	1498
06:00	74		80				154		18:00	181		202				383	
06:15	81		89				170		18:15	154		142				296	
06:30	99		104				203		18:30	168		147				315	
06:45	138	392	108	381			246	773	18:45	166	669	143	634			309	1303
07:00	118		132				250		19:00	125		173				298	
07:15	150		121				271		19:15	168		129				297	
07:30	183		159				342		19:30	126		148				274	
07:45	288	739	146	558			434	1297	19:45	116	535	112	562			228	1097
08:00	218		136				354		20:00	92		137				229	
08:15	239		110				349		20:15	95		107				202	
08:30	183		120				303		20:30	97		131				228	
08:45	229	869	109	475			338	1344	20:45	85	369	119	494			204	863
09:00	207		129				336		21:00	91		125				216	
09:15	155		128				283		21:15	81		127				208	
09:30	153		111				264		21:30	68		100				168	
09:45	183	698	140	508			323	1206	21:45	82	322	91	443			173	765
10:00	185		116				301		22:00	66		74				140	
10:15	146		150				296		22:15	49		62				111	
10:30	166		138				304		22:30	54		65				119	
10:45	195	692	162	566			357	1258	22:45	33	202	44	245			77	447
11:00	161		147				308		23:00	38		42				80	
11:15	185		135				320		23:15	27		45				72	
11:30	193		163				356		23:30	24		19				43	
11:45	197	736	172	617			369	1353	23:45	28	117	28	134			56	251
Totals		4548		3577			8125		Totals		6322		6884			13206	
Split %		56.0%		44.0%			38.1%		Split %		47.9%		52.1%			61.9%	

Daily Totals	NB	SB	EB	WB	Total
	10870	10461	0	0	21331

AM Peak Hour	07:45	11:00	07:30	PM Peak Hour	12:00	17:00	12:00
AM Peak Volume	928	617	1479	PM Peak Volume	783	849	1508
AM Pk Hr Factor	0.806	0.897	0.852	PM Pk Hr Factor	0.886	0.798	0.974

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Myrtle Avenue - Central to Duarte

Day: Tuesday, February 2, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	9879	10025	0	0	19904

AM	NB		SB		EB	WB	Total		PM	NB		SB		EB	WB	Total	
00:00	12		16				28		12:00	170		155				325	
00:15	12		12				24		12:15	160		125				285	
00:30	10		16				26		12:30	158		159				317	
00:45	8	42	19	63			27	105	12:45	126	614	176	615			302	1229
01:00	11		11				22		13:00	158		161				319	
01:15	13		21				34		13:15	139		181				320	
01:30	7		7				14		13:30	157		167				324	
01:45	13	44	7	46			20	90	13:45	162	616	143	652			305	1268
02:00	7		5				12		14:00	166		143				309	
02:15	7		2				9		14:15	127		158				285	
02:30	6		4				10		14:30	197		167				364	
02:45	5	25	5	16			10	41	14:45	155	645	140	608			295	1253
03:00	7		2				9		15:00	194		149				343	
03:15	6		3				9		15:15	183		172				355	
03:30	5		4				9		15:30	194		248				442	
03:45	8	26	5	14			13	40	15:45	182	753	177	746			359	1499
04:00	11		9				20		16:00	174		181				355	
04:15	22		21				43		16:15	184		188				372	
04:30	39		38				77		16:30	195		194				389	
04:45	45	117	55	123			100	240	16:45	195	748	206	769			401	1517
05:00	45		40				85		17:00	202		218				420	
05:15	57		51				108		17:15	190		216				406	
05:30	81		64				145		17:30	185		216				401	
05:45	86	269	73	228			159	497	17:45	177	754	200	850			377	1604
06:00	118		58				176		18:00	165		190				355	
06:15	95		64				159		18:15	163		183				346	
06:30	133		99				232		18:30	170		155				325	
06:45	172	518	95	316			267	834	18:45	152	650	153	681			305	1331
07:00	112		103				215		19:00	117		171				288	
07:15	186		146				332		19:15	110		119				229	
07:30	182		175				357		19:30	92		129				221	
07:45	153	633	157	581			310	1214	19:45	94	413	112	531			206	944
08:00	172		186				358		20:00	90		97				187	
08:15	185		153				338		20:15	69		77				146	
08:30	139		130				269		20:30	60		104				164	
08:45	146	642	156	625			302	1267	20:45	55	274	82	360			137	634
09:00	152		124				276		21:00	59		101				160	
09:15	144		122				266		21:15	56		77				133	
09:30	147		136				283		21:30	45		94				139	
09:45	154	597	128	510			282	1107	21:45	34	194	73	345			107	539
10:00	116		117				233		22:00	45		42				87	
10:15	124		139				263		22:15	22		39				61	
10:30	150		131				281		22:30	32		36				68	
10:45	136	526	146	533			282	1059	22:45	35	134	37	154			72	288
11:00	140		123				263		23:00	28		26				54	
11:15	109		126				235		23:15	21		23				44	
11:30	156		158				314		23:30	20		22				42	
11:45	157	562	156	563			313	1125	23:45	14	83	25	96			39	179
Totals		4001		3618			7619		Totals		5878		6407			12285	
Split %		52.5%		47.5%			38.3%		Split %		47.8%		52.2%			61.7%	

Daily Totals	NB	SB	EB	WB	Total
	9879	10025	0	0	19904

AM Peak Hour	07:15	07:30	07:30	PM Peak Hour	16:30	16:45	16:45
AM Peak Volume	693	671	1363	PM Peak Volume	782	856	1628
AM Pk Hr Factor	0.931	0.902	0.952	PM Pk Hr Factor	0.968	0.982	0.969

Prepared by City Count, LLC (www.citycount.com)

ADT Volume Report

Myrtle Avenue - Duarte to South City Limit

Day: Wednesday, February 3, 2016 **City:** Monrovia, CA

Daily Totals	NB	SB	EB	WB	Total
	11190	10388	0	0	21578

AM	NB		SB		EB	WB	Total		PM	NB		SB		EB	WB	Total	
00:00	14		27				41		12:00	156		143				299	
00:15	8		19				27		12:15	152		142				294	
00:30	14		13				27		12:30	146		171				317	
00:45	6	42	26	85			32	127	12:45	172	626	151	607			323	1233
01:00	12		16				28		13:00	180		118				298	
01:15	12		18				30		13:15	166		169				335	
01:30	10		8				18		13:30	198		168				366	
01:45	12	46	10	52			22	98	13:45	172	716	166	621			338	1337
02:00	6		6				12		14:00	200		154				354	
02:15	2		4				6		14:15	230		180				410	
02:30	8		3				11		14:30	200		194				394	
02:45	0	16	4	17			4	33	14:45	212	842	182	710			394	1552
03:00	4		2				6		15:00	220		188				408	
03:15	4		3				7		15:15	234		179				413	
03:30	8		10				18		15:30	240		240				480	
03:45	14	30	8	23			22	53	15:45	216	910	200	807			416	1717
04:00	22		16				38		16:00	226		228				454	
04:15	28		14				42		16:15	250		238				488	
04:30	60		17				77		16:30	214		239				453	
04:45	72	182	47	94			119	276	16:45	202	892	215	920			417	1812
05:00	48		30				78		17:00	228		324				552	
05:15	56		39				95		17:15	200		252				452	
05:30	84		53				137		17:30	192		269				461	
05:45	108	296	62	184			170	480	17:45	214	834	245	1090			459	1924
06:00	120		50				170		18:00	196		253				449	
06:15	132		63				195		18:15	170		185				355	
06:30	226		92				318		18:30	170		170				340	
06:45	216	694	90	295			306	989	18:45	130	666	175	783			305	1449
07:00	168		131				299		19:00	114		164				278	
07:15	196		106				302		19:15	84		122				206	
07:30	198		153				351		19:30	120		142				262	
07:45	274	836	165	555			439	1391	19:45	74	392	103	531			177	923
08:00	210		125				335		20:00	76		105				181	
08:15	218		157				375		20:15	64		101				165	
08:30	190		146				336		20:30	86		98				184	
08:45	186	804	124	552			310	1356	20:45	60	286	89	393			149	679
09:00	134		157				291		21:00	58		109				167	
09:15	158		105				263		21:15	34		81				115	
09:30	128		120				248		21:30	42		91				133	
09:45	146	566	122	504			268	1070	21:45	48	182	71	352			119	534
10:00	154		83				237		22:00	32		53				85	
10:15	114		112				226		22:15	42		52				94	
10:30	174		108				282		22:30	28		67				95	
10:45	130	572	119	422			249	994	22:45	8	110	32	204			40	314
11:00	140		124				264		23:00	16		41				57	
11:15	142		117				259		23:15	18		29				47	
11:30	150		126				276		23:30	18		13				31	
11:45	154	586	111	478			265	1064	23:45	12	64	26	109			38	173
Totals		4670		3261			7931		Totals		6520		7127			13647	
Split %		58.9%		41.1%			36.8%		Split %		47.8%		52.2%			63.2%	

Daily Totals	NB	SB	EB	WB	Total
	11190	10388	0	0	21578

AM Peak Hour	07:30	07:30	07:30	PM Peak Hour	15:30	17:00	17:00
AM Peak Volume	900	600	1500	PM Peak Volume	932	1090	1924
AM Pk Hr Factor	0.821	0.909	0.854	PM Pk Hr Factor	0.932	0.841	0.871

APPENDIX F

QUEUING WORKSHEETS

Intersection: 8: Myrtle Avenue & Central Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	T	TR
Maximum Queue (ft)	160	359	234	218	151	136	295	375
Average Queue (ft)	84	188	115	135	101	93	85	191
95th Queue (ft)	140	300	188	207	139	128	209	333
Link Distance (ft)	1375	1375	1375	208	208	208	428	428
Upstream Blk Time (%)				1			0	1
Queuing Penalty (veh)				4			0	0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 9: Myrtle Avenue & Evergreen Avenue

Movement	EB	EB	EB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	T	TR	L	T	T
Maximum Queue (ft)	246	180	224	484	489	211	118	98
Average Queue (ft)	135	108	138	267	361	127	67	57
95th Queue (ft)	211	165	205	579	563	192	105	92
Link Distance (ft)	1320	1320	1320	454	454	208	208	208
Upstream Blk Time (%)				20	28	1		
Queuing Penalty (veh)				0	0	3		
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 7

Intersection: 8: Myrtle Avenue & Central Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	T	TR
Maximum Queue (ft)	279	403	223	224	104	91	472	471
Average Queue (ft)	108	233	123	161	50	40	441	446
95th Queue (ft)	196	364	191	237	88	76	495	464
Link Distance (ft)	1375	1375	1375	208	208	208	428	428
Upstream Blk Time (%)				7			73	83
Queuing Penalty (veh)				17			0	0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 9: Myrtle Avenue & Evergreen Avenue

Movement	EB	EB	EB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	T	TR	L	T	T
Maximum Queue (ft)	224	327	322	464	469	224	138	130
Average Queue (ft)	87	204	198	263	357	158	88	83
95th Queue (ft)	182	286	290	561	548	234	123	118
Link Distance (ft)	1320	1320	1320	454	454	208	208	208
Upstream Blk Time (%)				25	31	4		
Queuing Penalty (veh)				0	0	13		
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 30

Intersection: 8: Myrtle Avenue & Central Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	T	TR
Maximum Queue (ft)	193	396	223	215	158	152	373	438
Average Queue (ft)	86	194	118	134	103	95	116	239
95th Queue (ft)	161	323	186	207	142	136	292	406
Link Distance (ft)	1375	1375	1375	208	208	208	428	428
Upstream Blk Time (%)				2			1	1
Queuing Penalty (veh)				4			0	0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 9: Myrtle Avenue & Evergreen Avenue

Movement	EB	EB	EB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	T	TR	L	T	T
Maximum Queue (ft)	266	197	243	474	483	225	121	102
Average Queue (ft)	139	121	139	247	348	122	69	61
95th Queue (ft)	224	180	202	550	556	197	105	95
Link Distance (ft)	1320	1320	1320	454	454	208	208	208
Upstream Blk Time (%)				18	23	2		
Queuing Penalty (veh)				0	0	4		
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 8

Intersection: 8: Myrtle Avenue & Central Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	T	TR
Maximum Queue (ft)	228	529	255	225	92	89	477	476
Average Queue (ft)	100	292	131	169	50	39	447	446
95th Queue (ft)	179	475	211	239	85	75	462	460
Link Distance (ft)	1375	1375	1375	208	208	208	428	428
Upstream Blk Time (%)				9			75	87
Queuing Penalty (veh)				20			0	0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 9: Myrtle Avenue & Evergreen Avenue

Movement	EB	EB	EB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	T	TR	L	T	T
Maximum Queue (ft)	236	373	385	483	482	225	151	135
Average Queue (ft)	86	221	222	213	309	154	87	79
95th Queue (ft)	169	321	339	480	504	236	129	117
Link Distance (ft)	1320	1320	1320	454	454	208	208	208
Upstream Blk Time (%)				11	15	5		
Queuing Penalty (veh)				0	0	14		
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 34

Intersection: 8: Myrtle Avenue & Central Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	T	TR
Maximum Queue (ft)	218	430	223	229	159	154	433	457
Average Queue (ft)	100	220	121	200	102	96	238	324
95th Queue (ft)	176	373	190	259	153	148	533	516
Link Distance (ft)	1375	1375	1375	208	208	208	428	428
Upstream Blk Time (%)				23			27	32
Queuing Penalty (veh)				71			0	0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 9: Myrtle Avenue & Evergreen Avenue

Movement	EB	EB	EB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	T	TR	L	T	T
Maximum Queue (ft)	749	457	504	502	504	224	132	128
Average Queue (ft)	344	195	209	466	472	143	80	71
95th Queue (ft)	841	663	616	537	505	219	118	109
Link Distance (ft)	1320	1320	1320	454	454	208	208	208
Upstream Blk Time (%)	5	4	1	75	86	3		
Queuing Penalty (veh)	0	0	0	0	0	8		
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 79

Intersection: 8: Myrtle Avenue & Central Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	T	TR
Maximum Queue (ft)	242	488	266	228	106	103	478	471
Average Queue (ft)	128	265	134	206	54	45	447	446
95th Queue (ft)	207	452	222	257	95	88	462	459
Link Distance (ft)	1375	1375	1375	208	208	208	428	428
Upstream Blk Time (%)				30			81	90
Queuing Penalty (veh)				74			0	0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 9: Myrtle Avenue & Evergreen Avenue

Movement	EB	EB	EB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	T	TR	L	T	T
Maximum Queue (ft)	576	576	579	489	508	226	163	164
Average Queue (ft)	271	322	330	371	421	152	107	96
95th Queue (ft)	692	528	527	623	581	229	149	143
Link Distance (ft)	1320	1320	1320	454	454	208	208	208
Upstream Blk Time (%)				37	51	4		0
Queuing Penalty (veh)				0	0	13		0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 86

Intersection: 8: Myrtle Avenue & Central Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	T	TR
Maximum Queue (ft)	218	430	223	229	159	154	433	457
Average Queue (ft)	100	220	121	200	102	96	238	324
95th Queue (ft)	176	373	190	259	153	148	533	516
Link Distance (ft)	1375	1375	1375	208	208	208	428	428
Upstream Blk Time (%)				23			27	32
Queuing Penalty (veh)				71			0	0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 9: Myrtle Avenue & Evergreen Avenue

Movement	EB	EB	EB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	T	TR	L	T	T
Maximum Queue (ft)	749	457	504	502	504	224	132	128
Average Queue (ft)	344	195	209	466	472	143	80	71
95th Queue (ft)	841	663	616	537	505	219	118	109
Link Distance (ft)	1320	1320	1320	454	454	208	208	208
Upstream Blk Time (%)	5	4	1	75	86	3		
Queuing Penalty (veh)	0	0	0	0	0	8		
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 79

Intersection: 8: Myrtle Avenue & Central Avenue

Movement	WB	WB	WB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	T	T	T	TR
Maximum Queue (ft)	309	558	233	228	120	108	469	479
Average Queue (ft)	134	294	130	205	56	43	446	446
95th Queue (ft)	243	483	207	254	99	88	460	462
Link Distance (ft)	1375	1375	1375	208	208	208	428	428
Upstream Blk Time (%)				29			81	90
Queuing Penalty (veh)				73			0	0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Intersection: 9: Myrtle Avenue & Evergreen Avenue

Movement	EB	EB	EB	NB	NB	SB	SB	SB
Directions Served	L	T	TR	T	TR	L	T	T
Maximum Queue (ft)	646	892	876	487	500	225	164	165
Average Queue (ft)	261	563	574	366	422	146	106	94
95th Queue (ft)	578	1000	1001	613	571	223	150	142
Link Distance (ft)	1320	1320	1320	454	454	208	208	208
Upstream Blk Time (%)				43	52	3	0	0
Queuing Penalty (veh)				0	0	10	0	0
Storage Bay Dist (ft)								
Storage Blk Time (%)								
Queuing Penalty (veh)								

Network Summary

Network wide Queuing Penalty: 83

APPENDIX G

LOS MITIGATION WORKSHEETS

Intersection	
Intersection Delay, s/veh	21.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	191	22	0	0	0	39	348	113	121	271	22
Future Vol, veh/h	43	191	22	0	0	0	39	348	113	121	271	22
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	215	25	0	0	0	44	391	127	136	304	25
Number of Lanes	0	1	0	0	0	0	0	1	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	16.3	22.1	25
HCM LOS	C	C	C

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	10%	0%	17%	29%
Vol Thru, %	90%	0%	75%	65%
Vol Right, %	0%	100%	9%	5%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	387	113	256	414
LT Vol	39	0	43	121
Through Vol	348	0	191	271
RT Vol	0	113	22	22
Lane Flow Rate	435	127	288	465
Geometry Grp	7	7	2	5
Degree of Util (X)	0.753	0.193	0.516	0.757
Departure Headway (Hd)	6.231	5.468	6.462	5.861
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	578	653	555	614
Service Time	4.001	3.237	4.537	3.929
HCM Lane V/C Ratio	0.753	0.194	0.519	0.757
HCM Control Delay	25.7	9.6	16.3	25
HCM Lane LOS	D	A	C	C
HCM 95th-tile Q	6.6	0.7	2.9	6.8

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM w/ Mit

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.857
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	82	Level Of Service:	D

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	2 0	1	0 0	0 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	367	684	0	0	531	124	0	0	0	255	578	340
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	367	684	0	0	531	124	0	0	0	255	578	340
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	367	684	0	0	531	124	0	0	0	255	578	340
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	367	684	0	0	531	124	0	0	0	255	578	340
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	367	684	0	0	531	124	0	0	0	255	578	340
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	3200	1600	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.23	0.21	0.00	0.00	0.17	0.08	0.00	0.00	0.00	0.16	0.36	0.21
Crit Moves:	****				****						****	

Intersection	
Intersection Delay, s/veh	32.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	183	23	0	0	0	39	331	94	65	416	38
Future Vol, veh/h	37	183	23	0	0	0	39	331	94	65	416	38
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	42	208	26	0	0	0	44	376	107	74	473	43
Number of Lanes	0	1	0	0	0	0	0	1	1	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	2
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	2	0	1
HCM Control Delay	16.7	22.5	48.5
HCM LOS	C	C	E

Lane	NBLn1	NBLn2	EBLn1	SBLn1
Vol Left, %	11%	0%	15%	13%
Vol Thru, %	89%	0%	75%	80%
Vol Right, %	0%	100%	9%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	370	94	243	519
LT Vol	39	0	37	65
Through Vol	331	0	183	416
RT Vol	0	94	23	38
Lane Flow Rate	420	107	276	590
Geometry Grp	7	7	2	5
Degree of Util (X)	0.746	0.167	0.514	0.948
Departure Headway (Hd)	6.385	5.617	6.695	5.787
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	563	632	536	625
Service Time	4.173	3.405	4.784	3.865
HCM Lane V/C Ratio	0.746	0.169	0.515	0.944
HCM Control Delay	25.8	9.5	16.7	48.5
HCM Lane LOS	D	A	C	E
HCM 95th-tile Q	6.5	0.6	2.9	12.9

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM w/ Mit

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.898
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	99	Level Of Service:	D

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	2 0	1	0 0	0 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	357	435	0	0	758	219	0	0	0	272	541	300
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	357	435	0	0	758	219	0	0	0	272	541	300
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	357	435	0	0	758	219	0	0	0	272	541	300
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	357	435	0	0	758	219	0	0	0	272	541	300
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	357	435	0	0	758	219	0	0	0	272	541	300
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	2.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	3200	1600	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.22	0.14	0.00	0.00	0.24	0.14	0.00	0.00	0.00	0.17	0.34	0.19
Crit Moves:	****				****						****	

APPENDIX J2
PARKING ANALYSIS

LSA

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

October 2, 2018

Alec Schiffer
Trammell Crow Residential
5790 Fleet Street, Suite 140
Carlsbad, CA 92008

Subject: 1625 Magnolia Avenue Parking Analysis

Dear Mr. Schiffer:

LSA is pleased to present this parking analysis for the 1625 Magnolia Avenue residential development (project) in Monrovia, California. This analysis is based on the project site plan dated September 27, 2018. The proposed project is a residential development comprising a total of 436 apartment dwelling units. Of the 436 dwelling units, 20 will be studio, 254 will be one-bedroom (4 of which are live-work units), 147 will be two-bedroom, and 15 will be three-bedroom for a total of 613 bedrooms in the complex. A total of 797 parking spaces will be provided; 631 parking spaces are allocated for apartment residents, 9 spaces for live work parking, 112parking spaces are allocated for apartment guests, 11 parking spaces are allocated for leasing office guests, and 34 parking spaces are for paid public use. The 34 paid public parking spaces will be provided mainly for the Metro Gold Line Station. Therefore, a total of 763 parking spaces will be available primarily for the project's use. The project will also provide 262 bicycle parking spaces on site for residents of the project and patrons of the Metro Gold Line Station.

The project site is close to alternative modes of transportation. A pedestrian sidewalk connecting the project site and the Metro Gold Line Station will be constructed for ease of circulation. Three Metro bus stops are within walking distance of the project site and are accessible via sidewalk connections. On-street (Class III) bicycle routes are located along Magnolia Avenue, next to the project site.

PARKING ANALYSIS

City Parking Requirements

City of Monrovia (City) Zoning Code 17.24.030 states that multiple-family housing developments within Monrovia shall provide 2.5 parking spaces per dwelling unit for multifamily residential projects with six or more units. Based on these rates, the proposed 436 apartments would require 1,090 parking spaces; however, this method does not account for the more urban transition of the area and the transit-adjacent nature of the project.

Published Survey Data

The Institute of Transportation Engineers (ITE) Parking Generation, 4th Edition, provides information based on three decades of research. Empirical data for high-rise apartments shows the 85th percentile peak-period parking demand to be 1.52 spaces per dwelling unit, as presented in Table A. High-rise apartments are rental units that have five or more levels and one or more elevators. Low- or mid-rise apartments (Land Use code 221) are a related use, but are composed of as little as three other buildings (i.e., quadraplexes) or units of one to four levels. Some of the sample of low- or mid-rise were affordable units and some were outside continental United States. The Land Use code

description and parking demand data from the *Parking Generation* Manual is provided as an attachment. The 436-unit project would create a demand for 663 parking spaces, according to the ITE parking rate.

As Table A shows, the current site plan could provide adequate parking to satisfy the parking demands of the project based on ITE parking research. The parking supply exceeds the calculated parking demand by 134 spaces.

Table A: Proposed Project Parking Demand from ITE Parking Rates

	ITE Parking Demand
85th Percentile Observed Rate	1.52 spaces per dwelling unit
Proposed Project	436 dwelling units
Parking Demand	663 parking spaces
Proposed Parking	797 parking spaces
Parking Surplus (Proposed Parking – Parking Demand)	134 parking spaces

Surveys of Similar Sites

In May 2014, National Data and Surveying Services conducted parking demand surveys on behalf of LSA at three apartment complexes in Southern California. These sites have similar characteristics to the proposed project. Specifically, on-street parking is not permitted adjacent to the surveyed sites, one-bedroom units account for approximately one-half of the units at each complex, and a parking supply ratio of less than two spaces per bedroom is provided at each site. At these complexes, residential parking spaces were observed to be shared with guest parking spaces. Therefore, the parking demand observed is the total parking demand for all patrons, guests and residents. It should be noted that the locations are not adjacent to transit; therefore, the parking demand may be higher than the proposed project.

The three surveyed sites were IMT Valencia (208 units and 397 parking spaces) at 28100 Smyth Drive in Valencia, Alara Links (230 units and 448 parking spaces) at 25330 Silver Aspen Way in Valencia, and Ridgestone (352 units and 665 parking spaces) at 39415 Ardenwood Way in Lake Elsinore. LSA calculated observed parking rates based on the total number of dwelling units within the apartment complexes. Tables B and C present the resulting parking rates per dwelling unit.

Table B: Weekday Surveyed Apartment Parking Rates per Dwelling Unit

	IMT Valencia		**Alara Links**		**Ridgestone**	
	208 dwelling units 397 parking spaces		**230 dwelling units 448 parking spaces**		**352 dwelling units 665 parking spaces**	
	Parked Cars	**Parking Rate**	**Parked Cars**	**Parking Rate**	**Parked Cars**	**Parking Rate**
6:00 a.m.	387	**1.86**	351	1.53	505	1.43
7:00 a.m.	358	1.72	332	1.44	465	1.32
8:00 a.m.	320	1.54	314	1.37	421	1.20
9:00 a.m.	317	1.52	296	1.29	386	1.10
5:00 p.m.	305	1.47	291	1.27	411	1.17
6:00 p.m.	319	1.53	313	1.36	429	1.22
7:00 p.m.	330	1.59	333	1.45	469	1.33
8:00 p.m.	339	1.63	331	1.44	491	1.39
9:00 p.m.	360	1.73	377	**1.64**	517	**1.47**

Note: **Bold** numbers indicate the highest calculated parking rate for each site.

Table C: Weekend Surveyed Apartment Parking Rates per Dwelling Unit

	IMT Valencia 208 dwelling units 397 parking spaces		Alara Links 230 dwelling units 448 parking spaces		Ridgestone 352 dwelling units 665 parking spaces	
	Parked Cars	Parking Rate	Parked Cars	Parking Rate	Parked Cars	Parking Rate
6:00 a.m.	370	**1.78**	377	**1.64**	540	**1.53**
7:00 a.m.	365	1.75	368	1.60	524	1.49
8:00 a.m.	362	1.74	348	1.51	499	1.42
9:00 a.m.	355	1.71	323	1.40	477	1.36
5:00 p.m.	335	1.61	313	1.36	447	1.27
6:00 p.m.	341	1.64	298	1.30	462	1.31
7:00 p.m.	341	1.64	306	1.33	475	1.35
8:00 p.m.	339	1.63	315	1.37	480	1.36
9:00 p.m.	341	1.64	342	1.49	496	1.41

Note: **Bold** numbers indicate the highest calculated parking rate for each site.

LSA also calculated observed parking rates based on the total number of bedrooms within the apartment complexes. Tables D and E present the resulting parking rates per bedroom.

Table D: Weekday Surveyed Apartment Parking Rates per Bedroom

	IMT Valencia 326 bedrooms 397 parking spaces		Alara Links 320 bedrooms 448 parking spaces		Ridgestone 528 bedrooms 665 parking spaces	
	Parked Cars	Parking Rate	Parked Cars	Parking Rate	Parked Cars	Parking Rate
6:00 a.m.	387	**1.19**	351	1.10	505	0.96
7:00 a.m.	358	1.10	332	1.04	465	0.88
8:00 a.m.	320	0.98	314	0.98	421	0.80
9:00 a.m.	317	0.97	296	0.93	386	0.73
5:00 p.m.	305	0.94	291	0.91	411	0.78
6:00 p.m.	319	0.98	313	0.98	429	0.81
7:00 p.m.	330	1.01	333	1.04	469	0.89
8:00 p.m.	339	1.04	331	1.03	491	0.93
9:00 p.m.	360	1.10	377	**1.18**	517	**0.98**

Note: **Bold** numbers indicate the highest calculated parking rate for each site.

Table E: Weekend Surveyed Apartment Parking Rates per Bedroom

	IMT Valencia 326 bedrooms 397 parking spaces		Alara Links 320 Bedrooms 448 parking spaces		Ridgestone 528 Bedrooms 665 parking spaces	
	Parked Cars	Parking Rate	Parked Cars	Parking Rate	Parked Cars	Parking Rate
6:00 a.m.	370	**1.13**	377	**1.18**	540	**1.02**
7:00 a.m.	365	1.12	368	1.15	524	0.99
8:00 a.m.	362	1.11	348	1.09	499	0.95
9:00 a.m.	355	1.09	323	1.01	477	0.90
5:00 p.m.	335	1.03	313	0.98	447	0.85
6:00 p.m.	341	1.05	298	0.93	462	0.88
7:00 p.m.	341	1.05	306	0.96	475	0.90
8:00 p.m.	339	1.04	315	0.98	480	0.91
9:00 p.m.	341	1.05	342	1.07	496	0.94

Note: **Bold** numbers indicate the highest calculated parking rate for each site.

As anticipated, the parking demand was highest late at night and early in the morning. Table F summarizes the highest period of parking demand observed at each site and calculates the average parking rate from the three surveyed sites. A weighted average of 1.65 parking spaces per dwelling unit and 1.11 parking spaces per bedroom was utilized in the observed apartment complexes.

Table F: Peak Surveyed Apartment Parking Rates

	Peak Period	Peak Parking Rate (Dwelling Units)	Peak Parking Rate (Bedrooms)
IMT Valencia (208 dwelling units; 326 bedrooms)	Weekday 6:00 a.m.	1.86	1.19
Alara Links (230 dwelling units; 320 bedrooms)	Saturday 6:00 a.m.	1.64	1.18
Ridgestone (352 dwelling units; 528 bedroom)	Saturday 6:00 a.m.	1.53	1.02
Weighted Average		**1.65**	**1.11**

The 1625 Magnolia Avenue project proposes to construct 20 studio, 254 one-bedroom, 147 two-bedroom, and 15 three-bedroom dwelling units for a total of 436 dwelling units and 613 bedrooms. Table G calculates the estimated parking demand for the proposed project based on the average parking rates developed above. Table G also compares the estimated parking demand for the proposed project to the proposed parking supply.

Table G: Proposed Project Parking Demand from Surveyed Parking Rates

	Empirical Parking Demand per Dwelling Unit	Empirical Parking Demand per Bedroom
Peak Observed Rate	1.65 spaces per dwelling unit	1.11 spaces per bedroom
Proposed Project	436 dwelling units	613 bedrooms
Projected Demand	719 spaces	680 spaces
Proposed Parking Supply	797 spaces	797 spaces
Parking Surplus	78 spaces	117 spaces

As Table G shows, applying the surveyed parking rates from Table F (1.65 spaces per dwelling unit and 1.11 spaces per bedroom) to the proposed project renders parking demand with a surplus in both considerations: by dwelling unit (78 spaces) and by bedroom (117 spaces). Therefore, whether the parking demand is generated based on a rate per dwelling unit or a rate per bedroom, the proposed project will offer adequate parking supply.

Live-Work Guest Parking

The ITE Parking Generation, 4th Edition, was used to identify a parking rate for the live-work commercial parking spaces. The live-work units are considered to be a mix of residential and commercial office uses. Given the nature of the space, office use or professional service is the most likely use for the space. The office use shows the 85th percentile peak-period parking demand to be 2.98 spaces per 1,000 square feet, as presented in Table H. The proposed office space within the live-work units is approximately 1,561 square feet. The calculated demand of parking spaces based on this ITE parking rate is seven spaces. As shown in Table G, the parking surplus for parking demand based on dwelling units and bedrooms will be greater than seven spaces; therefore, the commercial parking supply is anticipated accommodate the parking demand for live-work guests.

Table H: Proposed Live-Work Commercial Parking Demand from ITE Parking Rates

	ITE Parking Demand
85th Percentile Observed Rate	2.98 spaces per 1,000 square feet
Proposed Project	1,561 square feet
Calculated Demand	5 spaces

Bicycle Parking

The City's Bicycle Master Plan (June 2016) states that all new major developments in Monrovia are recommended to provide bicycle parking. The bicycle parking guidelines state that multifamily residential uses are recommended to provide 1 short-term bicycle parking space per 10 residential units and 1 long-term bicycle parking space per 2 residential units. Based on this guideline, the proposed project of 436 dwelling units is intended to provide 44 short-term bicycle parking spaces and 218 long-term bicycle parking spaces, for a total of 262 bicycle parking spaces. The proposed project will provide 44 short-term bicycle parking spaces and 218 long-term bicycle parking spaces, for a total of 262 bicycle parking spaces in a bike storage area on the project site. Furthermore, the project will provide an additional 11 bicycle parking spaces for leasing and Metro Gold Line Station guests.

CONCLUSION

The City's Zoning Code requires 2.5 parking spaces per dwelling for multifamily residential projects with six or more units. Nationwide studies (ITE Parking Generation) determined that the parking generation rate for apartments is 1.52 spaces per dwelling unit based on the 85th percentile rate. Surveys taken in Southern California in May 2014 identified average parking generation rates of 1.65 spaces per dwelling unit and 1.11 spaces per bedroom. Although the proposed parking rate is lower than the City's required parking rate of 2.5 spaces per dwelling unit, the proposed rate is greater than the surveyed parking demand rates. If these parking rates are applied to the proposed project, then the proposed 797 parking spaces would provide a surplus of parking spaces.

The project's proximity to multiple transit uses and provided bicycle parking spaces will help to alleviate the project's parking demand. Additionally, there are 34 public parking spaces that are primarily intended to serve transit patrons. These spaces should be available to serve the project parking demand during nights and weekends when the transit parking demand is lower. The amount of provided parking spaces for the project is anticipated to be adequate based on the results of this analysis.

Sincerely,

LSA Associates, Inc.

Anthony Petros
Principal

Attachment: Institute of Traffic Engineers *Parking Generation* 4th Edition Land Use 222: High-Rise Apartment

Land Use: 222
High-Rise Apartment

Description

High-rise apartments (rental dwelling units) are units located in rental buildings that have five or more levels (floors) and most likely have one or more elevators. Low/mid-rise apartment (Land Use 221) is a related use.

Database Description

The database consisted of a mix of central city, not downtown (CND) and urban central business district (CBD) sites. Parking demand rates at the CND sites differed from those at the CBD sites and, therefore, the data were analyzed separately.

- Average parking supply ratio: 2.0 parking spaces per dwelling unit at the CND sites. Parking availability was not provided for the CBD sites.

All study sites were within three blocks of transit service.

Parking demand counts were submitted between 12:00 and 5:00 a.m. on a weekday.

The two CBD sites had 740 and 940 dwelling units and peak parking demand rates of 0.34 and 0.56 parked vehicles per dwelling unit, respectively. The parking demand information from these sites was excluded from the data plots and analysis.

Parking surveys of apartments should attempt to obtain information on occupancy rate. Future parking surveys should also indicate the number of levels contained in the apartment building as well as the number of bedrooms for each unit.

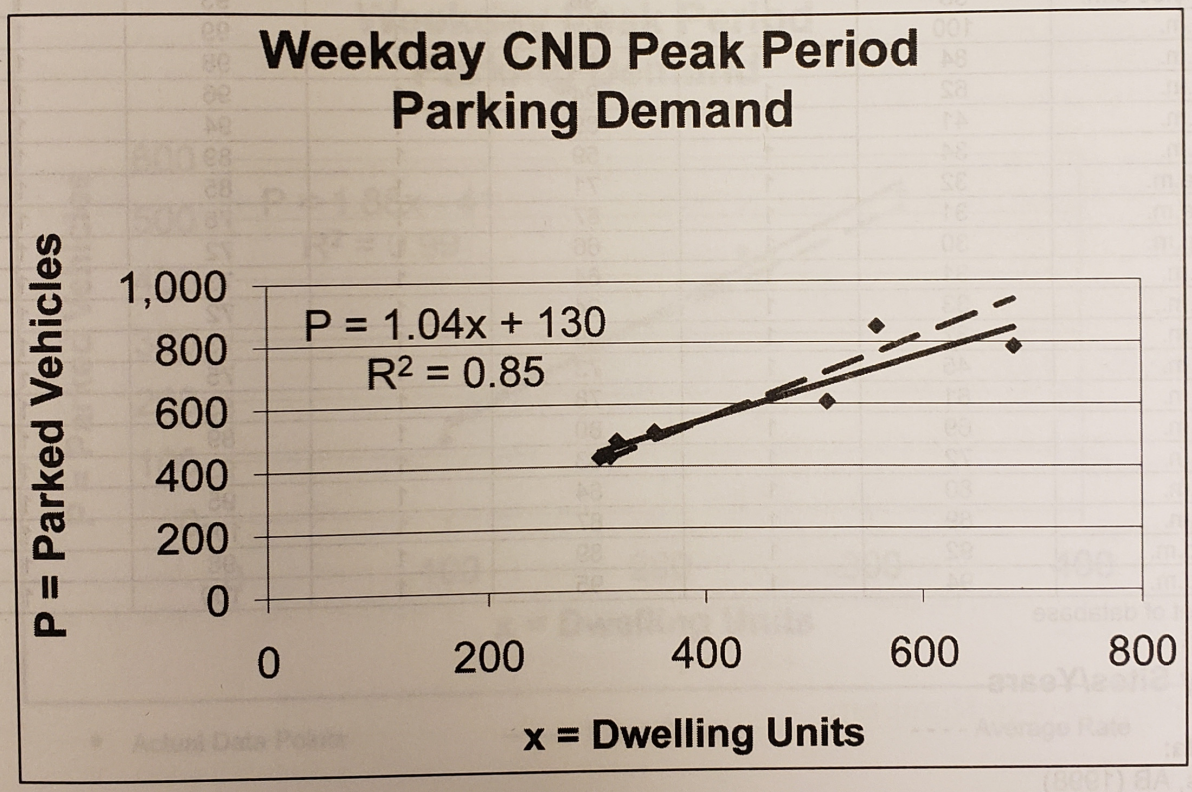
Study Sites/Years

Chicago, IL (1969); Chicago, IL (1978); San Diego, CA (1996)

Land Use: 222
High-Rise Apartment

Average Peak Period Parking Demand vs. Dwelling Units
On a: Weekday
Location: Central City, Not Downtown

Statistic	Peak Period Demand
Peak Period	12:00–5:00 a.m.
Number of Study Sites	7
Average Size of Study Sites	435 dwelling units
Average Peak Period Parking Demand	1.37 vehicles per dwelling unit
Standard Deviation	0.15
Coefficient of Variation	11%
Range	1.15–1.52 vehicles per dwelling unit
85th Percentile	1.52 vehicles per dwelling unit
33rd Percentile	1.38 vehicles per dwelling unit



APPENDIX J3
TRAFFIC IMPACT ANALYSIS ADDENDUM

CARLSBAD
FRESNO
IRVINE
LOS ANGELES
PALM SPRINGS
POINT RICHMOND
RIVERSIDE
ROSEVILLE
SAN LUIS OBISPO

MEMORANDUM

DATE: July 15, 2019

TO: Ashley Swarts, Trammell Crow Residential

FROM: Anthony Petros, Principal, LSA

SUBJECT: 1625 Magnolia Avenue Traffic Study Cumulative (Year 2022) Analysis

The *1625 Magnolia Avenue Traffic Study* LSA prepared in May 2018 evaluated Cumulative and Cumulative Plus Project impacts using a 2020 Year horizon. This reflected a 2-year construction period. This cumulative analysis evaluated 10 study area intersections using the Highway Capacity Manual (HCM) methodology for unsignalized intersections and California Department of Transportation (Caltrans) facilities and Intersection Capacity Utilization (ICU) methodology for signalized city intersections, based on the City of Monrovia's (City) thresholds of significance. Ambient growth between 2018 and 2020 was applied to existing counts and included the contribution of seven cumulative projects.

As shown in the Traffic Study, results of the Cumulative Plus Project (Year 2020) condition suggest impacts to intersection levels of service (LOS) at Myrtle Avenue/Central Avenue-Interstate 210 (I-210) westbound off-ramp (Caltrans facility) and Magnolia Avenue/Evergreen Avenue. Recommended mitigation measures include restriping the Magnolia Avenue/Evergreen Avenue northern and southern leg centerline allowing for the inclusion of a de facto right-turn lane and adding a southbound right-turn lane at Myrtle Avenue/Central Avenue-I-210 eastbound off-ramp. Application of these mitigation measures, illustrated in Table N of the Traffic Study, offset these project impacts.

Cumulative and Cumulative Plus Project (Year 2022) Analysis

As directed by City staff, an amendment to the Cumulative analysis was initiated to reflect Year 2022 conditions. To prepare the 2022 cumulative traffic base, the ambient growth was increased by an additional 2 years (or 1.64 percent). At the direction of City staff, no new cumulative projects were added to this scenario.

As a result, Table E (Cumulative and Cumulative Plus Project LOS Summary), Table G (Cumulative and Cumulative Plus Project Ramp Intersection Summary), and Table M (Cumulative and Cumulative Plus Project Off-Ramp Queue Summary) were updated to reflect the 1.64 percent growth rate increase.

Table A (Cumulative and Cumulative Plus Project LOS Summary), Table B (Cumulative and Cumulative Plus Project Ramp Intersection Summary), and Table C (Cumulative and Cumulative Plus Project Off-Ramp Queues Summary) of this memorandum are provided to illustrate results of the Cumulative Year 2022 scenario (all tables are provided in Attachment A). HCM and ICU worksheets are provided in Attachment B.

Based on the results of the Cumulative Year 2022 analysis, impacts to Myrtle Avenue/Central Avenue-I-210 westbound off-ramp and Magnolia Avenue/Evergreen Avenue still occur. Mitigation measures previously mentioned are recommended for these intersections. With the increased growth rate, a new impact to ramp LOS is shown at Myrtle Avenue/Evergreen Avenue-I-210 eastbound off-ramp in the p.m. peak hour. Mitigation recommended for this intersection includes reassigning the eastbound through movement to an eastbound through-left movement. As shown in Table D, application of this mitigation measure will eliminate the impact at Myrtle Avenue/Evergreen Avenue-I-210 eastbound off-ramp and bring ramp operations back to acceptable levels of service. Both improvements to Myrtle Avenue/Central Avenue-1-210 westbound off-ramp and Myrtle Avenue/Evergreen Avenue-I-210 eastbound off-ramp are included in the Monrovia Citywide Fee Program.

The City has conducted an Area Traffic Study and is devising a Development Impact Fee (DIF) program to address the cumulative effects of major development projects on the transportation system in the vicinity of the Monrovia Gold Line Station. The DIF will include each project's fair share cost of the traffic study and the recommended mitigation measure(s) identified for that project's specific impact(s). If the City Council adopts the DIF, it shall be paid prior to recording the Final Map or the amount of the DIF included in the bonds. Payment or bonding of the DIF shall fully satisfy the project's mitigation obligation for those improvements covered by the DIF. If the City Council does not adopt a DIF but does approve an Area Traffic Study that commits future applicants to pay fair share fees and obligates the City to spend those fees on specified improvements, the project will not pay a DIF, but will be responsible for their fair share as a fee in-lieu of improvements for mitigating the specific impacts identified in the project's Traffic Study. The costs of those improvements or fee-in-lieu of for mitigation shall be paid prior to the Final Map recording, or a bond equal to the determined amount shall be posted prior to the Final Map recording.

Conclusion

Based on this analysis of Cumulative Year 2022 conditions and application of mitigation measures, the project can continue to be implemented without significantly impacting the surrounding study are intersections in the future year scenario.

I trust this information will be useful in your planning efforts. If you have any questions, please call me at (949) 553-0666.

Attachments: A: Tables A–D
B: HCM and ICU Worksheets

ATTACHMENT A

TABLES A–D

LSA

Table A: Cumulative and Cumulative Plus Project LOS Summary

Study Area No.	Node No.	Intersection	Cumulative				Cumulative Plus Project				Peak-Hour Δ ICU/Delay		Significant Impact?
			AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour				
			ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	ICU / Delay	LOS	AM	PM	
1	127	Mayflower Avenue/Diamond Street-Evergreen Avenue	25.1	D	21.5	C	26.4	D	24.5	C	1.3	3.0	No
2	31	Mayflower Avenue/Duarte Road	0.723	C	0.676	B	0.724	C	0.681	B	0.001	0.005	No
3		Project Driveway 1/Evergreen Avenue	N/A	-	N/A	-	10.4	B	10.3	B	-	-	No
4	32	Magnolia Avenue/Huntington Drive	0.752	C	0.785	C	0.764	C	0.797	C	0.012	0.012	No
5	37	Magnolia Avenue/Evergreen Avenue	20.4	C	23.8	C	28.7	C	40.8	E	8.3	17.0	Yes
6		Magnolia Avenue/Project Driveway 2	N/A	-	N/A	-	16.8	C	19.0	C	-	-	No
7		Magnolia Avenue/Duarte Road	0.672	B	0.631	B	0.680	B	0.636	B	0.008	0.005	No
8	39	Myrtle Avenue/Central Avenue-I-210 WB Ramps	0.894	D	0.958	E	0.908	E	0.980	E	0.014	0.022	Yes
9	38	Myrtle Avenue/Evergreen Avenue-I-210 EB Ramps	0.775	C	0.936	E	0.784	C	0.950	E	0.009	0.014	No
10	33	Myrtle Avenue/Duarte Road	0.818	D	0.919	E	0.819	D	0.925	E	0.001	0.006	No

Note: Gray shading indicates that values exceed City of Monrovia's level of service criteria.

Δ = change
I-210 = Interstate 210
EB = eastbound
HCM = Highway Capacity Manual delay (seconds per vehicle)
ICU = intersection capacity utilization ratio
LOS = level of service
N/A = not applicable; driveway does not currently exist
WB = westbound

LSA

Table B: Cumulative and Cumulative Plus Project Ramp Intersection Summary

Intersection		Cumulative				Cumulative Plus Project				Peak-Hour Δ		Significant Impact?
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour		HCM		
		HCM	LOS	HCM	LOS	HCM	LOS	HCM	LOS	AM	PM	
8	Myrtle Avenue/ Central Avenue-I-210 WB Ramps	39.8	D	47.7	D	42.3	D	51.6	D	2.5	3.9	No
9	Myrtle Avenue/ Evergreen Avenue-I-210 EB Ramps	28.7	C	50.2	D	30.0	C	55.5	E	1.3	5.3	Yes

Note: Gray shading indicates that values exceed City of Monrovia's level of service criteria.

Δ = change
EB = eastbound
HCM = Highway Capacity Manual delay (seconds per vehicle)
I-210 = Interstate 210
LOS = level of service
WB = westbound

LSA

Table C: Cumulative and Cumulative Plus Project Off-Ramp Queue Summary

Freeway Off-Ramp	Lane Description	Vehicle Storage Capacity	Vehicle Queue Length (ft)				Exceeds Capacity?
			AM	PM	AM	PM	
			Cumulative		Cumulative Plus Project		
Myrtle Avenue/Central Avenue - I-210 WB Off-Ramp	Single Lane Ramp	990	751	895	751	948	No
Myrtle Avenue/Evergreen Avenue - I-210 EB Off-Ramp	Dual Lane Ramp	1630	1,529	1,240	1,529	1,604	No

[1] 95th percentile queues were calculated by Synchro 10

EB = eastbound
I-210 = Interstate 210
ft = foot/feet
WB = westbound

ATTACHMENT B

HCM AND ICU WORKSHEETS

ATTACHMENT B

HCM AND ICU WORKSHEETS

Intersection	
Intersection Delay, s/veh	25.1
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	12	70	15	24	10	197	622	124	72	373	14
Future Vol, veh/h	7	12	70	15	24	10	197	622	124	72	373	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	13	76	16	26	11	214	676	135	78	405	15
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	10.8	10.8	32.3	14.5
HCM LOS	B	B	D	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	39%	0%	8%	31%	28%	0%
Vol Thru, %	61%	71%	13%	49%	72%	93%
Vol Right, %	0%	29%	79%	20%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	508	435	89	49	259	201
LT Vol	197	0	7	15	72	0
Through Vol	311	311	12	24	187	187
RT Vol	0	124	70	10	0	14
Lane Flow Rate	552	473	97	53	281	218
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.908	0.725	0.173	0.103	0.507	0.381
Departure Headway (Hd)	5.92	5.522	6.434	6.987	6.491	6.3
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	613	652	557	512	554	569
Service Time	3.658	3.26	4.475	5.037	4.245	4.054
HCM Lane V/C Ratio	0.9	0.725	0.174	0.104	0.507	0.383
HCM Control Delay	41.5	21.5	10.8	10.8	15.8	12.9
HCM Lane LOS	E	C	B	B	C	B
HCM 95th-tile Q	11.3	6.2	0.6	0.3	2.8	1.8

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Mayflower Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.723
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	C

Street Name:	Mayflower Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	98	463	37	96	179	197	218	494	30	26	684	183
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	463	37	96	179	197	218	494	30	26	684	183
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	463	37	96	179	197	218	494	30	26	684	183
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	463	37	96	179	197	218	494	30	26	684	183
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	463	37	96	179	197	218	494	30	26	684	183
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.00	1.00	1.00	1.89	0.11	1.00	1.58	0.42
Final Sat.:	1600	2963	237	1600	1600	1600	1600	3017	183	1600	2525	675
Capacity Analysis Module:												
Vol/Sat:	0.06	0.16	0.16	0.06	0.11	0.12	0.14	0.16	0.16	0.02	0.27	0.27
Crit Moves:		****			****			****			****	

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	214	0	0	54	0	0
Future Vol, veh/h	214	0	0	54	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	233	0	0	59	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	233	0	292	233
Stage 1	-	-	-	-	233	-
Stage 2	-	-	-	-	59	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1335	-	699	806
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	964	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1335	-	699	806
Mov Cap-2 Maneuver	-	-	-	-	699	-
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	964	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1335	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Magnolia Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.752
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	57	Level Of Service:	C

Street Name:	Magnolia Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	0	1 0	1	0
Volume Module:												
Base Vol:	70	268	59	44	224	37	58	494	32	40	1133	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	268	59	44	224	37	58	494	32	40	1133	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	268	59	44	224	37	58	494	32	40	1133	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	268	59	44	224	37	58	494	32	40	1133	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	268	59	44	224	37	58	494	32	40	1133	94
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.82	0.18	1.00	0.86	0.14	1.00	1.88	0.12	1.00	1.85	0.15
Final Sat.:	1600	1311	289	1600	1373	227	1600	3005	195	1600	2955	245
Capacity Analysis Module:												
Vol/Sat:	0.04	0.20	0.20	0.03	0.16	0.16	0.04	0.16	0.16	0.03	0.38	0.38
Crit Moves:		****			****			****			****	

Intersection	
Intersection Delay, s/veh	20.4
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	18	167	23	0	0	0	37	313	108	123	273	21
Future Vol, veh/h	18	167	23	0	0	0	37	313	108	123	273	21
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	20	188	26	0	0	0	42	352	121	138	307	24
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	13.7	22.9	21.1
HCM LOS	B	C	C

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	8%	9%	29%
Vol Thru, %	68%	80%	65%
Vol Right, %	24%	11%	5%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	458	208	417
LT Vol	37	18	123
Through Vol	313	167	273
RT Vol	108	23	21
Lane Flow Rate	515	234	469
Geometry Grp	1	1	1
Degree of Util (X)	0.755	0.41	0.713
Departure Headway (Hd)	5.283	6.318	5.48
Convergence, Y/N	Yes	Yes	Yes
Cap	684	568	656
Service Time	3.334	4.384	3.533
HCM Lane V/C Ratio	0.753	0.412	0.715
HCM Control Delay	22.9	13.7	21.1
HCM Lane LOS	C	B	C
HCM 95th-tile Q	6.9	2	5.9

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	458	296	0
Future Vol, veh/h	0	0	0	458	296	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	498	322	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	820	322	322	0	-	0
Stage 1	322	-	-	-	-	-
Stage 2	498	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	345	719	1238	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	345	719	1238	-	-	-
Mov Cap-2 Maneuver	345	-	-	-	-	-
Stage 1	735	-	-	-	-	-
Stage 2	611	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1238	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Magnolia Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.672
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	B

Street Name:	Magnolia Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	0	1	1	0	1	1	0	1	0	1	1	0
Volume Module:												
Base Vol:	2	2	3	199	5	144	199	447	3	6	743	267
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	2	3	199	5	144	199	447	3	6	743	267
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	2	3	199	5	144	199	447	3	6	743	267
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	2	3	199	5	144	199	447	3	6	743	267
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	2	3	199	5	144	199	447	3	6	743	267
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.29	0.43	0.98	0.02	1.00	1.00	1.99	0.01	1.00	1.47	0.53
Final Sat.:	457	457	686	1561	39	1600	1600	3179	21	1600	2354	846
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.13	0.09	0.12	0.14	0.14	0.00	0.32	0.32
Crit Moves:		****			****			****			****	

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.894
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	97	Level Of Service:	D

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	0 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	364	694	0	0	540	100	0	0	0	259	586	346
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	364	694	0	0	540	100	0	0	0	259	586	346
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	364	694	0	0	540	100	0	0	0	259	586	346
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	364	694	0	0	540	100	0	0	0	259	586	346
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	364	694	0	0	540	100	0	0	0	259	586	346
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.69	0.31	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	2700	500	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.23	0.22	0.00	0.00	0.20	0.20	0.00	0.00	0.00	0.16	0.37	0.22
Crit Moves:	****				****						****	

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Myrtle Avenue/Evergreen Avenue - I-210 EB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.775
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	61	Level Of Service:	C

Street Name:	Myrtle Avenue						Evergreen Avenue - I-210 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	1 0	1	1 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	638	200	260	536	0	376	485	316	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	638	200	260	536	0	376	485	316	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	638	200	260	536	0	376	485	316	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	638	200	260	536	0	376	485	316	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	638	200	260	536	0	376	485	316	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.52	0.48	1.00	2.00	0.00	1.00	1.21	0.79	0.00	0.00	0.00
Final Sat.:	0	2436	764	1600	3200	0	1600	1938	1262	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.26	0.16	0.17	0.00	0.24	0.25	0.25	0.00	0.00	0.00
Crit Moves:		****		****					****			

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Myrtle Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.818
Loss Time (sec):	30	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	D

Street Name:	Myrtle Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	133	483	50	56	563	158	151	301	123	29	294	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	133	483	50	56	563	158	151	301	123	29	294	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	133	483	50	56	563	158	151	301	123	29	294	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	133	483	50	56	563	158	151	301	123	29	294	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	133	483	50	56	563	158	151	301	123	29	294	74
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.56	0.44	1.00	1.42	0.58	1.00	1.60	0.40
Final Sat.:	1600	2900	300	1600	2499	701	1600	2272	928	1600	2557	643
Capacity Analysis Module:												
Vol/Sat:	0.08	0.17	0.17	0.04	0.23	0.23	0.09	0.13	0.13	0.02	0.11	0.12
Crit Moves:	****				****		****					****

1625 Magnolia Avenue
MMF1701
Cumulative AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Myrtle Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.788
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	C

Street Name:	Myrtle Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	223	599	137	38	306	27	45	412	120	126	1224	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	223	599	137	38	306	27	45	412	120	126	1224	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	223	599	137	38	306	27	45	412	120	126	1224	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	599	137	38	306	27	45	412	120	126	1224	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	223	599	137	38	306	27	45	412	120	126	1224	75
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.84	0.16	1.00	2.00	1.00	1.00	1.88	0.12
Final Sat.:	1600	2604	596	1600	2941	259	1600	3200	1600	1600	3015	185
Capacity Analysis Module:												
Vol/Sat:	0.14	0.23	0.23	0.02	0.10	0.10	0.03	0.13	0.08	0.08	0.41	0.41
Crit Moves:		****			****			****			****	

Intersection	
Intersection Delay, s/veh	21.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	33	118	23	5	10	52	508	55	122	680	17
Future Vol, veh/h	3	33	118	23	5	10	52	508	55	122	680	17
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	34	123	24	5	10	54	529	57	127	708	18
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.2	11.1	17.2	26.9
HCM LOS	B	B	C	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	17%	0%	2%	61%	26%	0%
Vol Thru, %	83%	82%	21%	13%	74%	95%
Vol Right, %	0%	18%	77%	26%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	306	309	154	38	462	357
LT Vol	52	0	3	23	122	0
Through Vol	254	254	33	5	340	340
RT Vol	0	55	118	10	0	17
Lane Flow Rate	319	322	160	40	481	372
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.573	0.56	0.289	0.081	0.836	0.629
Departure Headway (Hd)	6.474	6.261	6.483	7.381	6.253	6.086
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	555	573	553	483	578	591
Service Time	4.243	4.03	4.539	5.461	4.014	3.847
HCM Lane V/C Ratio	0.575	0.562	0.289	0.083	0.832	0.629
HCM Control Delay	17.7	16.8	12.2	11.1	33.2	18.7
HCM Lane LOS	C	C	B	B	D	C
HCM 95th-tile Q	3.6	3.4	1.2	0.3	8.7	4.4

1625 Magnolia Avenue
MMF1701
Cumulative PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Mayflower Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.676
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	47	Level Of Service:	B

Street Name:	Mayflower Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	39	239	35	155	330	256	221	818	49	38	539	125
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	239	35	155	330	256	221	818	49	38	539	125
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	239	35	155	330	256	221	818	49	38	539	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	239	35	155	330	256	221	818	49	38	539	125
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	239	35	155	330	256	221	818	49	38	539	125
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	1.00	1.00	1.00	1.89	0.11	1.00	1.62	0.38
Final Sat.:	1600	2791	409	1600	1600	1600	1600	3019	181	1600	2598	602
Capacity Analysis Module:												
Vol/Sat:	0.02	0.09	0.09	0.10	0.21	0.16	0.14	0.27	0.27	0.02	0.21	0.21
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	0

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	202	0	0	32	0	0
Future Vol, veh/h	202	0	0	32	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	220	0	0	35	0	0

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	220	0	255	220
Stage 1	-	-	-	-	220	-
Stage 2	-	-	-	-	35	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1349	-	734	820
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	987	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1349	-	734	820
Mov Cap-2 Maneuver	-	-	-	-	734	-
Stage 1	-	-	-	-	817	-
Stage 2	-	-	-	-	987	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	0
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	-	-	-	1349	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	-	0	-
HCM Lane LOS	A	-	-	A	-
HCM 95th %tile Q(veh)	-	-	-	0	-

1625 Magnolia Avenue
MMF1701
Cumulative PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Magnolia Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.785
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	C

Street Name:	Magnolia Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	0	1 0	1	1 0
Volume Module:												
Base Vol:	70	210	85	97	236	60	80	1127	50	116	849	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	70	210	85	97	236	60	80	1127	50	116	849	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	210	85	97	236	60	80	1127	50	116	849	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	210	85	97	236	60	80	1127	50	116	849	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	70	210	85	97	236	60	80	1127	50	116	849	40
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.71	0.29	1.00	0.80	0.20	1.00	1.92	0.08	1.00	1.91	0.09
Final Sat.:	1600	1139	461	1600	1276	324	1600	3064	136	1600	3056	144
Capacity Analysis Module:												
Vol/Sat:	0.04	0.18	0.18	0.06	0.18	0.19	0.05	0.37	0.37	0.07	0.28	0.28
Crit Moves:		****		****				****		****		

Intersection	
Intersection Delay, s/veh	23.8
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	26	174	24	0	0	0	13	316	93	66	395	12
Future Vol, veh/h	26	174	24	0	0	0	13	316	93	66	395	12
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	30	198	27	0	0	0	15	359	106	75	449	14
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	14.9	22.1	29.6
HCM LOS	B	C	D

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	3%	12%	14%
Vol Thru, %	75%	78%	84%
Vol Right, %	22%	11%	3%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	422	224	473
LT Vol	13	26	66
Through Vol	316	174	395
RT Vol	93	24	12
Lane Flow Rate	480	255	538
Geometry Grp	1	1	1
Degree of Util (X)	0.731	0.456	0.826
Departure Headway (Hd)	5.486	6.444	5.532
Convergence, Y/N	Yes	Yes	Yes
Cap	657	555	650
Service Time	3.554	4.521	3.598
HCM Lane V/C Ratio	0.731	0.459	0.828
HCM Control Delay	22.1	14.9	29.6
HCM Lane LOS	C	B	D
HCM 95th-tile Q	6.3	2.4	8.8

Intersection	
Int Delay, s/veh	0

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	0	0	423	419	0
Future Vol, veh/h	0	0	0	423	419	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	460	455	0

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	915	455	455	0	-	0
Stage 1	455	-	-	-	-	-
Stage 2	460	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	303	605	1106	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	636	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	303	605	1106	-	-	-
Mov Cap-2 Maneuver	303	-	-	-	-	-
Stage 1	639	-	-	-	-	-
Stage 2	636	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1106	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	0	-	0	-	-
HCM Lane LOS	A	-	A	-	-
HCM 95th %tile Q(veh)	0	-	-	-	-

1625 Magnolia Avenue
MMF1701
Cumulative PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Magnolia Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.631
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	B

Street Name:	Magnolia Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	0	1	1	0	1	1	0	1	0	1	1	0
Volume Module:												
Base Vol:	6	4	4	201	1	206	279	738	0	2	540	160
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	4	4	201	1	206	279	738	0	2	540	160
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	4	4	201	1	206	279	738	0	2	540	160
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	4	4	201	1	206	279	738	0	2	540	160
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	4	4	201	1	206	279	738	0	2	540	160
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.43	0.29	0.28	0.99	0.01	1.00	1.00	2.00	0.00	1.00	1.54	0.46
Final Sat.:	686	457	457	1592	8	1600	1600	3200	0	1600	2469	731
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.13	0.13	0.13	0.17	0.23	0.00	0.00	0.22	0.22
Crit Moves:	****					****	****				****	

1625 Magnolia Avenue
MMF1701
Cumulative PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.958
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	141	Level Of Service:	E

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	0 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	359	443	0	0	770	211	0	0	0	276	524	304
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	359	443	0	0	770	211	0	0	0	276	524	304
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	359	443	0	0	770	211	0	0	0	276	524	304
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	359	443	0	0	770	211	0	0	0	276	524	304
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	359	443	0	0	770	211	0	0	0	276	524	304
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.57	0.43	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	2512	688	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.22	0.14	0.00	0.00	0.31	0.31	0.00	0.00	0.00	0.17	0.33	0.19
Crit Moves:	****				****						****	

1625 Magnolia Avenue
MMF1701
Cumulative PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Myrtle Avenue/Evergreen Avenue - I-210 EB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.936
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	122	Level Of Service:	E

Street Name:	Myrtle Avenue						Evergreen Avenue - I-210 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	1 0	1	1 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	621	219	329	736	0	167	853	323	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	621	219	329	736	0	167	853	323	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	621	219	329	736	0	167	853	323	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	621	219	329	736	0	167	853	323	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	621	219	329	736	0	167	853	323	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.48	0.52	1.00	2.00	0.00	1.00	1.45	0.55	0.00	0.00	0.00
Final Sat.:	0	2366	834	1600	3200	0	1600	2321	879	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.26	0.21	0.23	0.00	0.10	0.37	0.37	0.00	0.00	0.00
Crit Moves:		****		****					****			

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Cumulative PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Myrtle Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.919
Loss Time (sec):	30	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	126	Level Of Service:	E

Street Name:	Myrtle Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	100	468	48	58	651	232	155	486	276	68	326	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	100	468	48	58	651	232	155	486	276	68	326	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	100	468	48	58	651	232	155	486	276	68	326	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	100	468	48	58	651	232	155	486	276	68	326	49
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	100	468	48	58	651	232	155	486	276	68	326	49
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.47	0.53	1.00	1.28	0.72	1.00	1.74	0.26
Final Sat.:	1600	2902	298	1600	2359	841	1600	2041	1159	1600	2782	418
Capacity Analysis Module:												
Vol/Sat:	0.06	0.16	0.16	0.04	0.28	0.28	0.10	0.24	0.24	0.04	0.12	0.12
Crit Moves:	****			****			****			****		

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Cumulative PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Myrtle Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.801
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

Street Name:	Myrtle Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	162	387	154	128	569	60	82	965	164	162	720	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	162	387	154	128	569	60	82	965	164	162	720	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	162	387	154	128	569	60	82	965	164	162	720	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	162	387	154	128	569	60	82	965	164	162	720	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	162	387	154	128	569	60	82	965	164	162	720	53
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.43	0.57	1.00	1.81	0.19	1.00	2.00	1.00	1.00	1.86	0.14
Final Sat.:	1600	2289	911	1600	2895	305	1600	3200	1600	1600	2981	219
Capacity Analysis Module:												
Vol/Sat:	0.10	0.17	0.17	0.08	0.20	0.20	0.05	0.30	0.10	0.10	0.24	0.24
Crit Moves:	****			****			****			****		

Intersection	
Intersection Delay, s/veh	26.4
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	7	12	70	22	24	23	197	622	125	74	373	14
Future Vol, veh/h	7	12	70	22	24	23	197	622	125	74	373	14
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	8	13	76	24	26	25	214	676	136	80	405	15
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11	11.2	34.6	15
HCM LOS	B	B	D	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	39%	0%	8%	32%	28%	0%
Vol Thru, %	61%	71%	13%	35%	72%	93%
Vol Right, %	0%	29%	79%	33%	0%	7%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	508	436	89	69	261	201
LT Vol	197	0	7	22	74	0
Through Vol	311	311	12	24	187	187
RT Vol	0	125	70	23	0	14
Lane Flow Rate	552	474	97	75	283	218
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.924	0.741	0.176	0.145	0.519	0.388
Departure Headway (Hd)	6.027	5.628	6.543	6.94	6.604	6.411
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	602	640	548	516	544	560
Service Time	3.775	3.375	4.594	4.993	4.369	4.175
HCM Lane V/C Ratio	0.917	0.741	0.177	0.145	0.52	0.389
HCM Control Delay	44.8	22.8	11	11.2	16.3	13.2
HCM Lane LOS	E	C	B	B	C	B
HCM 95th-tile Q	11.8	6.5	0.6	0.5	3	1.8

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Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Mayflower Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.724
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	53	Level Of Service:	C

Street Name:	Mayflower Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	98	463	37	96	179	204	219	494	30	26	684	183
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	98	463	37	96	179	204	219	494	30	26	684	183
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	98	463	37	96	179	204	219	494	30	26	684	183
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	98	463	37	96	179	204	219	494	30	26	684	183
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	98	463	37	96	179	204	219	494	30	26	684	183
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.85	0.15	1.00	1.00	1.00	1.00	1.89	0.11	1.00	1.58	0.42
Final Sat.:	1600	2963	237	1600	1600	1600	1600	3017	183	1600	2525	675
Capacity Analysis Module:												
Vol/Sat:	0.06	0.16	0.16	0.06	0.11	0.13	0.14	0.16	0.16	0.02	0.27	0.27
Crit Moves:		****			****			****			****	

Intersection	
Int Delay, s/veh	2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	214	9	15	54	21	57
Future Vol, veh/h	214	9	15	54	21	57
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	233	10	16	59	23	62

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	243	0	329	238
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1323	-	665	801
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	933	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1323	-	656	801
Mov Cap-2 Maneuver	-	-	-	-	656	-
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	933	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	10.4
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	756	-	-	1323	-
HCM Lane V/C Ratio	0.112	-	-	0.012	-
HCM Control Delay (s)	10.4	-	-	7.8	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.4	-	-	0	-

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Magnolia Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.764
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	60	Level Of Service:	C

Street Name:	Magnolia Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	0	1 0	1	0
Volume Module:												
Base Vol:	90	281	66	44	225	37	58	494	33	41	1133	94
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	90	281	66	44	225	37	58	494	33	41	1133	94
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	90	281	66	44	225	37	58	494	33	41	1133	94
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	90	281	66	44	225	37	58	494	33	41	1133	94
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	90	281	66	44	225	37	58	494	33	41	1133	94
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.81	0.19	1.00	0.86	0.14	1.00	1.87	0.13	1.00	1.85	0.15
Final Sat.:	1600	1296	304	1600	1374	226	1600	3000	200	1600	2955	245
Capacity Analysis Module:												
Vol/Sat:	0.06	0.22	0.22	0.03	0.16	0.16	0.04	0.16	0.16	0.03	0.38	0.38
Crit Moves:		****			****			****			****	

Intersection	
Intersection Delay, s/veh	28.7
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	193	23	0	0	0	39	352	115	123	275	23
Future Vol, veh/h	44	193	23	0	0	0	39	352	115	123	275	23
Peak Hour Factor	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	49	217	26	0	0	0	44	396	129	138	309	26
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	17.1	36.8	26
HCM LOS	C	E	D

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	8%	17%	29%
Vol Thru, %	70%	74%	65%
Vol Right, %	23%	9%	5%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	506	260	421
LT Vol	39	44	123
Through Vol	352	193	275
RT Vol	115	23	23
Lane Flow Rate	569	292	473
Geometry Grp	1	1	1
Degree of Util (X)	0.884	0.534	0.77
Departure Headway (Hd)	5.597	6.585	5.862
Convergence, Y/N	Yes	Yes	Yes
Cap	642	543	610
Service Time	3.681	4.68	3.951
HCM Lane V/C Ratio	0.886	0.538	0.775
HCM Control Delay	36.8	17.1	26
HCM Lane LOS	E	C	D
HCM 95th-tile Q	10.6	3.1	7.1

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	14	6	465	296	7
Future Vol, veh/h	50	14	6	465	296	7
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	15	7	505	322	8

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	845	326	330	0	-	0
Stage 1	326	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	333	715	1229	-	-	-
Stage 1	731	-	-	-	-	-
Stage 2	597	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	330	715	1229	-	-	-
Mov Cap-2 Maneuver	330	-	-	-	-	-
Stage 1	725	-	-	-	-	-
Stage 2	597	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	16.8	0.1	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1229	-	374	-	-
HCM Lane V/C Ratio	0.005	-	0.186	-	-
HCM Control Delay (s)	7.9	0	16.8	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0	-	0.7	-	-

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Magnolia Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.680
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Street Name:	Magnolia Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	1	1	0	1	0
Volume Module:												
Base Vol:	2	2	3	212	5	144	199	447	3	6	743	268
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	2	2	3	212	5	144	199	447	3	6	743	268
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	2	2	3	212	5	144	199	447	3	6	743	268
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	2	2	3	212	5	144	199	447	3	6	743	268
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	2	2	3	212	5	144	199	447	3	6	743	268
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.28	0.29	0.43	0.98	0.02	1.00	1.00	1.99	0.01	1.00	1.47	0.53
Final Sat.:	457	457	686	1563	37	1600	1600	3179	21	1600	2352	848
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.14	0.14	0.09	0.12	0.14	0.14	0.00	0.32	0.32
Crit Moves:	****			****			****				****	

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.908
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	104	Level Of Service:	E

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	2 0	0	0 0	1 1	0	0 0	0 0	0	1 0	1 0	1
Volume Module:												
Base Vol:	371	694	0	0	540	126	0	0	0	259	588	346
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	371	694	0	0	540	126	0	0	0	259	588	346
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	371	694	0	0	540	126	0	0	0	259	588	346
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	371	694	0	0	540	126	0	0	0	259	588	346
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	371	694	0	0	540	126	0	0	0	259	588	346
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.62	0.38	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	2595	605	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.23	0.22	0.00	0.00	0.21	0.21	0.00	0.00	0.00	0.16	0.37	0.22
Crit Moves:	****				****						****	

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Myrtle Avenue/Evergreen Avenue - I-210 EB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.784
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	63	Level Of Service:	C

Street Name:	Myrtle Avenue						Evergreen Avenue - I-210 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	1 0	1	1 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	638	200	260	536	0	383	511	319	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	638	200	260	536	0	383	511	319	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	638	200	260	536	0	383	511	319	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	638	200	260	536	0	383	511	319	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	638	200	260	536	0	383	511	319	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.52	0.48	1.00	2.00	0.00	1.00	1.23	0.77	0.00	0.00	0.00
Final Sat.:	0	2436	764	1600	3200	0	1600	1970	1230	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.26	0.16	0.17	0.00	0.24	0.26	0.26	0.00	0.00	0.00
Crit Moves:		****		****				****				

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Myrtle Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.819
Loss Time (sec):	30	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	100	Level Of Service:	D

Street Name:	Myrtle Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	134	483	50	56	563	158	151	308	130	29	295	74
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	134	483	50	56	563	158	151	308	130	29	295	74
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	134	483	50	56	563	158	151	308	130	29	295	74
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	134	483	50	56	563	158	151	308	130	29	295	74
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	134	483	50	56	563	158	151	308	130	29	295	74
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.56	0.44	1.00	1.41	0.59	1.00	1.60	0.40
Final Sat.:	1600	2900	300	1600	2499	701	1600	2250	950	1600	2558	642
Capacity Analysis Module:												
Vol/Sat:	0.08	0.17	0.17	0.04	0.23	0.23	0.09	0.14	0.14	0.02	0.12	0.12
Crit Moves:	****			****			****			****		

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project AM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Myrtle Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.788
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	64	Level Of Service:	C

Street Name:	Myrtle Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	223	599	137	38	306	27	45	419	120	126	1225	75
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	223	599	137	38	306	27	45	419	120	126	1225	75
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	223	599	137	38	306	27	45	419	120	126	1225	75
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	223	599	137	38	306	27	45	419	120	126	1225	75
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	223	599	137	38	306	27	45	419	120	126	1225	75
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.63	0.37	1.00	1.84	0.16	1.00	2.00	1.00	1.00	1.88	0.12
Final Sat.:	1600	2604	596	1600	2941	259	1600	3200	1600	1600	3015	185
Capacity Analysis Module:												
Vol/Sat:	0.14	0.23	0.23	0.02	0.10	0.10	0.03	0.13	0.08	0.08	0.41	0.41
Crit Moves:		****			****			****			****	

Intersection	
Intersection Delay, s/veh	24.5
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	33	118	26	5	16	52	508	62	148	680	17
Future Vol, veh/h	3	33	118	26	5	16	52	508	62	148	680	17
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	34	123	27	5	17	54	529	65	154	708	18
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.4	11.3	17.9	32.2
HCM LOS	B	B	C	D

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	17%	0%	2%	55%	30%	0%
Vol Thru, %	83%	80%	21%	11%	70%	95%
Vol Right, %	0%	20%	77%	34%	0%	5%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	306	316	154	47	488	357
LT Vol	52	0	3	26	148	0
Through Vol	254	254	33	5	340	340
RT Vol	0	62	118	16	0	17
Lane Flow Rate	319	329	160	49	508	372
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.582	0.581	0.293	0.101	0.896	0.636
Departure Headway (Hd)	6.575	6.349	6.579	7.392	6.346	6.158
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	545	566	544	482	569	584
Service Time	4.35	4.124	4.64	5.474	4.112	3.924
HCM Lane V/C Ratio	0.585	0.581	0.294	0.102	0.893	0.637
HCM Control Delay	18.2	17.6	12.4	11.3	41.7	19.2
HCM Lane LOS	C	C	B	B	E	C
HCM 95th-tile Q	3.7	3.7	1.2	0.3	10.6	4.5

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #2 Mayflower Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.681
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	48	Level Of Service:	B

Street Name:	Mayflower Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	0 1	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	39	239	35	155	330	259	228	818	49	38	539	125
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	39	239	35	155	330	259	228	818	49	38	539	125
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	39	239	35	155	330	259	228	818	49	38	539	125
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	39	239	35	155	330	259	228	818	49	38	539	125
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	39	239	35	155	330	259	228	818	49	38	539	125
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.74	0.26	1.00	1.00	1.00	1.00	1.89	0.11	1.00	1.62	0.38
Final Sat.:	1600	2791	409	1600	1600	1600	1600	3019	181	1600	2598	602
Capacity Analysis Module:												
Vol/Sat:	0.02	0.09	0.09	0.10	0.21	0.16	0.14	0.27	0.27	0.02	0.21	0.21
Crit Moves:	****			****			****			****		

Intersection	
Int Delay, s/veh	2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	202	35	56	32	12	32
Future Vol, veh/h	202	35	56	32	12	32
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	220	38	61	35	13	35

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	258	0	396	239
Stage 1	-	-	-	-	239	-
Stage 2	-	-	-	-	157	-
Critical Hdwy	-	-	4.12	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	-	-	2.218	-	3.518	3.318
Pot Cap-1 Maneuver	-	-	1307	-	609	800
Stage 1	-	-	-	-	801	-
Stage 2	-	-	-	-	871	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1307	-	580	800
Mov Cap-2 Maneuver	-	-	-	-	580	-
Stage 1	-	-	-	-	763	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	725	-	-	1307	-
HCM Lane V/C Ratio	0.066	-	-	0.047	-
HCM Control Delay (s)	10.3	-	-	7.9	0
HCM Lane LOS	B	-	-	A	A
HCM 95th %tile Q(veh)	0.2	-	-	0.1	-

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #4 Magnolia Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.797
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	66	Level Of Service:	C

Street Name:	Magnolia Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	0	1 0	1 0	0	1 0	1 0	1	0	1 0	1	1 0
Volume Module:												
Base Vol:	79	216	88	97	249	60	80	1127	57	123	849	40
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	79	216	88	97	249	60	80	1127	57	123	849	40
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	79	216	88	97	249	60	80	1127	57	123	849	40
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	79	216	88	97	249	60	80	1127	57	123	849	40
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	79	216	88	97	249	60	80	1127	57	123	849	40
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	0.71	0.29	1.00	0.81	0.19	1.00	1.90	0.10	1.00	1.91	0.09
Final Sat.:	1600	1137	463	1600	1289	311	1600	3046	154	1600	3056	144
Capacity Analysis Module:												
Vol/Sat:	0.05	0.19	0.19	0.06	0.19	0.19	0.05	0.37	0.37	0.08	0.28	0.28
Crit Moves:		****		****				****		****		

Intersection	
Intersection Delay, s/veh	40.8
Intersection LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	38	186	24	0	0	0	39	335	96	66	421	38
Future Vol, veh/h	38	186	24	0	0	0	39	335	96	66	421	38
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	211	27	0	0	0	44	381	109	75	478	43
Number of Lanes	0	1	0	0	0	0	0	1	0	0	1	0

Approach	EB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	1	1
Conflicting Approach Left	SB	EB	
Conflicting Lanes Left	1	1	0
Conflicting Approach Right	NB		EB
Conflicting Lanes Right	1	0	1
HCM Control Delay	17.8	37	55
HCM LOS	C	E	F

Lane	NBLn1	EBLn1	SBLn1
Vol Left, %	8%	15%	13%
Vol Thru, %	71%	75%	80%
Vol Right, %	20%	10%	7%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	470	248	525
LT Vol	39	38	66
Through Vol	335	186	421
RT Vol	96	24	38
Lane Flow Rate	534	282	597
Geometry Grp	1	1	1
Degree of Util (X)	0.877	0.54	0.977
Departure Headway (Hd)	5.909	6.892	5.894
Convergence, Y/N	Yes	Yes	Yes
Cap	614	524	620
Service Time	3.93	4.942	3.913
HCM Lane V/C Ratio	0.87	0.538	0.963
HCM Control Delay	37	17.8	55
HCM Lane LOS	E	C	F
HCM 95th-tile Q	10.2	3.2	14.1

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	28	8	21	451	419	28
Future Vol, veh/h	28	8	21	451	419	28
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	30	9	23	490	455	30

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	1006	470	485	0	-	0
Stage 1	470	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	267	594	1078	-	-	-
Stage 1	629	-	-	-	-	-
Stage 2	587	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	259	594	1078	-	-	-
Mov Cap-2 Maneuver	259	-	-	-	-	-
Stage 1	611	-	-	-	-	-
Stage 2	587	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	19	0.4	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1078	-	296	-	-
HCM Lane V/C Ratio	0.021	-	0.132	-	-
HCM Control Delay (s)	8.4	0	19	-	-
HCM Lane LOS	A	A	C	-	-
HCM 95th %tile Q(veh)	0.1	-	0.5	-	-

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #7 Magnolia Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.636
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	43	Level Of Service:	B

Street Name:	Magnolia Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0	0	1! 0	0	0	1	0	0	1	1	0	1	0	1	1	0
Volume Module:												
Base Vol:	6	4	4	207	1	206	279	738	0	2	540	173
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	6	4	4	207	1	206	279	738	0	2	540	173
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	6	4	4	207	1	206	279	738	0	2	540	173
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	6	4	4	207	1	206	279	738	0	2	540	173
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	6	4	4	207	1	206	279	738	0	2	540	173
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.43	0.29	0.28	0.99	0.01	1.00	1.00	2.00	0.00	1.00	1.51	0.49
Final Sat.:	686	457	457	1592	8	1600	1600	3200	0	1600	2424	776
Capacity Analysis Module:												
Vol/Sat:	0.01	0.01	0.01	0.13	0.13	0.13	0.17	0.23	0.00	0.00	0.22	0.22
Crit Moves:	****			****			****				****	

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #8 Myrtle Avenue/Central Avenue - I-210 WB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.980
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	167	Level Of Service:	E

Street Name:	Myrtle Avenue						Central Avenue - I-210 WB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0 2		0 0	0 0 1		1 0	0 0 0		0 0	1 0 1		0 1
Volume Module:												
Base Vol:	362	443	0	0	770	223	0	0	0	276	550	304
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	362	443	0	0	770	223	0	0	0	276	550	304
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	362	443	0	0	770	223	0	0	0	276	550	304
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	362	443	0	0	770	223	0	0	0	276	550	304
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	362	443	0	0	770	223	0	0	0	276	550	304
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.55	0.45	0.00	0.00	0.00	1.00	1.00	1.00
Final Sat.:	1600	3200	0	0	2481	719	0	0	0	1600	1600	1600
Capacity Analysis Module:												
Vol/Sat:	0.23	0.14	0.00	0.00	0.31	0.31	0.00	0.00	0.00	0.17	0.34	0.19
Crit Moves:	****				****						****	

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #9 Myrtle Avenue/Evergreen Avenue - I-210 EB Ramps

Cycle (sec):	100	Critical Vol./Cap.(X):	0.950
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	133	Level Of Service:	E

Street Name:	Myrtle Avenue						Evergreen Avenue - I-210 EB Ramps					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	1 0	1	1 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	621	219	329	736	0	170	865	356	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	621	219	329	736	0	170	865	356	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	621	219	329	736	0	170	865	356	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	621	219	329	736	0	170	865	356	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	621	219	329	736	0	170	865	356	0	0	0
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	1.48	0.52	1.00	2.00	0.00	1.00	1.42	0.58	0.00	0.00	0.00
Final Sat.:	0	2366	834	1600	3200	0	1600	2267	933	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.26	0.26	0.21	0.23	0.00	0.11	0.38	0.38	0.00	0.00	0.00
Crit Moves:		****		****					****			

1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #10 Myrtle Avenue/Duarte Road

Cycle (sec):	100	Critical Vol./Cap.(X):	0.925
Loss Time (sec):	30	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	128	Level Of Service:	E

Street Name:	Myrtle Avenue						Duarte Road					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0	1 0	1	1 0
Volume Module:												
Base Vol:	107	468	48	58	651	232	155	489	279	68	333	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	107	468	48	58	651	232	155	489	279	68	333	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	107	468	48	58	651	232	155	489	279	68	333	49
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	107	468	48	58	651	232	155	489	279	68	333	49
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	107	468	48	58	651	232	155	489	279	68	333	49
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.81	0.19	1.00	1.47	0.53	1.00	1.27	0.73	1.00	1.74	0.26
Final Sat.:	1600	2902	298	1600	2359	841	1600	2038	1163	1600	2790	410
Capacity Analysis Module:												
Vol/Sat:	0.07	0.16	0.16	0.04	0.28	0.28	0.10	0.24	0.24	0.04	0.12	0.12
Crit Moves:	****			****			****			****		

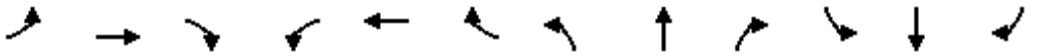
1625 Magnolia Avenue
MMF1701
Cumulative Plus Project PM

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Base Volume Alternative)

Intersection #11 Myrtle Avenue/Huntington Drive

Cycle (sec):	100	Critical Vol./Cap.(X):	0.802
Loss Time (sec):	10	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	67	Level Of Service:	D

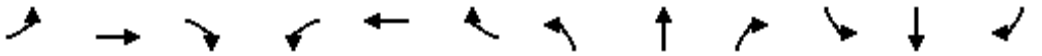
Street Name:	Myrtle Avenue						Huntington Drive					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	1 0	1	1 0	1 0	1	1 0	1 0	2	0 1	1 0	1	1 0
Volume Module:												
Base Vol:	162	387	154	128	569	60	82	968	164	162	727	53
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	162	387	154	128	569	60	82	968	164	162	727	53
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	162	387	154	128	569	60	82	968	164	162	727	53
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	162	387	154	128	569	60	82	968	164	162	727	53
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	162	387	154	128	569	60	82	968	164	162	727	53
Saturation Flow Module:												
Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.43	0.57	1.00	1.81	0.19	1.00	2.00	1.00	1.00	1.86	0.14
Final Sat.:	1600	2289	911	1600	2895	305	1600	3200	1600	1600	2983	217
Capacity Analysis Module:												
Vol/Sat:	0.10	0.17	0.17	0.08	0.20	0.20	0.05	0.30	0.10	0.10	0.24	0.24
Crit Moves:	****			****			****			****		



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	259	586	346	364	694	0	0	540	100
Future Volume (veh/h)	0	0	0	259	586	346	364	694	0	0	540	100
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				278	630	372	391	746	0	0	581	108
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				661	694	588	301	1678	0	0	723	134
Arrive On Green				0.37	0.37	0.37	0.34	0.94	0.00	0.00	0.24	0.24
Sat Flow, veh/h				1781	1870	1585	1781	3647	0	0	3086	555
Grp Volume(v), veh/h				278	630	372	391	746	0	0	344	345
Grp Sat Flow(s),veh/h/ln				1781	1870	1585	1781	1777	0	0	1777	1771
Q Serve(g_s), s				7.6	20.8	12.5	11.0	1.3	0.0	0.0	11.9	11.9
Cycle Q Clear(g_c), s				7.6	20.8	12.5	11.0	1.3	0.0	0.0	11.9	11.9
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.31
Lane Grp Cap(c), veh/h				661	694	588	301	1678	0	0	429	427
V/C Ratio(X)				0.42	0.91	0.63	1.30	0.44	0.00	0.00	0.80	0.81
Avail Cap(c_a), veh/h				682	716	607	301	1678	0	0	429	427
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.29	0.29	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.2	19.4	16.8	21.5	1.0	0.0	0.0	23.2	23.2
Incr Delay (d2), s/veh				0.4	15.2	2.0	140.9	0.2	0.0	0.0	14.6	15.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.8	10.8	4.3	15.1	0.3	0.0	0.0	6.3	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				15.7	34.6	18.9	162.4	1.2	0.0	0.0	37.8	38.2
LnGrp LOS				B	C	B	F	A	A	A	D	D
Approach Vol, veh/h					1280			1137			689	
Approach Delay, s/veh					25.9			56.6			38.0	
Approach LOS					C			E			D	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		35.8			15.0	20.8		29.2				
Change Period (Y+Rc), s		5.1			4.0	5.1		5.1				
Max Green Setting (Gmax), s		29.9			11.0	14.9		24.9				
Max Q Clear Time (g_c+I1), s		3.3			13.0	13.9		22.8				
Green Ext Time (p_c), s		5.4			0.0	0.4		1.3				

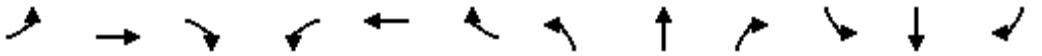
Intersection Summary												
HCM 6th Ctrl Delay			39.8									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	376	485	316	0	0	0	0	638	200	260	536	0
Future Volume (veh/h)	376	485	316	0	0	0	0	638	200	260	536	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	413	533	347				0	701	220	286	589	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	576	668	434				0	769	241	301	1846	0
Arrive On Green	0.32	0.32	0.32				0.00	0.29	0.29	0.34	1.00	0.00
Sat Flow, veh/h	1781	2064	1342				0	2755	835	1781	3647	0
Grp Volume(v), veh/h	413	459	421				0	468	453	286	589	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1629				0	1777	1720	1781	1777	0
Q Serve(g_s), s	13.3	15.3	15.3				0.0	16.5	16.5	10.2	0.0	0.0
Cycle Q Clear(g_c), s	13.3	15.3	15.3				0.0	16.5	16.5	10.2	0.0	0.0
Prop In Lane	1.00		0.82				0.00		0.49	1.00		0.00
Lane Grp Cap(c), veh/h	576	575	527				0	513	497	301	1846	0
V/C Ratio(X)	0.72	0.80	0.80				0.00	0.91	0.91	0.95	0.32	0.00
Avail Cap(c_a), veh/h	658	656	601				0	513	497	301	1846	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.60	0.60	0.00
Uniform Delay (d), s/veh	19.4	20.1	20.1				0.0	22.3	22.3	21.2	0.0	0.0
Incr Delay (d2), s/veh	3.2	6.1	6.7				0.0	23.0	23.6	27.7	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	6.6	6.2				0.0	9.5	9.2	5.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.6	26.2	26.8				0.0	45.3	45.9	48.9	0.3	0.0
LnGrp LOS	C	C	C				A	D	D	D	A	A
Approach Vol, veh/h		1293						921			875	
Approach Delay, s/veh		25.2						45.6			16.2	
Approach LOS		C						D			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.0	23.9		26.1		38.9
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	11.0	15.8		24.0		30.8
Max Q Clear Time (g_c+I1), s	12.2	18.5		17.3		2.0
Green Ext Time (p_c), s	0.0	0.0		3.7		4.2

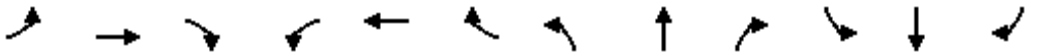
Intersection Summary	
HCM 6th Ctrl Delay	28.7
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	276	524	304	359	443	0	0	770	211
Future Volume (veh/h)	0	0	0	276	524	304	359	443	0	0	770	211
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				297	563	327	386	476	0	0	828	227
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				568	596	505	333	1938	0	0	841	231
Arrive On Green				0.32	0.32	0.32	0.37	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				1781	1870	1585	1781	3647	0	0	2849	755
Grp Volume(v), veh/h				297	563	327	386	476	0	0	534	521
Grp Sat Flow(s),veh/h/ln				1781	1870	1585	1781	1777	0	0	1777	1734
Q Serve(g_s), s				10.2	22.0	13.3	14.0	0.0	0.0	0.0	22.4	22.4
Cycle Q Clear(g_c), s				10.2	22.0	13.3	14.0	0.0	0.0	0.0	22.4	22.4
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.44
Lane Grp Cap(c), veh/h				568	596	505	333	1938	0	0	543	530
V/C Ratio(X)				0.52	0.94	0.65	1.16	0.25	0.00	0.00	0.98	0.98
Avail Cap(c_a), veh/h				568	596	505	333	1938	0	0	543	530
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.35	0.35	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.9	24.9	21.9	23.5	0.0	0.0	0.0	25.9	25.9
Incr Delay (d2), s/veh				0.9	24.0	2.9	84.2	0.1	0.0	0.0	34.9	35.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.1	12.9	5.0	11.9	0.0	0.0	0.0	13.9	13.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.8	48.9	24.8	107.7	0.1	0.0	0.0	60.7	61.3
LnGrp LOS				C	D	C	F	A	A	A	E	E
Approach Vol, veh/h					1187			862			1055	
Approach Delay, s/veh					35.5			48.3			61.0	
Approach LOS					D			D			E	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		46.0			18.0	28.0		29.0				
Change Period (Y+Rc), s		5.1			4.0	5.1		5.1				
Max Green Setting (Gmax), s		40.9			14.0	22.9		23.9				
Max Q Clear Time (g_c+I1), s		2.0			16.0	24.4		24.0				
Green Ext Time (p_c), s		3.4			0.0	0.0		0.0				

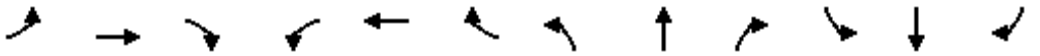
Intersection Summary												
HCM 6th Ctrl Delay			47.7									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	853	323	0	0	0	0	621	219	329	736	0
Future Volume (veh/h)	167	853	323	0	0	0	0	621	219	329	736	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	178	907	344				0	661	233	350	783	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	615	872	329				0	651	229	379	1843	0
Arrive On Green	0.35	0.35	0.35				0.00	0.25	0.25	0.43	1.00	0.00
Sat Flow, veh/h	1781	2524	952				0	2670	908	1781	3647	0
Grp Volume(v), veh/h	178	637	614				0	456	438	350	783	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1699				0	1777	1707	1781	1777	0
Q Serve(g_s), s	5.5	25.9	25.9				0.0	19.0	19.0	14.0	0.0	0.0
Cycle Q Clear(g_c), s	5.5	25.9	25.9				0.0	19.0	19.0	14.0	0.0	0.0
Prop In Lane	1.00		0.56				0.00		0.53	1.00		0.00
Lane Grp Cap(c), veh/h	615	614	587				0	449	431	379	1843	0
V/C Ratio(X)	0.29	1.04	1.05				0.00	1.02	1.02	0.92	0.42	0.00
Avail Cap(c_a), veh/h	615	614	587				0	449	431	380	1843	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.36	0.36	0.00
Uniform Delay (d), s/veh	17.9	24.5	24.6				0.0	28.0	28.0	21.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	46.7	49.8				0.0	46.4	47.4	13.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	17.8	17.5				0.0	13.3	12.9	5.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.1	71.2	74.4				0.0	74.4	75.4	34.1	0.3	0.0
LnGrp LOS	B	F	F				A	F	F	C	A	A
Approach Vol, veh/h		1429						894			1133	
Approach Delay, s/veh		65.9						74.9			10.7	
Approach LOS		E						E			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.9	24.1		31.0		44.0
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	16.0	18.9		25.9		38.9
Max Q Clear Time (g_c+I1), s	16.0	21.0		27.9		2.0
Green Ext Time (p_c), s	0.0	0.0		0.0		6.1

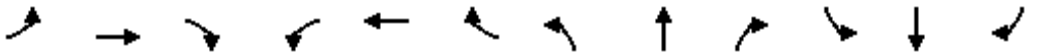
Intersection Summary	
HCM 6th Ctrl Delay	50.2
HCM 6th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	259	588	346	371	694	0	0	540	126
Future Volume (veh/h)	0	0	0	259	588	346	371	694	0	0	540	126
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				278	632	372	399	746	0	0	581	135
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				662	695	589	301	1676	0	0	690	160
Arrive On Green				0.37	0.37	0.37	0.34	0.94	0.00	0.00	0.24	0.24
Sat Flow, veh/h				1781	1870	1585	1781	3647	0	0	2958	664
Grp Volume(v), veh/h				278	632	372	399	746	0	0	360	356
Grp Sat Flow(s),veh/h/ln				1781	1870	1585	1781	1777	0	0	1777	1751
Q Serve(g_s), s				7.6	20.9	12.5	11.0	1.3	0.0	0.0	12.5	12.6
Cycle Q Clear(g_c), s				7.6	20.9	12.5	11.0	1.3	0.0	0.0	12.5	12.6
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.38
Lane Grp Cap(c), veh/h				662	695	589	301	1676	0	0	428	422
V/C Ratio(X)				0.42	0.91	0.63	1.32	0.45	0.00	0.00	0.84	0.84
Avail Cap(c_a), veh/h				682	716	607	301	1676	0	0	428	422
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.24	0.24	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				15.2	19.4	16.8	21.5	1.0	0.0	0.0	23.5	23.5
Incr Delay (d2), s/veh				0.4	15.4	2.0	151.3	0.2	0.0	0.0	17.8	18.4
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				2.8	10.8	4.3	16.0	0.3	0.0	0.0	6.9	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				15.6	34.8	18.8	172.8	1.2	0.0	0.0	41.3	41.9
LnGrp LOS				B	C	B	F	A	A	A	D	D
Approach Vol, veh/h					1282			1145			716	
Approach Delay, s/veh					26.0			61.0			41.6	
Approach LOS					C			E			D	

Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		35.8			15.0	20.8		29.2				
Change Period (Y+Rc), s		5.1			4.0	5.1		5.1				
Max Green Setting (Gmax), s		29.9			11.0	14.9		24.9				
Max Q Clear Time (g_c+I1), s		3.3			13.0	14.6		22.9				
Green Ext Time (p_c), s		5.4			0.0	0.1		1.3				

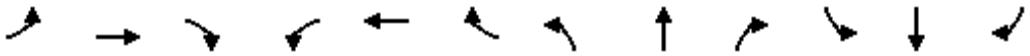
Intersection Summary												
HCM 6th Ctrl Delay			42.3									
HCM 6th LOS			D									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	383	511	319	0	0	0	0	638	200	260	536	0
Future Volume (veh/h)	383	511	319	0	0	0	0	638	200	260	536	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	421	562	351				0	701	220	286	589	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	588	693	433				0	751	236	301	1823	0
Arrive On Green	0.33	0.33	0.33				0.00	0.28	0.28	0.34	1.00	0.00
Sat Flow, veh/h	1781	2100	1311				0	2755	835	1781	3647	0
Grp Volume(v), veh/h	421	475	438				0	468	453	286	589	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1634				0	1777	1720	1781	1777	0
Q Serve(g_s), s	13.5	15.9	15.9				0.0	16.7	16.7	10.2	0.0	0.0
Cycle Q Clear(g_c), s	13.5	15.9	15.9				0.0	16.7	16.7	10.2	0.0	0.0
Prop In Lane	1.00		0.80				0.00		0.49	1.00		0.00
Lane Grp Cap(c), veh/h	588	587	540				0	501	485	301	1823	0
V/C Ratio(X)	0.72	0.81	0.81				0.00	0.93	0.93	0.95	0.32	0.00
Avail Cap(c_a), veh/h	658	656	603				0	501	485	301	1823	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.57	0.57	0.00
Uniform Delay (d), s/veh	19.1	19.9	19.9				0.0	22.7	22.7	21.2	0.0	0.0
Incr Delay (d2), s/veh	3.3	6.9	7.5				0.0	26.6	27.3	26.8	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	7.0	6.5				0.0	10.0	9.7	5.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.4	26.8	27.4				0.0	49.4	50.0	48.0	0.3	0.0
LnGrp LOS	C	C	C				A	D	D	D	A	A
Approach Vol, veh/h		1334						921			875	
Approach Delay, s/veh		25.6						49.7			15.9	
Approach LOS		C						D			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.0	23.4		26.6		38.4
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	11.0	15.8		24.0		30.8
Max Q Clear Time (g_c+I1), s	12.2	18.7		17.9		2.0
Green Ext Time (p_c), s	0.0	0.0		3.5		4.2

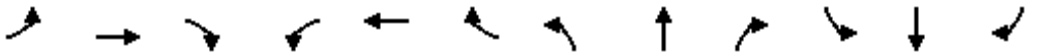
Intersection Summary	
HCM 6th Ctrl Delay	30.0
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	276	550	304	362	443	0	0	770	223
Future Volume (veh/h)	0	0	0	276	550	304	362	443	0	0	770	223
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	1870	1870	1870	1870	0	0	1870	1870
Adj Flow Rate, veh/h				297	591	327	389	476	0	0	828	240
Peak Hour Factor				0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %				2	2	2	2	2	0	0	2	2
Cap, veh/h				568	596	505	333	1938	0	0	830	240
Arrive On Green				0.32	0.32	0.32	0.37	1.00	0.00	0.00	0.31	0.31
Sat Flow, veh/h				1781	1870	1585	1781	3647	0	0	2812	787
Grp Volume(v), veh/h				297	591	327	389	476	0	0	541	527
Grp Sat Flow(s),veh/h/ln				1781	1870	1585	1781	1777	0	0	1777	1729
Q Serve(g_s), s				10.2	23.6	13.3	14.0	0.0	0.0	0.0	22.8	22.8
Cycle Q Clear(g_c), s				10.2	23.6	13.3	14.0	0.0	0.0	0.0	22.8	22.8
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.46
Lane Grp Cap(c), veh/h				568	596	505	333	1938	0	0	543	528
V/C Ratio(X)				0.52	0.99	0.65	1.17	0.25	0.00	0.00	1.00	1.00
Avail Cap(c_a), veh/h				568	596	505	333	1938	0	0	543	528
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	1.00	1.00	0.37	0.37	0.00	0.00	1.00	1.00
Uniform Delay (d), s/veh				20.9	25.4	21.9	23.5	0.0	0.0	0.0	26.0	26.0
Incr Delay (d2), s/veh				0.9	34.6	2.9	88.4	0.1	0.0	0.0	38.0	38.7
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				4.1	15.3	5.0	12.3	0.0	0.0	0.0	14.6	14.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				21.8	60.1	24.8	111.9	0.1	0.0	0.0	64.0	64.8
LnGrp LOS				C	E	C	F	A	A	A	E	E
Approach Vol, veh/h					1215			865			1068	
Approach Delay, s/veh					41.2			50.4			64.4	
Approach LOS					D			D			E	

Timer - Assigned Phs	2		5	6		8						
Phs Duration (G+Y+Rc), s	46.0		18.0	28.0		29.0						
Change Period (Y+Rc), s	5.1		4.0	5.1		5.1						
Max Green Setting (Gmax), s	40.9		14.0	22.9		23.9						
Max Q Clear Time (g_c+I1), s	2.0		16.0	24.8		25.6						
Green Ext Time (p_c), s	3.4		0.0	0.0		0.0						

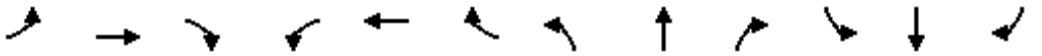
Intersection Summary		
HCM 6th Ctrl Delay		51.6
HCM 6th LOS		D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	865	356	0	0	0	0	621	219	329	736	0
Future Volume (veh/h)	170	865	356	0	0	0	0	621	219	329	736	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	181	920	379				0	661	233	350	783	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	615	850	347				0	651	229	379	1843	0
Arrive On Green	0.35	0.35	0.35				0.00	0.25	0.25	0.43	1.00	0.00
Sat Flow, veh/h	1781	2461	1006				0	2670	908	1781	3647	0
Grp Volume(v), veh/h	181	662	637				0	456	438	350	783	0
Grp Sat Flow(s),veh/h/ln	1781	1777	1689				0	1777	1707	1781	1777	0
Q Serve(g_s), s	5.6	25.9	25.9				0.0	19.0	19.0	14.0	0.0	0.0
Cycle Q Clear(g_c), s	5.6	25.9	25.9				0.0	19.0	19.0	14.0	0.0	0.0
Prop In Lane	1.00		0.60				0.00		0.53	1.00		0.00
Lane Grp Cap(c), veh/h	615	614	583				0	449	431	379	1843	0
V/C Ratio(X)	0.29	1.08	1.09				0.00	1.02	1.02	0.92	0.42	0.00
Avail Cap(c_a), veh/h	615	614	583				0	449	431	380	1843	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.34	0.34	0.00
Uniform Delay (d), s/veh	17.9	24.5	24.6				0.0	28.0	28.0	21.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	59.6	64.6				0.0	46.4	47.4	12.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	20.0	19.8				0.0	13.3	12.9	5.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	84.2	89.1				0.0	74.4	75.4	33.6	0.2	0.0
LnGrp LOS	B	F	F				A	F	F	C	A	A
Approach Vol, veh/h		1480						894			1133	
Approach Delay, s/veh		78.2						74.9			10.5	
Approach LOS		E						E			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.9	24.1		31.0		44.0
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	16.0	18.9		25.9		38.9
Max Q Clear Time (g_c+I1), s	16.0	21.0		27.9		2.0
Green Ext Time (p_c), s	0.0	0.0		0.0		6.1

Intersection Summary	
HCM 6th Ctrl Delay	55.5
HCM 6th LOS	E



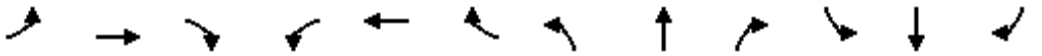
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	383	511	319	0	0	0	0	638	200	260	536	0
Future Volume (veh/h)	383	511	319	0	0	0	0	638	200	260	536	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	421	562	351				0	701	220	286	589	0
Peak Hour Factor	0.91	0.91	0.91				0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	581	703	439				0	761	239	301	1836	0
Arrive On Green	0.33	0.33	0.33				0.00	0.29	0.29	0.34	1.00	0.00
Sat Flow, veh/h	1781	2154	1345				0	2755	835	1781	3647	0
Grp Volume(v), veh/h	421	488	425				0	468	453	286	589	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1628				0	1777	1720	1781	1777	0
Q Serve(g_s), s	13.6	15.5	15.5				0.0	16.6	16.6	10.2	0.0	0.0
Cycle Q Clear(g_c), s	13.6	15.5	15.5				0.0	16.6	16.6	10.2	0.0	0.0
Prop In Lane	1.00		0.83				0.00		0.49	1.00		0.00
Lane Grp Cap(c), veh/h	581	610	531				0	508	492	301	1836	0
V/C Ratio(X)	0.72	0.80	0.80				0.00	0.92	0.92	0.95	0.32	0.00
Avail Cap(c_a), veh/h	658	691	601				0	508	492	301	1836	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.57	0.57	0.00
Uniform Delay (d), s/veh	19.3	20.0	20.0				0.0	22.5	22.5	21.2	0.0	0.0
Incr Delay (d2), s/veh	3.4	6.0	6.8				0.0	24.5	25.1	26.8	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.5	7.0	6.2				0.0	9.7	9.5	5.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.8	25.9	26.8				0.0	46.9	47.5	48.0	0.3	0.0
LnGrp LOS	C	C	C				A	D	D	D	A	A
Approach Vol, veh/h		1334						921			875	
Approach Delay, s/veh		25.2						47.2			15.9	
Approach LOS		C						D			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.0	23.7		26.3		38.7
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	11.0	15.8		24.0		30.8
Max Q Clear Time (g_c+I1), s	12.2	18.6		17.5		2.0
Green Ext Time (p_c), s	0.0	0.0		3.7		4.2

Intersection Summary			
HCM 6th Ctrl Delay			29.1
HCM 6th LOS			C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	170	865	356	0	0	0	0	621	219	329	736	0
Future Volume (veh/h)	170	865	356	0	0	0	0	621	219	329	736	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870				0	1870	1870	1870	1870	0
Adj Flow Rate, veh/h	181	920	379				0	661	233	350	783	0
Peak Hour Factor	0.94	0.94	0.94				0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	615	872	356				0	651	229	379	1843	0
Arrive On Green	0.35	0.35	0.35				0.00	0.25	0.25	0.43	1.00	0.00
Sat Flow, veh/h	1781	2524	1031				0	2670	908	1781	3647	0
Grp Volume(v), veh/h	181	680	619				0	456	438	350	783	0
Grp Sat Flow(s),veh/h/ln	1781	1870	1685				0	1777	1707	1781	1777	0
Q Serve(g_s), s	5.6	25.9	25.9				0.0	19.0	19.0	14.0	0.0	0.0
Cycle Q Clear(g_c), s	5.6	25.9	25.9				0.0	19.0	19.0	14.0	0.0	0.0
Prop In Lane	1.00		0.61				0.00		0.53	1.00		0.00
Lane Grp Cap(c), veh/h	615	646	582				0	449	431	379	1843	0
V/C Ratio(X)	0.29	1.05	1.06				0.00	1.02	1.02	0.92	0.42	0.00
Avail Cap(c_a), veh/h	615	646	582				0	449	431	380	1843	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	1.00	1.00				0.00	1.00	1.00	0.34	0.34	0.00
Uniform Delay (d), s/veh	17.9	24.6	24.6				0.0	28.0	28.0	21.0	0.0	0.0
Incr Delay (d2), s/veh	0.3	50.0	55.6				0.0	46.4	47.4	12.6	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	19.3	18.3				0.0	13.3	12.9	5.3	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	18.2	74.6	80.1				0.0	74.4	75.4	33.6	0.2	0.0
LnGrp LOS	B	F	F				A	F	F	C	A	A
Approach Vol, veh/h		1480						894			1133	
Approach Delay, s/veh		70.0						74.9			10.5	
Approach LOS		E						E			B	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	19.9	24.1		31.0		44.0
Change Period (Y+Rc), s	4.0	5.1		5.1		5.1
Max Green Setting (Gmax), s	16.0	18.9		25.9		38.9
Max Q Clear Time (g_c+I1), s	16.0	21.0		27.9		2.0
Green Ext Time (p_c), s	0.0	0.0		0.0		6.1

Intersection Summary			
HCM 6th Ctrl Delay			52.0
HCM 6th LOS			D

Notes

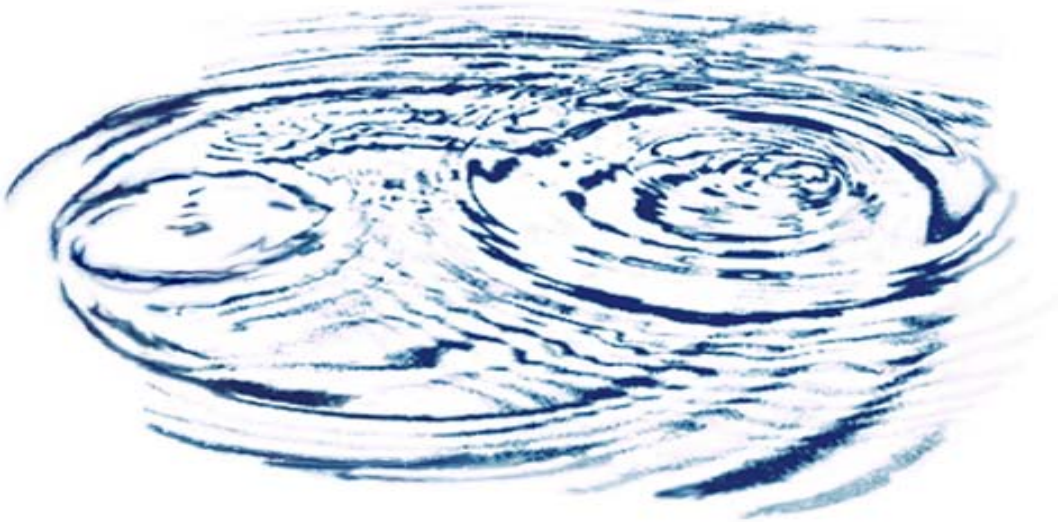
User approved volume balancing among the lanes for turning movement.

APPENDIX K
UTILITIES DOCUMENTATION

APPENDIX K1
WATER SUPPLY ASSESSMENT

City of Monrovia

Water Supply Assessment
Alexan Monrovia Project



September 2018

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Water Supply Assessment
City of Monrovia
September 2018

Executive Summary

The proposed "Alexan Monrovia Project" (Project) is located within the City of Monrovia (City). Water service in the City is provided by the City's water system. The proposed Project will result in an additional water demand during an average/normal year of up to 69 acre-feet per year (AFY) by fiscal year 2019-20 and thereafter. The City's estimated water demands with the Project is approximately 7,106 AFY by the year 2040. The City currently meets water demands by pumping groundwater from the Main San Gabriel Basin. Management of the Main San Gabriel Basin, including delivery of untreated imported water for groundwater replenishment, allows the City (and all other producers within the Main San Gabriel Basin) to use groundwater to meet water demands without limitations on the quantity of groundwater pumping from the Main San Gabriel Basin. Reliability of the Main San Gabriel Basin groundwater supplies has been demonstrated during droughts with no resulting limitation of groundwater production. Based on the demonstrated reliability of the City's water supply sources, sufficient water supplies can be reasonably concluded to be fully reliable and available to meet the City's existing demands and future demands through 2040, with the Project, including during single and multiple dry years.

1.0 Introduction

The proposed Project will consist of 436 residential units. The proposed Project will be constructed on property which is currently improved and currently served water by the City. The water demand for the existing improvements on the property is approximately 1.2 AFY. Water demands within the City and the long-term water supply for the City are discussed below.

1.1 City of Monrovia

The City's water system is located in Los Angeles County and serves the City of Monrovia (see Figure 1). The City's water system is a "public water system" as defined by California Water Code Section 10912 (c). Currently, there are approximately 9,600 service connections serving a population of approximately 36,600 people. The City's water system will provide water service to the Project (see Figure 1).

1.2 Water Supply Planning Provisions

Population growth in the State of California has resulted in additional water demand on water systems. The State legislature has enacted laws to ensure the increased demands are adequately addressed and a firm source of water supply is available prior to approval of certain new developments. The regulations include California Water Code Division 6, Part 2.10, Sections 10910-10915 (Water Supply Planning to Support Existing and Planned Future Use) (California Water Code) which is briefly described below. The provisions of the California Water Code and the Government Code seek to promote more collaborative planning between local water suppliers, cities and counties and require detailed information regarding water availability to be provided to city and county land use planners prior to approval of certain specified large land use development projects.

This Water Supply Assessment (WSA) was prepared pursuant to the requirements of the California Water Code and the Government Code for the approach, required information, and criteria to confirm the City has sufficient water supplies to meet the

projected water demands of the Project, in addition to existing and other planned future uses. The Urban Water Management Plan (UWMP) is a foundational document for compliance with the California Water Code. The provisions of the California Water Code repeatedly identify the UWMP as a planning document that can be used by a water supplier to meet the standards set forth in both statutes. California Environmental Quality Act (CEQA) guidelines section 15083.5 contains similar provisions regarding consultation with water agencies for certain projects. The City's 2015 UWMP (June 2016), Metropolitan Water District of Southern California's (MWD) 2015 Regional UWMP (June 2016), and Upper San Gabriel Valley Municipal Water District's (USGVMWD) 2015 UWMP (June 2016), prepared pursuant to California Water Code Division 6, Part 2.55, Section 10608 (Sustainable Water Use and Demand Reduction) and California Water Code Division 6, Part 2.6, Sections 10608-10656 (Urban Water Management Planning) and the Water Conservation Act of 2009 (also known as SB X7-7), describe future water demands and future availability of the water supply sources used by the City and other retail water agencies operating within the Main San Gabriel Basin. These UWMP documents were used to prepare this WSA. The projected water demands for the Project are not included in the City's 2015 UWMP.

1.2.1 California Water Code (Sections 10910-10915)

Existing law requires every urban water supplier to identify, as part of its UWMP, the existing and planned sources of water available to the supplier. Existing law prohibits an urban water supplier that fails to prepare or submit its UWMP to the Department of Water Resources (DWR) from receiving financial or drought assistance from the State until the plan is submitted.

The California Water Code requires an urban water supplier to include in its UWMP a description of all water supply projects and programs that may be undertaken to meet total projected water use over the next 20 years. The California Water Code requires a city or county that determines a project is subject to the CEQA to identify any public water system that may supply water for proposed developments and to request those public water systems to prepare a specific WSA. If the water demands for the proposed developments have been accounted for in a recently adopted UWMP, the water supplier

may incorporate information contained in that plan to satisfy certain requirements of a WSA. The California Water Code requires the assessment to include, along with other information, an identification of existing water supply entitlements, water rights, or water service contracts relevant to the identified water supply for the proposed project and the quantities of water received in prior years pursuant to those entitlements, rights, and contracts.

The California Water Code also requires the public water system, or the city or county, as applicable, to submit its plans for acquiring additional water supplies if that entity concludes that water supplies are, or will be, insufficient.

1.2.2 Government Code 66473.7

Government Code 66473.7 prohibits approval of a tentative map, or a parcel map for which a tentative map was not required, or a development agreement for a subdivision of property of more than 500 dwelling units, except as specified, including the design of the subdivision or the type of improvement, unless the legislative body of a city or county or the designated advisory agency provides written verification from the applicable public water system that a sufficient water supply is available or, in addition, a specified finding is made by the local agency that sufficient water supplies are, or will be, available prior to completion of the project. Sufficient water supply is the total water supply available during normal, single-dry, and multiple-dry years within a 20-year projection that will meet the projected demand, in addition to existing and planned future uses.

2.0 Water Demands

2.1 Historical Water Demand

The City's primary water supply source is groundwater from the Main San Gabriel Basin (see Figure 2). In addition, the City can purchase treated imported water supplies from MWD through its USG-7 connection. Table 2 provides the City's city wide historical water use. Over the past 20 years, the City's groundwater production has ranged from approximately 5,810 acre-feet per year (AFY) to approximately 9,706 AFY, with an average production of approximately 7,690 AFY. The City historically has not utilized imported water supplies to meet demands.

Table 1. City Wide Historical Water Demands (AFY)

Calendar Year	Main Basin	MWD USG-7	Total Demand
1998	7,466	0	7,466
1999	9,073	0	9,073
2000	8,477	0	8,477
2001	8,812	0	8,812
2002	5,810	0	5,810
2003	9,706	0	9,706
2004	8,497	0	8,497
2005	7,956	0	7,956
2006	7,958	0	7,958
2007	8,250	0	8,250
2008	7,868	0	7,868
2009	7,334	0	7,334
2010	6,813	0	6,813
2011	7,084	0	7,084
2012	7,661	0	7,661
2013	7,830	0	7,830
2014	7,569	0	7,569
2015	6,229	0	6,229
2016	6,410	0	6,410
2017	7,006	0	7,006
20-Year Average	7,690	0	7,690

Sources: Main Basin production from 1998 through 2017 from 2015 UWMP and Main San Gabriel Basin Annual Reports. Treated Imported Water data from 2015 UWMP and Main San Gabriel Basin Annual Reports.

2.2 Projected Future Water Demand

The proposed Project will consist of approximately 436 residential units. The City's water system will provide potable water to the entire Project.

2.2.1 Project Water Demand

According to the California State Water Resources Control Board, the indoor water standard will be 55 gallons per capita per day (GPCD). Assuming 2.5 persons per residential units, the estimated population from the proposed Project is about 1,090 (436 units x 2.5). Based on the 55 GPCD and an estimated 1,090 people living in the proposed Project, the estimated demand from the proposed Project is approximately 67 AFY (55 GPCD x 1,090 x 365 days in a year / 325,851 gallons in an acre-feet).

According to a landscape plan prepared by EPT Design, the proposed Project will have approximately 47,894 square feet of irrigated areas. The Project landscape irrigation demand was estimated using a water budget calculator from the California Department of Water Resources. Based on an evapotranspiration rate of 52.30 inches per year (City of Pasadena), an irrigation efficiency of 0.7, a plant factor of 0.4 for low to moderate water use plants, and a unit conversion factor of 0.62, the estimated irrigation water use rate is approximately 2.5 AFY per acre (or 52.30 x 0.62 x 0.4 x (1 / 0.7) x (43,560 sq. ft / 1 acre) x (1 acre-foot / 325,851 gallons)). The estimated irrigation water demand for the Project is approximately 2.7 AFY (or 47,894 sq. ft. x (1 acre / 43,560 sq. ft.) x 2.5 AFY per acre). The total estimated demand is approximately 70 AFY (or 67 AFY + 2.7 AFY).

The proposed Project will be constructed on property which had an existing water demand of 1.2 AFY. Consequently, the additional demand from the proposed Project is approximately 69 AFY (or 70 AFY – 1.2 AFY).

2.2.2 City Wide Projected Future Demands

The City's 2015 UWMP includes current and projected future water demands for its service area over the next twenty years. However, the projected water demands for the Project are not included in the City's 2015 UWMP. The projected water demands in the City's 2015 UWMP were calculated based on: (1) urban per capita water use targets developed pursuant to Senate Bill SBX7-7 (Water Conservation Act of 2009); and (2) population projections. Urban per capita water use targets were identified in the City's 2015 UWMP. The population projections incorporated in the City's 2015 UWMP were projected using growth rate projections obtained from the Southern California Association of Governments (SCAG), an organization mandated by the federal government to research and draw up plans for transportation, growth management, hazardous waste management, and air quality.

Table 2 shows the projected water demands through 2040 for the City's service area including the Project's water demands. It is anticipated the projected water demands for the Project will begin by 2020.

Table 2. City Wide Projected Water Demands (AFY)

Fiscal Year	Water Demands (AFY)	
	2015 UWMP [1]	Including Alexan Monrovia Project [2]
2019-20	6,635	6,704
2024-25	6,734	6,803
2029-30	6,833	6,902
2034-35	6,935	7,004
2039-40	7,037	7,106

Notes:
1/ The projected water demands for the Project are not included in the City's 2015 UWMP.
2/ Includes an additional demand of approximately 69 AFY from the Alexan Monrovia Project

3.0 Water Supply Sources

3.1 Main San Gabriel Basin

The total fresh water storage capacity of the Main San Gabriel Basin is estimated to be approximately 8.7 million AF. Of that storage, about 1,000,000 AF is historically considered to have been actively managed for local public water supply. The Court adjudication of the Main San Gabriel Basin in 1973 provided groundwater management that allows operation of basin storage to meet water demands and provide a mechanism to fund the purchase and replenishment of untreated imported water to supplement recharge of local water. The management of basin storage, and the use of supplemental imported water for recharge, expand and increase the reliability of the available basin groundwater supply. A description of the elements of the adjudication that allow efficient management of the Main San Gabriel Basin is included in the Main San Gabriel Basin Judgment (see attached Appendix A). Although there is no limit on the quantity of groundwater that may be extracted by Parties to the Main San Gabriel Basin adjudication, including the City, groundwater production in addition to a pumper's proportional share (pumper's share) of the Operating Safe Yield (see Appendix B), requires the pumper to bear the cost of imported Replacement Water to recharge the Main San Gabriel Basin. The City's pumper's share is currently 3.09472 percent of the Operating Safe Yield.

3.1.1 Groundwater Wells

The City pumps groundwater from its five active wells, Wells No. 2, No. 3, No. 4, No. 5, and No. 6, which are located within the Main Basin. These wells have a combined capacity of about 10,000 gpm.

Table 3 shows the City's historical groundwater production from the Main San Gabriel Basin, which ranged from 5,810 AFY to 9,706 AFY, with an average of approximately 7,690 AFY. The reliability of the Main San Gabriel Basin to meet all demands is discussed below in Section 3.1.2.

Table 3. City's Production from the Main San Gabriel Basin (AFY)

Calendar Year	Total Demand
1998	7,466
1999	9,073
2000	8,477
2001	8,812
2002	5,810
2003	9,706
2004	8,497
2005	7,956
2006	7,958
2007	8,250
2008	7,868
2009	7,334
2010	6,813
2011	7,084
2012	7,661
2013	7,830
2014	7,569
2015	6,229
2016	6,410
2017	7,006
20-Year Average	7,690

Source: Calendar Years 1998 through 2017 from 2015 UWMP and Main San Gabriel Basin Annual Reports.

3.1.2 Main San Gabriel Basin Reliability

The City's primary water supply is from the Main San Gabriel Basin (additional water supply from MWD is discussed in Section 3.2). The 1973 Court adjudication required the efficient management of groundwater supplies. Historical water supplies used within the Main San Gabriel Basin to meet its demands are shown in Table 4 and include groundwater extractions, surface water diversions, and direct delivery of treated imported water (from USGVMWD and Three Valleys Municipal Water District (TVMWD)) within the Main San Gabriel Basin. Table 5 provides rolling ten-year averages of the total water demand. Although historical total water demands in the Main San Gabriel Basin had generally increased as population increased, the rolling ten-year averages for the past ten years show a decrease in average total water demand.

Table 4. Historical Water Demand in the Main San Gabriel Basin (AFY)

Fiscal Year	Recorded Production [1]			Direct Deliveries (Treated Imported Water) [2]			Total Water Demand [3]
	Groundwater	Surface Water	Sub-Total	USGVMWD	TVMWD	Sub-Total	
1997-98	236,325	17,714	254,039	7,404	6,804	14,208	268,247
1998-99	242,937	22,215	265,152	7,131	6,714	13,846	278,998
1999-00	261,676	17,011	278,687	11,151	9,911	21,062	299,749
2000-01	250,889	20,031	270,919	9,070	10,900	19,971	290,890
2001-02	247,125	17,203	264,328	18,346	16,806	35,153	299,481
2002-03	232,790	4,700	237,491	20,687	20,295	40,982	278,472
2003-04	245,513	7,337	252,850	27,675	23,084	50,758	303,608
2004-05	234,337	12,930	247,266	12,895	17,587	30,482	277,748
2005-06	246,473	13,466	259,940	10,981	12,144	23,125	283,065
2006-07	270,075	14,255	284,330	14,290	11,614	25,904	310,234
2007-08	250,223	7,944	258,167	16,958	13,216	30,174	288,341
2008-09	236,976	13,731	250,707	8,533	13,150	21,683	272,390
2009-10	223,322	14,524	237,846	6,557	9,773	16,329	254,176
2010-11	214,211	13,446	227,657	3,429	6,886	10,316	237,973
2011-12	219,534	17,494	237,029	3,975	6,587	10,561	247,590
2012-13	230,630	12,284	242,914	3,529	10,815	14,344	257,258
2013-14	233,893	6,659	240,552	3,490	18,725	22,216	262,768
2014-15	196,409	11,931	208,339	9,069	13,447	22,517	230,856
2015-16	173,855	8,972	182,826	2,624	10,116	12,740	195,567
2016-17	184,450	12,794	197,243	3,197	9,055	12,251	209,495
5-Year Average	203,847	10,528	**214,375**	4,382	12,432	16,814	231,189

Notes:

[1] "Recorded Production" consists of groundwater extractions and surface water diversions which is accounted for as if it were a groundwater extraction, but does not include untreated imported water purchased for replacement/ recharge purposes.

[2] "Direct Deliveries (Imported Water)" does not include untreated imported water purchased for replacement/recharge purposes and includes treated imported water from USG-5.

[3] Does not include recycled water deliveries

TVMWD = Three Valleys Municipal Water District

USGVMWD = Upper San Gabriel Valley Municipal Water District

Source: Main San Gabriel Basin Watermaster Annual Report 2016-17

Table 5. 10-Year Rolling Average of Total Main San Gabriel Basin Water Demands

Fiscal Year	10-Year Rolling Average	Annual Change of 10-Year Average
2006-07	289,049	--
2007-08	291,059	0.7%
2008-09	290,398	-0.2%
2009-10	285,840	-1.6%
2010-11	280,549	-1.9%
2011-12	275,360	-1.9%
2012-13	273,238	-0.8%
2013-14	269,154	-1.5%
2014-15	264,465	-1.7%
2015-16	255,715	-3.3%
2016-17	245,641	-3.9%

Source: Main San Gabriel Basin Watermaster Annual Reports. 10-Year Rolling Average based on Table 4.

Future total water demands in the Main San Gabriel Basin can be projected based on population growth. Population projections within the Main San Gabriel Basin were based on population data provided in USGVMWD's 2015 UWMP, San Gabriel Valley Municipal Water District's (SGVMWD's) 2015 UWMP, and TVMWD's 2015 UWMP. Based on the population data, the total population within the combined service areas for all Main San Gabriel Basin water producers was estimated (see Table 6). The total population served by Main San Gabriel Basin water producers is projected to increase from approximately 1,202,300 people, in 2015, to approximately 1,355,200 people, in 2040. This represents an increase of approximately 153,000 people over twenty five years, which is an average annual growth rate of approximately 0.6 percent.

Table 6. Projected Population Served by Main San Gabriel Basin Producers

Year	Population
2015	1,202,260
2020	1,226,492
2025	1,253,721
2030	1,296,341
2035	1,325,459
2040	1,355,200

Sources: Population projections from Upper San Gabriel Valley Municipal Water District's 2015 UWMP, San Gabriel Valley Municipal Water District's 2015 UWMP, and Three Valleys Municipal Water District's 2015 UWMP

Total water demands in the Main San Gabriel Basin (excluding major industrial uses and exports to the Central Basin) can be compared with population information to obtain a per capita water use rate. Between fiscal years 2012-13 and 2016-17 (see Table 7), the average annual demand in the Main San Gabriel Basin was approximately 231,188 AFY; the average total export to the Central Basin was approximately 37,552 AFY; and the average total major industrial demand was approximately 5,828 AFY. Based on the net average demand over the recent five years in the Main San Gabriel Basin of approximately 187,808 (231,188 – 37,552 – 5,828) AFY and a 2015 population in the Main San Gabriel Basin of approximately 1,202,260 people, the average annual per capita water use rate was approximately 0.16 AFY (187,808 AFY / 1,202,260 people) for a single family residence. For the purposes of this WSA, it is assumed the per capita water use rate of 0.16 AFY (about 140 GPCD) will continue over the next twenty years (from 2020 through 2040). Based on the estimated per capita water use and projected population growth, total water (local plus treated imported) served by producers in the Main San Gabriel Basin will increase from approximately 234,974 AFY, in 2020, to approximately 257,080 AFY, in 2040, as shown in Table 7, with an annual growth rate of approximately 0.4 percent.

Table 7. Projected Main San Gabriel Basin Water Demands (AFY)

Year	Population [1]	Main San Gabriel Basin Demands (AFY)				Less Treated Imported [5]	Net Local [5]
		Demand from Population [2]	Central Basin Exports [3]	Industrial Demands [4]	Total		
2012-13*	--	209,596	41,369	6,293	257,258	14,344	242,914
2013-14*	--	214,425	41,859	6,484	262,768	22,216	240,552
2014-15*	--	190,211	35,389	5,256	230,856	22,517	208,339
2015-16*	--	156,550	33,786	5,230	195,566	12,740	182,826
2016-17*	--	168,259	35,358	5,877	209,494	12,251	197,243
5-Year Average		**187,808**	**37,552**	**5,828**	**231,188**	**16,814**	**214,375**
2020	1,226,492	191,594	37,552	5,828	234,974	16,814	218,160
2025	1,253,721	195,847	38,052	5,828	239,727	16,814	222,914
2030	1,296,341	202,505	38,552	5,828	246,885	16,814	230,072
2035	1,325,459	207,054	39,052	5,828	251,934	16,814	235,120
2040	1,355,200	211,699	39,552	5,828	257,080	16,814	240,266

Notes:
* In fiscal year

[1] See Table 6

[2] Based on an average annual water use rate of approximately 0.16 AFY per capita which is about 140 gallons per capita per day

[3] 2020 exports are based on average exports between fiscal years 2012-13 and 2016-17; Exports are anticipated to increase and have been estimated to increase approximately 2,000 AF over a 20 year period and assumed constant thereafter

[4] Based on average industrial demands between fiscal years 2012-13 and 2016-17; assumed to remain constant

[5] See Table 4

Producers in the Main San Gabriel Basin obtain water supplies from groundwater extractions, surface water diversions, and direct deliveries of treated imported water. As discussed in Appendix B, producers within the Main San Gabriel Basin have a share of the Operating Safe Yield of the Main San Gabriel Basin and can produce that amount of water without paying a Replacement Water Assessment. A few producers also have surface water rights (approximately 10,500 AFY) in addition to their share of the Operating Safe Yield and can produce those rights free of a Replacement Water Assessment. Producers that extract a groundwater and/or surface water amount greater than their allocated share are charged a Replacement Water Assessment, which is used to purchase untreated imported water for replacement/recharge into the Main San Gabriel Basin. Untreated imported water for replacement/recharge purposes

is purchased from one of three municipal water districts overlying or partially overlying the Main San Gabriel Basin that provide imported water for groundwater replacement/recharge or for direct use (see Appendix B). The three municipal water districts are USGVMWD, SGVMWD and TVMWD. The City is located within USGVMWD's service area. The management of the Main San Gabriel Basin and the large volume of groundwater in storage allow groundwater producers, including the City, to produce groundwater even when Replacement Water is not available. Any requirement to purchase untreated imported water for replacement/recharge purposes can be met when such water is available in the future. Also discussed in Appendix B is the cyclic storage provision allowing producers, like the City, to store supplemental water within the Main San Gabriel Basin for the purpose of supplying a future Replacement Water requirement. For example, the City and other producers have added/deducted from cyclic storage accounts and as a result, have a total balance of approximately 73,923 AF in cyclic storage accounts as of June 2018 illustrating the effectiveness of this water resource program in meeting the Replacement Water requirements of water producers.

The Replacement Water requirement in the Main San Gabriel Basin is determined by the Operating Safe Yield, production rights and Main San Gabriel Basin production. The Operating Safe Yield in the Main San Gabriel Basin has averaged about 156,000 AFY over the past five (5) years (fiscal years 2013-14 through 2017-18) plus the surface water rights are fixed at about 10,500 acre-feet for a total of about 166,500 acre-feet of water rights. As shown in Table 8, over the past five (5) years (fiscal years 2012-13 through 2016-17), the average water production from the Main San Gabriel Basin has been approximately 214,375 AFY, and the average Replacement Water requirements and Cyclic Storage deductions (total Basin over production) has been approximately 34,733 AFY.

Based on the projected water demands (see Table 7) and the recent historical average water production of 214,375 AFY (during fiscal years 2012-13 through 2016-17 as shown in Table 8) in the Main San Gabriel Basin, the Replacement Water requirement can be projected for future years, assuming other sources of water supply remain at

historical levels. Other sources of water supply historically used in the San Gabriel Valley include direct delivery of approximately 16,814 AFY of treated MWD imported water (discussed below). The projected total water demands (less direct delivery) can be compared with the recent historical average water production (214,375 AFY) to determine the incremental additional Replacement Water requirement. The total projected Replacement Water requirement is estimated to be the sum of the recent historical average Replacement Water requirement (34,733 AFY) and the incremental additional Replacement Water requirement.

Table 8. Operation of Main San Gabriel Basin (AFY)

Fiscal Year	Total Production [1]	Direct Deliveries [1]	Replacement Water Requirements and Cyclic Storage Deductions [2]
2012-13	242,914	14,344	29,769
2013-14	240,552	22,216	40,113
2014-15	208,339	22,517	45,828
2015-16	182,826	12,740	26,420
2016-17	197,243	12,251	31,536
5-Year Average	**214,375**	**16,814**	**34,733**

Notes:

[1] See Table 4

[2] Includes Replacement Water Requirements and deductions from Producer Cyclic Storage. From Main San Gabriel Basin Annual Report for FY 2016-17

For the purpose of this WSA, the adopted 2018-19 Operating Safe Yield of 150,000 AFY (which was influenced by the decreasing water levels in the Main San Gabriel Basin due to the recent dry hydrologic cycle) was assumed to remain the same through 2040 and was used to determine potential future Replacement Water requirements. The estimated Replacement Water requirement in 2019-20, based on an Operating Safe Yield of approximately 150,000 AFY, 2020 demand less direct deliveries compared with the average water production (during fiscal years 2012-13 through 2016-17 as

shown in Table 8), and adding the 5-year historical average Replacement Water requirement, is calculated to be 38,518 AFY.

In addition to untreated supplemental replacement/recharge deliveries, treated imported water is available to Main San Gabriel Basin water producers as a direct delivery (see Table 4). Over the past five years, total direct deliveries of treated imported water have ranged from approximately 12,300 AFY to 22,500 AFY, with an average of approximately 16,814, as shown in Table 8. Demands for direct delivery water in the Main San Gabriel Basin previously increased (approximately 50,800 AF in 2003-04) due to groundwater contamination. However, these demands have declined with the completion of large-scale groundwater treatment facilities in 2005 and 2006.

Based on the average total direct delivery of treated imported water of approximately 16,814 AFY and the calculated 2019-20 Replacement Water requirement of 38,518 AFY, the estimated total current imported water demand is approximately 55,332 (16,814 + 38,518) AFY based on an Operating Safe Yield of 150,000 AFY. Table 9 projects the total future imported water requirement (including replacement/recharge and direct delivery) for producers in the Main San Gabriel Basin, without assuming increased use of other sources of water supply such as recycled water. Table 9 shows that total imported water requirement could increase by approximately 1,361 AF between 2020 and 2040. Because other sources of water supply, including groundwater imported from the Raymond Basin and groundwater recharge of local rainfall runoff, have been assumed to remain at historical levels, it is assumed the increasing Main San Gabriel Basin water demands listed in Table 9 will be met by increases in imported water. Increased water demands can also be met through increased use of recycled water in the Main San Gabriel Basin. Recycled water supplies are not incorporated in determining the future imported water requirements shown in Table 9. Increases in imported water demands in Table 9 will be a combination of increased Replacement Water deliveries and a constant level of direct delivery of imported water. The reliability of imported water supplies is discussed further in Section 4.2.

Table 9. Projected Total Main San Gabriel Basin Imported Water Demands (AFY)

Year	2020	2025	2030	2035	2040
OSY of 150,000 AFY					
Untreated Imported Water	38,518	39,487	41,891	39,782	39,879
Treated Imported Water	16,814	16,814	16,814	16,814	16,814
Total Imported Water	**55,332**	**56,300**	**58,705**	**56,595**	**56,693**
Net Increase	--	968	3,372	1,263	1,361

3.2 Imported Water Supplies

The City can receive direct deliveries of treated imported water from MWD through its USG-7 connection, which has a capacity of 6,300 gpm or 9.1 MGD. The City historically has not utilized imported water supplies to meet demands, as shown in Table 1.

As discussed previously, the Main San Gabriel Basin Watermaster purchases untreated imported water from SGVMWD (from the California State Water Project (SWP)) and untreated imported water supplies from MWD through USGVMWD and TVMWD. Further discussions of imported water supplies are provided in Sections 3.2.1 through 3.2.3.

3.2.1 SWP Water Reliability

MWD and SGVMWD contract with the State of California, through the SWP, for the delivery of northern California water through the California Aqueduct. The SWP is a water storage and delivery system maintained and operated by the California Department of Water Resources (DWR). The SWP is a statewide water conveyance system that diverts and stores water in Northern and Central California and conveys water (including through the Sacramento-San Joaquin Delta region) to 29 water agencies throughout the State. The SWP has delivered water since the 1960's through a network of aqueducts, pumping stations and powerplants. In order for the SWP to

increase deliveries to the maximum amount of contractual commitments to water, the SWP must expand its water conveyance facilities to divert greater flows from north of the Bay-Delta area into the California Aqueduct.

The San Francisco Bay -Sacramento River Delta area (Bay-Delta) is a part of the SWP water delivery system. The reliability of the Bay-Delta to deliver water may be impacted by potential risks associated with endangered species, earthquakes, levee failure, and climate change.

The Bay Delta Conservation Plan (BDCP) grew out of the CALFED Bay-Delta Plan's Ecosystem Restoration Program Conservation Strategy. A draft BDCP was prepared through a collaboration of state, federal, and local water agencies, state and federal fish agencies, and a broad range of stakeholders. The BDCP identifies conservation strategies, water flow, and habitat restoration actions in California's Sacramento-San Joaquin Delta. The goal of the BDCP is to provide for both species/habitat protection and improved reliability of water supplies. During the extensive environmental review period for the BDCP, State and Federal agencies proposed that the California WaterFix Project replace the proposed BDCP as the State's proposed project. The California WaterFix Project consists of new water conveyance facilities with three new diversion points in the north Delta, Delta tunnel conveyance and ancillary facilities, operational elements, and habitat restoration and other environmental commitments. The California WaterFix Project was evaluated in a partially Recirculated Draft BDCP, EIR/EIS published on July 10, 2015. In December 2016, the Final EIR/EIS was made available to the public. This Final EIR/EIS has been certified as complying with CEQA as required under Section 15090, subd. (a)(1) of the CEQA Guidelines. The Final EIR/EIS describes the alternatives, discusses potential environmental impacts, and identifies mitigation measures that would help avoid or minimize impacts. It also provides responses to all substantive comments received on the 2013 Draft EIR/EIS and 2015 partially Recirculated Draft EIR/Supplemental Draft EIS. The BDCP is intended to meet the standards of the Sacramento-San Joaquin Delta Reform Act of 2009, described in the paragraph below. On July 21, 2017, DWR certified the Final EIR, adopted the CEQA Findings and a Statement of Overriding Considerations, adopted the Mitigation Monitoring and Reporting Program, approved the California WaterFix, and filed the

Notice of Determination (NOD) with the Governor's Office of Planning and Research for the California WaterFix project, which includes the three new diversion points in the north Delta, Delta tunnel conveyance and ancillary facilities, operational elements, and habitat restoration and other environmental commitments. The Record of Decision for the California WaterFix project will be issued by the U.S. Bureau of Reclamation at a future date.

The State of California enacted comprehensive legislation, including the Sacramento-San Joaquin Delta Reform Act of 2009 (California Water Code Division 35) which provided for an independent state agency, the Delta Stewardship Council. Pursuant to that act, the Delta Stewardship Council developed a comprehensive management plan that provides more reliable water supply for California and protects and enhances the Delta ecosystem (through development and implementation of a Delta Plan). The Delta Stewardship Council adopted a final Delta Plan in May 2013 which is the comprehensive long-term management plan for the Delta to improve statewide water supply reliability and to protect the Delta. Subsequently its 14 regulatory policies were approved by the Office of Administrative Law and became effective with legally-enforceable regulations on September 1, 2013. The Delta Stewardship Council also adopted a Programmatic Environmental impact Report (PEIR) on the Delta Plan in May 2013. The PEIR evaluates the potential impact of the Delta Plan and identifies mitigation measures. The Delta Plan was amended on February 2016, September 2016, and again in April 2018 to include refined performance measures; an exemption for single-year water transfers to be considered as covered actions; recommendations for conveyance, storage and operations; and policy for setting priorities for State investments in Delta levees.

In June 2013, a lawsuit was filed by the State Water Contractors and others seeking to overturn the Delta Stewardship Council’s adoption of the Delta Plan, promulgation of related regulations, and certification of the above referenced PEIR. The litigation brought by the State Water Contractors and others claims that the Delta Stewardship Council exceeded its authority under the Sacramento-San Joaquin Delta Reform Act of 2009 and failed to analyze impacts under CEQA, particularly foreseeable impacts of the

Delta Plan on water supplies around the state. In May 2016, the Superior Court upheld the Delta Stewardship Council on the vast majority of issues, including that the Council used best available science in developing the Delta Plan. The Court also ruled that the Delta Plan's regulations promote improved water quality, its flow recommendations promote conditions for species recovery, it promotes risk reduction strategies, and its conservation measures promote reduced reliance on the Delta. The Court, however, invalidated the entire Delta Plan because of what it identified as inadequacies in the following areas:

- The lack of enforceable, quantifiable targets for achieving reduced Delta reliance, reduced harm from invasive species, restoring more natural flows and increased water supply reliability, and
- Inadequate "promotion" of conveyance options to improve the way water projects move water across the Delta.

In November and December 2016, the Delta Stewardship Council and other parties have appealed the Court's ruling, which means the invalidation of the Delta Plan has been stayed (placed on hold) pending further action by the Appellate Court until specified revisions are completed. The Delta Plan remains in force and project proponents with covered actions remain legally required to file consistency certifications with the Delta Stewardship Council.

Governor Brown announced the creation of the California EcoRestore program in April 2015, committing to restore more than 30,000 acres of Delta habitat, which will be implemented on an accelerated timeline independent of the proposed water conveyance facilities. This comprehensive suite of habitat restoration actions under the California EcoRestore program includes specific targets for floodplain, tidal and sub-tidal, managed wetlands, and fish passage improvements to benefit native fish species and a commitment to adaptive management.

DWR's "State Water Project Final Delivery Capability Report 2017" (2017 Report), dated March 2018, indicates that there is a 77 percent likelihood (74 percent in the 2015 State Water Project Final Delivery Capability Report) that more than 2,000 thousand acre-feet per year (taf/year) of Table A water will be delivered under current conditions.

The 2017 Report incorporated future impacts on water deliveries as a result of climate change and potential limited pumping of the SWP to protect salmon, smelt, and other species in the Sacramento-San Joaquin Delta and Central Valley areas, including operational restrictions of the biological opinions issued by the U.S. Fish and Wildlife Service (USFWS) in December 2008 and the National Marine Fisheries Service (NMFS) in June 2009 governing the SWP and Central Valley Project (a Federal water storage and conveyance facility) operations. Subsequently, a U.S. District Court Judge remanded the biological opinions to the USFWS and NMFS for further review and analysis. The long term impact of these issues cannot be fully quantified at this time. DWR plans to develop additional water supply facilities in order for the SWP to deliver contracted water beyond historical delivery quantities. In addition, the 2017 Report included the CA WaterFix Project. In June 2017, the Final Biological Opinions for the CA WaterFix were released. In July 2017, the incidental take permit (20181(b) document) was issued.

3.2.2 Colorado River Water Reliability

In addition to obtaining water from the SWP, MWD obtains water from the Colorado River. MWD owns and operates the Colorado River Aqueduct which conveys water from Lake Havasu on the Colorado River to water transmission pipelines and to Lake Matthews for storage. MWD's Colorado River water right includes a fourth and fifth priority under the 1931 Seven Party Agreement relating to California's share in the Colorado River water supply. In 1964 a United States Supreme Court decree (Arizona v. California) limited California to 4.4 million AF per year from the Colorado River plus any available surplus water. An amount of 550,000 AF was allotted to California under the fourth priority right and an amount of 662,000 AF was allotted to California under the fifth priority right. MWD can receive water under the fifth priority right when the United States Secretary of the Interior determines that there is a surplus of water or if Arizona or Nevada does not use all of their allocated water. Through farm and irrigation conservation programs, improved reservoir system operations, land management programs, and water transfer and exchanges, MWD has increased the reliable supply from the Colorado River Aqueduct. According to MWD's "The Regional Urban Water

Management Plan" (RUWMP), dated June 2016, the supply capability of the Colorado River Aqueduct through the year 2035 is about 1,911,500 AFY during average, single dry, and multiple dry year conditions. A further discussion of MWD's additional water supplies is provided below.

3.2.3 Metropolitan Water District of Southern California

The City can purchase treated imported water from MWD through USG-7. In addition, MWD provides approximately 95 percent of the total imported water supplies to the Main San Gabriel Basin for both replacement/recharge purposes and direct delivery. As discussed in Appendix B, imported water from MWD is provided through USGVMWD and TVMWD, which both deliver and sell water. Untreated imported water can be spread and stored in the Main San Gabriel Basin for replacement/recharge. Treated imported water can be delivered directly to retail water utilities in the Main San Gabriel Basin with available connections.

MWD's 2015 RUWMP provides information regarding MWD's water supply reliability and the ability to meet all projected water demands. MWD has indicated in its 2015 RUWMP that, with the addition of all water supplies existing and planned, MWD would have the ability to meet all of its member agencies' projected supplemental demand for the next twenty five years, even during a repeat of the worst drought scenario.

MWD's 2015 RUWMP considers DWR's 2015 Report. MWD's 2015 RUWMP concludes that MWD will have sufficient water available for anticipated water demands in its service area, including the San Gabriel Valley area, through the year 2040. In addition, because the San Gabriel Valley primarily requires Replacement Water from MWD and delivery of Replacement Water can be shifted from dry years (when water supplies may be limited) to wet years (of water surplus), the available information shows adequate Replacement Water will be available through the year 2040.

Because of critically dry conditions in 2007 affecting MWD's main water supply sources and Federal Court rulings protecting the Delta Smelt and other aquatic species in the

Sacramento-San Joaquin River Delta, SWP water deliveries were reduced. As a result, MWD adopted a Water Supply Allocation Plan (WSAP) in February 2008 to allocate available water supplies to its member agencies. The WSAP establishes ten different shortage levels and a corresponding Allocation to each member agency. Although member agency water use is not restricted to the Allocation, additional charges would be assessed on water used above the total annual Allocation. The WSAP provides a separate reduced Allocation to a member agency for its 1) Municipal and Industrial (M&I) retail demand and 2) replenishment demand. The WSAP considers historical local water production, full service treated water deliveries, agricultural deliveries and water conservation efforts when calculating each member agency's Allocation.

In general, the WSAP process calculates total historical member agency demand. That historical demand is then compared to member agency projected local supply for a specific Allocation year. The balance required from MWD, less an Allocation reduction factor, is the member agency's "Water Supply Allocation". When an MWD Member Agency (such as USGVMWD and TVMWD) reduces its local demand through conservation or other means, the portion of the Allocation which may be delivered as imported water increases. The increased Allocation can be used for Full Service replenishment deliveries when an Allocation is in place.

In addition, MWD prepared a 2015 Update of its Integrated Resources Plan to evaluate water supply availability considering the recent developments discussed elsewhere in this WSA and provide a water resource strategy to meet future demands including anticipated groundwater replenishment demands.

In April 2015, MWD approved a WSAP Allocation Level 3 for fiscal year 2015-16. The WSAP Allocation for M&I demand and Replenishment demand for USGVMWD was estimated to be 27,913 AF for fiscal year 2015-16. MWD rescinded the WSAP Allocation for fiscal year 2016-17 and currently has not approved a WSAP Allocation for fiscal year 2017-18.

Tables 10, 11, and 12 show MWD's projected total water supplies and demands through year 2040 for average, single dry, and multiple dry years, respectively. MWD

has sufficient water supplies to meet all of its member agencies projected supplemental demand for 2020 through 2040, even during multiple dry years. MWD's greatest water demands, which occur during a multiple dry year, will increase at a rate of approximately 0.6 percent per year from approximately 2,001,000 AFY, in 2020, to 2,258,000 AFY, in 2040.

Table 10. MWD's Projected "Average" Year Water Supplies and Demands (AFY)

	2020	2025	2030	2035	2040
Supplies (Current Programs)	3,448,000	3,550,000	3,658,000	3,788,000	3,824,000
Demands	1,860,000	1,918,000	1,959,000	2,008,000	2,047,000
Surplus	1,588,000	1,632,000	1,699,000	1,780,000	1,777,000
Supplies (Proposed Programs)	63,000	100,000	386,000	428,000	468,000
Potential Surplus	1,651,000	1,732,000	2,085,000	2,208,000	2,245,000

Source: MWD's Regional UWMP, June 2016, Table 2-6

Table 11. MWD's Projected "Single Dry" Year Water Supplies and Demands (AFY)

	2020	2025	2030	2035	2040
Supplies (Current Programs)	2,584,000	2,686,000	2,775,000	2,905,000	2,941,000
Demands	2,005,000	2,066,000	2,108,000	2,160,000	2,201,000
Surplus	579,000	620,000	667,000	745,000	740,000
Supplies (Proposed Programs)	63,000	100,000	316,000	358,000	398,000
Potential Surplus	642,000	720,000	983,000	1,103,000	1,138,000

Source: MWD's Regional UWMP, June 2016, Table 2-4

Table 12. MWD's Projected "Multiple Dry" Year Water Supplies and Demands (AFY)

	2020	2025	2030	2035	2040
Supplies (Current Programs)	2,103,000	2,154,000	2,190,000	2,242,000	2,260,000
Demands	2,001,000	2,118,000	2,171,000	2,216,000	2,258,000
Surplus	102,000	36,000	19,000	26,000	2,000
Supplies (Proposed Programs)	43,000	80,000	204,000	245,000	286,000
Potential Surplus	145,000	116,000	223,000	271,000	288,000

Source: MWD's Regional UWMP, June 2016, Table 2-5

4.0 Comparision of Future Water Demand and Supply

The City's primary source of water supply is groundwater from the Main San Gabriel Basin. In addition, the City can purchase treated imported water from MWD's USG-7. The existing collective capacity from the active wells is about 10,000 gpm or about 14.4 million gallons per day (MGD). The City produced over 9,700 AFY in 2003 (which is equal to only 60 percent of the City's available well capacity). Assuming the City uses 60 percent of available well capacity (which has been demonstrated in the past) during calendar years 2020 through 2040, the City would be able to produce about 8.6 MGD (about 9,700 acre-feet).

As shown on Table 2, the projected water demands including the Project ranges from 6,705 AF to 7,107 AF from fiscal year 2019-20 through fiscal year 2039-40. The estimated projected average day water demand, including the Project, is calculated to range from about 6 MGD to about 6.4 MGD from fiscal year 2019-20 through fiscal year 2039-40. Consequently, it is anticipated the City will be able to meet its Average Day Demand from fiscal year 2019-20 through fiscal year 2039-40 with its total water supply of about 8.6 MGD.

Tables 13 through 17 show the City's projected water demands, including the Project, and sources of water supply, under future average, single dry, and multiple dry year scenarios, from 2020 to 2040. The City has historically met all of its water demands with groundwater production. Even with the City's historically reliable water supply, the City included a Drought Regulations and Water Conservation Standards (Ordinance No. 2015-05 and Resolution No. 2015-41) in its 2015 UWMP identifying actions to be taken to respond to a severe or extended water shortage (see Appendix C). If water supplies are temporarily insufficient to meet customer demand, the City may implement its Drought Regulations and Water Conservation Standards (Ordinance No. 2015-05 and Resolution No. 2015-41).

The City can increase production from the Main San Gabriel Basin in accordance with the Main San Gabriel Basin Judgment (see Appendix B), even during periods of drought

to meet its demands. As described in Appendix B, groundwater pumping limitations have never been applied to groundwater producers with rights in the Main San Gabriel Basin.

Tables 13 through 17 show that the combined capacities from the City's sources of supply will provide sufficient water supply for the City's projected water demand, including the Project, under all conditions from 2020 to 2040.

Table 13. City's Projected Water Demands Including Project and Supplies in 2020 (AFY)

	Average/Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
Total Demand [1]	6,704	6,036	6,036	6,527	6,671
Supply [2]					
Main San Gabriel Basin Supply [3]	6,704	6,036	6,036	6,527	6,671
MWD USG-7 Supply	0	0	0	0	0
Total Supply	6,704	6,036	6,036	6,527	6,671
Surplus/Deficiency	0	0	0	0	0

Notes:

[1] Total Demand includes the Project water demand of approximately 69 AFY for an Average/Normal Water Year, as shown on Table 2. Single and multiple dry year demand are based on the proportions of average water demand to single dry year and multiple dry year water demands, identified in Table 7-1 of City's 2015 UWMP.

[2] Based on proportion of 2015 supplies from City's 2015 UWMP

[3] The reliable current total pumping capacities of City's groundwater wells is estimated to be about 9,700 AFY (60% well operating factor)

Table 14. City's Projected Water Demands Including Project and Supplies in 2025 (AFY)

	Average/Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
Total Demand [1]	6,803	6,125	6,125	6,624	6,770
Supply [2]					
Main San Gabriel Basin Supply [3]	6,803	6,125	6,125	6,624	6,770
MWD USG-7 Supply	0	0	0	0	0
Total Supply	6,803	6,125	6,125	6,624	6,770
Surplus/Deficiency	0	0	0	0	0

Notes:

[1] Total Demand includes the Project water demand of approximately 69 AFY for an Average/Normal Water Year, as shown on Table 2. Single and multiple dry year demand are based on the proportions of average water demand to single dry year and multiple dry year water demands, identified in Table 7-1 of City's 2015 UWMP.

[2] Based on proportion of 2015 supplies from City's 2015 UWMP

[3] The reliable current total pumping capacities of City's groundwater wells is estimated to be about 9,700 AFY (60% well operating factor)

Table 15. City's Projected Water Demands Including Project and Supplies in 2030 (AFY)

	Average/Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
Total Demand [1]	6,902	6,214	6,214	6,720	6,868
Supply [2]					
Main San Gabriel Basin Supply [3]	6,902	6,214	6,214	6,720	6,868
MWD USG-7 Supply	0	0	0	0	0
Total Supply	6,902	6,214	6,214	6,720	6,868
Surplus/Deficiency	0	0	0	0	0

Notes:

[1] Total Demand includes the Project water demand of approximately 69 AFY for an Average/Normal Water Year, as shown on Table 2. Single and multiple dry year demand are based on the proportions of average water demand to single dry year and multiple dry year water demands, identified in Table 7-1 of City's 2015 UWMP.

[2] Based on proportion of 2015 supplies from City's 2015 UWMP

[3] The reliable current total pumping capacities of City's groundwater wells is estimated to be about 9,700 AFY (60% well operating factor)

Table 16. City's Projected Water Demands Including Project and Supplies in 2035 (AFY)

	Average/Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
Total Demand [1]	7,004	6,306	6,306	6,819	6,970
Supply [2]					
Main San Gabriel Basin Supply [3]	7,004	6,306	6,306	6,819	6,970
MWD USG-7 Supply	0	0	0	0	0
Total Supply	7,004	6,306	6,306	6,819	6,970
Surplus/Deficiency	0	0	0	0	0

Notes:

[1] Total Demand includes the Project water demand of approximately 69 AFY for an Average/Normal Water Year, as shown on Table 2. Single and multiple dry year demand are based on the proportions of average water demand to single dry year and multiple dry year water demands, identified in Table 7-1 of City's 2015 UWMP.

[2] Based on proportion of 2015 supplies from City's 2015 UWMP

[3] The reliable current total pumping capacities of City's groundwater wells is estimated to be about 9,700 AFY (60% well operating factor)

Table 17. City's Projected Water Demands Including Project and Supplies in 2040 (AFY)

	Average/Normal Water Year	Single Dry Water Year	Multiple Dry Water Years		
			Year 1	Year 2	Year 3
Total Demand [1]	7,106	6,398	6,398	6,919	7,071
Supply [2]					
Main San Gabriel Basin Supply [3]	7,106	6,398	6,398	6,919	7,071
MWD USG-7 Supply	0	0	0	0	0
Total Supply	7,106	6,398	6,398	6,919	7,071
Surplus/Deficiency	0	0	0	0	0

Notes:

[1] Total Demand includes the Project water demand of approximately 69 AFY for an Average/Normal Water Year, as shown on Table 2. Single and multiple dry year demand are based on the proportions of average water demand to single dry year and multiple dry year water demands, identified in Table 7-1 of City's 2015 UWMP.

[2] Based on proportion of 2015 supplies from City's 2015 UWMP

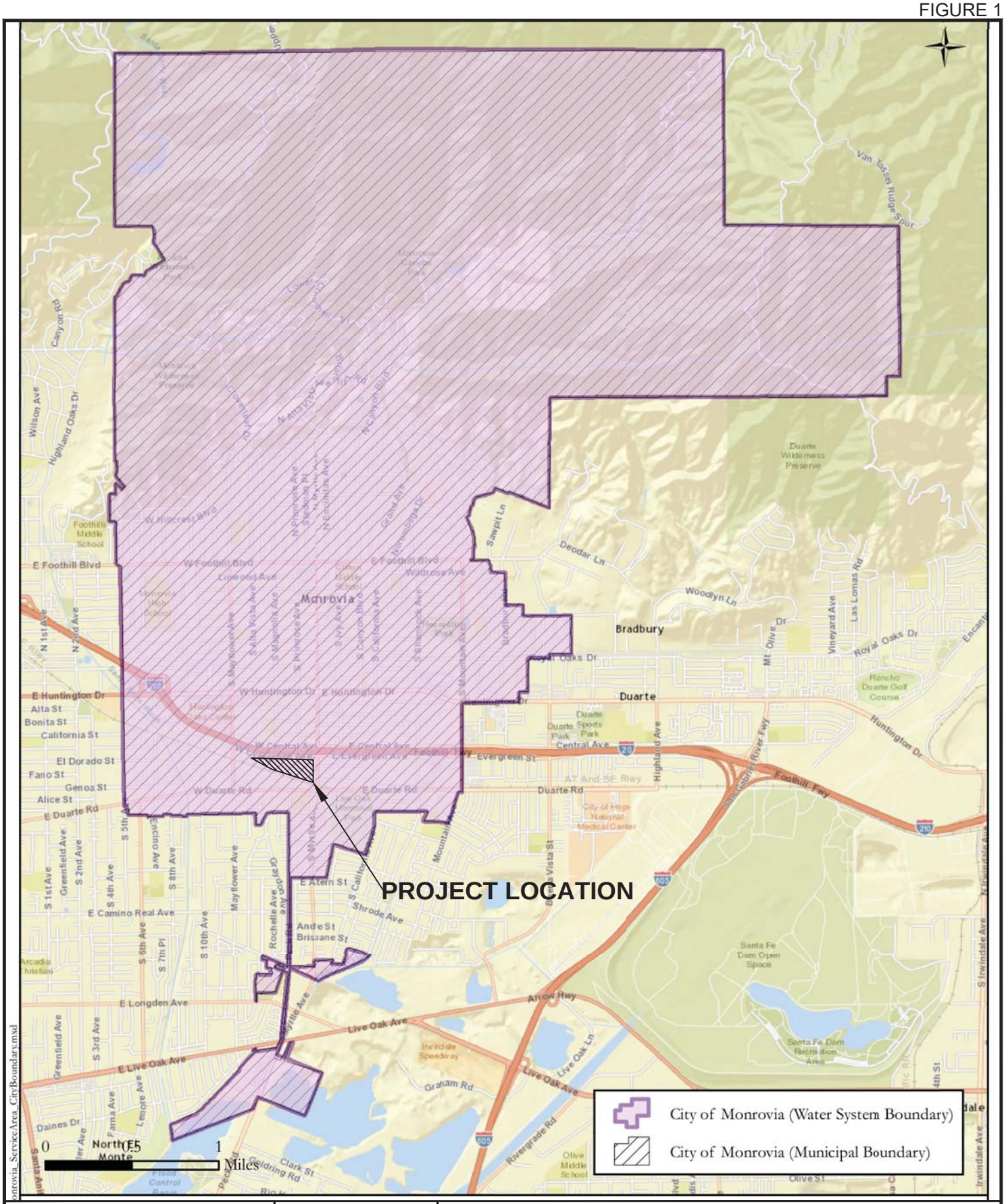
[3] The reliable current total pumping capacities of City's groundwater wells is estimated to be about 9,700 AFY (60% well operating factor)

In addition to the City's groundwater extraction from the Main San Gabriel Basin, the City has the ability to obtain supplemental water supplies from its Main San Gabriel Basin cyclic storage account. Under the Main San Gabriel Basin, cyclic storage provisions allow producers, including the City, to store supplemental water within the Main San Gabriel Basin for the purpose of supplying Replacement Water.

As presented in Section 4 and Appendix B, active and effective groundwater management enables water producers in the Main San Gabriel Basin to historically meet water demands, including during single and multiple dry years. Based on the demonstrated reliability of water resources available to the City, including the City's access to the Main San Gabriel Basin water supplies including imported Replacement Water and the City's access to treated imported water from MWD, the City has sufficient and reliable water supplies to meet its future demands, with the Project from 2020 to 2040, including during single and multiple dry years.

Z:\Jobs\2630\12 (WSA)\Text\WSA 2018.doc

FIGURE 1



STETSON ENGINEERS INC.

861 VILLAGE OAKS DRIVE, SUITE 100
COVINA, CALIFORNIA 91724
TEL: (626) 967-6202
FAX: (626) 331-7065

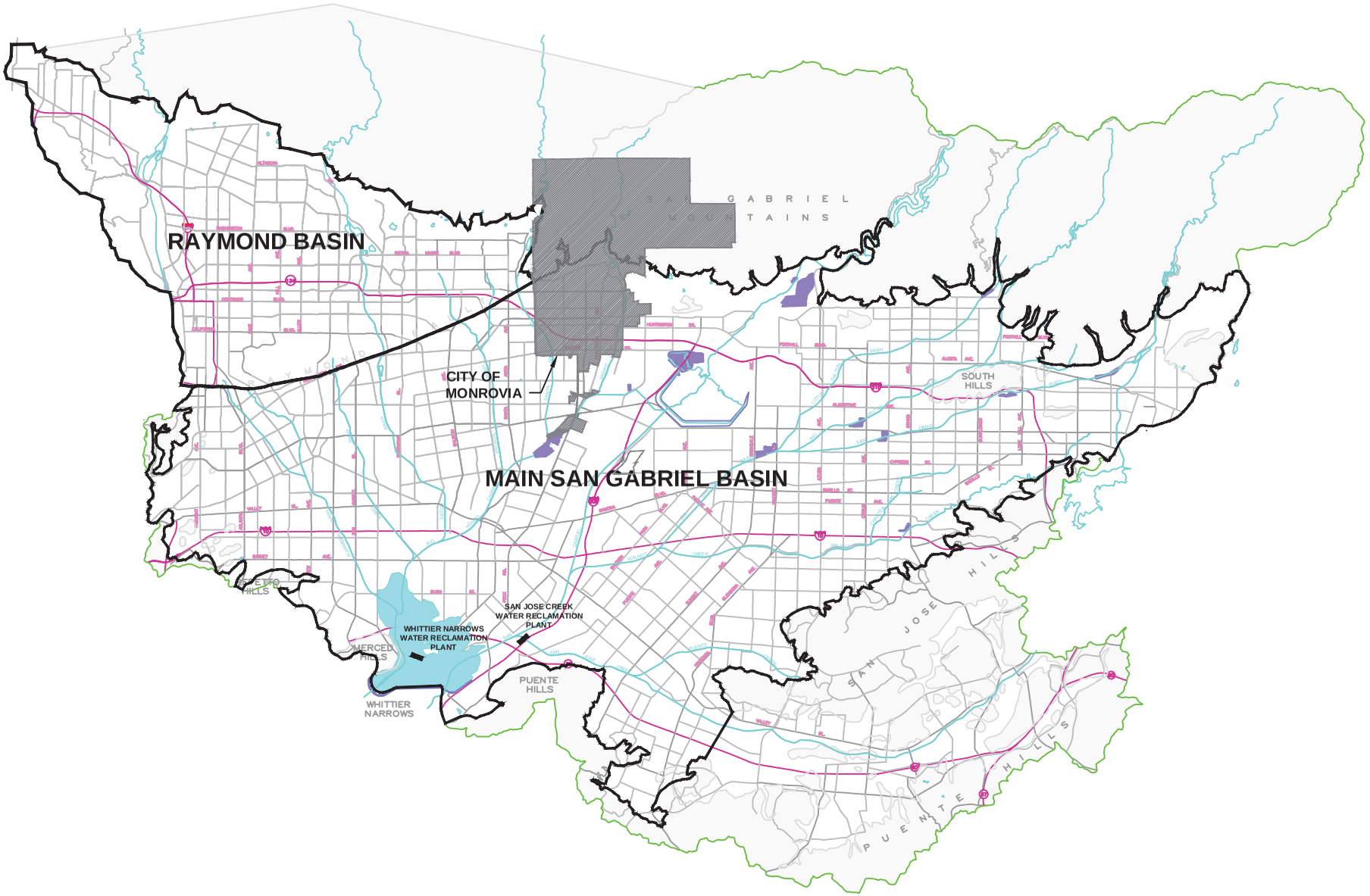
2171 E Francisco Blvd., Suite K
San Rafael California 94901

2651 W Guadalupe Rd., Suite A209
Mesa Arizona 85202

CITY OF MONROVIA

PROJECT LOCATION

J:\Jobs\2630\12 (WSA)\Figures\FIGURE 1.dwg
NONE



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COVINA, CALIFORNIA 91724
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2651 W Guadalupe Rd., Suite A209
Mesa Arizona 85202

N

N.T.S.

CITY OF MONROVIA

MAIN BASIN LOCATION MAP

FIGURE 2

J:\Jobs\2630\12 (WSA)\Figures\FIGURE 2.dwg
NONE

APPENDIX A

Main San Gabriel Basin - Judgment

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF LOS ANGELES

UPPER SAN GABRIEL VALLEY
MUNICIPAL WATER DISTRICT

Plaintiff,

vs.

CITY OF ALHAMBRA, et al,

Defendants.

No. 924128

AMENDED JUDGMENT
(and Exhibits Thereto).

Honorable Florence T. Pickard
Assigned Judge Presiding

Original Judgment
Signed and Filed: December 29, 1972;
Entered: January 4, 1973
Book 6741, Page 197

JUDGMENT AS AMENDED AUGUST 24, 1989

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SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES

UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT, Plaintiff, vs. CITY OF ALHAMBRA, et al., Defendants.	No. 924128 AMENDED JUDGMENT (And Exhibits Thereto)

HONORABLE FLORENCE T. PICKARD

Assigned Judge Presiding

DEPARTMENT 38

August 24, 1989

(With Amendments Through February 1992)

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EXHIBITS

"A" -- Map entitled "San Gabriel River Watershed Tributary to Whittier Narrows"
"B" -- Boundaries of Relevant Watershed
"C" -- Table Showing Base Annual Diversion Rights of Certain Diverters
"D" -- Table Showing Rights and Pumper's Share of Each Pumper

Exhibits Continued

"E" -- Table Showing Production Rights of Each Integrated Producer
"F" -- Table Showing Special Category Rights
"G" -- Table Showing Non-consumptive Users
"H" -- Watermaster Operating Criteria
"J" -- Puente Narrows Agreement
"K" -- Overlying Rights
"L" -- List of Producers and Their Designees (New)
"M" -- Watermaster Members, Officers, and Staff Including Calendar Year 1989 (New)

(d) Diverter -- Any party who Diverts.

(e) Elevation -- Feet above mean sea level.

(f) Fiscal Year -- A period July 1 through June 30, following.

(g) Ground Water -- Water beneath the surface of the ground and within the zone of saturation.

(h) Ground Water Basin -- An interconnected permeable geologic formation capable of storing a substantial Ground Water supply.

(i) Integrated Producer -- Any party that is both a Pumper and a Diverter, and has elected to have its rights adjudicated under the optional formula provided in Section 18 of this Judgment.

(j) In-Lieu Water Cost -- The differential between a particular Producer's cost of Watermaster directed produced, treated, blended, substituted, or Supplemental Water delivered or substituted to, for, or taken by, such Producer in-lieu of his cost of otherwise normally Producing a like amount of Ground Water. (Amended 1/29/91)

(k) Key Well -- Baldwin Park Key Well, being elsewhere designated as State Well No. 1S/10W-7R2, or Los Angeles County Flood Control District Well No. 3030-F. Said well has a ground surface Elevation of 386.7.

(l) Long Beach Case -- Los Angeles Superior Court Civil Action No. 722647, entitled, "Long Beach, et al., v. San Gabriel Valley Water Company, et al."

(m) Main San Gabriel Basin or Basin -- The Ground Water Basin underlying the area shown as such on Exhibit "A".

(l) Production in excess of a Pumper's Share of Operating Safe Yield; (2) The consumptive use portion resulting from the exercise of an Overlying Right; and (3) Production in excess of a Diverter's right to Divert for Direct Use.

(dd) Responsible Agency -- (Prior Judgment Section 4 (cc)) The municipal water district which is the normal and appropriate source from whom Watermaster shall purchase Supplemental Water for replacement purposes under the Physical Solution, being one of the following:

(1) Upper District -- Upper San Gabriel Valley Municipal Water District, a member public agency of The Metropolitan Water District of Southern California (MWD).

(2) San Gabriel District -- San Gabriel Valley Municipal Water District, which has a direct contract with the State of California for State Project Water.

(3) Three Valleys District -- Three Valleys Municipal Water District, formerly, "Pomona Valley Municipal Water District", a member public agency of MWD.

(ee) Stored Water -- (Prior Judgment Section 4 (dd)) Supplemental Water stored in the Basin pursuant to a contract with Watermaster as authorized by Section 34(m).

(ff) Supplemental Water -- (Prior Judgment Section 4 (ee)) Nontributary water imported through a Responsible Agency and reclaimed water. (Amended 4/2/91)

(gg) Transporting Parties -- (Prior Judgment Section 4 (ff)) Any party presently transporting water (i.e., during the 12 months immediately preceding the making of the findings

herein) from the Relevant Watershed or Basin to an area outside thereof, and any party presently or hereafter having an interest in lands or having a service area outside the Basin or Relevant Watershed contiguous to lands in which it has an interest or a service area within the Basin or Relevant Watershed. Division by a road, highway, or easement shall not interrupt contiguity. Said term shall also include the City of Sierra Madre, or any party supplying water thereto, so long as the corporate limits of said City are included within one of the Responsible Agencies and if said City, in order to supply water to its corporate area from the Basin, becomes a party to this action bound by this Judgment.

(hh) Water Level -- (Prior Judgment Section 4 (gg)) The measured Elevation of water in the Key Well, corrected for any temporary effects of mounding caused by replenishment or local depressions caused by Pumping.

(ii) Year -- (Prior Judgment Section 4 (hh)) A calendar year, unless the context clearly indicates a contrary meaning.

(jj) Reclaimed Water -- Water which, as a result of treatment of waste, is suitable for a direct beneficial use or a controlled use that would not otherwise occur. (Amended 4/2/91)

11. Exhibits. (Prior Judgment Section 5) The following exhibits are attached to this Judgment and incorporated herein by this reference:

Exhibit "A" -- Map entitled "San Gabriel River Watershed Tributary to Whittier Narrows", showing the boundaries and relevant geologic and hydrologic features in

the portion of the watershed of the San Gabriel River lying upstream from Whittier Narrows.

Exhibit "B" -- Boundaries of Relevant Watershed.

Exhibit "C" -- Table Showing Base Annual Diversion

operating condition, at the cost of each party, such necessary measuring devices or meters as may be appropriate; and to inspect and test any such measuring device as may be necessary.

(e) Assessments. To levy and collect all Assessments specified in the Physical Solution.

(f) Investment of Funds. To hold and invest any and all funds which Watermaster may possess in investments authorized from time to time for public agencies in the State of California.

(g) Borrowing. To borrow in anticipation of receipt of Assessment proceeds an amount not to exceed the annual amount of Assessments levied but uncollected.

(h) Purchase of and Recharge with Supplemental Water. To purchase Supplemental Water and to introduce the same into the Basin, including a maximum of 30,000 acre-feet per year of Reclaimed Water, for replacement, Replacement Water, and cyclic storage purposes in the Basin, subject to the affirmative vote of six (6) members of Watermaster provided, the California Department of Health Services and the Los Angeles Regional Water Quality Control Board have approved such Reclaimed Water for said uses, Watermaster has given prior notice to all parties of its intention to use said Reclaimed Water for such purposes, held noticed hearings thereon, and approves such uses. Reclaimed Water used by Watermaster as Supplemental Water for said purposes shall not be a violation of Sections 3 (b) or 3 (c) of Exhibit "H" hereto. (Amended 4/2/91)

(i) Contracts. To enter into contracts for the performance of any administrative powers herein granted, subject to approval of the Court.

(j) Cooperation With Existing Agencies. To act jointly or cooperate with agencies of the United States and the State of California or any political subdivision, municipality or district to the end that the purposes of the Physical Solution may be fully and economically carried out. Specifically, in the event Upper District has facilities available and adequate to accomplish any of the

order that Watermaster may be free to utilize both existing and new and developing technological, social and economic concepts for the fullest benefit of all those dependent upon the Basin, it is essential that the Physical Solution hereunder provide for maximum flexibility and adaptability. To that end, the Court has retained continuing jurisdiction to supplement the broad discretion herein granted to the Watermaster.

40. Watermaster Control. (Prior Judgment Section 32) In order to develop an adequate and effective program of Basin management, it is essential that Watermaster have broad discretion in the making of Basin management decisions within the ambit hereinafter set forth. Withdrawal and replenishment of supplies of the Basin and Relevant Watershed and the utilization of the water resources thereof, and of available Ground Water storage capacity, must be subject to procedures established by Watermaster in implementation of the provisions of this Judgment. Both the quantity and quality of said water resource are thereby preserved and its beneficial utilization maximized.

(a) Watermaster shall develop an adequate and effective program of Basin management. The maintenance, improvement, and control of the water quality and quantity of the Basin, withdrawal and replenishment of supplies of the Basin and Relevant Watershed, and the utilization of the water resources thereof, must be subject to procedures established by Watermaster in implementation of the Physical Solution provisions of this Judgment. All Watermaster programs and procedures shall be adopted only after a duly noticed public

hearing pursuant to Sections 37 and 40 of the Amended Judgment herein.
(Amended 1/29/91)

(b) Watermaster shall have the power to control pumping within the Basin by water Producers therein for Basin cleanup and water quality control so that specific well production can be directed as to a lesser amount, to total cessation, as to an increased amount, and even to require pumping in a new location in the Basin. Watermaster's right to regulate pumping activities of Producers shall be subordinate to any conflicting Basin cleanup plan established by the EPA or other public governmental agency with responsibility for ground water management or clean up, whether existing at the time of this Judgment or subsequent hereto. (Amended 2/24/92)

(c) Watermaster may act individually or participate with others to carry on technical and other necessary investigations of all kinds and collect data necessary to carry out the herein stated purposes. It may engage in contractual relations with the EPA or other agencies in furtherance of the clean up of the Basin and enter into contracts with agencies of the United States, the State of California, or any political subdivision, municipality, or district thereof, to the extent allowed under the applicable federal or state statutes. Any cooperative agreement between the Watermaster and EPA shall require the approval of the appropriate Agency(s) of the State of California. (Amended 1/21/91)

(d) For the regulation and control of pumping activity in the Basin, Watermaster shall adopt Rules and Regulations and

programs to promote, manage and accomplish clean up of the Basin and its waters, including, but not limited to, measures to confine, move, and remove contaminants and pollutants. Such Rules and Regulations and programs shall be adopted only after a duly Noticed Public Hearing by Watermaster and shall be subject to Court review pursuant to Section 37 of the Amended Judgment herein. (Amended 1/21/91)

e) Watermaster shall determine whether funds from local, regional, state or federal agencies are available for regulating pumping and the various costs associated with, or arising from such activities. If no public funds are available from local, regional, state, or federal agencies, the costs shall be obtained and paid by way of an In-Lieu Assessment by Watermaster pursuant to Section 10 (j) of the Amended Judgment herein. Provided such In-Lieu Assessments become necessary, the costs shall be borne by all Basin Producers. (Amended 1/21/91)

(f) Watermaster is a Court empowered entity with limited powers, created pursuant to the Court's Physical Solution Jurisdiction under Article X, Section 2 of the California Constitution. None of the powers granted herein to Watermaster shall be construed as designating Watermaster a political subdivision of the State of California or authorizing Watermaster to act as "lead agency" to administer the federal Superfund for clean up of the Basin. (Amended 1/21/91)

41. General Pattern of Contemplated Operation. (Prior Judgment Section 33) In general outline (subject to the specific provisions hereafter and to Watermaster Operating Criteria set forth in Exhibit "H"), Watermaster will determine

annually the Operating Safe Yield of the Basin and will notify each Pumper of his share thereof, stated in acre feet per Fiscal Year. Thereafter, no party may Produce in any Fiscal Year an amount in excess of the sum of his Diversion Right, if any, plus his Pumper's Share of such Operating Safe Yield, or his

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SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES

UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT, Plaintiff, vs. CITY OF ALHAMBRA, et al., Defendants.	No. 924128 AMENDED JUDGMENT (And Exhibits Thereto)

HONORABLE FLORENCE T. PICKARD

Assigned Judge Presiding

DEPARTMENT 38

August 24, 1989

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(y) Pump or Pumping . .(Prior (x)). 6
(z) Pumper . .(Prior (y)). 6
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"B" -- Boundaries of Relevant Watershed
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"D" -- Table Showing Rights and Pumper's Share of Each Pumper
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"J" -- Puente Narrows Agreement
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"M" -- Watermaster Members, Officers, and Staff Including Calendar Year 1989 (New)

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SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES

UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT, Plaintiff, vs. CITY OF ALHAMBRA, et al., Defendants.	No. 924128 AMENDED JUDGMENT Hearing: August 24, 1989 Department 38, 9:00 A.M.

The Petition of the MAIN SAN GABRIEL BASIN WATERMASTER for this AMENDED JUDGMENT herein, came on regularly for hearing in this Court before the HONORABLE FLORENCE T. PICKARD, ASSIGNED JUDGE PRESIDING, on August 24, 1989; Ralph B. Helm appeared as attorney for Watermaster - Petitioner; and good cause appearing, the following ORDER and AMENDED JUDGMENT are, hereby, made:

I. INTRODUCTION

1. Pleadings, Parties, and Jurisdiction. The complaint herein was filed on January 2, 1968, seeking an adjudication of water rights. By amendment of said complaint and dismissals of certain parties, said adjudication was limited to the Main San Gabriel Basin and its Relevant Watershed. Substantially all

defendants and the cross-defendant have appeared herein, certain defaults have been entered, and other defendants dismissed. By the pleadings herein and by Order of this Court, the issues have been made those of a full inter se adjudication of water rights as between each and all of the parties. This Court has jurisdiction of the subject matter of this action and of the parties herein.

2. Stipulation for Entry of Judgment. A substantial majority of the parties, by number and by quantity of rights herein Adjudicated, Stipulated for entry of a Judgment in substantially the form of the original Judgment herein.

3. Lis Pendens. (New) A Lis Pendens was recorded August 20, 1970, as Document 2650, in Official Records of Los Angeles County, California, in Book M 3554, Page 866.

4. Findings and Conclusions. (Prior Judgment Section 3) Trial was had before the Court, sitting without a jury, John Shea, Judge Presiding, commencing on October 30, 1972, and Findings of Fact and Conclusions of Law have been entered herein.

5. Judgment. (New) Judgment (and Exhibits Thereto), Findings of Fact and Conclusions of Law (and Exhibits thereto), Order Appointing Watermaster, and Initial Watermaster Order were signed and filed December 29, 1972, and Judgment was entered January 4, 1973, in Book 6791, Page 197.

6. Intervention After Judgment. (New) Certain defendants have, pursuant to the Judgment herein and the Court's continuing jurisdiction, intervened and appeared herein after entry of Judgment.

7. Amendments to Judgment. (New) The original Judgment herein was previously amended on March 29, 1979, by: (1) adding definition (r [1]) thereto, (2) amending definition (bb) therein, (3) adding Exhibit "K" thereto, (4) adding Sections 14.5 and 16.5 thereto, and (5) amending Sections 37(b), 37(c), 37(d), and Section 47 therein; it was again amended on December 21, 1979, by amending Section 38(c) thereof; again amended on February 21, 1980, by amending Section 24 thereof; again amended on September 12, 1980, by amending Sections 35(a), 37(a), and 38(a); again amended on December 22, 1987, by adding Section 37(e) thereto; and last amended on July 22, 1988 by amending Section 37(e) thereof and Ordering an Amended Judgment herein.

8. Transfers. (New) Since the entry of Judgment herein there have been numerous transfers of Adjudicated water rights. To the date hereof, said transfers are reflected in Exhibits "C", "D", and "E".

9. Producers and Their Designees. (New) The current status of Producers and their Designees is shown on Exhibit "L".

10. Definitions. (Prior Judgment Section 4) As used in this Judgment, the following terms shall have the meanings herein set forth:

(a) Base Annual Diversion Right -- The average annual quantity of water which a Diverter is herein found to have the right to Divert for Direct Use.

(b) Direct Use --Beneficial use of water other than for spreading or Ground Water recharge.

(c) Divert or Diverting -- To take waters of any surface stream within the Relevant Watershed.

(d) Diverter -- Any party who Diverts.

(e) Elevation -- Feet above mean sea level.

(f) Fiscal Year -- A period July 1 through June 30, following.

(g) Ground Water -- Water beneath the surface of the ground and within the zone of saturation.

(h) Ground Water Basin -- An interconnected permeable geologic formation capable of storing a substantial Ground Water supply.

(i) Integrated Producer -- Any party that is both a Pumper and a Diverter, and has elected to have its rights adjudicated under the optional formula provided in Section 18 of this Judgment.

(j) In-Lieu Water Cost -- The differential between a Producer's non-capital cost of direct delivery of Supplemental Water and the cost of Production of Ground Water (including depreciation on Production facilities) to a particular Producer who has been required by Watermaster to take direct delivery of Supplemental Water in lieu of Ground Water.

(k) Key Well -- Baldwin Park Key Well, being elsewhere designated as State Well No. 1S/10W-7R2, or Los Angeles County Flood Control District Well No. 3030-F. Said well has a ground surface Elevation of 386.7.

(l) Long Beach Case -- Los Angeles Superior Court Civil Action No. 722647, entitled, "Long Beach, et al., v. San Gabriel Valley Water Company, et al."

(m) Main San Gabriel Basin or Basin -- The Ground Water Basin underlying the area shown as such on Exhibit "A".

(n) Make-up Obligation -- The total cost of meeting the obligation of the Basin to the area at or below Whittier Narrows, pursuant to the Judgment in the Long Beach Case.

(o) Minimal Producer -- Any party whose Production in any Fiscal Year does not exceed five (5) acre feet.

(p) Natural Safe Yield -- The quantity of natural water supply which can be extracted annually from the Basin under conditions of long term average annual supply, net of the requirement to meet downstream rights as determined in the Long Beach Case (exclusive of Pumped export), and under cultural conditions as of a particular year.

(q) Operating Safe Yield -- The quantity of water which the Watermaster determines hereunder may be Pumped from the Basin in a particular Fiscal Year, free of the Replacement Water Assessment under the Physical Solution herein.

(r) Overdraft -- A condition wherein the total annual Production from the Basin exceeds the Natural Safe Yield thereof.

(s) Overlying Rights -- (Prior Judgment Section 4 (r) [1]) The right to Produce water from the Basin for use on Overlying Lands, which rights are exercisable only on specifically defined Overlying Lands and which cannot be separately conveyed or transferred apart therefrom.

(t) Physical Solution -- (Prior Judgment Section 4 (s)) The Court decreed method of managing the waters of the Basin so as to achieve the maximum utilization of the Basin and its water supply, consistent with the rights herein declared.

(u) Prescriptive Pumping Right -- (Prior Judgment

Section 4 (t)) The highest continuous extractions of water by a Pumper from the Basin for beneficial use in any five (5) consecutive years after commencement of Overdraft and prior to filing of this action, as to which there has been no cessation of use by that Pumper during any subsequent period of five (5) consecutive years, prior to the said filing of this action.

(v) Produce or Producing -- (Prior Judgment Section 4 (u)) To Pump or Divert water.

(w) Producer -- (Prior Judgment Section 4 (v)) A party who Produces water.

(x) Production -- (Prior Judgment Section 4 (w)) The annual quantity of water Produced, stated in acre feet.

(y) Pump or Pumping -- (Prior Judgment Section 4 (x)) To extract Ground Water from the Basin by Pumping or any other method.

(z) Pumper -- (Prior Judgment Section 4 (y)) Any party who Pumps water.

(aa) Pumper's Share -- (Prior Judgment Section 4 (z)) A Pumper's right to a percentage of the entire Natural Safe Yield, Operating Safe Yield and appurtenant Ground Water storage.

(bb) Relevant Watershed -- (Prior Judgment Section 4(aa)) That portion of the San Gabriel River watershed tributary to Whittier Narrows which is shown as such on Exhibit "A", and the exterior boundaries of which are described in Exhibit "B".

(cc) Replacement Water -- (Prior Judgment Section 4 (bb)) Water purchased by Watermaster to replace:

(1) Production in excess of a Pumper's Share of Operating Safe Yield; (2) The consumptive use portion resulting from the exercise of an Overlying Right; and (3) Production in excess of a Diverter's right to Divert for Direct Use.

(dd) Responsible Agency -- (Prior Judgment Section 4 (cc)) The municipal water district which is the normal and appropriate source from whom Watermaster shall purchase Supplemental Water for replacement purposes under the Physical Solution, being one of the following:

(1) Upper District -- Upper San Gabriel Valley Municipal Water District, a member public agency of The Metropolitan Water District of Southern California (MWD).

(2) San Gabriel District -- San Gabriel Valley Municipal Water District, which has a direct contract with the State of California for State Project Water.

(3) Three Valleys District -- Three Valleys Municipal Water District, formerly, "Pomona Valley Municipal Water District", a member public agency of MWD.

(ee) Stored Water -- (Prior Judgment Section 4 (dd)) Supplemental Water stored in the Basin pursuant to a contract with Watermaster as authorized by Section 34(m).

(ff) Supplemental Water -- (Prior Judgment Section 4 (ee)) Nontributary water imported through a Responsible Agency.

(gg) Transporting Parties -- (Prior Judgment Section 4 (ff)) Any party presently transporting water (i.e., during the 12 months immediately preceding the making of the findings herein) from the Relevant Watershed or Basin to an area outside

thereof, and any party presently or hereafter having an interest in lands or having a service area outside the Basin or Relevant Watershed contiguous to lands in which it has an interest or a service area within the Basin or Relevant Watershed. Division by a road, highway, or easement shall not interrupt contiguity. Said term shall also include the City of Sierra Madre, or any party supplying water thereto, so long as the corporate limits of said City are included within one of the Responsible Agencies and if said City, in order to supply water to its corporate area from the Basin, becomes a party to this action bound by this Judgment.

(hh) Water Level -- (Prior Judgment Section 4 (gg)) The measured Elevation of water in the Key Well, corrected for any temporary effects of mounding caused by replenishment or local depressions caused by Pumping.

(ii) Year -- (Prior Judgment Section 4 (hh)) A calendar year, unless the context clearly indicates a contrary meaning.

11. Exhibits. (Prior Judgment Section 5) The following exhibits are attached to this Judgment and incorporated herein by this reference:

Exhibit "A" -- Map entitled "San Gabriel River Watershed Tributary to Whittier Narrows", showing the boundaries and relevant geologic and hydrologic features in the portion of the watershed of the San Gabriel River lying upstream from Whittier Narrows.

Exhibit "B" -- Boundaries of Relevant Watershed.

Exhibit "C" -- Table Showing Base Annual Diversion

Rights of Certain Diverters.

Exhibit "D" -- Table Showing Prescriptive Pumping Rights and Pumper's Share of Each Pumper.

Exhibit "E" -- Table Showing Production Rights of Each Integrated Producer.

Exhibit "F" -- Table Showing Special Category Rights.

Exhibit "G" -- Table Showing Non-consumptive Users.

Exhibit "H" -- Watermaster Operating Criteria.

Exhibit "J" -- Puente Narrows Agreement.

Exhibit "K" -- Overlying Rights, Nature of Overlying Right, Description of Overlying Lands to which Overlying Rights are Appurtenant, Producers Entitled to Exercise Overlying Rights and their Respective Consumptive Use Portions, and Map of Overlying Lands.

Exhibit "L" -- (New) List of Producers And Their Designees, as of June 1988.

Exhibit "M" -- (New) Watermaster Members, Officers and Staff, Including Calendar Year 1989.

II. DECREE

NOW, THEREFORE, IT IS HEREBY DECLARED, ORDERED, ADJUDGED AND DECREED:

A. DECLARATION OF HYDROLOGIC CONDITIONS

12. Basin as Common Source of Supply. (Prior Judgment Section 6) The area shown on Exhibit "A" as Main San Gabriel Basin overlies a Ground Water basin. The Relevant Watershed is the watershed area within which rights are herein adjudicated. The waters of the Basin and Relevant Watershed constitute a common source of natural water supply to the parties herein.

13. Determination of Natural Safe Yield. (Prior Judgment Section 7) The Natural Safe Yield of the Main San Gabriel Basin is found and declared to be one hundred fifty-two thousand seven-hundred (152,700) acre feet under Calendar Year 1967 cultural conditions.

14. Existence of Overdraft. (Prior Judgment Section 8) In each and every Calendar Year commencing with 1953, the Basin has been and is in Overdraft.

B. DECLARATION OF RIGHTS

15. Prescription. (Prior Judgment Section 9) The use of water by each and all parties and their predecessors in interest has been open, notorious, hostile, adverse, under claim of right, and with notice of said overdraft continuously from January 1, 1953 to January 4, 1973. The rights of each party herein declared are prescriptive in nature. The following aggregate consequences of said prescription within the Basin and Relevant Watershed are hereby declared:

(a) Prior Prescription. Diversions within the Relevant Watershed have created rights for direct consumptive use within the Basin, as declared and determined in Sections 16 and 18 hereof, which are of equal priority inter se, but which are prior and paramount to Pumping Rights in the Basin.

(b) Mutual Prescription. The aggregate Prescriptive Pumping Rights of the parties who are Pumpers now exceed, and for many years prior to filing of this action, have exceeded, the Natural Safe Yield of the Basin. By reason of said condition, all rights of said Pumpers are declared

to be mutually prescriptive and of equal priority, inter se.

(c) Common Ownership of Safe Yield and Incidents Thereto. By reason of said Overdraft and mutual Prescription, the entire Natural Safe Yield of the Basin, the Operating Safe Yield thereof and the appurtenant rights to Ground Water storage capacity of the Basin are owned by Pumpers in undivided Pumpers' Shares as hereinafter individually declared, subject to the control of Watermaster, pursuant to the Physical Solution herein decreed. Nothing herein shall be deemed in derogation of the rights to spread water pursuant to rights set forth in Exhibit "G".

16. Surface Rights. (Prior Judgment Section 10) Certain of the aforesaid prior and paramount prescriptive water rights of Diverters to Divert for Direct Use stream flow within the Relevant Watershed are hereby declared and found in terms of Base Annual Diversion Right as set forth in Exhibit "C". Each Diverter shown on Exhibit "C" shall be entitled to Divert for Direct Use up to two hundred percent (200%) of said Base Annual Diversion Right in any one (1) Fiscal Year; provided that the aggregate quantities of water Diverted in any consecutive ten (10) Fiscal Year period shall not exceed ten (10) times such Diverter's Base Annual Diversion Right.

17. Ground Water Rights. (Prior Judgment Section 11) The Prescriptive Pumping Right of each Pumper, who is not an Integrated Producer, and his Pumper's Share are declared as set forth in Exhibit "D".

18. Optional Integrated Production Rights. (Prior Judgment Section 12) Those parties listed on Exhibit "E" have elected to be treated as Integrated Producers. Integrated Production Rights have two (2) historical components:

(1) a fixed component based upon historic Diversions for Direct Use; and

(2) a mutually prescriptive Pumper's Share component based upon Pumping during the period 1953 through 1967.

Assessment and other Watermaster regulation of the rights of such parties shall relate to and be based upon each such component. So far as future exercise of such rights is concerned, however, the gross quantity of the aggregate right in any Fiscal Year may be exercised, in the sole discretion of such party, by either Diversion or Pumping or any combination or apportionment thereof; provided, that for Assessment purposes the first water Produced in any Fiscal Year (other than "carry-over", under Section 49 hereof) shall be deemed an exercise of the Diversion component, and any Production over said quantity shall be deemed Pumped water, regardless of the actual method of Production.

19. Special Category Rights. (Prior Judgment Section 13) The parties listed on Exhibit "F" have water rights in the Relevant Watershed which are not ordinary Production rights. The nature of each such right is as described in Exhibit "F".

20. Non-consumptive Practices. (Prior Judgment Section 14) Certain Producers have engaged in Water Diversion and spreading practices which have caused such Diversions to have a

non-consumptive or beneficial impact upon the aggregate water supply available in the Basin. Said parties, and a statement of the nature of their rights, uses and practices, are set forth in Exhibit "G". The Physical Solution decreed herein, and particularly its provisions for Assessments, shall not apply to such non-consumptive uses. Watermaster may require reports on the operations of said parties.

21. Overlying Rights. (Prior Judgment Section 14.5) Producers listed in Exhibit "K" hereto were not parties herein at the time of the original entry of Judgment herein. They have exercised in good faith Overlying Rights to Produce water from the Basin during the periods subsequent to the entry of Judgment herein and have by self-help initiated or maintained appurtenant Overlying Rights. Such rights are exercisable without quantitative limit only on specifically described Overlying Land and cannot be separately conveyed or transferred apart therefrom. As to such rights and their exercise, the owners thereof shall become parties to this action and be subject to Watermaster Replacement Water Assessments under Section 45 (b) hereof, sufficient to purchase Replenishment Water to offset the net consumptive use of such Production and practices. In addition, the gross amount of such Production for such overlying use shall be subject to Watermaster Administrative Assessments under Section 45 (a) hereof and the consumptive use portion of such Production for overlying use shall be subject to Watermaster's In-Lieu Water Cost Assessments under Section 45 (d) hereof. The Producers presently entitled to exercise Overlying Rights, a description of the Overlying Land to which

Overlying Rights are appurtenant, the nature of use and the consumptive use portion thereof are set forth in Exhibit "K" hereto. Watermaster may require reports and make inspections of the operations of said parties for purposes of verifying the uses set forth in said Exhibit "K", and, in the event of a material change, to redetermine the net amount of consumptive use by such parties as changed in the exercise of such Overlying Rights. Annually, during the first two (2) weeks of June in each Calendar Year, such Overlying Rights Producers shall submit to Watermaster a verified statement as to the nature of the then current uses of said Overlying Rights on said Overlying Lands for the next ensuing Fiscal Year, whereupon Watermaster shall either affirm the prior determination or redetermine the net amount of the consumptive use portion of the exercise of such Overlying Right by said Overlying Rights Producer.

C. INJUNCTION

22. Injunction Against Unauthorized Production. (Prior Judgment Section 15) Effective July 1, 1973, each and every party, its officers, agents, employees, successors and assigns, to whom rights to waters of the Basin or Relevant Watershed have been declared and decreed herein is ENJOINED AND RESTRAINED from Producing water for Direct Use from the Basin or the Relevant Watershed except pursuant to rights and Pumpers' Shares herein decreed or which may hereafter be acquired by transfer pursuant to Section 55, or under the provisions of the Physical Solution in this Judgment and the Court's continuing jurisdiction, provided that no party is enjoined from Producing up to five (5) acre feet per Fiscal Year.

23. Injunction re Non-consumptive Uses. (Prior Judgment Section 16) Each party listed in Exhibit "G", its officers, agents, employees, successors and assigns, is ENJOINED AND RESTRAINED from materially changing said non-consumptive method of use.

24. Injunction Re Change in Overlying Use Without Notice Thereof To Watermaster. (Prior Judgment Section 16.5) Each party listed in Exhibit "E", its officers, agents, employees, successors and assigns, is ENJOINED AND RESTRAINED from materially changing said overlying uses at any time without first notifying Watermaster of the intended change of use, in which event Watermaster shall promptly redetermine the consumptive use portion thereof to be effective after such change.

25. Injunction Against Unauthorized Recharge. (Prior Judgment Section 17) Each party, its officers, agents, employees, successors and assigns, is ENJOINED AND RESTRAINED from spreading, injecting or otherwise recharging water in the Basin except pursuant to: (a) an adjudicated non-consumptive use, or (b) consent and approval of or Cyclic Storage Agreement with Watermaster, or (c) subsequent order of this Court.

26. Injunction Against Transportation From Basin or Relevant Watershed. (Prior Judgment Section 18) Except upon further order of Court, all parties, other than Transporting Parties and MWD in its exercise of its Special Category Rights, to the extent authorized therein, are ENJOINED AND RESTRAINED from transporting water hereafter Produced from the Relevant Watershed or Basin outside the areas thereof. For purposes of

this Section, water supplied through a city water system which lies chiefly within the Basin shall be deemed entirely used within the Basin. Transporting Parties are entitled to continue to transport water to the extent that any Production of water by any such party does not violate the injunctive provisions contained in Section 22 hereof; provided that said water shall be used within the present service areas or corporate or other boundaries and additions thereto so long as such additions are contiguous to the then existing service area or corporate or other boundaries; except that a maximum of ten percent (10%) of use in any Fiscal Year may be outside said then existing service areas or corporate or other boundaries.

D. CONTINUING JURISDICTION

27. Jurisdiction Reserved. (Prior Judgment Section 19) Full jurisdiction, power and authority are retained by and reserved to the Court for purposes of enabling the Court upon application of any party or of the Watermaster, by motion and upon at least thirty (30) days notice thereof, and after hearing thereon, to make such further or supplemental orders or directions as may be necessary or appropriate for interim operation before the Physical Solution is fully operative, or for interpretation, enforcement or carrying out of this Judgment, and to modify, amend or amplify any of the provisions of this Judgment or to add to the provisions thereof consistent with the rights herein decreed. Provided, that nothing in this paragraph shall authorize:

(1) modification or amendment of the quantities specified in the declared rights of any party;

(2) modification or amendment of the manner of exercise of the Base Annual Diversion Right or Integrated Production Right of any party; or

(3) the imposition of an injunction prohibiting transportation outside the Relevant Watershed or Basin as against any Transporting Party transporting in accordance with the provisions of this Judgment or against MWD as to its Special Category Rights.

E. WATERMASTER

28. Watermaster to Administer Judgment. (Prior Judgment Section 20) A Watermaster comprised of nine (9) persons, to be nominated as hereinafter provided and appointed by the Court, shall administer and enforce the provisions of this Judgment and any subsequent instructions or orders of the Court thereunder.

29. Qualification, Nomination and Appointment. (Prior Judgment Section 21) The nine (9) member Watermaster shall be composed of six (6) Producer representatives and three (3) public representatives qualified, nominated and appointed as follows:

(a) Qualification. Any adult citizen of the State of California shall be eligible to serve on Watermaster; provided, however, that no officer, director, employee or agent of Upper District or San Gabriel District shall be qualified as a Producer member of Watermaster.

(b) Nomination of Producer Representatives. A meeting of all parties shall be held at the regular meeting of Watermaster in November of each year, at the offices of Watermaster. Nomination of the six (6) Producer

representatives shall be by cumulative voting, in person or by proxy, with each Producer entitled to one (1) vote for each one hundred (100) acre feet, or portion thereof, of Base Annual Diversion Right or Prescriptive Pumping Right or Integrated Production Right.

(c) Nomination of Public Representatives. On or before the regular meeting of Watermaster in November of each year, the three (3) public representatives shall be nominated by the boards of directors of Upper District (which shall select two [2]) and San Gabriel District (which shall select one [1]). Said nominees shall be members of the board of directors of said public districts.

(d) Appointment. All Watermaster nominations shall be promptly certified to the Court, which will in ordinary course confirm the same by an appropriate order appointing said Watermaster; provided, however, that the Court at all times reserves the right and power to refuse to appoint, or to remove, any member of Watermaster.

30. Term and Vacancies. (Prior Judgment Section 22) Each member of Watermaster shall serve for a one (1) year term commencing on January 1, following his appointment, or until his successor is appointed. In the event of a vacancy on Watermaster, a successor shall be nominated at a special meeting to be called by Watermaster within ninety (90) days (in the case of a Producer representative) or by action of the appropriate district board of directors (in the case of a public representative).

31. Quorum. (Prior Judgment Section 23) Five (5) members

of the Watermaster shall constitute a quorum for the transaction of affairs of the Watermaster. Action by the affirmative vote of five (5) members shall constitute action by Watermaster, except that the affirmative vote of six (6) members shall be required:

(a) to approve the purchase, spreading or injection of water for Ground Water recharge, or

(b) to enter in any Agreement pursuant to Section 34 (m) hereof.

32. Compensation. (Prior Judgment Section 24) Each Watermaster member shall receive compensation of One Hundred Dollars ($100.00) per day for each day's attendance at meetings of Watermaster or for each day's service rendered as a Watermaster member at the request of Watermaster, together with any expenses incurred in the performance of his duties required or authorized by Watermaster. No member of the Watermaster shall be employed by or compensated for professional services rendered by him to Watermaster, other than the compensation herein provided, and any authorized travel or related expense.

33. Organization. (Prior Judgment Section 25) At its first meeting in each year, Watermaster shall elect a chairman and a vice chairman from its membership. It shall also select a secretary, a treasurer and such assistant secretaries and assistant treasurers as may be appropriate, any of whom may, but need not be, members of Watermaster.

(a) Minutes. Minutes of all Watermaster meetings shall be kept which shall reflect all actions taken by Watermaster. Draft copies thereof shall be furnished to

any party who files a request therefor in writing with Watermaster. Said draft copies of minutes shall constitute notice of any Watermaster action therein reported; failure to request copies thereof shall constitute waiver of notice.

(b) Regular Meetings. Watermaster shall hold regular meetings at places and times to be specified in Watermaster's rules and regulations to be adopted by Watermaster. Notice of the scheduled or regular meetings of Watermaster and of any changes in the time or place thereof shall be mailed to all parties who shall have filed a request therefor in writing with Watermaster.

(c) Special Meetings. Special meetings of Watermaster may be called at any time by the chairman or vice chairman or by any three (3) members of Watermaster by written notice delivered personally or mailed to each member of Watermaster and to each party requesting notice, at least twenty-four (24) hours before the time of each such meeting in the case of personal delivery, and forty-eight (48) hours prior to such meeting in the case of mail. The calling notice shall specify the time and place of the special meeting and the business to be transacted at such meeting. No other business shall be considered at such meeting.

(d) Adjournments. Any meeting of Watermaster may be adjourned to a time and place specified in the order of adjournment. Less than a quorum may so adjourn from time to time. A copy of the order or notice of adjournment

shall be conspicuously posted on or near the door of the place where the meeting was held within twenty-four (24) hours after adoption of the order of adjournment.

34. Powers and Duties. (Prior Judgment Section 26) Subject to the continuing supervision and control of the Court, Watermaster shall have and may exercise the following express powers, and shall perform the following duties, together with any specific powers, authority and duties granted or imposed elsewhere in this Judgment or hereafter ordered or authorized by the Court in the exercise of its continuing jurisdiction.

(a) Rules and Regulations. To make and adopt any and all appropriate rules and regulations for conduct of Watermaster affairs. A copy of said rules and regulations and any amendments thereof shall be mailed to all parties.

(b) Acquisition of Facilities. To purchase, lease, acquire and hold all necessary property and equipment; provided, however, that Watermaster shall not acquire any interest in real property in excess of year-to-year tenancy for necessary quarters and facilities.

(c) Employment of Experts and Agents. To employ such administrative personnel, engineering, geologic, accounting, legal or other specialized services and consulting assistants as may be deemed appropriate in the carrying out of its powers and to require appropriate bonds from all officers and employees handling Watermaster funds.

(d) Measuring Devices, etc. To cause parties, pursuant to uniform rules, to install and maintain in good

operating condition, at the cost of each party, such necessary measuring devices or meters as may be appropriate; and to inspect and test any such measuring device as may be necessary.

(e) Assessments. To levy and collect all Assessments specified in the Physical Solution.

(f) Investment of Funds. To hold and invest any and all funds which Watermaster may possess in investments authorized from time to time for public agencies in the State of California.

(g) Borrowing. To borrow in anticipation of receipt of Assessment proceeds an amount not to exceed the annual amount of Assessments levied but uncollected.

(h) Purchase of and Recharge with Supplemental Water. To purchase Supplemental Water and to introduce the same into the Basin for replacement or cyclic storage purposes, subject to the affirmative vote of six (6) members of Watermaster.

(i) Contracts. To enter into contracts for the performance of any administrative powers herein granted, subject to approval of the Court.

(j) Cooperation With Existing Agencies. To act jointly or cooperate with agencies of the United States and the State of California or any political subdivision, municipality or district to the end that the purposes of the Physical Solution may be fully and economically carried out. Specifically, in the event Upper District has facilities available and adequate to accomplish any of the

administrative functions of Watermaster, consideration shall be given to performing said functions under contract with Upper District in order to avoid duplication of facilities.

(k) Assumption of Make-up Obligation. Watermaster shall assume the Make-up Obligation for and on behalf of the Basin.

(m) Water Quality. Water quality in the Basin shall be a concern of Watermaster, and all reasonable steps shall be taken to assist and encourage appropriate regulatory agencies to enforce reasonable water quality regulations affecting the Basin, including regulation of solid and liquid waste disposal.

(n) Cyclic Storage Agreements. To enter into appropriate contracts, to be approved by the Court, for utilization of Ground Water storage capacity of the Basin for cyclic or regulatory storage of Supplemental Water by parties and non-parties, for subsequent recovery or Watermaster credit by the storing entity, pursuant to uniform rules and conditions, which shall include provision for:

(1) Watermaster control of all spreading or injection and extraction scheduling and procedures for such stored water;

(2) calculation by Watermaster of any special costs, damages or burdens resulting from such operations;

(3) determination by Watermaster of, and

accounting for, all losses in stored water, assuming that such stored water floats on top of the Ground Water supplies, and accounting for all losses of water which otherwise would have replenished the Basin, with priorities being established as between two or more such contractors giving preference to parties over non-parties; and

(4) payment to Watermaster for the benefit of the parties hereto of all special costs, damages or burdens incurred (without any charge, rent, assessment or expense as to parties hereto by reason of the adjudicated proprietary character of said storage rights, nor credit or offset for benefits resulting from such storage); provided, that no party shall have any direct interest in or control over such contracts or the operation thereof by reason of the adjudicated right of such party, the Watermaster having sole custody and control of all Ground Water storage rights in the Basin pursuant to the Physical Solution herein, and subject to review of the Court.

(o) Notice List. Maintain a current list of party designees to receive notice hereunder, in accordance with Section 54 hereof.

35. Policy Decisions -- Procedure. (Prior Judgment Section 27) It is contemplated that Watermaster will exercise discretion in making policy decisions relating to Basin management under the Physical Solution decreed herein. In order to assure full participation and opportunity to be heard for

those affected, no policy decision shall be made by Watermaster until thirty (30) days after the question involved has been raised for discussion at a Watermaster meeting and noted in the draft of minutes thereof.

36. Reports. (Prior Judgment Section 28) Watermaster shall annually file with the Court and mail to the parties a report of all Watermaster activities during the preceding year, including an audited statement of all accounts and financial activities of Watermaster, summary reports of Diversions and Pumping, and all other pertinent information. To the extent practical, said report shall be mailed to all parties on or before November 1.

37. Review Procedures. (Prior Judgment Section 29) Any action, decision, rule or procedure of Watermaster (other than a decision establishing Operating Safe Yield, see Section 43[c]) shall be subject to review by the Court on its own motion or on timely motion for an Order to Show Cause by any party, as follows:

(a) Effective Date of Watermaster Action. Any order, decision or action of Watermaster shall be deemed to have occurred on the date that written notice thereof is mailed. Mailing of draft copies of Watermaster minutes to the parties requesting the same shall constitute notice to all such parties.

(b) Notice of Motion. Any party may, by a regularly noticed motion, petition the Court for review of said Watermaster's action or decision. Notice of such motion shall be mailed to Watermaster and all parties. Unless so

ordered by the Court, such petition shall not operate to stay the effect of such Watermaster action.

(c) Time for Motion. Notice of motion to review any Watermaster action or decision shall be served and filed within ninety (90) days after such Watermaster action or decision.

(d) De Novo Nature of Proceeding. Upon filing of such motion for hearing, the Court shall notify the parties of a date for taking evidence and argument, and shall review de novo the question at issue on the date designated. The Watermaster decision or action shall have no evidentiary weight in such proceeding.

(e) Decision. The decision of the Court in such proceeding shall be an appealable Supplemental Order in this case. When the same is final, it shall be binding upon the Watermaster and the parties.

F. PHYSICAL SOLUTION

38. Purpose and Objective. (Prior Judgment Section 30) Consistent with the California Constitution and the decisions of the Supreme Court, the Court hereby adopts and Orders the parties to comply with this Physical Solution. The purpose and objective of these provisions is to provide a legal and practical means for accomplishing the most economic, long term, conjunctive utilization of surface, Ground Water, Supplemental Water and Ground Water storage capacity to meet the needs and requirements of the water users dependent upon the Basin and Relevant Watershed, while preserving existing equities.

39. Need for Flexibility. (Prior Judgment Section 31) In

order that Watermaster may be free to utilize both existing and new and developing technological, social and economic concepts for the fullest benefit of all those dependent upon the Basin, it is essential that the Physical Solution hereunder provide for maximum flexibility and adaptability. To that end, the Court has retained continuing jurisdiction to supplement the broad discretion herein granted to the Watermaster.

40. Watermaster Control. (Prior Judgment Section 32) In order to develop an adequate and effective program of Basin management, it is essential that Watermaster have broad discretion in the making of Basin management decisions within the ambit hereinafter set forth. Withdrawal and replenishment of supplies of the Basin and Relevant Watershed and the utilization of the water resources thereof, and of available Ground Water storage capacity, must be subject to procedures established by Watermaster in implementation of the provisions of this Judgment. Both the quantity and quality of said water resource are thereby preserved and its beneficial utilization maximized.

41. General Pattern of Contemplated Operation. (Prior Judgment Section 33) In general outline (subject to the specific provisions hereafter and to Watermaster Operating Criteria set forth in Exhibit "H"), Watermaster will determine annually the Operating Safe Yield of the Basin and will notify each Pumper of his share thereof, stated in acre feet per Fiscal Year. Thereafter, no party may Produce in any Fiscal Year an amount in excess of the sum of his Diversion Right, if any, plus his Pumper's Share of such Operating Safe Yield, or his

Integrated Production Right, or the terms of any Cyclic Storage Agreement, without being subject to Assessment for the purpose of purchasing Replacement Water. In establishing the Operating Safe Yield, Watermaster shall follow all physical, economic, and other relevant parameters provided in the Watermaster Operating Criteria. Watermaster shall have Assessment powers to raise funds essential to implement the management plan in any of the several special circumstances herein described in more detail.

42. Basin Operating Criteria. (Prior Judgment Section 34) Until further order of the Court and in accordance with the Watermaster Operating Criteria, Watermaster shall not spread Replacement Water when the water level at the Key Well exceeds Elevation two hundred fifty (250), and Watermaster shall spread Replacement Water, insofar as practicable, to maintain the water level at the Key Well above Elevation two hundred (200).

43. Determination of Operating Safe Yield. (Prior Judgment Section 35) Watermaster shall annually determine the Operating Safe Yield applicable to the succeeding Fiscal Year and estimate the same for the next succeeding four (4) Fiscal Years. In making such determination, Watermaster shall be governed in the exercise of its discretion by the Watermaster Operating Criteria. The procedures with reference to said determination shall be as follows:

(a) Preliminary Determination. On or before Watermaster's first meeting in April of each year, Watermaster shall make a Preliminary Determination of the Operating Safe Yield of the Basin for each of the succeeding five Fiscal Years. Said determination shall be

made in the form of a report containing a summary statement of the considerations, calculations and factors used by Watermaster in arriving at said Operating Safe Yield.

(b) Notice and Hearing. A copy of said Preliminary Determination and report shall be mailed to each Pumper and Integrated Producer at least ten (10) days prior to a hearing to be held at Watermaster's regular meeting in May, of each year, at which time objections or suggested corrections or modifications of said determinations shall be considered. Said hearing shall be held pursuant to procedures adopted by Watermaster.

(c) Watermaster Determination and Review Thereof. Within thirty (30) days after completion of said hearing, Watermaster shall mail to each Pumper and Integrated Producer a final report and determination of said Operating Safe Yield for each such Fiscal Year, together with a statement of the Producer's entitlement in each such Fiscal Year stated in acre feet. Any affected party, within thirty (30) days of mailing of notice of said Watermaster determination, may, by a regularly noticed motion, petition the Court for an Order to Show Cause for review of said Watermaster finding, and thereupon the Court shall hear such objections and settle such dispute. Unless so ordered by the Court, such petition shall not operate to stay the effect of said report and determination. In the absence of such review proceedings, the Watermaster determination shall be final.

44. Reports of Pumping and Diversion. (Prior Judgment

Section 36) Each party (other than Minimal Producers) shall file with the Watermaster quarterly, on or before the last day of January, April, July and October, a report on a form to be prescribed by Watermaster showing the total Pumping and Diversion (separately for Direct Use and for non-consumptive use, if any,) of such party during the preceding calendar quarter.

45. Assessments -- Purpose. (Prior Judgment Section 37) Watermaster shall have the power to levy and collect Assessments from the parties (other than Minimal Producers, non-consumptive users, or Production under Special Category Rights or Cyclic Storage Agreements) based upon Production during the preceding Fiscal Year. Said Assessments may be for one or more of the following purposes:

(a) Watermaster Administration Costs. Within thirty (30) days after completion of the hearing on the Preliminary Determination of the Operating Safe Yield of the Basin and Watermaster's determination thereof, pursuant to Section 43 hereof, Watermaster shall adopt a proposed budget for the succeeding Fiscal Year and shall mail a copy thereof to each party, together with a statement of the level of Administration Assessment levied by Watermaster which will be collected for purposes of raising funds for said budget. Said Assessment shall be uniformly applicable to each acre foot of Production.

(b) Replacement Water Costs. Replacement Water Assessments shall be collected from each party on account of such party's Production in excess of its Diversion

Rights, Pumper's Share or Integrated Production Right, and on account of the consumptive use portion of Overlying Rights, computed at the applicable rate established by Watermaster consistent with the Watermaster Operating Criteria.

(c) Make-Up Obligation. An Assessment shall be collected equally on account of each acre foot of Production, which does not bear a Replacement Assessment hereunder, to pay all necessary costs of Administration and satisfaction of the Make-Up Obligation. Such Assessment shall not be applicable to water Production for an Overlying Right.

(d) In-Lieu Water Cost. Watermaster may levy an Assessment against all Pumping to pay reimbursement for In-Lieu Water Costs except that such Assessment shall not be applicable to the non-consumptive use portion of an Overlying Right.

(e) Basin Water Quality Improvement. For purposes of testing, protecting or improving the water quality in the Basin, Watermaster may, after a noticed hearing thereon, fix terms and conditions under which it may waive all or any part of its Assessments on such ground water Production and if such Production, in addition to his other Production, does not exceed such Producer's Share or entitlement for that Fiscal Year, such stated Production shall be allowed to be carried over for a part of such Producer's next Fiscal Year's Producer's Share or entitlement. In connection therewith, Watermaster may also

waive the provisions of Sections 25, 26 and 57 hereof, relating to Injunction Against Unauthorized Recharge, Injunction Against Transportation From Basin or Relevant Watershed, and Intervention After Judgment, respectively. Nothing in this Judgment is intended to allow an increase in any Producer's annual entitlement nor to prevent Watermaster, after hearing thereon, from entering into contracts to encourage, assist and accomplish the clean up and improvement of degraded water quality in the Basin by non-parties herein. Such contracts may include the exemption of the Production of such Basin water therefor from Watermaster Assessments and, in connection therewith, the waiver of the provisions of Judgment Sections 25, 26, and 57 hereof.

46. Assessments -- Procedure. (Prior Judgment Section 38) Assessments herein provided for shall be levied and collected as follows:

(a) Levy and Notice of Assessment. Within thirty (30) days of Watermaster's annual determination of Operating Safe Yield of the Basin for each Fiscal Year and succeeding four (4) Fiscal Years, Watermaster shall levy applicable Administration Assessments, Replacement Water Assessments, Make-up Water Assessments and In-Lieu Water Assessments, if any. Watermaster shall give written notice of all applicable Assessments to each party on or before August 15, of each year.

(b) Payment. Each Assessment shall be payable, and each party is Ordered to pay the same, on or before

September 20, following such Assessment, subject to the rights reserved in Section 37 hereof.

(c) Delinquency. Any Assessment which becomes delinquent after January 1, 1980, shall bear interest at the annual prime rate plus one percent (1%) in effect on the first business day of August of each year. Said prime interest rate shall be that fixed by the Bank of America NT&SA for its preferred borrowing customers on said date. Said prime interest rate plus one percent (1%) shall be applicable to any said delinquent Assessment from the due date thereof until paid. Provided, however, in no event shall any said delinquent Assessment bear interest at a rate of less than ten percent (10%) per annum. Such delinquent Assessment and interest may be collected in a Show Cause proceeding herein or any other legal proceeding instituted by Watermaster, and in such proceeding the Court may allow Watermaster its reasonable costs of collection, including attorney's fees.

47. Availability of Supplemental Water From Responsible Agencies. (Prior Judgment Section 39) If any Responsible Agency shall, for any reason, be unable to deliver Supplemental Water to Watermaster when needed, Watermaster shall collect funds at an appropriate level and hold them in trust, together with interest accrued thereon, for purchase of such water when available.

48. Accumulation of Replacement Water Assessment Proceeds. (Prior Judgment Section 40) In order to minimize fluctuation in Assessments and to give Watermaster flexibility in Basin

management, Watermaster may make reasonable accumulations of Replacement Water Assessments. Such moneys and any interest accrued thereon shall only be used for the purchase of Replacement Water.

49. Carry-over of Unused Rights. (Prior Judgment Section 41) Any Pumper's Share of Operating Safe Yield, and the Production right of any Integrated Producer, which is not Produced in a given Fiscal Year may be carried over and accumulated for one Fiscal Year, pursuant to reasonable rules and procedures for notice and accounting which shall be adopted by Watermaster. The first water Produced in the succeeding Fiscal Year shall be deemed Produced pursuant to such Carry-over Rights.

50. Minimal Producers. (Prior Judgment Section 42) In the interest of Justice, Minimal Producers are exempted from the operation of this Physical Solution, so long as such party's annual Production does not exceed five (5) acre feet. Quarterly Production reports by such parties shall not be required, but Watermaster may require, and Minimal Producers shall furnish, specific periodic reports. In addition, Watermaster may conduct such investigation of future operations of any Minimal Producer as may be appropriate.

51. Effective Date. (Prior Judgment Section 43) The effective date for commencing accounting and operation under this Physical Solution, other than for Replacement Water Assessments, shall be July 1, 1972. The first Assessment for Replacement Water shall be payable on September 20, 1974, on account of Fiscal Year 1973-74 Production.

G. MISCELLANEOUS PROVISIONS

52. Puente Narrows Flow. (Prior Judgment Section 44) The Puente Basin is tributary to the Main San Gabriel Basin. All Producers within said Puente Basin have been dismissed herein, based upon the Puente Narrows Agreement (Exhibit "J"), whereby Puente Basin Water Agency agreed not to interfere with surface inflow and to assure continuance of historic subsurface contribution of water to Main San Gabriel Basin. The Court declares said Agreement to be reasonable and fair and in full satisfaction of claims by Main San Gabriel Basin for natural water from Puente Basin.

53. San Gabriel District - Interim Order. (Prior Judgment Section 45) San Gabriel District has a contract with the State of California for State Project Water, delivered at Devil Canyon in San Bernardino County. San Gabriel District is HEREBY ORDERED to proceed with and complete necessary pipeline facilities as soon as practical.

Until said pipeline is built and capable of delivering a minimum of twenty-eight thousand eight-hundred (28,800) acre feet of State Project water per year, defendant cities of Alhambra, Azusa, and Monterey Park shall pay to Watermaster each Fiscal Year a Replacement Assessment at a uniform rate sufficient to purchase Replenishment Water when available, which rate shall be declared by San Gabriel District. When water is available through said pipeline, San Gabriel District shall make the same available to Watermaster, on his reasonable demand, at said specified rate per acre foot. Interest accrued on such funds shall be paid to San Gabriel

District.

54. Service Upon and Delivery to Parties of Various Papers. (Prior Judgment Section 46) Service of the Judgment on those parties who have executed the Stipulation for Judgment shall be made by first class mail, postage prepaid, addressed to the Designee and at the address designated for that purpose in the executed and filed counterpart of the Stipulation for Judgment, or in any substitute designation filed with the Court.

Each party who has not heretofore made such a designation shall, within thirty (30) days after the Judgment shall have been served upon that party, file with the Court, with proof of service of a copy thereof upon Watermaster, a written designation of the person to whom and the address at which all future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon that party or delivered to that party are to be so served or delivered.

A later substitute designation filed and served in the same manner by any party shall be effective from the date of filing as to the then future notices, determinations, requests, demands, objections, reports and other papers and processes to be served upon or delivered to that party.

Delivery to or service upon any party by Watermaster, by any other party, or by the Court, of any item required to be served upon or delivered to a party under or pursuant to the Judgment may be made by deposit thereof (or by copy thereof) in the mail, first class, postage prepaid, addressed to the Designee of the party and at the address shown in the latest

designation filed by that party.

55. Assignment, Transfer, etc., of Rights. (Prior Judgment Section 47) Any rights Adjudicated herein except Overlying Rights, may be assigned, transferred, licensed or leased by the owners thereof; provided however, that no such assignment shall be complete until the appropriate notice procedures established by Watermaster have been complied with. No water Produced pursuant to rights assigned, transferred, licensed, or leased may be transported outside the Relevant Watershed except by:

(1) a Transporting Party, or

(2) a successor in interest immediate or mediate to a water system on lands or portion thereof, theretofore served by such a Transporting Party, for use by such successor in accordance with limitations applicable to Transporting Parties, or

(3) a successor in interest to the Special Category rights of MWD.

The transfer and use of Overlying Rights shall be limited, as provided in Section 21 hereof, as exercisable only on the specifically defined Overlying Lands and they cannot be separately conveyed or transferred apart therefrom.

56. Abandonment of Rights. (Prior Judgment Section 48) It is in the interest of reasonable beneficial use of the Basin and its water supply that no party be encouraged to take and use more water in any Fiscal Year than is actually required. Failure to Produce all of the water to which a party is entitled hereunder shall not, in and of itself, be deemed or constitute

an abandonment of such party's right, in whole or in part. Abandonment and extinction of any right herein Adjudicated shall be accomplished only by:

(1) a written election by the party, filed in this case, or

(2) upon noticed motion of Watermaster, and after hearing.

In either case, such abandonment shall be confirmed by express subsequent order of this Court.

57. Intervention After Judgment. (Prior Judgment Section 49) Any person who is not a party or successor to a party and who proposes to Produce water from the Basin or Relevant Watershed, may seek to become a party to this Judgment through a Stipulation For Intervention entered into with Watermaster. Watermaster may execute said Stipulation on behalf of the other parties herein but such Stipulation shall not preclude a party from opposing such Intervention at the time of the Court hearing thereon. Said Stipulation For Intervention must thereupon be filed with the Court, which will consider an order confirming said Intervention following thirty (30) days' notice to the parties. Thereafter, if approved by the Court, such Intervenor shall be a party bound by this Judgment and entitled to the rights and privileges accorded under the Physical Solution herein.

58. Judgment Binding on Successors, etc. (Prior Judgment Section 50) Subject to specific provisions hereinbefore contained, this Judgment and all provisions thereof are applicable to and binding upon and inure to the benefit of not

only the parties to this action, but as well to their respective heirs, executors, administrators, successors, assigns, lessees, licensees and to the agents, employees and attorneys in fact of any such persons.

59. Water Rights Permits. (Prior Judgment Section 51) Nothing herein shall be construed as affecting the relative rights and priorities between MWD and San Gabriel Valley Protective Association under State Water Rights Permits Nos. 7174 and 7175, respectively.

60. Costs. (Prior Judgment Section 52) No party shall recover any costs in this proceeding from any other party.

61. Entry of Judgment. (New) The Clerk shall enter this Judgment.

DATED: August 24, 1989.

s/ Florence T. Pickard
Florence T. Pickard, Judge
Specially Assigned

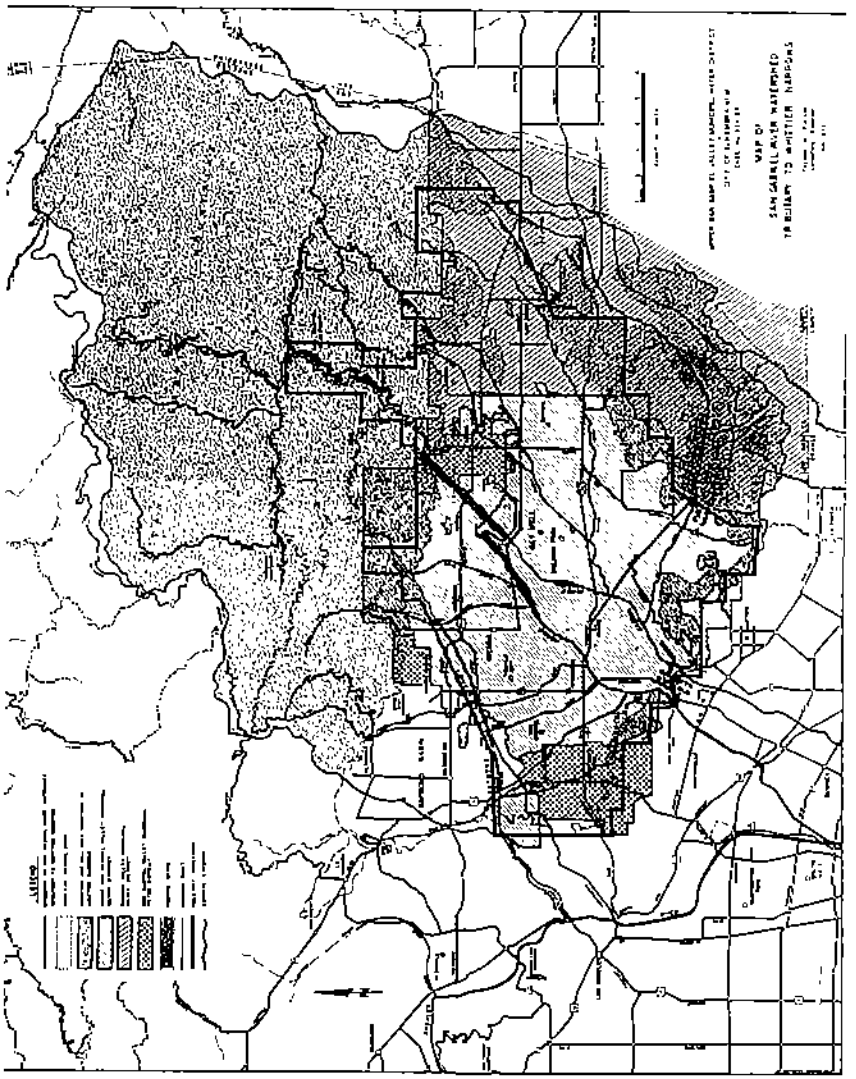


Exhibit "B"

BOUNDARIES OF RELEVANT WATERSHED

The following described property is located in Los Angeles County, State of California:

Beginning at the Southwest corner of Section 14, Township 1 North, Range 11 West, San Bernardino Base and Meridian;

Thence Northerly along the West line of said Section 14 to the Northwest corner of the South half of said Section 14;

Thence Easterly along the North line of the South half of Section 14 to the East line of said Section 14;

Thence Northerly along the East line of said Section 14, Township 1 North, Range 11 West and continuing Northerly along the East line of Section 11 to the Northeast corner of said Section 11;

Thence Easterly along the North line of Section 12 to the Northeast corner of said Section 12;

Thence Southerly along the East line of said Section 12 and continuing Southerly along the East line of Section 13 to the Southeast corner of said Section 13, said corner being also the Southwest corner of Section 18, Township 1 North, Range 10 West;

Thence Easterly along the South line of Sections 18, 17, 16 and 15 of said Township 1 North, Range 10 West to the Southwest corner of Section 14;

Thence Northerly along the West line of Section 14 to the Northwest corner of the South half of Section 14;

Thence Easterly along the North line of the South half of Section 14 to the East line of said section;

Thence Northerly along the East line of said Section 14, and continuing Northerly along the West line of Section 12 of said Township 1 North, Range 10 West to the North line of said Section 12;

Thence Easterly along the North line of said Section 12, to the Northeast corner of said Section 12, said corner being also the Southwest corner of Section 6, Township 1 North, Range 9 West;

Thence Northerly along the West line of said Section 6 and continuing Northerly along West line of Sections 31 and 30, Township 2 North, Range 9 West to the Westerly prolongation of the North line of said Section 30;

Thence Easterly along said Westerly prolongation of the North line of said Section 30 and continuing Easterly along the North line of Section 29 to the Northeast corner of said Section 29;

Thence Southerly along the East line of said Section 29 and continuing Southerly along the East line of Section 32, Township 2 North, Range 9 West, and thence continuing Southerly along the East line of Section 5, Township 1 North, Range 9 West to the Southeast corner of said Section 5;

Thence Westerly along the South line of said Section 5 to the Southwest corner of said Section 5, said point being also the Northwest corner of Section 8;

Thence Southerly along the West line of said Section 8 and continuing Southerly along the West line of Section 17, to the Southwest corner of said Section 17, said corner being also the Northwest corner of Section 20;

Thence Easterly along the North line of Sections 20 and 21 to the Northwest corner of Section 22, said corner being also the Southwest corner of Section 15;

Thence Northerly along the West line of said Section 15 to the Northwest corner of the South half of said Section 15;

Thence Easterly along the North line of said South half of Section 15 to the Northeast corner of said South half of Section 15;

Thence Southerly along the East line of Section 15 and continuing Southerly along the East line of Section 22 to the Southeast corner of said Section 22, said point being also the Southwest corner of Section 23;

Thence Easterly along the South line of Sections 23 and 24 to the East line of the West half of said Section 24;

Thence Northerly along said East line of the West half of Section 24 to the North line thereof;

Thence Easterly along said North line of Section 24 to the Northeast corner thereof, said point also being the Northwest corner of Section 19, Township 1 North, Range 8 West;

Thence continuing Easterly along the North line of Section 19 and Section 20 of said Township 1 North, Range 8 West to the Northeast corner of said Section 20;

Thence Southerly along the East line of Sections 20, 29 and 32 of said Township 1 North, Range 8 West to the Southeast corner of said Section 32;

Thence Westerly along the South line of Section 32 to the Northwest corner of the East half of Section 5, Township 1 South, Range 8 West;

Thence Southerly along the West line of the East half of said Section 5 to the South line of said Section 5;

Thence West to the East line of the Northerly prolongation of Range 9 West;

Thence South 87° 30' West to an intersection with the Northerly prolongation of the West line of Section 27, Township 1 South, Range 9 West;

Thence Southerly along the Northerly prolongation of said West line of Section 27 and continuing Southerly along the West line of Section 27 to the Southwest corner of said Section 27, said point being also the Southeast corner of Section 28;

Thence Westerly along the South line and Westerly projection of the South line of said Section 28 to the Northerly prolongation of the West line of Range 9 West;

Thence Southerly along said prolongation of the West line of Range 9 West to the Westerly prolongation of the North line of Township 2 South;

Thence Westerly along said Westerly prolongation of the North line of Township 2 South, a distance of 8,500 feet;

Thence South a distance of 1,500 feet;

Thence West a distance of 10,700 feet;

Thence South 29° West to an intersection with the Northerly prolongation of the West line of Section 20, Township 2 South, Range 10 West;

Thence Southerly along said Northerly prolongation of the West line of said Section 20 and continuing Southerly along the West line of Section 20 to the Southwest corner of said Section 20;

Thence South a distance of 2,000 feet;

Thence West a distance of two miles, more or less, to an intersection with the East line of Section 26, Township 2 South, Range 11 West;

Thence Northerly along said East line of Section 26 and continuing Northerly along the East line of Section 23, Township 2 South, Range 11 West to the Northeast corner of said Section 23;

Thence Westerly along the North line of said Section 23 to the Northwest corner thereof, said point being also the Southeast corner of Section 15, Township 2 South, Range 11 West;

Thence Northerly and Westerly along the East and North lines, respectively, of said Section 15, Township 2 South, Range 11 West, to the Northwest corner thereof;

Thence continuing Westerly along the Westerly prolongation of said North line of Section 15, Township 2 South, Range 11 West to an intersection with a line parallel to and one mile East of the West line of Range 11 West;

Thence Northerly along said parallel line to an intersection with the Northerly boundary of the City of Pico Rivera as said City of Pico Rivera existed on July 17, 1970;

Thence Westerly along said City boundary to an intersection with the East line of Range 12 West;

Thence Northerly along said East line of Range 12 West to the North line of Township 2 South;

Thence Westerly along the North line of Township 2 South to an intersection with the Southerly prolongation of the East line of the West half of Section 26, Township 1 South, Range 12 West;

Thence Northerly along said Southerly prolongation of said East line of the West half of said Section 26 to the Southeast corner of said West half;

Thence Westerly along the South line of Sections 26, 27 and 28, Township 1 South, Range 12 West, to the Southeast corner of Section 29, Township 1 South, Range 12 West;

Thence Northerly along the East line of said Section 29 to the Northeast corner of the South half of said Section 29;

Thence Westerly along the North line of the South half of said Section 29 to the Northwest corner thereof;

Thence Northerly along the West line of Sections 29, 20, 17 and 8, Township 1 South, Range 12 West;

Thence continuing Northerly along the Northerly prolongation of the West line of Section 8, Township 1 South, Range 12 West to an intersection with the North line of Township 1 South;

Thence Easterly along said North line of Township 1 South to the Northeast corner of Section 3, Township 1 South, Range 12 West;

Thence North 64° 30′ East to an intersection with the West line of Section 23, Township 1 North, Range 11 West;

Thence Northerly along the West line of said Section 23 to the Northwest corner thereof, said point being the Southwest corner of Section 14, Township 1 North, Range 11 West and said point being also the point of beginning.

Exhibit "C"

TABLE
SHOWING BASE
ANNUAL DIVERSION
RIGHTS OF CERTAIN
DIVERTERS

	Base Annual Diversion Right Acre-Feet
Covell, Ralph (Successor to Rittenhouse, Catherine and Rittenhouse, James)	2.12
Maddock, A. G.	3.40
Rittenhouse, Catherine (Transferred to Covell, Ralph)	0
Rittenhouse, James (Transferred to Covell, Ralph)	0
Ruebhausen, Arline (Held in common with Ruebhausen, Victor) (Transferred to City of Glendale)	0
Ruebhausen, Victor (See Ruebhausen, Arline, above)	0
TOTAL	5.52

Exhibit "D"

TABLE
SHOWING PRESCRIPTIVE PUMPING RIGHTS
AND PUMPER'S SHARE OF EACH PUMPER
AS OF JUNE, 1988

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share Percent (%)
Adams Ranch Mutual Water Company	100.00	0.05060
A & E Plastik Pak Co., Inc. (Transferred to Industry Properties, Ltd.)	0	0
Alhambra, City of	8,812.05	4.45876
Amarillo Mutual Water Company	709.00	0.35874
Anchor Plating Co., Inc. (Successor to Bodger & Sons) (Transferred to Crown City Plating Co.)	0	0
Anderson, Ray L. and Helen T., Trustees (Successor to Covina-Valley Unified School District)	50.16	0.02538
Andrade, Marcario and Consuelo; and Andrade, Robert and Jayne (Successor to J. F. Isbell Estate, Inc.)	8.36	0.00423
Arcardia, City of	9,252.00	4.68137
(Successor to First National Finance Corporation)	60.90	0.03081
(Transferred to City of Monrovia)	951.00	0.48119
	8,361.90	4.23099
Associated Southern Investment Company (Transferred to Southern California Edison Company)	0	0
AZ-Two, Inc. (Lessee of Southwestern Portland Cement Co.)	0	0
Azusa, City	3,655.99	1.84988
Azusa-Western Inc. (Transferred to Southwestern Portland Cement Co.)	0	0
Bahnsen & Beckman Ind., Inc. (Transferred to Woodland, Richard)	0	0

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
Bahnsen, Betty M. (Transferred to Dawes, Mary Kay)	0	0
Baldwin Park County Water District (See Valley County Water District)	-	-
Banks, Gale C. (Successor to Doyle, Mr. and Mrs.; and Madruga, Mr. and Mrs.)	50.00	0.02530
Base Line Water Company	430.20	0.21767
Beverly Acres Mutual Water Company	93.00	0.04706
Birenbaum, Max (Held in common with Birenbaum, Sylvia; Schneiderman, Alan; Schneiderman, Lydia; Wigodsky, Bernard; Wigodsky, Estera) (Transferred to City of Whittier)	0	0
Birenbaum, Sylvia (See Birenbaum, Max)	-	-
Blue Diamond Concrete Materials Div., The Flintkote Company (Transferred to Sully-Miller Contracting Co.)	0	0
Bodger & Sons DBA Bodger Seeds Ltd. (Transferred to Anchor Plating Co., Inc.)	0	0
Botello Water Company	0	0
Burbank Development Company	50.65	0.02563
Cadway, Inc. (Successor to: Corcoran, Jack S. and R. L.)	100.00	0.05060
Corcoran, Jack S. and R. L.)	100.00	0.05060
	200.00	0.10120
Cal Fin (Transferred to Suburban Water Systems)	0	0
California-American Water Company (San Marino System)	7,868.70	3.98144
California Country Club	0	0

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
California Domestic Water Company (Successor to:	11,024.82	5.57839
Cantrill Mutual Water Company	42.50	0.02150
Industry Properties, Ltd.	73.50	0.03719
Modern Accent Corporation	256.86	0.12997
Fisher, Russell)	19.00	0.00961
	11,416.68	5.77666
California Materials Company	0	0
Cantrill Mutual Water Company (Transferred to California Domestic Water Co.)	0	0
Cedar Avenue Mutual Water Company	121.10	0.06127
Champion Mutual Water Company	147.68	0.07472
Chronis, Christine (See Polopolus, et al)	-	-
Clayton Manufacturing Company	511.80	0.25896
Collison, E. O.	0	0
Comby, Erma M. (See Wilmott, Erma M.)	-	-
Conrock Company (Formerly Consolidated Rock Products Co.)	1,465.35	0.74144
(Successor to Manning Bros. Rock & Sand Co.)	328.00	0.16596
	1,793.35	0.90740
Consolidated Rock Products Co. (See Conrock Company)	-	-
Corcoran, Jack S. (Held in common with Corcoran, R. L.) (Transferred to:	747.00	0.37797
Cadway, Inc.	100.00	0.05060
Cadway, Inc.)	100.00	0.05060
	947.00	0.47917
Corcoran, R. L. (See Corcoran, Jack S.)	-	-
County Sanitation District No. 18 of Los Angeles County	4.50	0.00228

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
Covell, et al. (Successor to Rittenhouse, Catherine and Rittenhouse, James) (Held in common with Jobe, Darr; Goedert, Lillian E.; Goedert, Marion W.; Lakin, Kendall R.; Lakin, Kelly R.; Snyder, Harry)	111.05	0.05619
Covina, City of	2,507.89	1.26895
(Transferred to Covina Irrigating Company)	1,734.00	0.87737
(Transferred to Covina Irrigating Company)	300.00	0.15179
	473.89	0.23979
Covina-Valley Unified School District (Transferred to Anderson, Ray)	0	0
Crevolin, A. J.	2.25	0.00114
Crocker National Bank, Executor of the Estate of A. V. Handorf (Transferred to Modern Accent Corp.)	0	0
Cross Water Company (Transferred to City of Industry)	0	0
Crown City Plating Company	190.00	0.09614
(Successor to Anchor Plating Co., Inc.)	10.00	0.00506
	200.00	0.10120
Davidson Optronics, Inc.	22.00	0.01113
Dawes, Mary Kay (Successor to Bahnsen, Betty M.)	441.90	0.22359
Del Rio Mutual Water Company	199.00	0.10069
Denton, Kathryn W., Trustee for San Jose Ranch Company (Transferred to White, June G., Trustee of the June G. White Share of the Garnier Trust)	0	0
Doyle, Mr. and Mrs.; and Madruga, Mr. and Mrs. (Successor to Sawpit Farms, Ltd.) (Transferred to Banks, Gale C.)	0	0
Driftwood Dairy	163.80	0.08288
Duhalde, L. (Transferred to El Monte Union High School District)	0	0

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
Dunning, George (Held in common with Dunning, Vera H.) (Successor to Vera H. Dunning)	324.00	0.16394
Dunning, Vera H. (Transferred to George Dunning)	-	-
East Pasadena Water Company, Ltd.	1,407.69	0.71227
Eckis, Rollin (Successor to Sawpit Farms, Ltd.) (Transferred to City of Monrovia)	0	0
El Encanto Properties (Transferred to La Puente Valley County Water District)	0	0
El Monte, City of	2,784.23	1.40878
El Monte Cemetary Association	18.50	0.00936
El Monte Union High School District (Successor to Duhalde, L.) (Transferred to City of Whittier)	0	0
Everett, Mrs. Alda B. (Held in common with Everett, W. B., Executor of the Estate of I. Worth Everett)	0	0
Everett, W. B., Executor of the Estate of I. Worth Everett (See Everett, Mrs. Alda B.)	-	-
Faix, Inc. (Successor to Frank F. Pellissier & Sons, Inc.) (Transferred to Faix, Ltd.)	0	0
Faix, Ltd. (Successor to Faix, Inc.)	6,490.00	3.28384
First National Finance Corporation (Transferred to City of Arcadia)	0	0
Fisher, Russell (Held in common with Hauch, Edward and Warren, Clyde) (Transferred to California Domestic Water Company)	0	0

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
Frank F. Pellissier & Sons, Inc. (Transferred to Faix, Inc.)	0	0
Fruit Street Water Company (Transferred to: Gifford, Brooks, Jr. City of La Verne)	0	0
Gifford, Brooks, Jr. (Successor to: Fruit Street Water Co., Mission Gardens Mutual Water Company) (Transferred to City of Whittier)	0	0
Gilkerson, Frank B. (Transferred to Jobe, Darr)	-	-
Glendora Unified High School District (Transferred to City of Glendora)	0	0
Goedert, Lillian E. (See Covell, et al)	-	-
Goedert, Marion W. (See Covell, et al)	-	-
Graham, William (Transferred to Darr Jobe)	-	-
Green, Walter	71.70	0.03628
Grizzle, Lissa D. (Held in common with Grizzle, Mervin A.; Wilson, Harold R.; Wilson, Sarah C.) (Transferred to City of Whittier)	0	0
Grizzle, Mervin A. (See Grizzle, Lissa B.)	0	0
Hansen, Alice	0.75	0.00038
Hartley, David	0	0
Hauch, Edward (See Fisher, Russell)	0	0
Hemlock Mutual Water Company	166.00	0.08399

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
Hollenbeck Street Water Company (Transferred to Suburban Water Systems)	0	0
Hunter, Lloyd F. (Successor to R. Wade)	4.40	0.00223
Hydro-Conduit Corporation	0	0
Industry Waterworks System, City of (Successor to Cross Water Company)	1,103.00	0.55810
Industry Properties, Ltd. (Successor to A & E Plastik Pak Co., Inc.) (Transferred to California Domestic Water Co.)	0	0
J. F. Isbell Estate, Inc. (Transferred to Andrade, Macario and Consuelo; and Andrade, Robert and Jayne)	0	0
Jerris, Helen (See Polopolus, et al)	-	-
Jobe, Darr (See Covell, et al)	-	-
Kirklen Family Trust (Formerly Kirklen, Dawn L.) (Held in common with Kirklen, William R.)	375.00	0.18974
(Successor to San Dimas-La Verne Recreational Facilities Authority)	62.50	0.03162
	437.50	0.22136
Kirklen, Dawn L. (See Kirklen Family Trust)	-	-
Kirklen, William R. (See Kirklen, Dawn L.)	-	-
Kiyan, Hideo (Held in common with Kiyan, Hiro)	30.00	0.01518
Kiyan, Hiro (See Kiyan, Hideo)	-	-
Knight, Kathryn M. (Successor to William Knight)	227.88	0.11530
Knight, William (Transferred to Kathryn M. Knight)	0	0

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
Lakin, Kelly R. (See Covell, et al)	-	-
Lakin, Kendall R. (See Covell, et al)	-	-
Landeros, John	0.75	0.00038
La Grande Source Water Company (Transferred to Suburban Water Systems)	0	0
Lang, Frank (Transferred to San Dimas-La Verne Recreational Facilities Authority)	0	0
La Puente Cooperative Water Company (Transferred to Suburban Water Systems)	0	0
La Puente Valley County Water District	1,097.00	0.55507
(Successor to El Encanto Properties)	33.10	0.01690
	1,130.10	0.57197
La Verne, City of	250.00	0.12650
(Successor to Fruit Street Water Co.)	105.71	0.05349
	355.71	0.17999
Lee, Paul M. and Ruth A.; Nasmyth, Virrginia; Nasmyth, John	0	0
Little John Dairy	0	0
Livingston-Graham, Inc.	1,824.40	0.92312
Los Flores Mutual Water Company (Transferred to City of Monterey Park)	0	0
Loucks, David	3.00	0.00152
Manning Bros. Rock & Sand Co. (Transferred to Conrock Company)	0	0
Maple Water Company	118.50	0.05996
Martinez, Frances Mercy (Held in common with Martinez, Jaime)	0.75	0.00038
Martinez, Jaime (See Martinez, Frances Mercy)	-	-
Massey-Ferguson Company	0	0

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
Miller Brewing Company	111.01	0.05617
(Successor to:		
Haechtlen, Estate of J. J.	151.50	0.07666
Phillips, Alice B., et al)	50.00	0.02530
	312.51	0.15813
Mission Gardens Mutual Water Company		
(Transferred to Gifford, Brooks, Jr.)	0	0
Modern Accent Corporation		
(Successor to Crocker National Bank,		
Executor of the Estate of A. V. Handorf)		
(Transferred to California Domestic Water Co.)	0	0
Monterey Park, City of	6,677.48	3.37870
(Successor to Los Flores Mutual Water Co.)	26.60	0.01346
	6,704.08	3.39216
Murphy Ranch Mutual Water Company		
(Transferred to Southwest Suburban Water)	0	0
Namimatsu Farms		
(Transferred to California Cities Water Company)	0	0
Nick Tomovich & Sons	0.02	0.00001
No. 17 Walnut Place Mutual Water Co.		
(Transferred to San Gabriel Valley		
Water Company)	0	0
Orange Production Credit Association	0	0
Owl Rock Products Co.	715.60	0.36208
Pacific Rock & Gravel Co.		
(Transferred to:		
City of Whittier		
Rose Hills Memorial Park Association)	0	0
Park Water Company		
(Transferred to Valley County Water District)	0	0
Penn, Margaret		
(See Polopolus, et al)	-	-
Pico County Water District	0.75	0.00038
Polopolus, John		
(See Polopolus, et al)	-	-

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
Polopolus, et al		
(Successor to Polopolus, Steve)		
(Held in common with Chronis, Christine;		
Jerris, Helen; Penn, Margaret; Polopolus, John)	22.50	0.01138
Polopolus, Steve		
(Transferred to Polopolus, et al)	-	-
Rados, Alexander		
(Held in common with Rados, Stephen		
and Rados, Walter)	43.00	0.02176
Rados, Stephen		
(See Rados, Alexander)	-	-
Rados, Walter		
(See Rados, Alexander)	-	-
Richwood Mutual Water Company	192.60	0.09745
Rincon Ditch Company	628.00	0.31776
Rincon Irrigation Company	314.00	0.15888
Rittenhouse, Catherine		
(Transferred to Covell, Ralph)	0	0
Rittenhouse, James		
(Transferred to Covell, Ralph)	0	0
Rose Hills Memorial Park Association	594.00	0.30055
(Successor to Pacific Rock & Gravel Co.)	200.00	0.10120
	794.00	0.40175
Rosemead Development, Ltd.		
(Successor to Thompson, Earl W.)	1.00	0.00051
Rurban Homes Mutual Water Company	217.76	0.11018
Ruth, Roy	0.75	0.00038
San Dimas-La Verne Recreational		
Facilities Authority		
(Successor to Lang, Frank)		
(Transferred to Kirklen, Dawn L. and		
William R.)	0	0
San Gabriel Country Club	286.10	0.14476
San Gabriel County Water District	4,250.00	2.15044

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
San Gabriel Valley Municipal Water District	0	0
San Gabriel Valley Water Company (Successor to:	16,659.00	8.42920
Vallecito Water Co.	2,867.00	1.45066
No. 17 Walnut Place Mutual Water Co.)	21.50	0.01088
	19,547.50	9.89074
Sawpit Farms, Limited (Transferred to: Eckis, Rollin Doyle and Mudruga)	0	0
Schneiderman, Alan (See Birenbaum, Max)	-	-
Schneiderman, Lydia (See Birenbaum, Max)	-	-
Security Pacific National Bank, Co-Trustee for the Estate of Winston F. Stoody (See Stoody, Virginia A.) (Transferred to City of Whittier)	0	0
Sierra Madre, City of	0	0
Sloan Ranches	129.60	0.06558
Smith, Charles	0	0
Snyder, Harry (See Covell, et al)	-	-
Sonoco Products Company	311.60	0.15766
South Covina Water Service	992.30	0.50209
Southern California Edison Company (Successor to: Associated	155.25	0.07855
Southern Investment Company)	16.50	0.00835
	171.75	0.08690
Southern California Water Company, San Gabriel Valley District	5,773.00	2.92105
South Pasadena, City of	3,567.70	1.80520
Southwest Suburban Water (See Suburban Water Systems)	-	-

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
Southwestern Portland Cement Company (Successor to Azusa Western, Inc.)	742.00	0.37544
Speedway 605, Inc.	0	0
Standard Oil Company of California	2.00	0.00101
Sterling Mutual Water Company	120.00	0.06072
Stoody, Virginia A., Co-Trustee for the Estate of Winston F. Stoody (See Security Pacific National Bank, Co-Trustee)	-	-
Suburban Water Systems (Formerly Southwest Suburban Water) (Successor to:	20,462.47	10.35370
Hollenbeck Street Water Company	646.39	0.32706
La Grande Source Water Company	1,078.00	0.54545
La Puente Cooperative Water Co.	1,210.90	0.61270
Valencia Valley Water Company	651.50	0.32965
Victoria Mutual Water Company	469.60	0.23761
Cal Fin	118.10	0.05976
Murphy Ranch Mutual Water Co.	223.23	0.11295
	24,860.19	12.57888
Sully-Miller Contracting Company (Successor to Blue Diamond Concrete Materials Division, The Flintkote Co.)	1,399.33	0.70804
Sunny Slope Water Company	2,228.72	1.12770
Taylor Herb Garden (Transferred to Covina Irrigating Company)	0	0
Texaco, Inc.	50.00	0.02530
Thompson, Earl W. (Held in common with Thompson, Mary) (Transferred to Rosemead Development, Ltd.)	0	0
Thompson, Mary (See Thompson, Earl W.)	-	-
Tyler Nursery	3.21	0.00162
United Concrete Pipe Corporation (See U. S. Pipe & Foundry Company)	-	-

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
U. S. Pipe & Foundry Company (Formerly United Concrete Pipe Corporation)	376.00	0.19025
Valencia Heights Water Company	861.00	0.43565
Valencia Valley Water Company (Transferred to Suburban Water Systems)	0	0
Vallecito Water Company (Transferred to San Gabriel Valley Water Company)	0	0
Valley County Water District (Formerly Baldwin Park County Water District)	5,775.00	2.92206
(Successor to Park Water Company)	184.01	0.09311
	5,959.01	3.01517
Valley Crating Company	0	0
Valley View Mutual Water Company	616.00	0.31169
Via, H. (See Via, H., Trust of)	-	-
Via, H., Trust of (Formerly Via, H.)	46.20	0.02338
Victoria Mutual Water Company (Transferred to Suburban Water Systems)	0	0
Wade, R. (Transferred to Lloyd F. Hunter)	0	0
Ward Duck Company	1,217.40	0.61599
Warren, Clyde (See Fisher, Russell)	-	-
W. E. Hall Company	0.20	0.00010
White, June G., Trustee of the June G. White Share of the Garnier Trust (Successor to Denton, Kathryn W., Trustee for the San Jose Ranch Company)	185.50	0.09386

Pumper	Prescriptive Pumping Right Acre-feet	Pumper's Share %
Whittier, City of (Successor to:	7,620.23	3.85572
Grizzle, Lissa B.	184.00	0.09310
Pacific Rock and Gravel Co.)	208.00	0.10524
Security Pacific National Bank, Co-Trustee for the Estate of Winston F. Stoody	38.70	0.01958
El Monte Union High School District	16.20	0.00820
Gifford, Brooks, Jr.	198.25	0.10031
Birenbaum, Max)	6.00	0.00304
	8,271.38	4.18519
Wigodsky, Bernard (See Birenbaum, Max)	-	-
Wigodsky, Estera (See Birenbaum, Max)	-	-
Wilmott, Erma M. (Formerly Comby, Erma M.)	0.75	0.00038
Wilson, Harold R. (See Grizzle, Lissa B.)	-	-
Wilson, Sarah C. (See Grizzle, Lissa B.)	-	-
Woodland, Frederick G.	-	-
Woodland, Richard (Successor to: Bahnsen and Beckman Ind., Inc.)	840.50	0.42528
Totals for Exhibit "D"	**155,800.68**	**78.83276**
Totals from Exhibit "E"	**38,626.25**	**19.54431**
GRAND TOTALS	**197,634.43**	**100.00000**

TABLE
SHOWING PRODUCTION RIGHTS
OF EACH
INTEGRATED PRODUCER
AS OF JUNE 1988

Party	Diversion Component Acre-feet	Prescriptive Pumping Component Acre-feet	Pumping Component Share Percent (%)
Azusa Agricultural Water Company	1,000.00	1,732.20	0.87647
Azusa Foot-Hill Citrus Water Company (Transfered to Monrovia Nursery Company)	0	0	0
Azusa Valley Water Company	2,422.00	8,274.00	4.18652
California-American Water Company (Duarte System)	1,672.00	3,649.00	1.84631
California Cities Water Company (See Southern California Water Company, San Dimas District)	-	-	-
Covina Irrigating Company (Successor to:	2,514.00	4,110.00	2.09478
City of Covina,		1,734.00	0.87737
City of Covina, and		300.00	0.15179
Taylor Herb Garden)		6.00	0.00304
	2,514.00	6,180.00	3.12698
Glendora, City of (Successor to:	17.00	8,258.00	4.17842
Maechtlen, Estate of J. J.,		150.00	0.07590
Maechtlen, Trust of P. A.,		50.00	0.02530
Ruebhausen, Arline, and	18.34		
Glendora Unified High School District)		9.00	0.05009
	35.34	8,557.00	1.32971
Los Angeles, County of	310.00	3,721.30	1.88292
Maechtlen, Estate of J. J. (Transferred to:	0	301.50	0.15256
City of Glendora		-150.00	-0.07590
Miller Brewing Company)		-151.50	-0.07666
	0	0	0

Party	Diversion Componet Acre-feet	Prescriptive Pumping Component Acre-feet	Pumping Component Share %
Maechtlen, Estate of J. J.	1.49	0	0
Maechtlen, Trust of P. A. (Transferred to:	0.50	100.50	0.05085
City of Glendora		-50.00	-0.02530
Alice B. Phillips, et al)	-0.50	-50.50	-0.02555
	0	0	0
The Metropolitan Water District of Southern California	9.59	165.00	0.08349
Monrovia, City of (Sucessor to:	1,098.00	5,042.22	2.55129
Eckis, Rollin		123.00	0.06221
City of Arcadia)		951.00	0.48119
	1,098.00	6,116.22	3.09472
Monrovia, Nursery Company (Successor to:	239.50	0	0
Azusa Foot-Hill Citrus Co.)	718.50	0	
Phillips, Alice B., et al (Successor to:			
Maechtlen, Trust of P. A.)	0.50	50.50	0.02530
(Transferred to:			
Miller Brewing Company)		-50.00	-0.02530
	0.50	0.50	0.00025
Southern California Water Company (San Dimas Dist.) (Formerly California Cities Water Company) (Successor to:	500.00	3,242.53	1.64076
Namimatsu Farms)		196.00	0.09917
	500.00	3,438.53	1.73984
TOTAL for Exhibit "E"	10,520.92	41,833.75	21.16724

Exhibit "F"

TABLE SHOWING
SPECIAL CATAGORY RIGHTS

PARTY	Nature of Right
The Metropolitan Water District of Southern California	Morris Reservoir Storage and Withdrawal (a) A right to divert, store and use San Gabriel River Water, pursuant to Permit No. 7174. (b) Prior and paramount right to divert 72 acre-feet annually to offset Morris Reservoir evaporation and seepage losses and to provide the water supply necessary for presently existing incidential Morris Dam facilities.
Los Angeles County Flood Control District (Now Los Angeles County Department of Public Works)	Puddingstone Reservoir Prior Prescriptive right to divert water from San Dimas Wash for storage in Puddingstone Reservoir in quantities sufficient to offset annual evaporation and seepage losses of the reservoir at approximate elevation 942.

TABLE SHOWING
NON-CONSUMPTIVE USERS

Party	Nature of Right
Covina Irrigating Company Azusa Valley Water Company Azusa Agricultural Water Co. Azusa Foot-Hill Citrus Co. Monrovia Nursery Company	"Committee-of-Nine" Spreading Right To continue to divert water from the San Gabriel River pursuant to the 1888 Settlement, and to spread in spreading grounds within the Basin all water thus diverted without the right to recapture water in excess of said parties' rights as adjudicated in Exhibit "E".
California-American Water Company (Duarte System)	Spreading Right To continue to divert water from the San Gabriel River pursuant to the 1888 Settlement, and to continue to divert water from Fish Canyon and to spread said waters in its spreading grounds in the Basin without the right to recapture water in excess of said party's rights as adjudicated in Exhibit "E".
City of Glendora	Spreading Right To continue to spread the water of Big and Little Dalton Washes, pursuant to License No. 2592 without the right to recapture water in excess of said party's rights as adjudicated in Exhibit "E".
San Gabriel Valley Protective Association	Spreading Right To continue to spread San Gabriel River water pursuant to License Nos. 9991 and 12,209, without the right to recapture said water.
California Cities Water Company	Spreading Right To continue to spread waters from San Dimas Wash without the right to recapture water in excess of said party's rights as adjudicated in Exhibit "E".
Los Angeles County Flood Control District	Temporary storage of storm flow for regulatory purposes; Spreading and conservation for general benefit in streambeds, reservoirs and spreading grounds without the right to recapture said water. Maintenance and operation of dams and other flood control works.

EXHIBIT "H"

WATERMASTER OPERATING CRITERIA

1. Basin Storage Capacity. The highest water level at the end of a water year during the past 40 years was reached at the Key Well on September 30, 1944 (elevation 316). The State of California, Department of Water Resources, estimates that as of that date, the quantity of fresh water in storage in the Basin was approximately 8,600,000 acre-feet. It is also estimated by said Department that by September 30, 1960, the quantity of fresh water in storage had decreased to approximately 7,900,000 acre-feet (elevation 237) at the Key Well).

The lowest water level at the end of a water year during the past 40 years was reached at the Key Well on September 30, 1965 (elevation 209). It is estimated that the quantity of fresh water in storage in the Basin on that date was approximately 7,700,000 acre-feet.

Thus, the maximum utilization of Basin storage was approximately 900,000 acre-feet, occurring between September 30, 1944, and September 30, 1965 (between elevations 316 and 209 at the Key Well). This is not to say that more than 900,000 acre-feet of storage space below the September 30, 1944 water levels cannot be utilized. However, it demonstrates that pumpers have deepened their wells and lowered their pumps so that such 900,000 acre-feet of storage can be safely and economically utilized.

The storage capacity of the Basin between elevations of 200 and 250 at the Key Well represents a usable volume of approximately 400,000 acre-feet of water.

2. Operating Safe Yield and Spreading. Watermaster in determining Operating Safe Yield and the importation of Replacement Water shall be guided by water level elevations in the Basin. He shall give recognition to, and base his operations on, the following general objectives insofar as practicable:

(a) The replenishment of ground water from sources of supplemental water should not cause excessively high levels of ground water and such replenishment should not cause undue waste of local water supplies.

(b) Certain areas within the Basin are not at the present time capable of being recharged with supplemental water. Efforts should be made to provide protection to such areas from excessive ground water lowering either through the "in lieu" provisions of the Judgment or by other means.

(c) Watermaster shall consider and evaluate the long-term consequences on ground water quality, as well as quantity, in determining and establishing Operating Safe Yield. Recognition shall be given to the enhancement of ground water quality insofar as practicable, especially in the area immediately upstream of Whittier Narrows where degradation of water quality may occur when water levels at the Key Well are maintained at or below elevation 200.

(d) Watermaster shall take into consideration the comparative costs of supplemental and Make-up Water in determining the savings on a present value basis of temporary or permanent lowering or raising of water levels and other economic data and analyses indicating both the short-term and long-term

propriety of adjusting Operating Safe Yield in order to derive optimum water levels during any period. Watermaster shall utilize the provisions in the Long Beach Judgment which will result in the least cost of delivering Make-up Water.

3. Replacement Water -- Sources and Recharge Criteria. The following criteria shall control purchase of Replacement Water and Recharge of the Basin by Watermaster.

(a) Responsible Agency From Which to Purchase. Watermaster, in determining the Responsible Agency from which to purchase supplemental water for replacement purposes, shall be governed by the following:

(1) Place of Use of Water which is used primarily within the Basin or by cities within San Gabriel District in areas within or outside the Basin shall control in determining the Responsible Agency. For purposes of this subparagraph, water supplied through a municipal water system which lies chiefly within the Basin shall be deemed entirely used within the Basin; and

(2) Place of production of water shall control in determining the Responsible Agency as to water exported from the Basin, except as to use within San Gabriel District.

Any Responsible Agency may, at the request of Watermaster, waive its right to act as the source for such supplemental water, in which case Watermaster shall be free to purchase such water from the remaining Responsible Agencies which are the most beneficial and appropriate sources; provided, however, that a Responsible Agency shall not

authorize any sale of water in violation of the California Constitution.

(b) Water Quality. Watermaster shall purchase the best quality of supplemental water available for replenishment of the Basin, pursuant to subsection (a) hereof.

(c) Reclaimed Water. It is recognized that the technology and economic and physical necessity for utilization of reclaimed water is increasing. The purchase of reclaimed water in accordance with the Long Beach Judgment to satisfy the Make-up Obligation is expressly authorized. At the same time, water quality prob'ems involved in the reuse of water within the Basin pose serious questions of increased costs and other problems to the pumpers, their customers and all water users. Accordingly, Watermaster is authorized to gather information, make and review studies, and make recommendations on the feasibility of the use of reclaimed water for replacement purposes; provided that no reclaimed water shall be recharged in the Basin by Watermaster without the prior approval of the court, after notice to all parties and hearing thereon.

4. Replacement Assessment Rates. The Replacement Assessment rates shall be in an amount calculated to allow Watermaster to purchase one acre-foot of supplemental water for each acre-foot of excess Production to which such Assessment applies.

EXHIBIT "J"

PUENTE NARROWS AGREEMENT

THIS AGREEMENT is made and entered into as of the 8th day of May, 1972, by and between PUENTE BASIN WATER AGENCY, herein called "Puente Agency", and UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT, herein called "Upper District".

A. RECITALS

1. Puente Agency. Puente Agency is a joint powers agency composed of Walnut Valley Water District, herein called "Walnut District", and Rowland Area County Water District, herein called "Rowland District". Puente Agency is formed for the purpose of developing and implementing a ground water basin management program for Puente Basin. Pursuant to said purpose, said Agency is acting as a representative of its member districts and of the water users and water right claimants therein in the defense and maintenance of their water rights within Puente Basin.

2. Upper District. Upper District is a municipal water district overlying a major portion of the Main San Gabriel Basin. Upper District is plaintiff in the San Gabriel Basin Case, wherein it seeks to adjudicate rights and implement a basin management plan for the Main San Gabriel Basin.

3. Puente Basin is a ground water basin tributary to the Main San Gabriel Basin. Said area was included within the scope of the San Gabriel Basin Case and substantially

all water rights claimants within Puente Basin were joined as defendants therein. The surface contribution to the Main San Gabriel Basin from Puente Basin is by way of the paved flood control channel of San Jose Creek, which passes through Puente Basin from the Pomona Valley area. Subsurface outflow is relatively limited and moves from the Puente Basin to the Main San Gabriel Basin through Puente Narrows.

4. Intent of Agreement. Puente Agency is prepared to assure Upper District that no activity within Puente Basin will hereafter be undertaken which will (1) interfere with surface flows in San Jose Creek, or (2) impair the subsurface flow from Puente Basin to the Main San Gabriel Basin. Walnut District and Rowland District, by operation of law and by express assumption endorsed hereon, assume the covenants of this agreement as a joint and several obligation. Based upon such assurances and the covenants hereinafter contained in support thereof, Upper District consents to the dismissal of all Puente Basin parties from the San Gabriel Basin Case. By reason of said dismissals, Puente Agency will be free to formulate a separate water management program for Puente Basin.

B. DEFINITIONS AND EXHIBITS

5. Definitions. As used in this Agreement, the following terms shall have the meanings herein set forth:

(a) Annual or Year refers to the fiscal year July 1 through June 30.

(b) Base Underflow. The underflow through

Puente Narrows which Puente Agency agrees to maintain, and on which accrued debits and credits shall be calculated.

(c) Make-up Payment. Make-up payments shall be an amount of money payable to the Watermaster appointed in the San Gabriel Basin Case, sufficient to allow said Watermaster to purchase replacement water on account of any accumulated deficit as provided in Paragraph 9 hereof.

(d) Puente Narrows. The subsurface geologic constriction at the downstream boundary of Puente Basin, located as shown on Appendix "B".

(e) Main San Gabriel Basin, the ground water basin shown and defined as such in Exhibit "A" to the Judgment in the San Gabriel Basin Case.

(f) San Gabriel Basin Case. Upper San Gabriel Valley Municipal Water District v. City of Alhambra, et al., L. A. Sup. Ct. No. 924128, filed January 2, 1968.

6. Appendices. Attached hereto and by this reference made a part hereof are the following appendices:

"A" -- Location Map of Puente Basin, showing major geographic, geologic, and hydrologic features.

"B" -- Map of Cross-Section Through Puente Narrows, showing major physical features and location of key wells.

"C" -- Engineering Criteria, being a description of a method of measurement of subsurface outflow to be utilized for Watermaster purposes.

C. COVENANTS

7. Watermaster. There is hereby created a two member Watermaster service to which each of the parties to this agreement shall select one consulting engineer. The respective representatives on said Watermaster shall serve at the pleasure of the governing body of each appointing party and each party shall bear its own Watermaster expense.

a. Organization. Watermaster shall perform the duties specified herein on an informal basis, by unanimous agreement. In the event the two representatives are unable to agree upon any finding or decision, they shall select a third member to act, pursuant to the applicable laws of the State of California. Thereafter, until said issue is resolved, said three shall sit formally as a board of arbitration. Upon resolution of the issue in dispute, the third member shall cease to function further.

b. Availability of Information. Each party hereto shall, for itself and its residents and water users, use its best efforts to furnish all appropriate information to the Watermaster in order that the required determination can be made.

c. Cooperation With Other Watermasters. Watermaster hereunder shall cooperate and coordinate activities with the Watermasters appointed in the San Gabriel Basin Case and in Long Beach v. San Gabriel Valley Water Company, et al.

d. Determination of Underflow. Watermaster shall annually determine the amount of underflow from Puente Basin to the San Gabriel Basin, pursuant to Engineering Criteria.

e. Perpetual Accounting. Watermaster shall maintain a perpetual account of accumulated base underflow, accumulated subsurface flow, any deficiencies by reason of interference with surface flows, and the offsetting credit for any make-up payments. Said account shall annually show the accumulated credit or debit in the obligation of Puente Agency to Upper District.

f. Report. Watermaster findings shall be incorporated in a brief written report to be filed with the parties and with the Watermaster in the San Gabriel Basin Case. Said report shall contain a statement of the perpetual account heretofore specified.

8. Base Underflow. On the basis of a study and review of historic underflow from Puente Basin to the Main San Gabriel Basin, adjusted for the effect of the paved flood control channel and other relevent considerations, it is

mutually agreed by the parties that the base underflow is and shall be 580 acre feet per year, calculated pursuant to Engineering Criteria.

9. Puente Agency's Obligation. Puente Agency covenants, agrees and assumes the following obligation hereunder:

a. Noninterference with Surface Flow. Neither Puente Agency nor any persons or entities within the corporate boundaries of Walnut District or Rowland District will divert or otherwise interfere with or utilize natural surface runoff now or hereafter flowing in the storm channel of San Jose Creek; provided, however, that this covenant shall not prevent the use, under Watermaster supervision, of said storm channel by the Puente Agency or Walnut District or Rowland District for transmission within Puente Agency of supplemental or reclaimed water owned by said entities and introduced into said channel solely for transmission purposes. In the event any unauthorized use of surface flow in said channel is made contrary to the covenant herein provided, Puente Agency shall compensate Upper District by utilizing any accumulated credit or by make-up payment in the same manner as is provided for deficiencies in subsurface outflow from Puente Basin.

b. Subsurface Outflow. To the extent that

the accumulated subsurface outflow falls below the accumulated base underflow and the result thereof is an accumulated deficit in the Watermaster's annual accounting, Puente Agency agrees to provide make-up payments during the next year in an amount not less than one-third of the accumulated deficit.

c. Purchase of Reclaimed Water. To the extent that Puente Agency or Walnut District or Rowland District may hereafter purchase reclaimed water from the facilities of Sanitation District 21 of Los Angeles County, such purchaser shall use its best efforts to obtain waters originating within San Gabriel River Watershed.

10. Puente Basin Parties Dismissal. In consideration of the assumption of the obligation hereinabove provided by Puente Agency, Upper District consents to entry of dismissals as to all Puente Basin parties in San Gabriel Basin Case. This agreement shall be submitted for specific approval by the Court and a finding that it shall operate as full satisfaction of any and all claims by the parties within Main San Gabriel Basin against Puente Basin parties by reason of historic surface and subsurface flow.

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed as of the day and date first above written.

Approved as to form:
CLAYSON, STARK, ROTHROCK & MANN

By _____
Attorneys for Puente Agency

PUENTE BASIN AGENCY

By _____
EDWARD M. BIEDERMAN
President

Approved as to form:

By _____
Attorney for Upper District

UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT

By _____
President

The foregoing agreement is approved and accepted, and the same is acknowledged as the joint and several obligation of the undersigned.

Approved as to form:

_____
Attorney for Walnut District

WALNUT VALLEY WATER DISTRICT

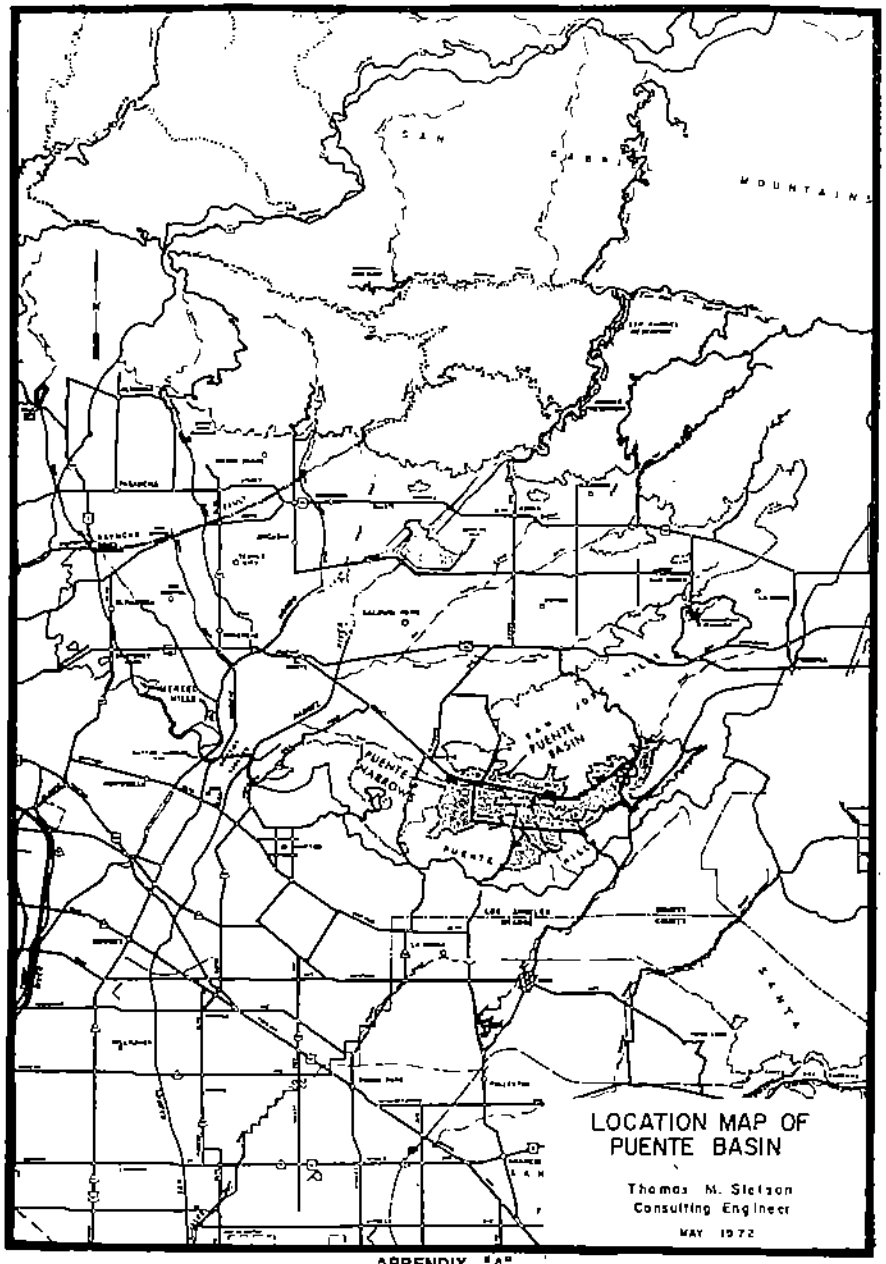
By _____
P. BOURDET
Vice President

Approved as to form:

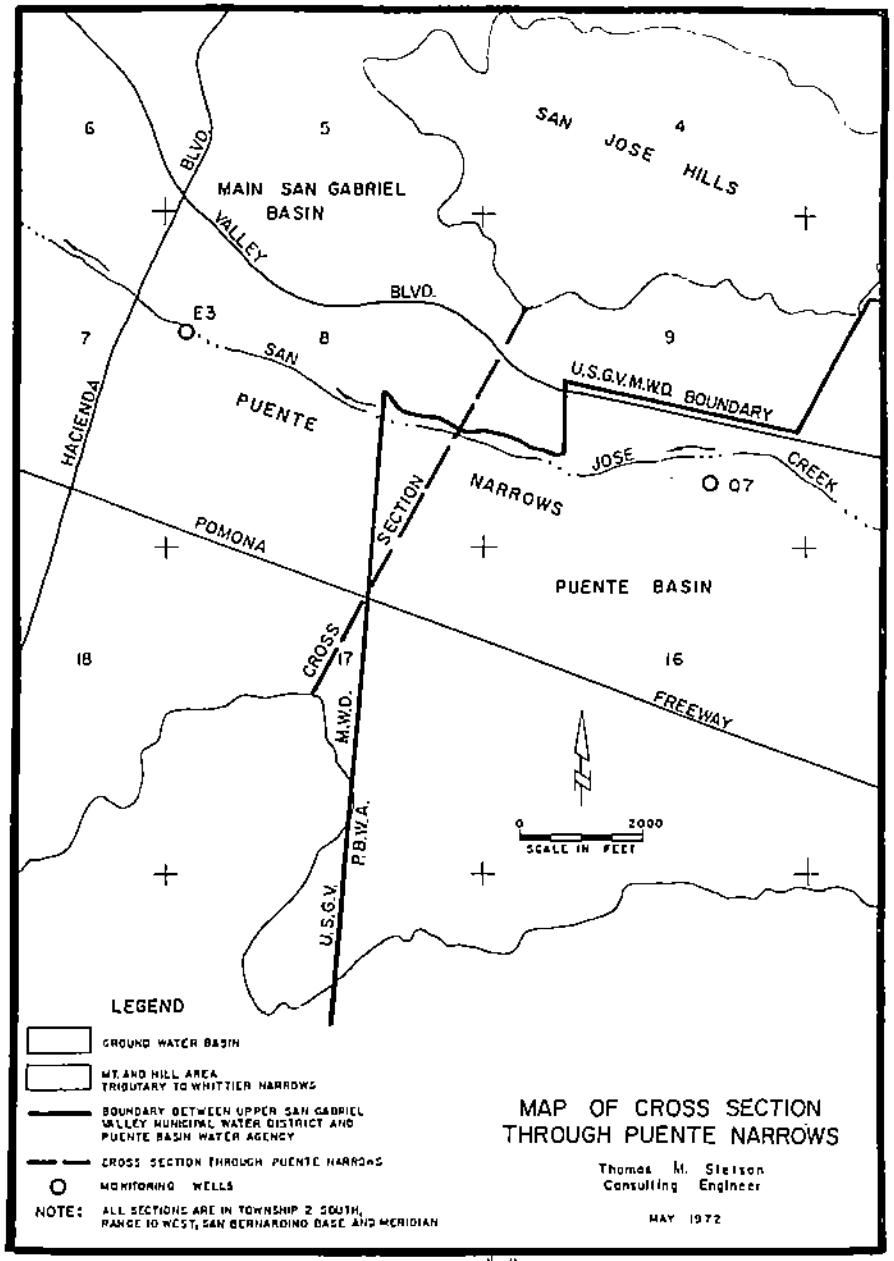
_____
Attorneys for Rowland District

ROWLAND AREA COUNTY WATER DISTRICT

By _____
President
Wm. A. Simmons



APPENDIX "A"
EXHIBIT "J"



APPENDIX "B"
EXHIBIT "J"

ENGINEERING CRITERIA

APPENDIX "C"

1. Monitoring Wells. The wells designated as State Wells No. 2S/10W-9Q7 and 2S/10W-8E3 and Los Angeles County Flood Control District Nos. 3079M and 3048B, respectively, shall be used to measure applicable ground water elevations. In the event either monitoring well should fail or become unrepresentative, a substitute well shall be selected or drilled by Watermaster. The cost of drilling a replacement well shall be the obligation of the Puente Agency.

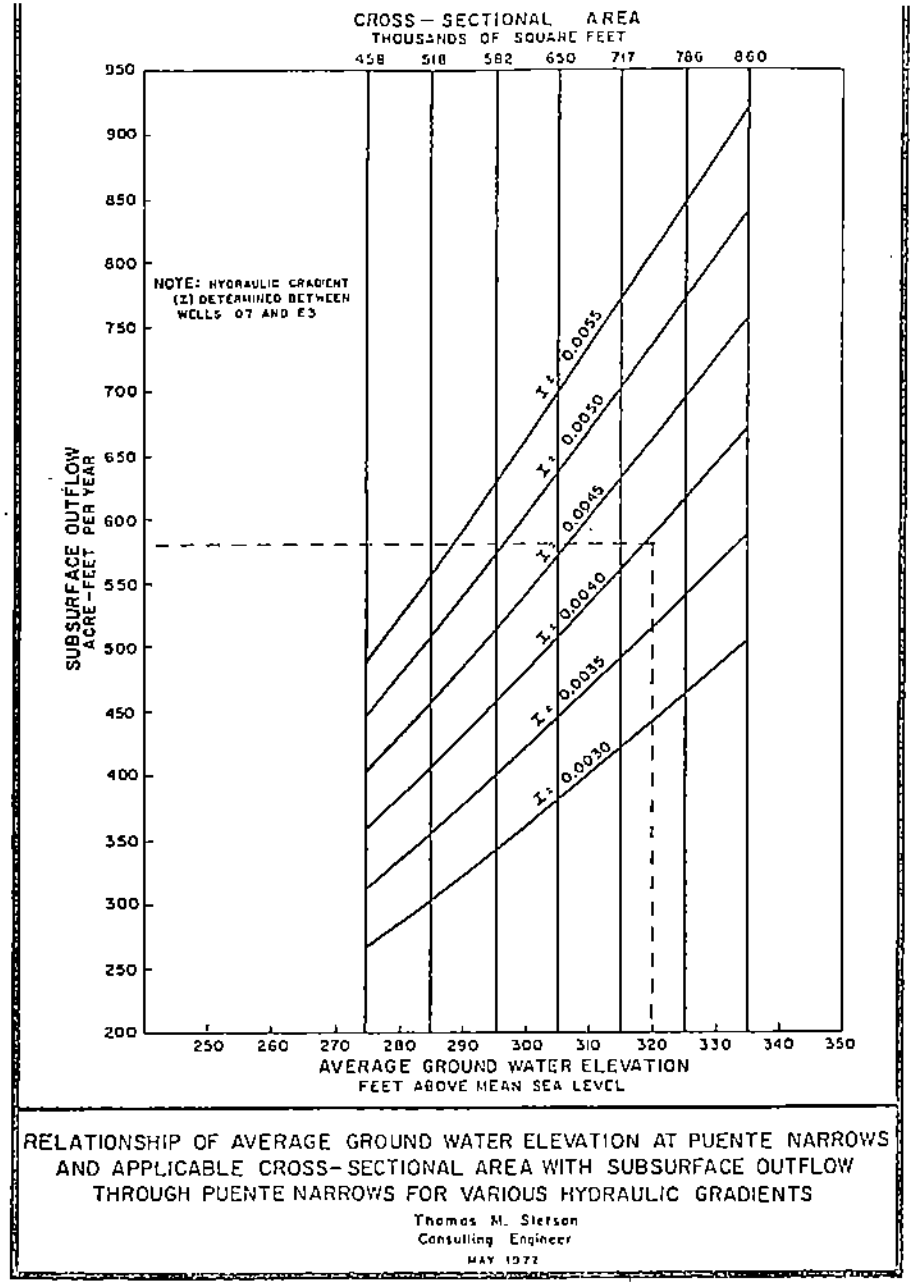
2. Measurement. Each monitoring well shall be measured and the ground water elevation determined semi-annually on or about April 1 and October 1 of each year. Prior to each measurement, the pump shall be turned off for a sufficient period to insure that the water table has recovered to a static or near equilibrium condition.

3. Hydraulic Gradient. The hydraulic gradient, or slope of the water surface through Puente Narrows, shall be calculated between the monitoring wells as the difference in water surface elevation divided by the distance, approximately 9,000 feet, between the wells. The hydraulic gradient shall be determined for the spring and fall and the average hydraulic gradient calculated for the year.

4. Ground Water Elevation at Puente Narrows Cross Section. The ground water elevation at the Puente Narrows

cross section midway between the monitoring wells shall be the average of the ground water elevation at the two wells. This shall be determined for the spring and fall and the average annual ground water elevation calculated for the year.

5. Determination of Underflow. The chart attached is a photo-reduction of a full scale chart on file with the Watermaster. By applying the appropriate average annual hydraulic gradient (I) to the average annual ground water elevation at the Puente Narrows cross section (involving the appropriate cross-sectional area [A]), it is possible to read on the vertical scale the annual acre feet of underflow.



RELATIONSHIP OF AVERAGE GROUND WATER ELEVATION AT PUENTE NARROWS AND APPLICABLE CROSS-SECTIONAL AREA WITH SUBSURFACE OUTFLOW THROUGH PUENTE NARROWS FOR VARIOUS HYDRAULIC GRADIENTS

Thomas M. Sletson
Consulting Engineer
MAY 1972

EXHIBIT "K"

OVERLYING RIGHTS

I. NATURE OF OVERLYING RIGHT

An "Overlying Right" is the right to Produce water from the Main San Gabriel Basin for use on the overlying lands hereinafter described. Such rights are exercisable without quantitative limit only on said overlying land and cannot be separately conveyed or transferred apart therefrom. The exerciser of such right is assessable by Watermaster as provided in Paragraph 21 of the Amended Judgment herein (prior Paragraph 14.5 of the Judgment herein) and is subject to the other provisions of said Paragraph.

II. OVERLYING LANDS (Description)

The overlying lands to which Overlying Rights are appurtenant are described as follows:

"Those portions of Lots 1 and 2 of the lands formerly owned by W.A. Church, in the Rancho San Francisquito, in the City of Irwindale, County of Los Angeles, State of California, as shown on recorder's filed map No. 509, in the office of the County Recorder of said County, lying northeasterly of the northeasterly line and its southeasterly prolongation of Tract 1888, as shown on map recorded in Book 21 page 183 of Maps, in the office of the County Recorder of said County.

"EXCEPT the portions thereof lying northerly and northwesterly of the center line of Arrow Highway described 'Sixth' and the center line of Live Oak Avenue described 'Third' in a final decree of condemnation, a certified copy of which was recorded August 18, 1933 as Instrument No. 354, in Book 12289, Page 277, Official Records.

"ALSO EXCEPT that portion of said land described in the final decree of condemnation entered in Los Angeles County Superior Court Case No. 805008, a certified copy of which was recorded September 21, 1964, as Instrument No. 3730, in Book D-2634, Page 648, Official Records."

III. PRODUCERS ENTITLED TO EXERCISE OVERLYING RIGHTS AND THEIR RESPECTIVE CONSUMPTIVE USE PORTIONS

The persons entitled to exercise Overlying Rights are both the owners of Overlying Rights and persons and entities licensed by such owners to exercise such Overlying Rights. The persons entitled to exercise Overlying Rights and their respective Consumptive Use portions are as follows:

OWNER PRODUCERS	CONSUMPTIVE USE PORTION
BROOKS GIFFORD, SR. BROOKS GIFFORD, JR. PAUL MNOIAN JOHN MGRDICHIAN J. EARL GARRETT	3.5 acre-feet per year
Present User: Nu-Way Industries	
PRODUCERS UNDER LICENSE	
A. WILLIAM C. THOMAS and EVELYN F. THOMAS, husband and wife, and MALCOLM K. GATHERER and JACQUELINE GATHERER, husband and wife, doing business by and through B & B REDI-I-MIX CONCRETE, INC., a corporation	45.6 acre-feet per year
B. PRE-STRESS CRANE RIGGING & TRUCK CO., INC., a corporation	1.0 acre-foot per year
Present Users: Pre-Stress Crane Rigging & Truck Co., Inc., a corporation	
Total	50.1 acre-feet per year
IV. ANNUAL GROSS AMOUNT OF PRODUCTION FROM WHICH CONSUMPTIVE USE PORTIONS WERE DERIVED	183.65 acre-feet

LIST OF PRODUCERS AND THEIR DESIGNEES
June, 1989

Producer Name	Designee
A	
Adams Ranch Mutual Water Company	Goji Iwakiri
Alhambra, City of	T. E. Shollenberger
Amarillo Mutual Water Company	Ester Guadagnolo
Anderson, Ray	Ray Anderson
Andrade, Macario, et al.	Macario R. Andrade
Arcadia, City of	Eldon Davidson
AZ-Two, Inc.	R. S. Chamberlain
Azusa, City of	William H. Redcay
Azusa Ag. Water Company	Robert E. Talley
Azusa Valley Water Company	Edward Heck
B	
Baldwin Park County Water District (See Valley County Water District)	-
Banks, Gale C.	Gale C. Banks
Base Line Water Company	Everett W. Hughes, Jr.
Beverly Acres Mutual Water User's Assn. (Formerly Beverly Acres Mutual Water Co.)	Eloise A. Moore
Burbank Development Company	Darrell A. Wright
C	
Cadway, Inc.	P. Geoffrey Nunn
California-American Water Company (San Marino System)	Andrew A. Krueger
California-American Water Company (Duarte System)	Andrew A. Krueger
California Country Club	Henri F. Pellissier
California Domestic Water Company	P. Geoffrey Nunn
Cedar Avenue Mutual Water Company	Austin L. Knapp

Producer Name	Designee
Champion Mutual Water Company	Margaret Bauwens
Chevron, USA, Inc.	Ms. Margo Bart
Clayton Manufacturing Company	Don Jones
Conrock Company	Gene R.Block
Corcoran Brothers	Ray Corcoran
County Sanitation District No. 18	Charles W. Curry
Covell, et al.	Darr Jobe
Covell, Ralph	Ralph Covell
Covina, City of	Wayne B. Dowdey
Covina Irrigating Company	William R. Temple
Crevolin, A. J.	A. J. Crevolin
Crown City Plating Company	N. G. Gardner
D	
Davidson Optronics, Inc.	James McBride
Dawes, Mary Kay	Mary Kay Dawes
Del Rio Mutual Water Company	Gonzalo Galindo
Driftwood Dairy	James E. Dolan
Dunning, George	George Dunning
E	
East Pasadena Water Company	Robert D. Mraz
El Monte, City of	Robert J. Pinniger
El Monte Cemetery Association	Linn E. Magoffin
F	
Faix, Ltd.	Henri F. Pellissier
G	
Glendora, City of	Arthur E. Cook
Green, Walter	Dr. Walter Green
H	
Hansen, Alice	Alice Hansen

Producer Name	Designee
Hartley, David	David Hartley
Hemlock Mutual Water Company	Bud Selander
Hunter, Lloyd F.	Lloyd F. Hunter
I	
Industry Waterworks System, City of	Mary L. Jaureguy
K	
Kiyan Farm Kiyan, Hideo	Mrs. Hideo Kiyan
Kirklen Family Trust	Dawn Kirklen
Knight, Kathryn H.	William J. Knight
L	
Landeros, John	John Landeros
La Puente Valley County Water District	Mary L. Jaureguy
La Verne, City of	N. Kathleen Hamm
Livingston-Graham	Gary O. Tompkins
Los Angeles, County of	Robert L. Larson
Loucks, David	David Loucks
M	
Maddock, A. G.	Ranney Draper, Esq.
Maechtlen, Trust of J. J.	Jack F. Maechtlen
Maple Water Company, Inc.	Charles King
Martinez, Francis Mercy	Francis Mercy Martinez
Metropolitan Water District of Southern California	Fred Vendig, Esq.
Miller Brewing Company	Dennis O. Puffer
Mnoian, Paul, et al.	Mal Gatherer
Monrovia, City of	Robert K. Sandwick
Monrovia Nursery	Miles R. Rosedale
Monterey Park, City of	Nels Palm

Producer Name	Designee
N	
Nick Tomovich & Sons	Nick Tomovich
O	
Owl Rock Products Company	Peter L. Chiu
P	
Phillips, Alice B., et al.	Jack F. Maechtlen
Pico County Water District	Robert P. Fuller
Polopolus, et al.	Christine Chronis
R	
Rados Brothers	Alexander S. Rados
Richwood Mutual Water Company	Bonnie Pool
Rincon Ditch Company	K. E. Nungesser
Rincon Irrigation Company	K. E. Nungesser
Rose Hills Memorial Park Association	Allan D. Smith
Rosemead Development, Ltd.	John W. Lloyd
Rurban Homes Mutual Water Company	George W. Bucey
Ruth, Roy	Roy Ruth
S	
San Dimas - La Verne Recreational Facilities Authority	R. F. Griszka
San Gabriel Country Club	Fran Wolfe
San Gabriel County Water District	Philip G. Crocker
San Gabriel Valley Municipal Water District	Bob Stallings
San Gabriel Valley Water Company	Robert H. Nicholson, Jr.
Sloan Ranches	Larry R. Sloan
Sonoco Products Company	Elaine Corboy
South Covina Water Service	Anton C. Garnier
Southern California Edison Company	S. R. Shermoen

Producer Name	Designee
Southern California Water Company -San Dimas District	J. F. Young
Southern California Water Company -San Gabriel Valley District	J. F. Young
South Pasadena, City of	John Bernardi
Southwestern Portland Cement Company	Dale W. Heineck
Standard Oil Company of California	John A. Wild
Sterling Mutual Water Company	Bennie L. Prowett
Suburban Water Systems	Anton C. Garnier
Sully-Miller Contracting Company	R. R. Munro
Sunny Slope Water Company	Michael J. Hart
T	
Taylor Herb Garden	Paul S. Taylor
Texaco, Inc.	E. O. Wakefield
Tyler Nursery	James K. Mitsumori, Esq.
U	
United Concrete Pipe Corporation	Doyle H. Wadley
United Rock Products Corporation	William S. Capps, Esq.
V	
Valencia Heights Water Company	Herman Weskamp
Valley County Water District (Formerly Baldwin Park County Water District)	Stanley D. Yarbrough
Valley View Mutual Water Company	Robert T. Navarre
Via, H., Trust of	Marverna Parton
W	
Ward Duck Company	Richard J. Woodland
W. E. Hall Company	Thomas S. Bunn, Jr., Esq.
White, June G., Trustee	June G. Lovelady
Whittier, City of	Neil Hudson
Wilmott, Erma M.	Erma M. Wilmott

Exhibit "M"

WATERMASTER MEMBERS

FOR CALENDAR YEAR 1973

ROBERT T. BALCH (Producer Member), Chairman

LINN E. MAGOFFIN (Producer Member), Vice Chairman

RICHARD L. ROWLAND (Producer Member), Secretary

BOYD KERN (Public Member), Treasurer

WALKER HANNON (Producer Member)

HOWARD H. HAWKINS (Public Member)

M. E. MOSLEY (Producer Member)

CONRAD T. REIBOLD (Public Member)

HARRY C. WILLS (Producer Member)

STAFF

Carl Fossette, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1974

ROBERT T. BALCH (Producer Member), Chairman

LINN E. MAGOFFIN (Producer Member), Vice Chairman

RICHARD L. ROWLAND (Producer Member), Secretary

BOYD KERN (Public Member), Treasurer

WALKER HANNON (Producer Member)

BURTON E. JONES (Public Member)

M. E. MOSLEY (Producer Member)

CONRAD T. REIBOLD (Public Member)

HARRY C. WILLS (Producer Member)

STAFF

Carl Fossette, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1975

ROBERT T. BALCH (Producer Member), Chairman

LINN E. MAGOFFIN (Producer Member), Vice Chairman

HARRY C. WILLS (Producer Member), Secretary

BOYD KERN (Public Member), Treasurer

WALKER HANNON (Producer Member)

BURTON E. JONES (Public Member)

D. J. LAUGHLIN (Producer Member)

M. E. MOSLEY (Producer Member)

CONRAD T. REIBOLD (Public Member)

STAFF

Carl Fossette, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1976

ROBERT T. BALCH (Producer Member), Chairman

LINN E. MAGOFFIN (Producer Member), Vice Chairman

HARRY C. WILLS (Producer Member), Secretary

BOYD KERN (Public Member), Treasurer

WALKER HANNON (Producer Member)

BURTON E. JONES (Public Member)

D. J. LAUGHLIN (Producer Member)

M. E. MOSLEY (Producer Member)

CONRAD T. REIBOLD (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1977

ROBERT T. BALCH (Producer Member), Chairman

LINN E. MAGOFFIN (Producer Member), Vice Chairman

HARRY C. WILLS (Producer Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

WALKER HANNON (Producer Member)

BURTON E. JONES (Public Member)

BOYD KERN (Public Member)

D. J. LAUGHLIN (Producer Member)

R. H. NICHOLSON, JR. (Producer Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer)
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1978

ROBERT T. BALCH (Producer Member), Chairman

LINN E. MAGOFFIN (Producer Member), Vice Chairman

D. J. LAUGHLIN (Producer Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

WALKER HANNON (Producer Member)

BURTON E. JONES (Public Member)

L. E. MOELLER (Producer Member)

R. H. NICHOLSON, JR. (Producer Member)

WILLIAM M. WHITESIDE (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1979

LINN E. MAGOFFIN (Producer Member), Chairman

D. J. LAUGHLIN (Producer Member), Vice Chairman

R. H. NICHOLSON, JR. (Producer Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

WALKER HANNON (Producer Member)

BURTON E. JONES (Public Member)

L. E. MOELLER (Producer Member)

WILLIAM M. WHITESIDE (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1980

LINN E. MAGOFFIN (Producer Member), Chairman

R. H. NICHOLSON, JR. (Producer Member), Vice Chairman

WILLIAM M. WHITESIDE (Pulic Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

ROBERT G. BERLIEN (Producer Member)

ANTON C. GARNIER (Producer Member)

TRAVIS L. MANNING (Public Member)

L. E. MOELLER (Producer Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1981

LINN E. MAGOFFIN (Producer Member), Chairman

R. H. NICHOLSON, JR. (Producer Member), Vice Chairman

WILLIAM M. WHITESIDE (Public Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

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ALFRED F. WITTIG (Public Member)

STAFF

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Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1983

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Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1985

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Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1986

LINN E. MAGOFFIN (Producer Member), Chairman

R. H. NICHOLSON, JR. (Producer Member), Vice Chairman

ROBERT G. BERLIEN (Producer Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

DONALD F. CLARK (Public Member)

L. E. MOELLER (Producer Member)

REGINOLD A. STONE (Producer Member)

ALFRED R. WITTIG (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1987

LINN E. MAGOFFIN (Producer Member), Chairman

REGINALD A. STONE (Producer Member), Vice Chairman

L. E. MOELLER (Producer Member), Secretary

ALFRED R. WITTIG (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

GERALD J. BLACK (Producer Member)

DONALD F. CLARK (Public Member)

EDWARD R. HECK (Producer Member)

JOHN E. MAULDING (Public Member)

STAFF

Robert G. Berlien, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1988

LINN E. MAGOFFIN (Producer Member), Chairman

REGINALD A. STONE (Producer Member), Vice Chairman

L. E. MOELLER (Producer Member), Secretary

ALFRED R. WITTIG (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

GERALD J. BLACK (Producer Member)

DONALD F. CLARK (Public Member)

EDWARD R. HECK (Producer Member)

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STAFF

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Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1989

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REGINALD A. STONE (Producer Member), Vice Chairman

GERALD G. BLACK (Producer Member), Secretary

ALFRED R. WITTIG (Public Member), Treasurer

ROBERT T. BALCH (Producer Member) *

DONALD F. CLARK (Public Member)

EDWARD R. HECK (Producer Member)

BURTON E. JONES (Public Member)

NELS PALM (Producer Member) **

THOMAS E. SCHOLLENBERGER (Producer Member)

STAFF

Robert G. Berlien, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

* DECEASED APRIL 25, 1989

** Appointed August 24, 1989, for the balance of the calendar year term, to replace deceased member, Robert T. Balch.

APPENDIX B

Main San Gabriel Basin - Groundwater Basin Description

Location of the Main San Gabriel Basin

The San Gabriel Valley is located in southeastern Los Angeles County and is bounded on the north by the San Gabriel Mountains, on the west by the San Rafael and Merced Hills, on the south by the Puente Hills and the San Jose Hills, and on the east by a low divide between the San Gabriel River system and Upper Santa Ana River system. The San Gabriel River, and its distributary, the Rio Hondo, drain an area of about 490 square miles upstream of Whittier Narrows. Whittier Narrows is a low gap between the Merced and Puente Hills, just northwest of the City of Whittier, through which the San Gabriel River and the Rio Hondo flow to the coastal plain of Los Angeles County. Whittier Narrows is a natural topographic divide and a subsurface restriction to the movement of ground water between the Main San Gabriel Basin and the Coastal Plain. Of the approximate 490 square miles of drainage area upstream of Whittier Narrows, about 167 square miles are valley lands and about 323 square miles are mountains and foothills.

The Main San Gabriel Basin (Basin) includes essentially the entire valley floor of San Gabriel Valley with the exception of the Raymond Basin and Puente Basin. The boundaries of the Basin are the Raymond Basin on the northwest, the base of the San Gabriel Mountains on the north, the groundwater divide between San Dimas and La Verne and the lower boundary of the Puente Basin on the east, and Whittier Narrows on the southwest.

The Basin is a large groundwater basin replenished by stream runoff from the adjacent mountains and hills, by rainfall directly on the surface of the valley floor, subsurface inflow from Raymond Basin and Puente Basin, and by return flow from water applied for overlying uses. Additionally, the Basin is replenished with imported water. The Basin serves as a natural storage reservoir, transmission system and filtering medium for wells constructed therein.

There are three municipal water districts overlying and partially overlying the Basin. The three districts are Upper San Gabriel Valley Municipal Water District (USGVMWD),

San Gabriel Valley Municipal Water District (SGVMWD) and Three Valleys Municipal Water District (TVMWD).

Sources of Water Supply to Producers

Water producers within the Basin obtain their water supplies from a combination of groundwater production, diversion of surface runoff from the San Gabriel River system and/or purchase of imported water. The following sections identify and describe the various water resources available to producers.

The Main San Gabriel Basin Judgment[1] (Judgment) was entered on January 4, 1973 (See Appendix D). The Judgment is administered by a nine-member Court-appointed board -- six members are nominated by water producers in the Basin and three are public members with two nominated by water producers in the Basin and three are public members with two nominated by USGVMWD and one by SGVMWD. The board is called the Main San Gabriel Basin Watermaster (Watermaster). The Watermaster files a report on Basin operations with the Court. The Fiscal Year 2016-17 Annual Report of the Main San Gabriel Basin Watermaster was filed on November 1, 2017. The Watermaster operates on a fiscal year basis, July 1 to June 30. Selected provisions of the Basin Judgment are summarized below.

The adjudication included the relevant watershed of the Basin because surface water diversions from tributary streams affect the safe yield of the Basin. The rights adjudicated include: (1) Prescriptive Pumping Rights (groundwater only); (2) Base Annual Diversion Rights for surface diversions by those parties who do not also own prescriptive pumping rights; (3) Integrated Production Rights for those producers who hold both Diversion Rights and Prescriptive Pumping Rights enabling the designation of any portion of the annual combined production as surface diversion or groundwater production; (4) Special Category Rights, for storage of water in Morris and

[1]Upper San Gabriel Valley Municipal Water District v. City of Alhambra, et al., Case No. 924128, Los Angeles County.

Puddingstone Reservoirs; (5) Non-Consumptive Use Rights mainly for temporary storage of storm flows and for water spreading operations; and (6) Overlying Consumptive Use Rights.

Each producer must report water production to Watermaster at the end of each calendar quarter. All production is metered. Watermaster tests meters at least once every two years.

Groundwater

The prescriptive pumping rights in the Basin were adjudicated on the basis of mutual prescription resulting in a specific quantity, in acre-feet, for each producer. Such rights were then converted to a pumper's share, expressed in percent of the aggregate of all prescriptive rights. Each year the producer is allowed to extract, free of Replacement Water assessment, the proportional share (pumper's share) of the Operating Safe Yield. Any producer can extract all the water required for beneficial use. If the extraction is less than the producer's pumper's share, the unused portion of the right in a given fiscal year may be carried over for one fiscal year. The first water produced in the succeeding fiscal year is deemed to be such carried over right. The portion of such extraction, which exceeds the sum of the producer's share of Operating Safe Yield, or any carry over rights or leased water rights, is assessed at a rate (Replacement Water assessment), which will purchase one acre-foot of Supplemental Water for each acre-foot of excess production.

Operating Safe Yield is the annual quantity of groundwater, which can be produced from the Basin without obligation for replacement with supplemental water (imported water). The quantity of adjudicated water rights of each producer is used to determine each producer's share of the Operating Safe Yield each year.

In May of each year Watermaster establishes the Operating Safe Yield for the ensuing fiscal year. This is done on the basis of, among other things, groundwater storage

conditions, seasonal rainfall and local water recharge, and water stored in local surface reservoirs. In order to provide sufficient storage capacity in the Basin to capture as much of the local water as practicable, the Amended Judgment provides that supplemental water will be spread, insofar as practicable, to maintain that elevation above 200 feet.

If Basin storage is low, as indicated by the Key Well elevation, Operating Safe Yield is usually lowered so that more Replacement Water can be purchased to increase Basin storage. If Basin storage is relatively high, Operating Safe Yield is usually increased so that Replacement Water is reduced and Basin storage will be beneficially used.

The total fresh water storage capacity of the Basin is estimated to be about 8.7 million acre-feet. Of that, only the top 125 feet of storage, or about 1,000,000 acre-feet is considered to have been used in historic Basin operations. The change in groundwater elevation at the Baldwin Park Key Well (Key Well) is representative of changes in groundwater storage in the Basin. One foot of elevation change at the Key Well is roughly the equivalent of about 8,000 acre-feet of storage. The historic high groundwater elevation was recorded at approximately 329 feet in April 1916, while the historic low was recorded in September 2016 at approximately 172 feet. The Key Well hydrograph shown on Figure 1 (Annual Report) illustrates the cyclic nature of basin recharge and depletion. The hydrograph also illustrates the dramatic recharge capability of the Basin during wet periods.

Figure 1 graphically shows that since the adjudication, water was withdrawn from storage in the Main Basin between 1969 and 1977, and again between 1983 and 1991. Each time the Basin was rapidly recharged by above-average rainfall and recharge of storm water runoff.

The historic production from the Basin, including surface diversions, which are described below, along with water levels at the Key Well and Operating Safe Yield are shown on Table A. The historic low water level, prior to June 2016, was recorded

TABLE A

MAIN SAN GABRIEL BASIN ANNUAL OPERATING SAFE YIELD, PRODUCTION RIGHTS, WATER PRODUCTION AND REPLACEMENT WATER REQUIREMENTS (ACRE-FEET)

FISCAL YEAR	KEY WELL ELEVATION IN FEET 1/	OPERATING SAFE YIELD	CARRY OVER RIGHTS FROM PREVIOUS YEAR	LOST CARRY OVER RIGHTS	PRODUCTION RIGHTS	WATER PRODUCTION	REPLACEMENT WATER REQUIREMENT
1973-74	247.4	226,800	--	0.00	238,132.94	235,460.40	14,518.98
1974-75	238.4	210,000	17,191.52	203.36	237,913.46	225,221.86	8,421.93
1975-76	234.8	200,000	20,908.91	131.06	231,391.95	242,246.36	24,744.88
1976-77	221.1	150,000	13,759.41	861.12	174,193.45	212,995.30	48,650.71
1977-78	211.4	150,000	9,980.67	1,198.54	170,473.30	198,257.23	36,818.25
1978-79	270.4	170,000	8,950.43	78.11	189,439.67	218,405.64	34,404.83
1979-80	266.6	220,000	6,745.88	81.54	237,226.13	226,279.89	9,896.39
1980-81	282.4	230,000	21,960.87	202.89	262,445.19	233,963.01	5,477.08
1981-82	252.4	210,000	35,642.01	380.30	255,281.37	223,245.24	10,582.35
1982-83	245.5	200,000	43,261.87	304.02	253,049.93	212,205.73	3,293.23
1983-84	292.7	230,000	45,378.26	80.10	287,394.98	238,586.29	2,151.85
1984-85	267.1	210,000	51,594.26	344.48	272,050.11	244,835.13	12,475.69
1985-86	245.8	190,000	40,395.40	198.50	240,319.81	248,824.38	33,774.82
1986-87	250.8	200,000	25,403.49	106.93	235,923.93	256,117.22	41,828.86
1987-88	236.5	190,000	22,457.73	143.63	222,985.31	251,852.84	51,989.89
1988-89	224.0	180,000	21,710.19	61.61	214,810.57	257,421.07	59,384.99
1989-90	219.8	180,000	19,741.33	282.28	210,268.35	253,851.86	62,582.49
1990-91	206.5	170,000	17,837.99	387.33	199,467.55	234,825.54	41,232.39
1991-92	200.3	140,000	18,796.02	345.83	169,575.74	223,690.83	31,214.19
1992-93	236.9	180,000	13,478.79	189.05	204,009.40	239,155.14	15,858.66
1993-94	267.8	220,000	31,718.29	462.81	262,029.85	246,830.55	8,915.59
1994-95	248.8	200,000	50,290.41	1,065.79	260,802.71	246,657.49	30,194.77
1995-96	269.0	220,000	44,262.41	737.28	274,608.47	272,100.40	32,526.05
1996-97	248.9	210,000	35,484.68	863.84	256,011.19	282,785.85	55,236.24
1997-98	241.3	220,000	28,965.55	704.70	263,725.27	257,431.98	26,362.42
1998-99	267.8	230,000	34,016.10	124.28	277,282.73	268,505.37	30,499.32
1999-00	244.8	220,000	40,633.83	592.51	274,824.14	282,195.44	39,749.83
2000-01	228.5	220,000	33,774.80	570.83	267,126.29	274,204.43	38,317.35
2001-02	220.1	210,000	32,015.15	532.59	258,992.70	267,767.07	40,773.50
2002-03	211.6	190,000	32,833.12	159.50	240,450.90	240,509.16	38,423.61
2003-04	204.1	170,000	38,274.70	79.24	224,691.75	255,869.80	51,416.73
2004-05	248.4	170,000	24,549.23	53.76	219,049.64	250,185.00	41,043.83
2005-06	249.7	240,000	17,402.45	156.28	268,418.02	262,623.02	12,065.12
2006-07	220.5	240,000	27,862.73	90.80	278,386.20	287,293.69	20,048.99
2007-08	202.7	210,000	29,374.42	182.17	249,433.95	261,194.03	28,777.98
2008-09	195.6	180,000	33,902.42	778.21	224,028.56	253,167.52	26,473.24
2009-10	204.2	170,000	28,729.17	236.31	210,117.25	240,270.06	35,129.38
2010-11	233.5	170,000	20,695.69	167.70	201,220.31	228,779.73	33,084.38
2011-12	226.4	210,000	21,657.47	166.96	242,181.86	239,388.04	19,685.04
2012-13	202.8	200,000	44,143.15	268.13	254,314.47	245,582.04	5,972.15
2013-14	187.8	180,000	42,864.86	377.39	233,389.45	243,536.31	3,779.32
2014-15	177.5	150,000	36,753.33	419.84	197,280.18	208,339.16	12,319.13
2015-16	174.0	150,000	35,226.32	284.47	195,752.95	182,826.49	6,909.20
2016-17	179.4	150,000	39,299.44	285.56	199,994.06	197,243.28	7,526.21
44-YEAR AVERAGE:		194,700	29,302.80	347.48	235,010.59	240,084.45	27,150.63

1/ As of July 1

in September 2016 at 172.2 feet. Although Watermaster reduced the Operating Safe Yield for fiscal year 2016-17 to 150,000 acre-feet, it was estimated that approximately 7.3 million AF of groundwater remained in storage. In addition there was no limit on the quantity of water that could be pumped from the Basin.

Under the Judgment there are three basic annual assessments levied on water production. These assessments are: (1) an Administration Assessment, levied on all water production to pay for the administration of the Judgment; (2) a Make-up Water Assessment, levied on all water production which does not bare a Replacement Water Assessment, to pay the cost of the Make-up Obligation under the Long Beach Judgment; and (3) a Replacement Water Assessment, levied on all water produced in excess of each producer's share of the operating safe yield and other rights he may have. Replacement water assessments are used to purchase supplemental water to replace the excess water produced. In addition, since fiscal year 1989-90, a special administration assessment has been levied to assist the City of Alhambra with provisions of the Cooperative Water Exchange Agreement.

The ownership or use of any adjudicated water right may be transferred, assigned, licensed or leased by the owner to other parties to the Judgment after appropriate notice to and approval by Watermaster. There are occasional sales of water rights. Leasing of water rights occurs frequently.

Another unique feature of the Judgment is a provision allowing cyclic storage of imported water in the Basin. The Watermaster may enter into cyclic storage agreements whereby supplemental water may be stored in the Basin for subsequent recovery by the storing entity as supplemental water. Any party may submit an application to Watermaster for a cyclic storage agreement as noted in Section 26 of the Watermaster's Rules and Regulations. When reviewing such applications, the Watermaster will consider the operation of the Basin under the physical solution provisions of the Main Basin Judgment. In general, Watermaster should consider available storage capacity in the Basin to mitigate the potential loss of local water due to

cyclic storage of supplemental water. Also, Watermaster should consider the cumulative impact of all cyclic storage accounts in the Basin.

Water stored under cyclic storage agreements can be utilized only for the purpose of supplying replacement water when requested by Watermaster. Such stored water is assumed to float on top of the native water in the Basin. Any loss of stored water either directly or indirectly is deemed first to be water from the cyclic storage accounts. To date, there has been no such loss of cyclic stored water.

San Gabriel River

Some parties to the Judgment elected to be treated as integrated producers. Integrated production rights are comprised of (1) a fixed diversion component based upon historic diversions for direct use; and (2) a prescriptive pumping right component based upon pumping during the period 1953 through 1967 that may vary annually with the Operating Safe Yield. The gross quantity of the total integrated production right in any fiscal year may be exercised at the sole discretion of each integrated producer by either diversion of surface water or pumping groundwater or any combination thereof. As is the case with prescriptive pumping rights, the prescriptive pumping component and the corresponding pumper's share is affected by the annual determination of Operating Safe Yield.

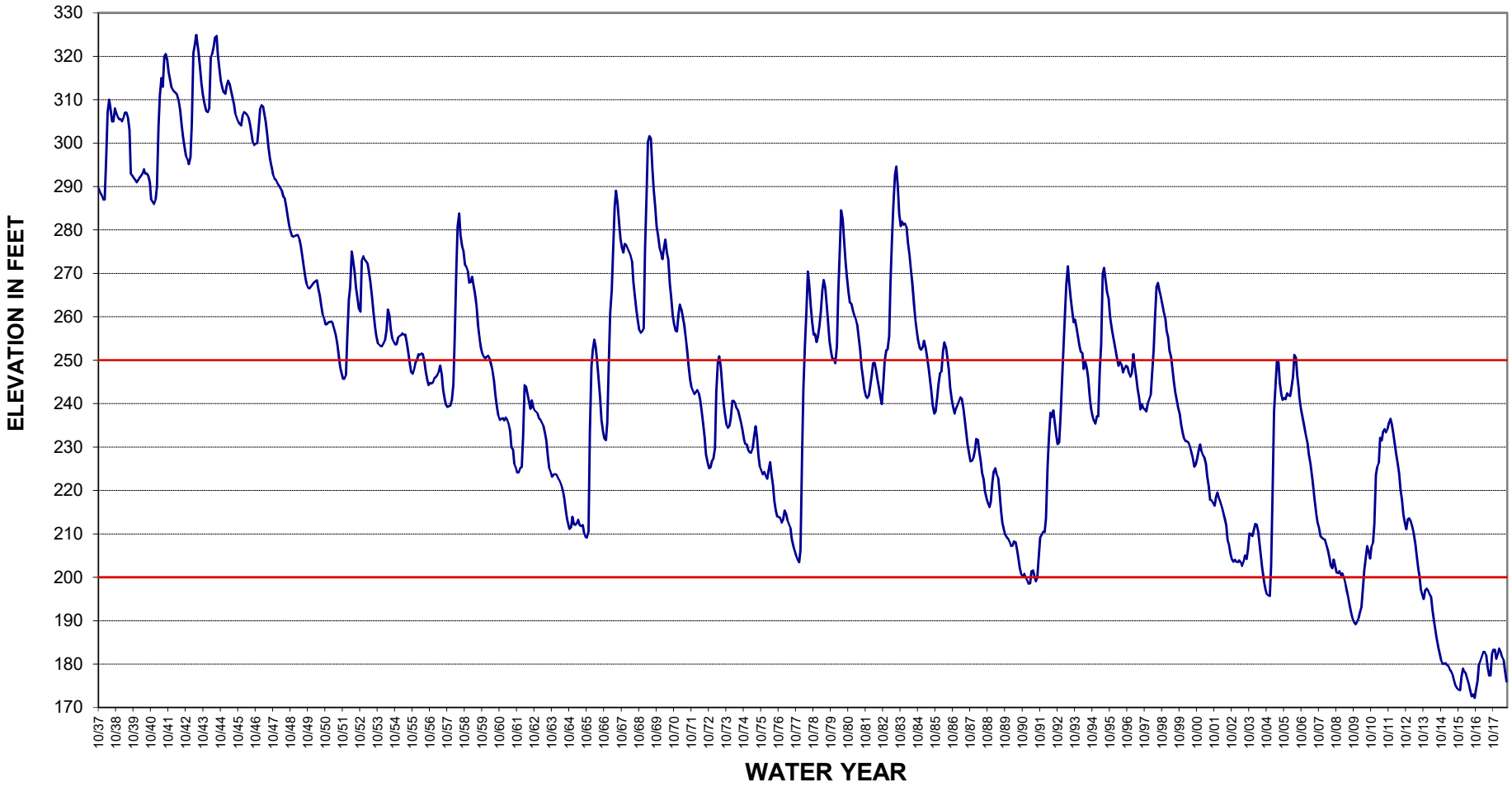
Just as with groundwater, there is no institutional limit on the quantity of San Gabriel River water that can be diverted for use. Whenever an integrated producer exceeds its total water rights it will be levied a Replacement Water assessment, along with other applicable assessments, similar to groundwater pumpers.

Groundwater Recharge

The Main San Gabriel Basin has a fresh water storage capacity of about 8.7 million acre-feet, of which the top 125 feet of storage, or about 1,000,000 acre-feet has been used for historic Basin operations. Local runoff is stored in a series of reservoirs operated by the Los Angeles County Department of Public Works and diverted into spreading grounds to replenish the groundwater supply. Figure 1 indicates that groundwater recharge occurs almost every year and is exhibited as increasing water levels. High rainfall years can be identified on Figure 1 as increases in the groundwater level of 30 feet or more in one year.

In addition to groundwater replenishment with local storm runoff, the Watermaster maintains records of each producer's water rights and annual production. Although there is no limit on the quantity of water that may be produced, production in excess of a water right is subject to a Replacement Water assessment. Watermaster uses funds collected from producers' overproduction to purchase imported water from municipal water districts. USGVMWD and TVMWD obtain their water from MWD. SGVMWD has its own contract for SWP water. Watermaster coordinates purchase and delivery of imported water to replenish the ground water basin, thus offsetting the producers' overproduction and making the Basin whole.

BALDWIN PARK KEY WELL MEASURED WATER SURFACE ELEVATION



*Estimated as of July 31, 2018

STETSON ENGINEERS INC.
Covina San Rafael Mesa, Arizona
WATER RESOURCE ENGINEERS

CITY OF MONROVIA

BALDWIN PARK KEY WELL ELEVATION

FIGURE 1

Z:\Jobs\2630\12 (WSA)\Appendices\Key Well - App B

APPENDIX C

Drought Regulations and Water Conservation Standards (Ordinance No. 2015-05 and Resolution No. 2015-41)

ORDINANCE NO. 2015-05

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF MONROVIA, CALIFORNIA, AMENDING CHAPTER 13.20 OF THE MONROVIA MUNICIPAL CODE, TO ESTABLISH ADDITIONAL RESTRICTIONS ON THE USE OF POTABLE WATER

WHEREAS, on April 1, 2015, Governor Brown issued Executive Order B-29-15 that, among other things, directs the State Water Resources Control to impose restrictions to achieve a statewide 25 percent reduction in potable urban usage through February 2016.

WHEREAS, on May 5, 2015, the State Water Resources Control Board approved revised emergency water conservation regulations in order to implement Executive Order B-29-15.

WHEREAS, the City of Monrovia ("City") is an urban water supplier, as defined in Water Code Section 10617, and is required to comply with the State Water Board's emergency water conservation regulations.

WHEREAS, the City has codified the water conservation measures in its water shortage contingency plan at Chapter 13.20 of the Monrovia Municipal Code.

WHEREAS, the City Council wishes to continue to implement and fairly enforce the water conservation measures identified in Chapter 13.20 of the Monrovia Municipal Code, and enhance the City's water conservation efforts to ensure a stable and reliable water supply for residents and businesses and to help the State address the ongoing drought.

THE CITY COUNCIL OF THE CITY OF MONROVIA, CALIFORNIA, DOES ORDAIN AS FOLLOWS:

SECTION 1. Section 13.20.030 of the Monrovia Municipal Code is hereby amended to read as follows (text to be added is underlined, text to be deleted is shown in ~~strikethrough~~):

"13.20.030 DEFINITIONS.

The following definitions apply to this chapter:

BASE PERIOD ALLOCATION. The Base Period Allocation shall be the amount of water used by a water customer during each billing period in calendar year 2013. Any existing customer who has experienced a change in situation which could warrant a review of their water usage during the Base Period Allocation, and / or any new customer who was not a customer on the premises to which water service is provided during the corresponding billing period in the Base Period Allocation, may be assigned a revised Base Period Allocation amount that shall generally be determined by the amount of water used at the same or similar premises in the base years, as determined by City Manager or his / her designee. ~~The amount of water used by a water customer~~

~~during the corresponding billing period in the base five years, except that a customer's base period allocation shall be augmented by 10% for the May billing period, and by 10.9% for the June billing period. Any customer who was not a customer on the premises to which water service is provided during the corresponding billing period in the base years shall be assigned a base period allocation determined by the amount of water used at the same or similar premises in the base years, as determined by the manager of the Infrastructure Maintenance Division or his designee.~~

BASE YEAR. The five fiscal years prior to a declaration of implementing a phase of this Ordinance.

BILLING UNIT. The unit amount of water employed for purposes of customer billing. One unit equals 748 gallons of water.

CITY. The city of Monrovia.

CUSTOMER or WATER CUSTOMER. Any person, association, corporation or governmental entity supplied or entitled to be supplied with water service by the city.

DEPARTMENT. The city's Department of ~~Public Works~~ Public Services.

DIVISION or UTILITIES DIVISION. The city Utilities Division within the Department of ~~Public Works~~ Public Services.

SECTION 2. Section 13.20.070 of the Monrovia Municipal Code is hereby amended to read as follows (text to be added is underlined, text to be deleted is shown in ~~strikethrough~~):

"13.20.070 WATER CONSERVATION PHASES.

The water conservation plan consists of six phases, each separately implemented by resolution of the City Council. The six phases are as follows:

(A) Phase I consists of mandatory water use restrictions and voluntary water conservation of 10%. This phase becomes effective upon determination by the City Council that water usage should be reduced by 10%. There will be no surcharge for excess water usage in this phase.

(B) Phase II consists of mandatory water use restrictions and mandatory water conservation of at least 10%. This phase becomes effective upon determination by the City Council that water usage should be reduced by at least 10% and that mandatory conservation measures are required. During Phase II, a customer whose water usage exceeds 90% of the base period allocation ~~shall be billed at 2.5 times the then-current rate for water service~~ may be charged a penalty to be established by resolution of the City Council for each billing unit in excess of the base period allocation.

(C) Phase III consists of mandatory water use restrictions and mandatory water conservation of at least 15%. This phase becomes effective upon determination of the City Council that water usage should be reduced by at least 15%. During Phase III, a customer whose water usage exceeds 85% of the base period allocation may be charged a penalty to be established by resolution of the City Council ~~shall be billed at three times the then-current rate for water service~~ for each billing unit in excess of the base period allocation.

(D) Phase IV consists of mandatory water use restrictions and mandatory water conservation of at least 28% ~~20%~~. This phase becomes effective upon determination by the City Council that water usage should be reduced by at least 28% ~~20%~~. During Phase IV, a customer whose water usage exceeds 72%~~80%~~ of the base

period allocation may be charged a penalty to be established by resolution of the City Council ~~shall be billed at 3.5 times the then-current rate for water service~~ for each billing unit in excess of the base period allocation.

(E) Phase V consists of mandatory water use restrictions and mandatory water rationing of at least 40%~~28%~~. This phase becomes effective upon determination by the City Council that water usage should be reduced by at least 40%~~25%~~. During Phase V, a customer whose water usage exceeds 60 ~~75%~~ of the base period allocation may be charged a penalty to be established by resolution of the City Council ~~shall be billed at four times the then-current rate for water service~~ for each billing unit in excess of the base period allocation.

(F) Phase VI consists of mandatory water use restrictions and mandatory water rationing of at least 50%. This phase becomes effective upon determination by the City Council that water usage should be reduced by at least 50%. During Phase VI, a customer whose water usage exceeds 50% of the base period allocation may be charged a penalty to be established by resolution of the City Council ~~shall be billed at 4.5 times the then-current rate for water service~~ for each billing unit in excess of the base period allocation.

SECTION 3. Section 13.20.080 of the Monrovia Municipal Code is hereby amended to read as follows (text to be added is underlined, text to be deleted is shown in ~~strikethrough~~):

"13.20.080. PROHIBITION OF NONESSENTIAL WATER USE.

(A) No person shall cause, use, or permit the use of water from the City water system in a manner contrary to any provision of this Chapter.

(B) No person shall cause, use, or permit the use of water from the City water system in excess of any limit established by the City Council by resolution.

(C) Phase I - The following water use restrictions shall be in effect and will be enforced on all customers and any other person who uses water from the City's potable water system for any purpose. For the purpose of this Chapter, the term person shall include individuals and corporations, partnerships, and associations of any kind:

(1) No person shall use a hose to wash any sidewalk, walkway, driveway, parking area, tennis or sport court, or other paved surfaces, except as is required for sanitary purposes, and only with a water broom or similar device or hose equipped with a nozzle or quick relief shutoff valve.

(2) Washing of motor vehicles, trailers, boats and other types of mobile equipment shall be ~~done~~ permitted only with a hand-held bucket or a hose equipped with a positive shut-off nozzle for quick rinses and the water flow shall be shut off when not rinsing the vehicle, except that washing may be done at the immediate premises of a commercial car wash.

(3) No water shall be used to clean, fill or maintain levels in decorative fountains, ponds, lakes or other similar aesthetic structures unless such water is part of recirculating system.

(4) No restaurant, hotel, cafe, cafeteria or other public place where food is sold, served or offered for sale shall serve drinking water to any customer unless expressly requested by that customer.

(5) All customers shall promptly repair all leaks from indoor and outdoor plumbing fixtures within 48 hours of discovery.

(6) The following restrictions shall apply to all residential, commercial, industrial, institutional and public landscaped areas, with the exception of commercial nurseries, golf courses and other water dependent uses:

a. No person shall spray irrigate any lawn or landscape area between more than every third day between the hours of 6:00 p.m. and 8:00 a.m of the following day. This subsection shall not apply to any drip irrigation system, irrigation system maintenance, leak repair or new planting of low water usage plants or if reclaimed water is utilized as permitted by law.

b. No person shall irrigate any landscaped area for more than fifteen (15) minutes per watering day.

c. No person shall permit or cause irrigation water to spray or flow to any impermeable private or public surface, including but not limited to, walkways, driveways, sidewalks, alleys, streets, or storm drains.

d. No person shall operate sprinklers, fountains or other water features when winds are so high as to create water drift causing runoff or flow to any impermeable private or public surface, including, but not limited to, walkways, driveways, sidewalks, alleys, streets, or storm drains.

e. No person shall water or irrigate any landscaping within 48 hours of a one-tenth of an inch (0.10") or greater rainfall event.

f. ~~(7)~~No person shall cause or allow water to run off landscaped areas onto adjoining streets, sidewalks or other paved areas due to incorrectly directed or maintained sprinklers or as the result of excessive watering.

~~(5) All lawns, landscape or other turf area shall be watered down not more than every third day, with the watering only during the hours between 5:00 p.m. and 10:00 a.m. This provision shall apply to residential, commercial, industrial and public~~

~~authorities, but shall not apply to commercial nurseries, golf courses and other water-dependent industries.~~

(D) ~~(B)~~Phase II - The following water use restrictions shall be in effect and will be enforced on all customers:

(1) All of the restrictions listed under Phase I shall be in effect, except that the restrictions on watering lawn, landscape or other turf areas shall be modified to prohibit watering more often than every fourth day~~, with even-numbered addresses watering on even-numbered days and odd-numbered addresses watering on odd-numbered days~~, with watering only allowed between the hours of 6:00 p.m. and 8:00 a.m. ~~the following day~~.

(2) No customer shall cause, use or permit the use of water for any purpose in an amount in excess of 90% of said customer's base period allocation.

(3) Commercial nurseries, golf courses and other water-dependent industries shall be prohibited from watering lawn, landscaping or other turf areas more often than every other day, with watering only during the hours between 6:00 p.m. and 8:00 a.m.

(4) Water used on a one-time basis for the purposes such as construction and dust control, shall be limited to that quantity identified in a plan submitted to the user which describes water use requirements. An approved plan from the Department shall be the basis for such usage. Water sources other than potable water shall be utilized where available.

(5) All hotels, motels and bed and breakfast establishments shall provide customers the option of choosing not to have towels laundered daily. Each establishment shall prominently display notice of this option in each bathroom and sleeping room using clear easily understood language. All guest room toilets installed after the effective date of this ordinance shall be low flow toilets utilizing the best technology feasible at the time of installation.

(6) All non-residential buildings in the City shall maintain public toilets and urinals with best available technology low flow or waterless toilets or urinals as required by applicable codes, and shall acquire water efficient dishwashers and washing machines upon replacement of existing machines or installation of new machines.

(E) Phase III - The following water use restrictions shall be in effect and will be enforced on all customers:

~~(1)~~ All of the restrictions listed under Phases I and II shall be in effect. ~~, except that the restrictions on watering lawn, landscape or other turf areas shall be modified to prohibit watering more often than every fourth day, with even-numbered addresses watering on even-numbered days and odd-numbered addresses watering on~~

~~odd-numbered days, with watering only allowed between the hours of 6:00 p.m. and 6:00 a.m.~~

(2) No customer shall cause, use or permit the use of water for any purpose in an amount in excess of 80% of said customer's base period allocation.

(3) Commercial nurseries, golf courses and other water-dependent industries shall be prohibited from watering lawn, landscape or other turf areas more often than every third day, with watering only during the hours between 6:00 p.m. and 6:00 a.m the following day.

(4) Water used on a one-time basis for the purposes such as construction and dust control shall be limited to that quantity identified in a plan submitted by the user which describes water use requirements. An approved plan from the Department shall be the basis for such usage. Water sources other than potable water shall be utilized where available.

(5) The use of water from fire hydrants shall be limited to fire fighting and related activities and other uses of water for municipal purposes shall be limited to activities necessary to maintain the public health, safety and welfare.

(F) Phase IV - The following water use restrictions shall be in effect and will be enforced on all customers: The restrictions in Phase IV shall be the same as Phase III, with the exception that no customer shall cause, use or permit the use of water for any purpose in the amount in excess of ~~75%~~ 72% of said customer's base period allocation.

(G) Phase V - The following water use restrictions shall be in effect and will be enforced on all customers: The restrictions in Phase V shall be that same as Phase IV, with the exception that no customer shall cause, use or permit the use of water for any purpose in an amount in excess of 60%~~50%~~ of said customer's base period allocation.

(H) Phase VI - The following water use restrictions shall be in effect and will be enforced on all customers: The restrictions in Phase VI shall be that of Phase V, with the exception that no customer shall cause, use or permit the use of water for any purpose in an amount in excess of 50% of said customer's base period allocation."

SECTION 4. Section 13.20.090 of the Monrovia Municipal Code is hereby amended to read as follows (text to be added is underlined, text to be deleted is shown in ~~strikethrough~~):

"13.20.090. EXCEPTIONS TO RESTRICTIONS.

(A) Commercial car washes with water recycling systems and commercial laundries shall be exempt from allotment restrictions.

(B) The restricted uses of water provided for in this chapter are not applicable to that use of water necessary for public health and safety, for the essential health care services or governmental services such as police, fire and other similar public emergency services, as determined by the Manager of the Infrastructure Maintenance Division.

(C) Any use of groundwater from outside the City's system or reclaimed water as permitted by law shall be exempt from restrictions."

SECTION 5. The City Council ratifies and re-adopts the provisions of Ordinance No. 2014-10 unchanged by this Ordinance as if set forth in full herein.

SECTION 6. The City Clerk shall certify to the adoption of this ordinance and cause the same to be published in the manner required by law and, pursuant to Water Code Section 375, said ordinance shall become effective immediately upon its final passage following a noticed public hearing.

INTRODUCED this 16th day of June, 2015.

PASSED, APPROVED, AND ADOPTED this 7th day of July, 2015.

BY:

Tom Adams, Mayor
City of Monrovia

ATTEST:

Alice D. Atkins, CMC, City Clerk
City of Monrovia

APPROVED AS TO FORM:

Craig A. Steele, City Attorney
City of Monrovia

RESOLUTION NO. 2015-41

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF MONROVIA, CALIFORNIA, IMPLEMENTING PHASE IV OF THE WATER CONSERVATION PLAN AND APPROVING AN ENFORCEMENT PLAN AND FEE PENALTY STRUCTURE PURSUANT TO MONROVIA MUNICIPAL CODE TITLE 13, CHAPTER 13.20 (WATER CONSERVATION).

WHEREAS, the Governor of the State of California on January 17, 2014, issued Proclamation No. 1-17-2014 declaring a State of Emergency to exist in California due to severe drought conditions; and

WHEREAS, the Governor of the State of California on April 25, 2014, issued an executive order proclaiming a Continued State of Emergency to strengthen the State's ability to manage water and called on all Californians to redouble their efforts to conserve water; and

WHEREAS, the Governor of the State of California on April 1, 2015, issued Executive Order B-29-15 that replaced earlier calls for voluntary conservation with directives for the State Water Board to impose restrictions to achieve a statewide 25% reduction in potable urban water usage following the State's water supplies being severely depleted and with no end to the drought in sight; and

WHEREAS, the State Water Board on May 5, 2015, adopted an emergency regulation amending and readopting an existing drought emergency regulation, which includes end-user conservation restrictions and mandatory conservation requirements for urban water suppliers, and

WHEREAS, the regulations adopted by the State Water Board mandate that the City of Monrovia to achieve a 28% reduction in potable water usage; and

WHEREAS, the City Council of the City of Monrovia has adopted amendments to Monrovia Municipal Code Title 13, Chapter 13.20 (Water Conservation) wherein Phase IV water conservation standards meet or exceed all State water conservation requirements for Monrovia; and

WHEREAS, a public hearing has been duly noticed and held as part of a regularly scheduled meeting, pursuant to the requirements of Government Code 66018, at which hearing every interested person has had an opportunity to present oral and written statements; and

WHEREAS, pursuant to Phase IV water conservation standards, the City has the authority to adopt a Water Conservation Plan, Enforcement Plan, and Penalty Fee Structure Plan by Resolution.

NOW, THEREFORE, THE CITY COUNCIL OF THE CITY OF MONROVIA DOES RESOLVE AS FOLLOWS:

1. To achieve the State mandated 28% reduction in potable water usage, the City chooses to manage water conservation efforts primarily through the use of education and outreach.

2. To further support water conservation efforts, the City also hereby implements a Water Conservation Plan that includes an Enforcement Plan and Penalty Structure pursuant to the amended Monrovia Municipal Code Title 13, Chapter 13.20 (Water Conservation) at the Phase IV level.

3. Implementation details related to the Water Conservation Plan shall include the following components:

    1. The following Enforcement Plan shall go into effect 45-days from the adoption of this Resolution (September 5, 2015), to allow Monrovian's time to be informed on the elevated Phase and new restrictions.

    2. Beginning on September 5, 2015, those customers who violate the City's Phase IV water use restriction regulations shall be subject to the following progressive Enforcement Plan and Penalty Structure:

        a) Any first offense will result in notification to the customer of the violation via a door hanger. This notification will include information on what the customer can do to correct the violation.

        b) Any second offense will result in staff contacting the customer directly. Staff will discuss with the customer ways to correct the violation. Should the resident have any extenuating circumstances that caused the violation, a variance may be issued pursuant to Chapter 13.20 of the Monrovia Municipal Code.

        c) Any third offense will include a formal notification to the property owner regarding their violation, along with information regarding a potential future fine. This contact will also include information on what the customer can do to correct the violation.

        d) Any fourth offense may result in a fine of $100.

        e) Any fifth offense may result in a fine of $200.

        f) Any sixth offense may result in a fine of $300.

3. The City reserves the right to elevate any violation of the City's Phase IV water conservation standards (pursuant to Title 13, Chapter 13.20 of the Monrovia Municipal Code) to any level of the Enforcement Plan and Penalty Structure at the City's discretion, based on the severity of the violation and customer compliance levels with the City's Phase IV water conservation measures.

PASSED, APPROVED AND ADOPTED this 21st day of July, 2015.

BY:

_____
Tom Adams, Mayor
City of Monrovia

ATTEST:

_____
Alice D. Atkins, CMC, City Clerk
City of Monrovia

APPROVED AS TO FORM:

_____
Craig A. Steele, City Attorney
City of Monrovia

APPENDIX K2
UTILITY COMMENT LETTERS

July 18, 2019

Ashley Swarts
Development Coordinator
Maple Multi-Family Land CA, L.P.
5790 Fleet Street, Suite 140
Carlsbad, CA 92008

Re: Conditional Water and Sewer Will Serve Letter for Proposed Development in Monrovia, California for Parcel Map No. 82326

Dear Ashley Swarts,

The City of Monrovia is willing to serve the proposed development based on the recommendations of a feasibility study by Stetson Engineers Inc., for any added impacts or project driven deficiencies to the city's water system. This feasibility study is the responsibility of the applicant/developer and is needed to determine if the City has an adequate water system and infrastructure to serve your proposed project. The City has received several applications for the development of various multi-family projects immediately adjacent to the proposed project area and based on the feasibility study by Stetson Engineers Inc., the recommended improvements are:

- One booster pump No. 6 installed at the City well field facility
- Upgrade 980 feet (On Magnolia From Duarte to Evergreen) of water pipeline from existing 8 inch to 12 inch.

The City has determined that a fee-in-lieu of water improvements in the Transit Village Area shall be assessed to each project, per unit, to support the additional water demands on the City water system due to the construction of these projects.

The City of Monrovia is willing to serve the proposed development based on the recommendations of a feasibility study by a firm selected by the City, for any added impacts or project driven deficiencies to the city's sanitary wastewater collection system. The City has selected David

Evans and Associates to perform the feasibility study. The City has received several applications for the development of various multi-family projects immediately adjacent to the proposed project area and based on the feasibility study by David Evans and Associates, the City's wastewater collection system and infrastructure is adequate for your proposed project. The City of Monrovia only has collection of wastewater and conveys these effluents to Los Angeles County Wastewater Collection System. Connection permits and fees are not the responsibility of the City of Monrovia and proof of connection permit and fees will be needed for City permits.

This letter does not constitute either water supply verification or a water supply assessment required by California Government Code Section 66473.7 or California Water Code Section 10910. If you have any questions or require any additional information, please feel free to contact Sean Sullivan, Public Works Division Manager at ssullivan@ci.monrovia.ca.us or (626) 932-5522.

Sincerely,



Alex Tachiki
Senior Management Analyst – Public Works Department
City of Monrovia

July 22, 2019

Michael Heinrich
Principal, Architects Orange
321 West Chapman Street
Orange, CA 92866

Re: Alexan Monrovia
Monrovia, CA

Thank you for contacting Athens Services regarding the proposed services for the above location.

Athens Services has reviewed the project for Alexan Monrovia and based on the waste management plan submitted, we will be able to provide services to this location.

The above location is located in a Franchise City for waste collection. Athens Services is contracted by the City of Monrovia to provide disposal service to all commercial and residential locations.

Please do not hesitate to contact me directly at (626) 594-4415 if I can be of further assistance.

Sincerely,

Elizabeth Ramirez
Director of Government Affairs
elizabethramirez@athensservices.com

APPENDIX K3
WATER CAPACITY STUDY

DRAFT TECHNICAL MEMORANDUM

2171 E. Francisco Blvd., Suite K • San Rafael, California • 94901
TEL: (415) 457-0701 FAX: (415) 457-1638 e-mail: jeffh@stetsonengineers.com

TO:	City of Monrovia	DATE:	1/15/2019
FROM:	Stetson Engineers Inc.	JOB NO:	2630-14
RE:	Water Capacity Study for Proposed Station Square Transit Village Projects		

INTRODUCTION

The City of Monrovia (City) is reviewing the available capacity of the City's water system to provide adequate water service to the proposed new developments in the Station Square Transit Village. The currently proposed new developments (proposed Projects) include the following:

- 296 units in the Station Square South project;
- 436 units in the Alexan project;
- 284 units in the Arroyo project;
- 310 units in the Fifield project; and
- 109 units in the City Lot project

The proposed Projects are located in the "Mountain Pressure Zone" (Mountain Zone) of the City's water system near the intersection of Magnolia Avenue and Pomona Avenue, south of the 210 Freeway. The locations of the proposed Projects are provided in Figure 1. As part of the City's review process, the City has requested that Stetson Engineers Inc. (Stetson) prepare a water capacity study to evaluate the potential impacts of the proposed Projects on the water delivery capability of the City's water system.

Stetson previously developed a hydraulic model of the City's water system in 2014 using H2OMAP software (from Innovyze). Stetson has updated the model to include pipelines in the Mountain Zone that are included in the Capital Improvement Plan (CIP) from the City's 2015 Water Master Plan, which the City is currently implementing. For this study, additional updates to the water

system infrastructure and water demands in the hydraulic model, discussed below, were incorporated. The model has not been fully calibrated due to a lack of available fire flow test data.



Figure 1 Locations of Proposed Projects

The model was used to evaluate whether there would be any hydraulic impacts associated with the proposed Projects and to identify solutions to resolve these impacts or deficiencies (including fire flow, pressure, head loss, and velocity deficiencies). The review examined available fire flow during an emergency at Maximum Day Demand (MDD), as well as pressure and flow at Peak Hour Demand (PHD). The study included the following steps:

(1) Update the existing hydraulic model to incorporate CIP projects identified in the City's 2015 Master Plan for the Mountain Zone
(2) Update the existing hydraulic model to incorporate anticipated water demands associated with the 256-unit MODA project.
(3) Perform hydraulic modeling to identify deficiencies within the City's existing water system in the Mountain Zone
(4) Update the hydraulic model to incorporate water system pipeline improvements to meet existing hydraulic deficiencies in the Mountain Zone
(5) Incorporate anticipated water demands associated with proposed Projects and perform hydraulic modeling to identify hydraulic impacts associated with the proposed Projects; and
(6) Propose improvement solutions to resolve water deficiencies caused by the proposed Projects.

1.0 EVALUATION CRITERIA

Design guidelines for transmission and distribution pipelines vary from state to state and from utility to utility. The American Water Works Association (AWWA) provides some guidelines and many states regulate certain performance criteria. In addition, the 2016 California Fire Code sets standards for fire flow requirements for different types of structures. The standards listed in Table 1 were used to evaluate the City's water system capacity. While certain water deficiencies may already exist in the City's water distribution system, this capacity study focused on the additional or incremental water system deficiencies (stand alone impacts) caused by the proposed Projects.

Table 1 Design Standards for Distribution Pipelines

Parameter	Demand	Criteria
Minimum Pressure [1]	PHD	35 psi
Maximum Pressure [1]		120 psi
Pipe Velocity [2]		Not greater than 7 feet per second
Maximum Head Loss [2]		10 feet per 1,000 ft
Fire Flow in Multiple Pressure Zones [3]	MDD	
Mountain System (~330,000 sf)		2,000 gpm for 4 hrs
Cloverleaf System (~135,300 sf)		1,938 gpm for 4 hrs
Ridgeside System (~25,300 sf)		1,500 gpm for 4 hrs
Norumbega System (~5,700 sf)		2,000 gpm for 2 hrs
Upper Cloverleaf System (~4,500 sf)		2,500 gpm for 2 hrs
Emerson System (~6,200 sf)		2,000 gpm for 2 hrs
Canyon System (~4,500 sf)		1,500 gpm for 2 hrs

Notes:
gpm = gallons per minute
psi = pounds per square inch
MDD = Maximum Day Demand, which is usually derived by multiplying a factor to the Average Day Demand.
PHD = Peak Hour Demand, which is usually derived by multiplying a factor to the Average Day Demand.

[1] City standard.
[2] AWWA standard.
[3] The 2016 California Fire Code standards, which depends on building types/sizes.

2.0 HYDRAULIC ANALYSIS

2.1 Model Overview and System Updates ("Baseline" Condition)

The existing hydraulic model covers all the City's water facilities that are needed for the hydraulic modeling of the system, including 5 active wells, 12 reservoirs, 18 booster pumps, and about 114 miles of pipes, distributed in 7 pressure zones.

The estimated Average Day Demand (ADD) in 2016, approximately 6,400 acre-feet per year (AFY) or 3,975 gpm, was considered as the existing water demand. The values for PHD and MDD were derived by multiplying factors of 2.4, and 1.6 to Average Day Demand (ADD), respectively. Water demands and the distribution of water demands as a percentage of total demand for pressure zones in the City's water system for existing demands (2016) are summarized in Table 2.

Table 2 Water Demands under Existing Conditions

Pressure Zone ID	Pressure Zone Name	ADD (gpm)	MDD (gpm)	PHD (gpm)	Percentage
Z1	Mountain	399	639	958	10%
Z2	Cloverleaf	2,390	3,823	5,735	60%
Z3	Ridgeside	833	1,333	2,000	21%
Z4	Norumbega	139	222	333	3.5%
Z5	Upper Cloverleaf	119	191	286	3.0%
Z6	Emerson	91	146	219	2.3%
Z7	Canyon	4	7	10	0.1%
	Total	3,975	6,361	9,541	100%

Note: MDD = 1.6*ADD; PHD = 2.4*ADD.

The existing water system infrastructure in the hydraulic model was updated to create a "Baseline" condition. As indicated above, the existing model was updated to include pipelines in the Mountain Zone that are included in the CIP from the City's 2015 Water Master Plan. The existing model was also updated to incorporate the water demands associated with the 256-unit MODA project. Hydraulic modeling was then performed to identify deficiencies within the City's water

system in the Mountain Zone. Potential pipeline upgrades were identified to address deficiencies associated with size, pressure, fire flow, and head loss. The Baseline model includes these new and/or anticipated City pipeline upgrades to address existing water system hydraulic deficiencies.

2.2 Proposed Projects Modeling Conditions (Projects Condition)

The proposed Projects are located near the intersection of Magnolia Avenue and Pomona Avenue (see Figure 1). The elevations of the proposed Projects range from about 430 to 455 feet AMSL. The estimated water demands for the proposed Projects were added to the model under a "Projects" condition. The peak demands for the proposed Projects were estimated based on the proposed number of units and water use rates from the separate "Water & Sewer Capacity Feasibility" analysis previously prepared by Tryco Consulting Inc. for the City. There is currently a total of 1,435 units proposed with a total water demand of about 3,174 gallons per minute (gpm) at PHD. The total MDD was estimated by the PHD by a factor of 1.5, which is about 2,116 gpm, as shown in Table 3.

Table 3 Estimated PHD and MDD for Proposed Projects

Project Name	Number of Units	PHD (gpm)	MDD (gpm)
Station Square South	296	651	434
Alexan	436	906	604
Arroyo	284	629	420
Fifield	310	677	451
City Lot	109	311	207
Total	1,435	3,174	2,116

2.3 Modeling Results – System Impacts

Stetson performed four model scenario runs (Scenarios) to evaluate the impacts from the proposed Projects to the Baseline distribution system. The criteria from Table 1 were used to examine water deficiencies in all Scenario runs. The four modeling Scenarios were:

(A) Baseline system without the proposed Projects at Baseline MDD plus fire flow;
(B) Baseline system with the proposed Projects at projected MDD plus fire flow;
(C) Baseline system without the proposed Projects at Baseline PHD;
(D) Baseline system with the proposed Projects at projected PHD.

Under modeling Scenario (A), the Baseline system without the proposed Projects at MDD plus fire flow was evaluated. As shown in Table 3, the proposed Projects are estimated to add a total water demand of 2,116 gpm under Scenario (B) during MDD. The system hydraulics identified in Scenarios (A) and (B) were compared with each other to determine the impacts of the proposed Projects on fire flow capability during MDD. The modeling results indicate that most of the reductions of available fire flow due to the proposed Projects occur in the City's Mountain Zone. A total of 224 hydrant nodes were estimated to deliver less fire flow during fire events as a result of the proposed Projects. A total of 46 hydrant nodes (out of the 224 hydrant nodes) were associated with fire flow deficiencies (up to about 130 gpm) that did not meet the fire flow design criteria (see Figure 2) from Table 1. Most fire flow reductions occur in the southeastern Mountain Zone and a few areas in the southwestern Mountain Zone.

Scenarios (C) and (D) were simulated and compared with each other to evaluate the impacts of the proposed Project to system pressure at PHD. The proposed Projects add an extra water demand of 3,174 gpm in Scenario (D) during PHD. Based on the modeling results, the proposed Projects led to pressure reductions below the 35 psi design criteria (see Table 1) at 19 nodes (see Figure 3). The pressure reductions at these nodes ranged from about 0.1 psi to 4 psi and mostly occurred in the northeast portion of the Mountain Zone.

Pipe head loss throughout the water system was simulated and compared in Scenarios (C) and (D) under PHD. Based on the modeling results, the proposed Projects led to an increased amount of head loss above the 10 feet per 1,000 ft design criteria (see Table 1) in approximately 980 ft of

pipeline (see Figure 4). The maximum increase in head loss in these pipelines is about 7 feet per 1,000 ft.

Based on the modeling results, the maximum increase in velocity by the proposed Project is about 3.6 feet per second (fps) at PHD. However, the flow velocities in these affected pipes are less than 7 fps design criteria (see Table 1). As a result, no solutions were proposed to mitigate the impacts on pipe velocity due to the proposed Projects.

The potential improvement solutions to resolve the identified deficiencies are discussed in Section 2.4 below.

2.4 Potential Improvement Solutions

The hydraulic model was used to identify potential solutions to address the impacts or deficiencies (identified in Section 2.3 above) as a result of the proposed Projects. Examination of the existing pipeline network suggested that additional booster pump capacity at the City's Forebay Pump Station would mitigate a majority of the impacts of the proposed Projects. The Forebay Pump Station is located in the southern portion of the Mountain Zone and supplies water from the City's Forebay Reservoirs 1 and 2 to the pipeline network within the Mountain Zone. The addition of a new booster pump (design head and flow of 260 ft and 3,200 gpm, respectively), in parallel with three existing booster pumps (Forebay 1-4, 1-5, and 1-7) which are directly connected to the City's Forebay Reservoirs 1 and 2, was evaluated.

In addition to a new booster pump, further modeling analysis of the deficiencies determined that specific pipelines should be upgraded in order to mitigate the remaining impacts of the proposed Projects. The analysis indicated a total length of about 980 feet of pipeline replacements or upgrades along Magnolia Avenue (in the vicinity of the Station Square Transit Village) are also needed to address deficiencies. Appendix A provides the sizes and locations of the proposed pipeline upgrades.

It should be noted the hydraulic model also identified the need to upgrade the pipeline on Peck Road, north of Duarte Road, to the end of the cul-de-sac, in order to resolve fire flow

deficiencies during MDD. However, it is our understanding the City will abandon this pipe segment (from the intersection of Peck Road and Duarte Road to the end of the cul-de-sac) and the developer for the Station Square South project will be responsible for the pipeline improvements to that segment.

The hydraulic model was then used to run the following additional Scenarios (E) and (F) to evaluate the recommended solutions in resolving the deficiencies resulting from the proposed Projects:

(E) Baseline system with Project and proposed solutions at projected MDD plus fire flow;
(F) Baseline system with Project and proposed solutions at projected PHD.

A comparison at MDD plus fire flow between Scenario (E), with the proposed solutions, and Scenario (A), under Baseline conditions, indicates there are no deficient fire flow reductions as a result of the proposed Projects with the proposed solutions incorporated.

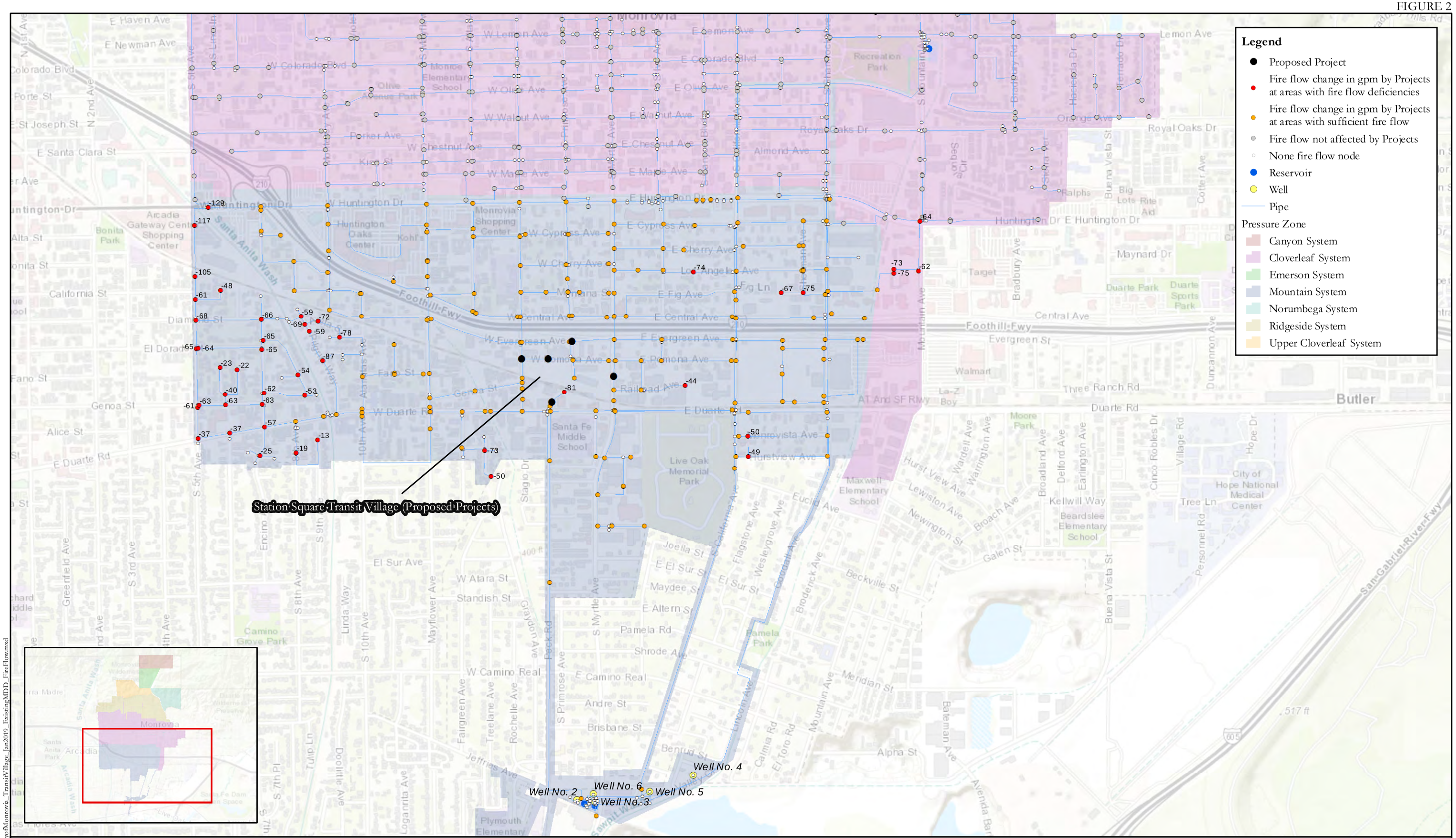
A similar comparison at PHD between Scenario (F), with the proposed solutions, and Scenario (C), under Baseline conditions, indicates all pressure and head loss deficiencies would be eliminated by the proposed solutions incorporated.

3.0 FINDINGS AND RECOMMENDATIONS

The proposed Projects include the Station Square South, the Alexan, the Arroyo, the Fifield, and the City Lot projects. This capacity study reviewed the additional or incremental deficiencies (stand alone impacts) to the City's water system caused by the water demands from the proposed Projects.

The hydraulic modeling results indicate that the proposed Projects would result in significant fire flow, head loss, and pressure deficiencies to the City's water system in the Mountain Zone. In order to resolve these deficiencies, it is recommended additional booster pump capacity be added to the City's Forebay Pump Station (design head and flow of 260 ft and 3,200 gpm, respectively). In addition, a total length of 980 feet of pipeline replacements or upgrades along Magnolia Avenue (near the Station Square Transit Village) is recommended to mitigate the impact of the proposed Projects. These solutions should be able to resolve the deficiencies caused by the proposed Projects.

FIGURE 2


Legend
Proposed Project
Fire flow change in gpm by Projects at areas with fire flow deficiencies
Fire flow change in gpm by Projects at areas with sufficient fire flow
Fire flow not affected by Projects
None fire flow node
Reservoir
Well
Pipe
Pressure Zone
Canyon System
Cloverleaf System
Emerson System
Mountain System
Norumbega System
Ridgeside System
Upper Cloverleaf System
Station Square Transit Village (Proposed Projects)
Well No. 2
Well No. 3
Well No. 4
Well No. 5
Well No. 6
Monrovia
Butler
Foothill Fwy
Santa Anita Wash
San Gabriel River Fwy
Huntington Dr
Duarte Rd
Central Ave
Evergreen St
Three Ranch Rd
Maynard Dr
Royal Oaks Dr
Lemon Ave
Orange Ave
Myrtle Ave
Mountain Ave
Bradbury Ave
Buena Vista St
Meridian St
Alpha St
Kellwill Way
Galen St
Beckville St
Newington St
Broach Ave
Lewiston Ave
Hurst View Ave
Euclid Ave
Maxwell Elementary School
Beardslee Elementary School
Monrovia High School
Monrovia Middle School
Monrovia Shopping Center
Huntington Oaks Center
Arcadia Gateway Center Shopping Center
Santa Fe Middle School
Live Oak Memorial Park
Recreation Park
Duarte Park
Duarte Sports Park
Pamela Park
Camino Grove Park
Plymouth Elementary
Moore Park
City of Hope National Medical Center
Walmart
Target
Ralphs
Big Lots
Rite Aid
La-Z Boy
AT And SF Rlwy
Railroad Ave
Santa Fe Dam Recreation Area
Santa Anita Park
Monrovia Canyon Park
Sierra Madre
Arcadia
Duarte
Bradbury
Monrovia
Huntington Dr
Foothill Fwy
Duarte Rd
Central Ave
Evergreen St
Three Ranch Rd
Butler

Station Square Transit Village (Proposed Projects)

Well No. 2
Well No. 6
Well No. 5
Well No. 4
Well No. 3

Legend

- Proposed Project
- Pressure reduced in psi by Projects at areas with pressure < 35 psi
- Pressure reduced in psi by Projects at areas with pressure >= 35 psi
- Pressure not affected by Projects
- Node
- Reservoir
- Well
- Pipe

Pressure Zone

- Canyon System
- Cloverleaf System
- Emerson System
- Mountain System
- Norumbega System
- Ridgeside System
- Upper Cloverleaf System

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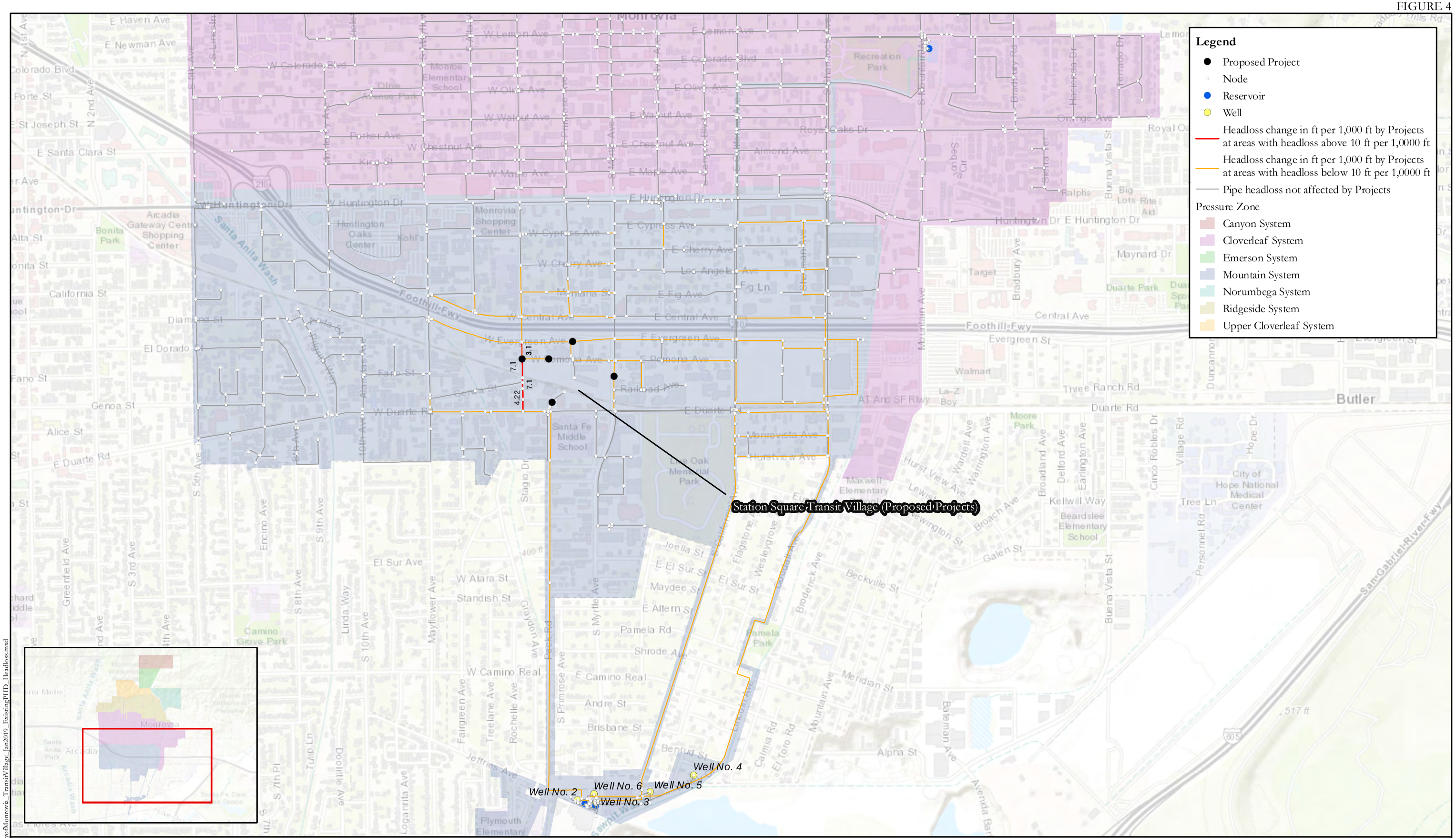
STETSON ENGINEERS INC.

DRAFT

PROJECT IMPACT TO EXISTING WATER DISTRIBUTION SYSTEM AT PROJECTED PHD DEMAND REDUCTION IN NODE PRESSURE

N

0 500 1,000 1,500 Feet



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STETSON ENGINEERS INC.

DRAFT

IMPACT OF PROPOSED PROJECTS TO EXISTING WATER DISTRIBUTION SYSTEM AT PROJECTED PHD DEMAND
CHANGE IN HEADLOSS

N

0 500 1,000 1,500 Feet

Appendix A Proposed Pipe Replacement/Upgrades to Mitigate Impacts from Proposed Projects

No.	Pipe ID	Length (ft)	Install Year	Existing Diameter (inch)	Proposed Diameter (inch)	Address
1	564	235	1937	8	12	Magnolia Ave between Evergeen Ave and Pomona Ave
2	565	63	1937	8	12	Magnolia Ave between Pomona Ave and Genoa St
3	566	163	1937	8	12	Magnolia Ave between Genoa St and Duarte Rd
4	565B	273	1937	8	12	Magnolia Ave between Pomona Ave and Genoa St
5	566B	160	1937	8	12	Magnolia Ave between Genoa St and Duarte Rd
6	566C	86	1937	8	12	Magnolia Ave between Genoa St and Duarte Rd
Total		**980**				

Technical Memorandum

Transit Village Water Improvements
Fair share fee-in-lieu-of improvements

FROM: **City of Monrovia**
Public Services Department
Public Works Division
Brad Merrell, P.E., City Engineer

SUBJECT: **Fee-in-lieu-of water improvements for multiple projects in the Transit Village Area**

DATE: **January 14, 2019**

Draft

INTRODUCTION

The City of Monrovia (City) has received several applications for the development of various apartment complex projects. The purpose of this memo is to state the required development impact fee (DIF), per unit (apartment unit), to be assessed to each project to cover additional water infrastructure which would be required to support the additional water demands on the City water system due to the construction of these projects.

FEASIBILITY STUDIES

The City has had several feasibility studies prepared by Stetson Engineers Inc. to evaluate the effect to the City's water system from these projects. These studies established the needed water system improvements in order to maintain adequate water supply and pressure to the City's water users and to these added projects, based on the added demand by these projects.
In short, the recommended improvements are:

- One booster pump No 6 installed at the City well field.
- Upgrade of 980 feet (on Magnolia from Duarte to Evergreen) of water pipe line from existing 8 inch to 12 inch.

ESTIMATED COST OF IMPROVMENTS FOR MITGATION

The City has estimated (attached) the total cost of these improvements at $1,293,981 to be divided by the total units in the following projects:

- 296 units in the Station Square Project (Richmond)
- 436 units in the Alexan Foothill Project (Trammel Crow)
- 284 units in the Station Square North (Arroyo)
- 310 units in the Fifield
- 100 units in the City Park N Ride Lot

For a total of 1,426 units. This would equate to $1,293,981/1,426 units = $907.42 per unit.

Therefore the “Fair-Share” contribution to the City from each of the above projects shall be $907.42 per unit within that respective project.

Estimated Cost Per Project

- Station Square 296 x $907.42 = $268,596
- Alexan 436 x $907.42 = $395,635
- Station Square North 284 x $907.42 = $257,707
- Fifield 310 x $907.42 = $281,300
- City Lot 100 x $907.42 = $90,743

$1,293,981

Draft

	City of Monrovia					***14-Jan-19***
	Public Services Department					
	Public Works Division					
	Brad Merrell, City Engineer					
	Transit Village Water Improvements					
	Engineer's Estimate					
	Description	**Quantity**	**Units**	**Rate**	**Total**	**Subtotals**
	Booster Pump Installation					
1	Modification to existing booster pedestal	1	LS	$ 25,000.00	$ 25,000	
2	Supply and Install new booster pump	1	LS	$ 85,000.00	$ 85,000	
3	Supply and Install new pump controller	1	LS	$ 30,000.00	$ 30,000	
4	Supply and Install Electrical Switch Gear	1	LS	$ 36,000.00	$ 36,000	
5	Modifications to new electrical service	1	LS	$ 45,000.00	$ 45,000	
6	Saw cut for trenching	760	LF	$ 3.50	$ 2,660	
7	Trench reconstruction	380	LF	$ 45.00	$ 17,100	
8	Conduits and ducts	380	LF	$ 50.00	$ 19,000	
9	Supply underground wire and installation	380	LF	$ 60.00	$ 22,800	
10	Design	1	LS	$ 55,000.00	$ 55,000	
11	Bid and contact administration	1	LS	$ 45,000.00	$ 45,000	$ 382,560
	New 12 inch Water Line on Magnolia					
12	Class 350 DI 12 water line	980	LF	$ 220.00	$ 215,600	
13	Saw cut trench	2,060	LF	$ 3.50	$ 7,210	
14	Trench Reconstruction	980	LF	$ 36.00	$ 35,280	
15	Metro Bore/Rail Crossing	1	LS	$ 85,000.00	$ 85,000	
16	Moratorium Street Repair	26,000	SQ	$ 4.00	$ 104,000	
17	Remove and Dispose of AC Paving	5,880	SF	$ 2.50	$ 14,700	
18	Remove Sewer Manhole Ring, Lid, & Concrete	5	EA	$ 750.00	$ 3,750	
19	Install/Savage Fire Hydrants	7	EA	$ 12,500.00	$ 87,500	
20	Striping	1	LS	$ 2,500.00	$ 2,500	
21	Staging / Traffic Control / Traffic Control Plans	1	LS	$ 5,000.00	$ 5,000	
22	Public Notification	1	LS	$ 2,000.00	$ 2,000	
23	Mobilization	1	LS	$ 65,000.00	$ 65,000	
24	Ped. and Vehicle Access	1	LS	$ 1,500.00	$ 1,500	
25	SWPPP Implementation	1	LS	$ 8,500.00	$ 8,500	
26	Design, Surveying, Construction Admin	1	LS	$ 125,000.00	$ 125,000.00	
27	Geotechnical investigation	1	LS	$ 15,000.00	$ 15,000.00	
28	Metro approval for boring	1	LS	$ 15,000.00	$ 15,000.00	$ 792,540
29					**Total of subtotal**	$ 1,175,100
30	Contingency 15%					$ 118,881
31					**Total Engineer's Estimate**	**$ 1,293,981**
	Cost per estimated develped units	1426				$ 907.42

DRAFT

APPENDIX K4
WASTEWATER CAPACITY STUDY

DAVID EVANS
AND ASSOCIATES INC.

MEMORANDUM

DATE: May 29, 2018

TO: Brad Merrell, PE
City Engineer
Department of Public Works
City of Monrovia

FROM: David Stuetzel

SUBJECT: Sewer Capcity Analysis – Multi Development Areas

PROJECT: Task order 05 – On Call Contract
MONR000-0002

CC: Alex Tachiki, City of Monrovia
Rob Bathke, DEA

As requested by the City of Monrovia, David Evans and Associates was requested to evaluate the feasibility and potential impact of connecting multiple new development properties located around the Monrovia Metro Station in the area located south of the Foothill Freeway (Rte 210), West of Myrtle Avenue, North of Duarte Road and east of Mayflower Avenue. The new developments include the following properties:

Development Name	Development Type	Parcel Size (SF)*	Unit Count
Trammell Crow Residential	Residential	318,800	472
Station Square North	Apartments	143,900	280
Mixed Use Project	Apartments	80,000	250
MODA at Monrovia Station	Apartments	125,600	261
Thomas Saffron Associates	Apartments	46,700	103
Richman Development	Apartments	144,200	294
Potential Residential	Residential	85,300	150

* Parcel Sizes were determined from google maps and may not represent actual parcel size.

The existing land parcels being considered for new development are shown in the City's Land use Map as Manufacturing and Planned Use developments. The manufacturing land use has a sewer flow demand value of 200 gpd/1000 SF, and the Planned development parcels were shown with a sewer demand value of 1600 gpd/acre as listed in the City's current Sewer Master Plan report.

In calculating the proposed development sewer flow tributary to the City's existing sewer pipeline system, the sewer flow value for the existing parcels was removed form the sewer study. The proposed developments tributary sewer flows were determined using the Los Angeles County Sanitation District estimated daily average sewage flows for various occupancies, with a minimum flow demand of 250 gpd/unit.

DATE: May 29, 2018 **FROM:** David Stuetzel

TO: Brad Merrell, PE **SUBJECT:** Sewer Capcity Analysis – Multi Development Areas

The configuration of the City's existing sewer for the proposed developments will connect to existing sewer pipelines in local/side streets with connections to the City's main collection system within Magnolia Avenue and Myrtle Avenue. Flows collected in these streets will continue southerly to Duarte Road. Sewer flows flor the developments included in this study will combine at the intersection of Peck Road and Duarte Road and continue southerly along Peck Road to the Southerly City limits at Live Oak Avenue.

Table 1 Estimated Wastewater Flows

Development	POC Location	Land Use	Wastewater Flow Factor (gpd/unit)	Unit Count	Average Flow (gpd)	Peaking Factor**	Peak Flow (mgd)
Trammell Crow Residential	Magnolia Ave SMH 162-021	Residential	260	472	122,720	1.61	0.200
Station Square North	Pomona Ave SMH 162-029	Apartments	250	280	70,000	1.61	0.113
Mixed Use Project	Pomona Ave SMH 163-027	Apartments	250	250	62,500	1.61	0.101
MODA at Monrovia Station	Pomona Ave SMH 162-029	Apartments	250	261	65,250	1.61	0.105
Thomas Saffron Associates	Myrtle Ave SMH 163-007	Apartments	250	103	25,750	1.61	0.042
Richman Development	Magnolia SMH 162-022 Peck Road SMH 163-033	Apartments	250	294	73,500	1.61	0.118
Potential Residential	Duarte Rd 173-029	Residential	260	150	39,000	1.61	0.063

'** Peaking Factor based on the flow measurements conducted as part of the 2015 Sewer Master Plan

DATE: May 29, 2018 **FROM:** David Stuetzel

TO: Brad Merrell, PE **SUBJECT:** Sewer Capcity Analysis – Multi Development Areas

Table 2 Existing Wastewater Parcel Flows

Development	POC Location	Land Use	Wastewater Flow Factor	Area (SF)*	Average Flow (gpd)	Peaking Factor**	Peak Flow (mgd)
Trammell Crow Residential	Magnolia Ave SMH 162-021	Manufacturing	200 gpd/KSF	318,800	63,760	1.61	0.103
Station Square North	Pomona Ave SMH 162-029	Planned Use	1600 gpd/AC	143,900	5,285	1.61	0.009
Mixed Use Project	Pomona Ave SMH 163-027	Planned Use	1600 gpd/AC	80,000	2,940	1.61	0.005
MODA at Monrovia Station	Pomona Ave SMH 162-029	Planned Use	1600 gpd/AC	125,600	4,610	1.61	0.007
Thomas Saffron Associates	Myrtle Ave SMH 163-007	Planned Use	1600 gpd/AC	46,700	1,715	1.61	0.003
Richman Development	Magnolia SMH 162-022 Peck Road SMH 163-033	Planned Use	1600 gpd/AC	144,200	5,300	1.61	0.009
Potential Residential	Duarte Rd 173-029	Planned Use	1600 gpd/AC	85,300	3,135	1.61	0.005

DATE:	May 29, 2018	**FROM:**	David Stuetzel
TO:	Brad Merrell, PE	**SUBJECT:**	Sewer Capcity Analysis – Multi Development Areas

'* Parcel Sizes were determined from google maps and may not represent actual parcel size

** Peaking Factor based on the flow measurements conducted as part of the 2015 Sewer Master Plan

The previously developed sewer master plan hydraulic model was used to evaluate the hydraulic capacity of the downstream City sewers. The variations of flow were captured in the hydraulic model using diurnal curve method with a peaking factor of 1.61. The peak flows in Table 1 and the previously developed diurnal curve were input at the point of connections along the public street connections to the City sewer pipelines and the model was run for both existing and proposed flow conditions. Appendix D shows the SMP model results. The following summarizes the major findings of the analysis:

- The City sewers receiving sewer flow from the proposed Developments range in size from 10-inch to 24-inch in diameter. According to LACSD, for sewer mainlines less than 15-inch in diameter, the capacity is considered full when the ratio of depth of flow (d) over the pipe diameter (D) is equal to 0.5. Expressed as d/D=0.5. For 15-inch and larger sewers, the full capacity is set at a d/D of 0.75 by LACSD.
- Under the existing flow conditions, the existing d/D ratio for pipe segment 173-029 to 172-010 along Duarte west of Myrtle Avenue was found to have the d/D ratio at 0.61, which exceeds the recommended LACSD flow ratio of 0.50 for sewer pipeline flow. All other pipeline d/D ratios downstream of the proposed developments were found to be below the criteria.
- Under the proposed flow conditions, the existing d/D ratio for pipe segment 162-022 to 172-007 in Magnolia Ave was found to have a d/D ratio at 0.68, pipe segment 173-028 to 173-029 on Duarte Road was found to have a d/D ratio at 0.52, and pipe segment 173-029 to 172-010 on Duarte Road was found to have a d/D ratio at 0.66 which exceeds the recommended LACSD flow ratio of 0.50 for sewer pipeline flow. All other pipeline d/D ratios downstream of the proposed developments were found to be below the criteria.

Attachments:

Appendix A – Proposed Project Location Exhibit

Appendix B – Impacted City Sewer Locations

Appendix C – LACSD Flow Factors

Appendix D – Capacity Analysis Results

Attachments/Enclosures: List Items

File Path: Document1

Appendix A

Proposed Project Locations and

Points of Connection

154 Units

Avalon Bay Project

109 Rooms

Marriott TownPlace Suites

154 Units

Areum Apartments

472 Units

Trammell Crow Residential

280 Units

Station Square North

250 Units

Mixed Use Project

103 Units

Thomas & Saffron Associates

MODA at Monrovia Station

261 Units

Richman Development

294 Units

Potential Residential

150 Units

Legend

Status

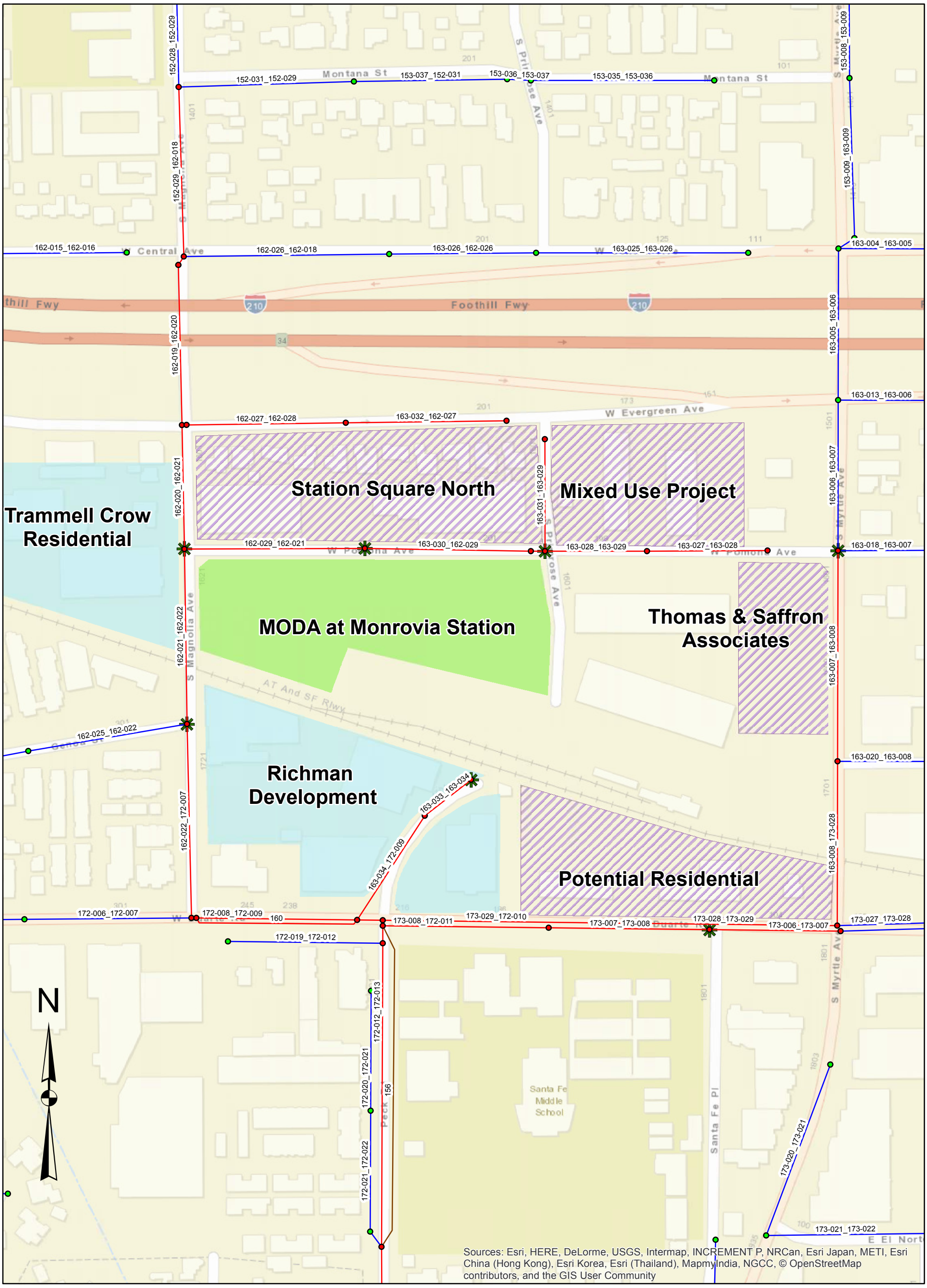
- Constructed
- Pending
- Under Review
- Under Construction
- Monrovia Boundary

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

Appendix B

Impacted City Sewer Locations

Square Station Expansion Sewer Analysis Exhibit



Legend

Manhole

ADDITIONAL SEWER INPUTS

ABANDON

<all other values>

City Sewer

<all other values>

TYPE

Active

Domain

Inactive

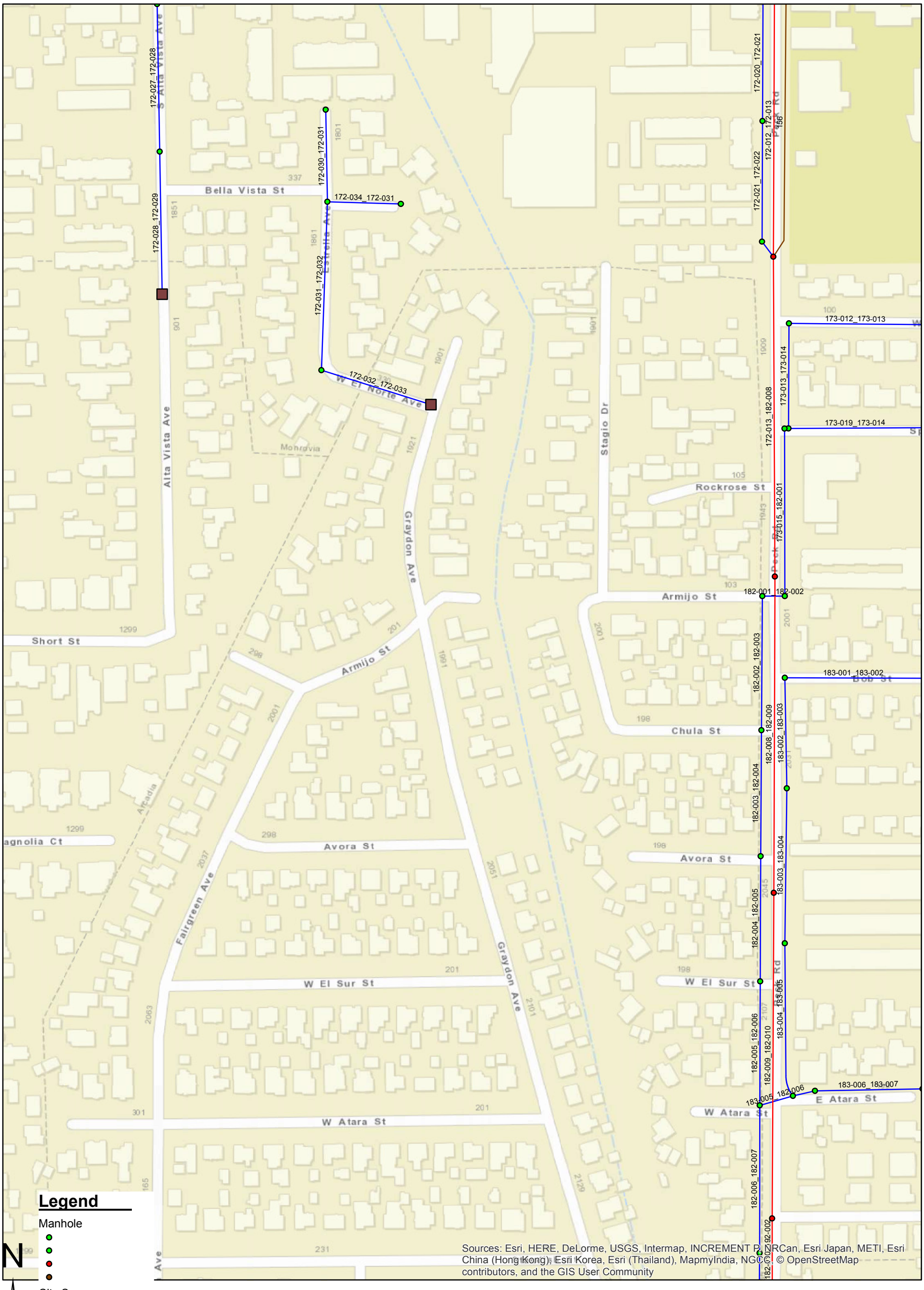
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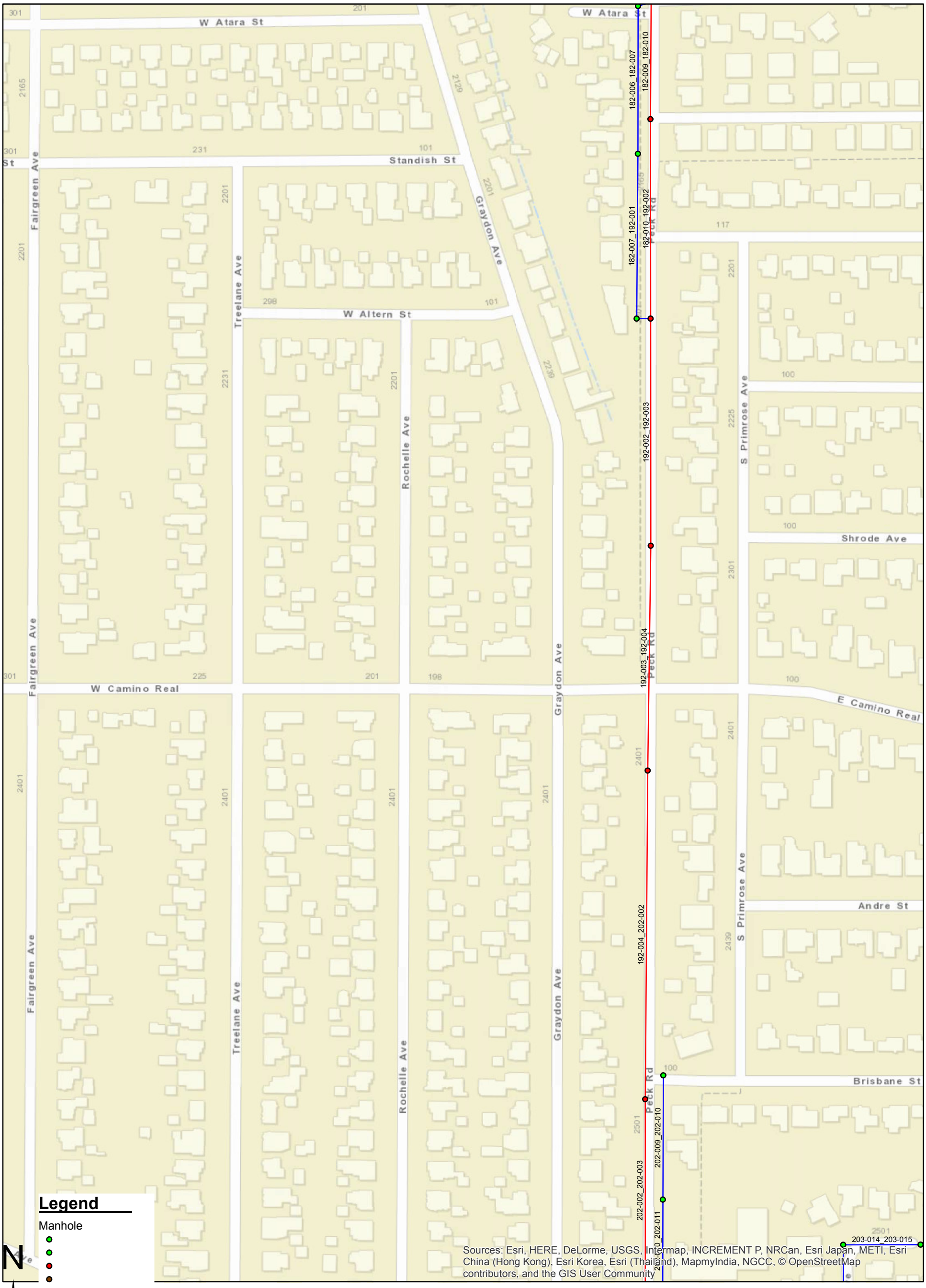
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1

2

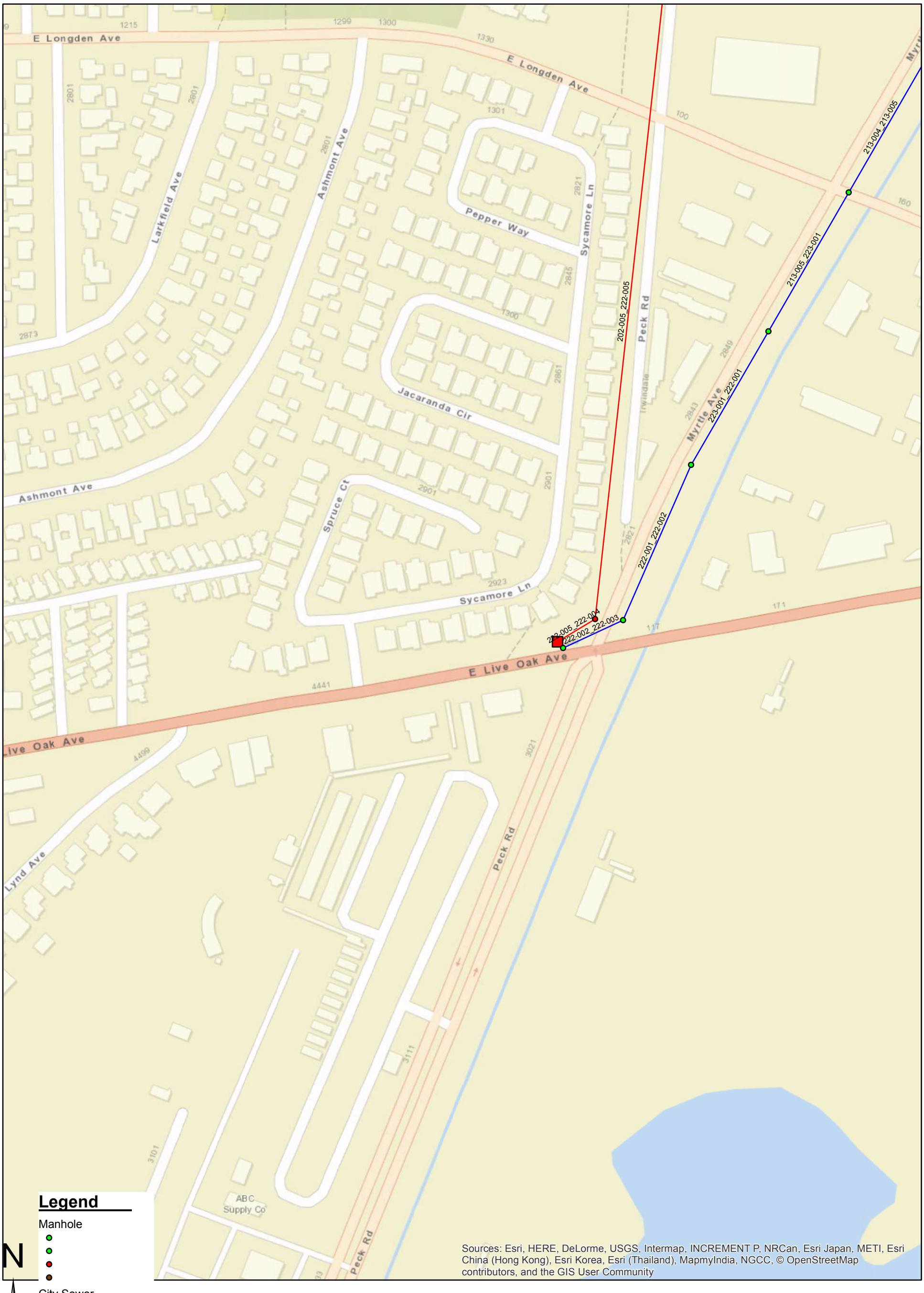
DAVID EVANS AND ASSOCIATES INC.


172-027_172-028
172-028_172-029
172-030_172-031
172-031_172-032
172-032_172-033
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183-001_183-002
183-002_183-003
183-003_183-004
183-004_183-005
183-005_182-006
183-006_183-007
Bella Vista St
Estrella Ave
W El Norte Ave
Monrovia
Stagio Dr
Rockrose St
Armijo St
Short St
Graydon Ave
Avora St
Fairgreen Ave
W El Sur St
W Atara St
E Atara St
Chula St
Bob St
Peck Rd
Alta Vista Ave
Arcadia
Legend
Manhole
City Sewer
<all other values>
TYPE
Active
Domain
Inactive
N
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community
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W Atara St
Standish St
W Altern St
W Camino Real
E Camino Real
Shrode Ave
Andre St
Brisbane St
Fairgreen Ave
Treelane Ave
Rochelle Ave
Graydon Ave
Peck Rd
S Primrose Ave
182-006_182-007
182-009_182-010
182-007_192-001
182-010_192-002
192-002_192-003
192-003_192-004
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203-014_203-015
Legend
Manhole
City Sewer
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TYPE
Active
Domain
Inactive
N
Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community
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Appendix C

LACSD Unit Factors by

Occupancies and Land Use

Estimated Average Daily Sewage Flows for Various Occupancies

Occupancy	Abbreviation	*Average daily flow	
Apartment Buildings:			
Bachelor or Single dwelling units	Apt	100	gal/D.U.
1 bedroom dwelling units	Apt	150	gal/D.U.
2 bedroom dwelling units	Apt	200	gal/D.U.
3 bedroom or more dwelling units	Apt	250	gal/D.U.
Auditoriums, churches, etc.	Aud	5	gal/seat
Automobile parking	P	25	gal/1000 sq ft gross floor area
Bars, cocktails lounges, etc.	Bar	20	gal/seat
Commercial Shops & Stores	CS	100	gal/1000 sq ft gross floor area
Hospitals (surgical)	HS	500	gal/bed
Hospitals (convalescent)	HC	85	gal/bed
Hotels	H	150	gal/room
Medical Buildings	MB	300	gal/1000 sq ft gross floor area
Motels	M	150	gal/unit
Office Buildings	Off	200	gal/1000 sq ft gross floor area
Restaurants, cafeterias, etc.	R	50	gal/seat
Schools:			
Elementary or Jr. High	S	10	gal/student
High Schools	HS	15	gal/student
Universities or Colleges	U	20	gal/student
College Dormitories	CD	85	gal/student

*Multiply the average daily flow by 2.5 to obtain the peak flow

Zoning Coefficients

Zone	Coefficient (cfs/Acre)
Agriculture	**0.001**
Residential+:	
R-1	**0.004**
R-2	**0.008**
R-3	**0.012**
R-4	**0.016***
Commercial:	
C-1 through C-4	**0.015***
Heavy Industrial:	
M1 through M-4	**0.021***

***Individual building, commercial or industrial plant capacities shall be the determining factor when they exceed the coefficients shown**

+ Use 0.001 (cfs/unit) for condominiums only

TABLE 1

LOADINGS FOR EACH CLASS OF LAND USE

DESCRIPTION	UNIT OF MEASURE	FLOW (Gallons Per Day)	COD (Pounds Per Day)	SUSPENDED SOLIDS (Pounds Per Day)
RESIDENTIAL				
Single Family Home	Parcel	260	1.22	0.59
Duplex	Parcel	312	1.46	0.70
Triplex	Parcel	468	2.19	1.05
Fourplex	Parcel	624	2.92	1.40
Condominiums	Parcel	195	0.92	0.44
Single Family Home (reduced rate)	Parcel	156	0.73	0.35
Five Units or More	No. of Dwlg. Units	156	0.73	0.35
Mobile Home Parks	No. of Spaces	156	0.73	0.35
COMMERCIAL				
Hotel/Motel/Rooming House	Room	125	0.54	0.28
Store	1000 ft^2	100	0.43	0.23
Supermarket	1000 ft^2	150	2.00	1.00
Shopping Center	1000 ft^2	325	3.00	1.17
Regional Mall	1000 ft^2	150	2.10	0.77
Office Building	1000 ft^2	200	0.86	0.45
Professional Building	1000 ft^2	300	1.29	0.68
Restaurant	1000 ft^2	1,000	16.68	5.00
Indoor Theatre	1000 ft^2	125	0.54	0.28
Car Wash				
Tunnel - No Recycling	1000 ft^2	3,700	15.86	8.33
Tunnel - Recycling	1000 ft^2	2,700	11.74	6.16
Wand	1000 ft^2	700	3.00	1.58
Financial Institution	1000 ft^2	100	0.43	0.23
Service Shop	1000 ft^2	100	0.43	0.23
Animal Kennels	1000 ft^2	100	0.43	0.23
Service Station	1000 ft^2	100	0.43	0.23
Auto Sales/Repair	1000 ft^2	100	0.43	0.23
Wholesale Outlet	1000 ft^2	100	0.43	0.23
Nursery/Greenhouse	1000 ft^2	25	0.11	0.06
Manufacturing	1000 ft^2	200	1.86	0.70
Dry Manufacturing	1000 ft^2	25	0.23	0.09
Lumber Yard	1000 ft^2	25	0.23	0.09
Warehousing	1000 ft^2	25	0.23	0.09
Open Storage	1000 ft^2	25	0.23	0.09
Drive-in Theatre	1000 ft^2	20	0.09	0.05

TABLE 1
(continued)
LOADINGS FOR EACH CLASS OF LAND USE

DESCRIPTION	UNIT OF MEASURE	FLOW (Gallons Per Day)	COD (Pounds Per Day)	SUSPENDED SOLIDS (Pounds Per Day)
COMMERCIAL				
Night Club	1000 ft^2	350	1.50	0.79
Bowling/Skating	1000 ft^2	150	1.76	0.55
Club	1000 ft^2	125	0.54	0.27
Auditorium, Amusement	1000 ft^2	350	1.50	0.79
Golf Course, Camp, and Park (Structures and Improvements	1000 ft^2	100	0.43	0.23
Recreational Vehicle Park	No. of Spaces	55	0.34	0.14
Convalescent Home	Bed	125	0.54	0.28
Laundry	1000 ft^2	3,825	16.40	8.61
Mortuary/Cemetery	1000 ft^2	100	1.33	0.67
Health Spa, Gymnasium				
With Showers	1000 ft^2	600	2.58	1.35
Without Showers	1000 ft^2	300	1.29	0.68
Convention Center, Fairground, Racetrack, Sports Stadium/Arena	Average Daily Attendance	10	0.04	0.02
INSTITUTIONAL				
College/University	Student	20	0.09	0.05
Private School	1000 ft^2	200	0.86	0.45
Church	1000 ft^2	50	0.21	0.11

Appendix D

Capacity Analysis Results

Pipe ID	U/S MH ID	D/S MH ID	Size (inch)	Length (ft)	Slope (ft/ft)	Existing Peak Flow in Model (mgd)	Existing Maximum d/D	Proposed Peak Flow in Model (mgd)	Proposed Maximum d/D	d/D Criteria	Remark
152-029_162-018	152-029	162-018	6	338	0.019	0.170	0.43	0.170	0.43	0.5	PASS
162-018_162-019	162-018	162-019	6	20	0.0835	0.188	0.31	0.188	0.31	0.5	PASS
162-019_162-020	162-019	162-020	10	319	0.0227	0.188	0.22	0.188	0.22	0.5	PASS
162-020_162-021	162-020	162-021	10	247	0.0196	0.199	0.23	0.199	0.23	0.5	PASS
162-021_162-022	162-021	162-022	10	349	0.0314	0.257	0.23	0.657	0.38	0.5	PASS
162-022_172-007	162-022	172-007	10	387	0.0062	0.329	0.40	0.770	0.68	0.5	FAIL
172-007_172-008	172-007	172-008	24	10	0.007	3.989	0.42	4.393	0.45	0.75	PASS
160	172-008	172-009	18	308	0.0019	1.710	0.60	1.868	0.63	0.75	PASS
172-009_172-010	172-009	172-010	24	51	0.0069	4.017	0.43	4.491	0.46	0.75	PASS
172-010_172-011	172-010	172-011	24	11	0.0091	4.294	0.41	4.810	0.44	0.75	PASS
172-011_172-012	172-011	172-012	24	35	0.0043	6.286	0.65	6.854	0.69	0.75	PASS
172-012_172-013	172-012	172-013	24	605	0.0045	6.295	0.64	6.863	0.68	0.75	PASS
172-013_182-008	172-013	182-008	24	639	0.0168	6.324	0.43	6.892	0.45	0.75	PASS
182-008_182-009	182-008	182-009	24	632	0.0068	6.328	0.56	6.896	0.59	0.75	PASS
182-009_182-010	182-009	182-010	24	651	0.0115	6.331	0.48	6.899	0.50	0.75	PASS
182-010_192-002	182-010	192-002	24	398	0.0166	6.335	0.43	6.904	0.45	0.75	PASS
192-002_192-003	192-002	192-003	24	453	0.0074	6.446	0.55	7.015	0.58	0.75	PASS
192-003_192-004	192-003	192-004	24	449	0.0072	6.446	0.56	7.015	0.59	0.75	PASS
192-004_202-002	192-004	202-002	24	656	0.0087	6.446	0.53	7.015	0.55	0.75	PASS
202-002_202-003	202-002	202-003	24	652	0.0074	6.446	0.55	7.015	0.58	0.75	PASS
202-003_202-004	202-003	202-004	24	165	0.0076	6.446	0.55	7.015	0.58	0.75	PASS
202-004_202-005	202-004	202-005	24	53	0.0079	6.447	0.54	7.016	0.57	0.75	PASS
202-005_222-005	202-005	222-005	24	2,235	0.0071	6.448	0.56	7.018	0.59	0.75	PASS
222-005_222-004	222-005	222-004	24	88	0.0091	6.448	0.52	7.018	0.55	0.75	PASS
172-008_172-009	172-008	172-009	24	308	0.0019	2.282	0.45	2.529	0.48	0.75	PASS
163-027_163-028	163-027	163-028	8	240	0.0047	0.009	0.10	0.009	0.10	0.5	PASS
163-028_163-029	163-028	163-029	8	203	0.0047	0.023	0.15	0.023	0.15	0.5	PASS
163-029_163-030	163-029	163-030	8	28	0.2229	0.029	0.07	0.130	0.14	0.5	PASS
163-030_162-029	163-030	162-029	8	330	0.0038	0.035	0.20	0.136	0.39	0.5	PASS
162-029_162-021	162-029	162-021	8	359	0.0123	0.049	0.17	0.262	0.41	0.5	PASS
163-031_163-029	163-031	163-029	8	223	0.0107	0.003	0.05	0.003	0.05	0.5	PASS
163-032_162-027	163-032	162-027	8	320	0.0101	0.003	0.04	0.003	0.04	0.5	PASS
162-027_162-028	162-027	162-028	8	317	0.0072	0.007	0.08	0.007	0.08	0.5	PASS
162-028_162-020	162-028	162-020	6	9	0.2855	0.009	0.05	0.009	0.05	0.5	PASS
163-007_163-008	163-007	163-008	8	420	0.0227	0.250	0.34	0.290	0.36	0.5	PASS
163-008_173-028	163-008	173-028	8	327	0.0175	0.275	0.38	0.315	0.41	0.5	PASS
173-028_173-029	173-028	173-029	8	454	0.008	0.281	0.48	0.321	0.52	0.5	FAIL
173-029_172-010	173-029	172-010	8	450	0.0039	0.288	0.61	0.329	0.66	0.5	FAIL
173-006_173-007	173-006	173-007	18	261	0.0056	1.981	0.47	1.981	0.47	0.75	PASS
173-007_173-008	173-007	173-008	18	320	0.0051	1.987	0.48	2.042	0.49	0.75	PASS
173-008_172-011	173-008	172-011	18	330	0.0055	1.993	0.47	2.047	0.48	0.75	PASS
163-033_163-034	163-033	163-034	8	117	0.0272	0.016	0.08	0.093	0.19	0.5	PASS
163-034_172-009	163-034	172-009	8	247	0.0304	0.025	0.10	0.102	0.20	0.5	PASS

APPENDIX L
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APPENDIX M
PLAN SET, 3D RENDERINGS, SHADE & SHADOW ANALYSIS AND VIEW SIMULATIONS

M1
PLAN SET



LOOKING SOUTHWEST AT LEASING AREA / ROOF DECK AMENITY

TRAMMELL CROW RESIDENTIAL
ALEXAN MONROVIA

03.05.2019

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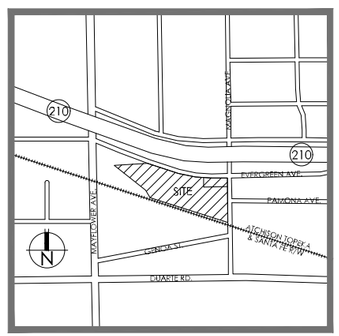
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VICINITY MAP
N.T.S.

CS-1

ALEXAN MONROVIA MONROVIA, CALIFORNIA

DATE: 03-05-19
JOB NO.: 2016-252

TCR
Trammell Crow Residential

TRAMMELL CROW RESIDENTIAL
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	2016 CALIFORNIA GREEN BUILDING STANDARDS

RESIDENTIAL BUILDING:
CONSRUCTION TYPE: TYPE III-A

PARKING STRUCTURE:
CONSTRUCTION TYPE: TYPE I-A

ALLOWABLE BUILDING HEIGHT AND NUMBER OF STORIES

IN FEET ABOVE GRADE PLANE

BUILDING TYPE	CONSTRUCTION TYPE	OCCUPANCY CLASSIFICATION	AUTOMATIC SPRINKLER SYSTEM	REQUIRED		PROVIDED	
				ALLOWABLE BUILDING HEIGHT PER TABLE 504.3	ALLOWABLE NUMBER OF STORIES PER TABLE 504.4	ALLOWABLE BUILDING HEIGHT PER TABLE 504.3	ALLOWABLE NUMBER OF STORIES PER TABLE 504.4
RESIDENTIAL BUILDING	TYPE III-A	R-2	S	85 FEET	5 STORIES	61'-8"	5 STORIES
PARKING STRUCTURE	TYPE I-A	S-2	S	UL	UL	71'-4"	7 LEVELS

SPRINKLER CLASSIFICATIONS:
NS = Buildings not equipped throughout with an automatic sprinkler system;
S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1;
S13R = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.2;
S13D = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.3.

CODE SUMMARY

CODE	ADOPTED EDITION
BUILDING CODE	2016 CALIFORNIA BUILDING CODE
FIRE CODE	2016 CALIFORNIA FIRE CODE
ENERGY CODE	2016 BUILDING EFFICIENCY STANDARDS FOR RESIDENTIAL AND NON RESIDENTIAL BUILDINGS
MECHANICAL CODE	2016 CALIFORNIA MECHANICAL CODE
PLUMBING CODE	2016 CALIFORNIA PLUMBING CODE
ELECTRICAL CODE	2016 CALIFORNIA CODE

NOTE: ALL THE RESIDENTIAL UNITS SHOWN IN THIS DEVELOPMENT PLAN ARE FOR LEASE.

(C.A.V.) CLEAN AIR VEHICLES STALLS REQUIRED (9'-0" x 19') - NON RESIDENTIAL	QUAN.	RATIO	REQ'D
C.A.V. - LEASING	12	TABLE 5.106.5.2	1
C.A.V. - PAID PARKING	34	TABLE 5.106.5.2	3

PARKING SUMMARY

CITY REQUIRED RESIDENTIAL PARKING (9'-0" x 19'-0")

NUMBER OF UNITS	MINIMUM PARKING RATIO	STALLS REQUIRED
436	1.76	768
RESIDENTIAL UNITS		647
GUEST PARKING	0.25	109

CITY REQUIRED NON-RESIDENTIAL PARKING (9'-0" x 19'-0") - MIN. 4/1,000 S.F. OFFICE SPACE

	SQUARE FOOTAGE	/ 1,000 S.F.	FACTOR	
LEASING	2,924	2,924	x (4)	12
TOTAL PARKING REQUIRED				**768**

TOTAL PARKING REQUIRED BY BEDROOM COUNT

UNIT TYPE	NUMBER OF BEDROOMS	NUMBER OF UNITS	TOTAL NUMBER PARKING REQ'D.
STUDIO	1	20	20
1 BEDROOM	1	254	254
2 BEDROOM	2	147	294
3 BEDROOM	3	15	45
TOTAL RESIDENTIAL PARKING BY BEDROOM COUNT			613
EXTRA PARKING PROVIDED FOR PAID PUBLIC STALLS			34

ACTUAL PARKING COUNT BASED ON ADJUSTED RESIDENTIAL COUNT TO PROVIDE PAID PARKING SPACES	
RESIDENTIAL SPACES	613
GUEST SPACES	100
LIVE WORK PARKING (WORK AREA ONLY)	9
LEASING SPACES	12
PAID PUBLIC STALLS	34
TOTAL PARKING SPACES REQUIRED	**768**

(H.C.) ACCESSIBLE STALLS REQUIRED (9' x 19')	QTY.	FACTOR	REQ'D
H.C. - RESIDENTS	613	0.02	13
H.C. - GUEST	100	0.05	5
H.C. - - LIVE WORK PARKING (WORK AREA ONLY)	9	0.05	1
H.C. - LEASING	12	0.05	1
H.C. - PAID PUBLIC STALLS	34	0.05	2
TOTAL ACCESSIBLE STALLS REQUIRED (INCLUDED IN TOTAL PARKING COUNT)			**22**

NOTE: PROVIDE (1) VAN ACCESSIBLE STALL FOR EVERY 6 ACCESSIBLE STALLS PROVIDED FOR EACH PARKING TYPE

(E.V.C.S.) ELECTRIC VEHICLE STALLS REQUIRED (9' x 19')	QTY.	RATIO	REQ'D
E.V.C.S. - RESIDENTS	613	0.03	19
E.V.C.S. - GUEST	100	0.03	3
E.V.C.S. - LIVE WORK PARKING (WORK AREA ONLY)	9	0.03	1
E.V.C.S. - LEASING	12	TABLE 5.106.5.3.3	0
E.V.C.S. - PAID PUBLIC STALLS	34	TABLE 5.106.5.3.3	0
TOTAL EVCS STALLS REQUIRED (INCLUDED IN TOTAL PARKING COUNT)			**23**
(E.V.C.S.) ELECTRIC VEHICLE ACCESSIBLE STALLS REQUIRED (9' x 19')	QTY.	RATIO	REQ'D
E.V.C.S. - RESIDENTS	19	1 PER 25	1 (+8' AISLE)
E.V.C.S. - GUEST	3	1 PER 25	1 (+8' AISLE)
E.V.C.S. - - LIVE WORK PARKING (WORK AREA ONLY)			
E.V.C.S. - LEASING	0	TABLE 11B-228.3.2.1	0
E.V.C.S. - RETAIL	0	TABLE 11B-228.3.2.1	0
TOTAL ELECTRIC VEHICLE STALLS REQUIRED (INCLUDED IN E.V.C.S. PARKING COUNT)			**2**

PARKING PROVIDED

	UNITS PER LEVEL	LEASING STALLS	LIVE WORK STALLS	PAID STALLS	RESIDENTIAL STALLS	GUEST STALLS	TOTAL STALLS	
ON GRADE	0	6	1	0	0	0	7	
LEVEL 0	0	0	0	34	0	0	34	
LEVEL 1	76	5	8	0	68	18	99	
LEVEL 2	80	0	0	0	100	22	122	
LEVEL 3	95	0	0	0	101	24	125	
LEVEL 4	95	0	0	0	101	24	125	
LEVEL 5	90	0	0	0	101	24	125	
LEVEL 6	0	0	0	0	134	0	134	
LEVEL 7	0	0	0	0	27	0	27	
TOTAL STALLS	436	11	9	34	632	112	798	1.83

1) REQUIRED EVCS STALLS ARE INCLUDED WITHIN THE REQUIRED CITY PARKING COUNT.
2) PROVIDED AND FUTURE EVCS STALLS QUALIFY AS DESIGNATED PARKING FOR CLEAN AIR VEHICLES.

ALEXAN MONROVIA
MONROVIA, CA.

PROJECT DESCRIPTION

A 436 UNIT FOR RENT APARTMENT PROJECT CONSISTING OF 5-STORY TYPE III-A RESIDENTIAL BUILDING SURROUNDING A 7-STORY TYPE I-A PARKING STRUCTURE

GROSS LAND AREA:	6.77 ACRES
TOTAL UNITS:	436 UNITS
DENSITY:	64 DU/AC

PARCEL #	ADDRESS	APN	EXIST. ZONING & GENERAL PLAN DESIGNATION	PROPOSED ZONING & GENERAL PLAN DESIGNATION
5	1541 DALE DRIVE	8507-006-044	M (MANUFACTURING)	PD ZONE
7	MAGNOLIA AVENUE	8507-006-035	M (MANUFACTURING)	PD ZONE
10	EVERGREEN AVENUE	8507-006-024	M (MANUFACTURING)	PD ZONE
15	1625 S. MAGNOLIA AVENUE	8507-006-041	M (MANUFACTURING)	PD ZONE
16	1631 S. MAGNOLIA AVENUE	8507-006-042	M (MANUFACTURING)	PD ZONE
29	340 W. EVERGREEN AVENUE	8507 006 016	M (MANUFACTURING)	PD ZONE
30	410 W. EVERGREEN AVENUE	8507-006-043	M (MANUFACTURING)	PD ZONE

RESIDENTIAL BUILDING SUMMARY

UNITS	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4	LEVEL 5	%	TOTAL
S1	4	4	4	4	4	5%	20
STUDIOS	4	4	4	4	4	5%	20
A1	22	21	22	22	22	25%	109
A2	21	15	24	24	23	25%	107
A3	6	7	7	7	7	8%	34
LIVE WORK	4	0	0	0	0	1%	4
1 BR'S	53	43	53	53	52	58%	254
B1	2	5	6	6	6	6%	25
B2	13	23	26	26	26	26%	114
B3	2	2	2	2		2%	8
2 BR'S	17	30	34	34	32	34%	147
C1	2	3	4	4	2	3%	15
3 BR'S	2	3	4	4	2	3%	15
TOTAL	**76**	**80**	**95**	**95**	**90**	**100%**	**436**

UNIT SUMMARY

UNIT TYPE	UNIT NET SQ. FT.	NUMBER OF UNITS	TOTAL NET SQ. FT.	%	UNIT %
S1	561	20	11,220	5%	5%
A1	698	109	76,082	25%	58%
A2	745	107	79,715	25%	
A3	686	34	23,324	8%	
LIVE WORK	1,561	4	6,244	1%	
B1	981	25	24,525	6%	32%
B2	1,074	114	122,436	26%	
B3	1,246	8	9,968	2%	
C1	1,481	15	22,215	3%	3%
TOTAL	**862**	**436**	**375,729**	**100%**	

BIKE STORAGE PER MONROVIA BICYCLE MASTER PLAN

NON-RESIDENTIAL: BIKE STORAGE - SHORT TERM (LOCATED ON-SITE)	SQ. FT.	FACTOR	REQ'D	PROVIDED
LEASING	2924	0.0008	3	14
METROLINK	42	8 STALLS PER LOCATION	8	
TOTAL RESIDENTIAL BIKE STORAGE REQUIRED			**11**	
BIKE SHARE				10
RESIDENTIAL: BIKE STORAGE	**UNITS**	**FACTOR**	**REQ'D**	**PROVIDED**
SHORT TERM	436	0.10	44	268
LONG TERM	436	0.50	224	
TOTAL RESIDENTIAL BIKE STORAGE REQUIRED			**268**	

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DATE: 03-05-19
JOB NO.: 2016-252

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LOOKING NORTHWEST ON MAGNOLIA AVE.



LOOKING SOUTHWEST ON MAGNOLIA AVE.



LOOKING WEST AT RESIDENT ENTRY



LOOKING WEST AT PROJECT ENTRY

A-1.2.1

ALEXAN MONROVIA MONROVIA, CALIFORNIA

PERSPECTIVE RENDERINGS

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LOOKING NORTHWEST ON MAGNOLIA AVE. NEAR SOUTHEAST CORNER



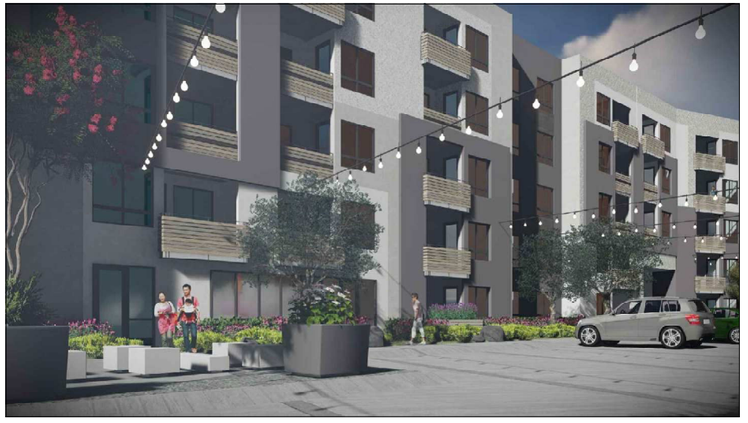
LOOKING NORTHWEST ON MAGNOLIA AVE. NEAR NORTHEAST CORNER



LOOKING SOUTHEAST AT MONROVIA CANYON COURT



LOOKING SOUTHEAST AT AZUSA CANYON COURT



LOOKING WEST AT PROJECT ENTRY

A-1.2.2

ALEXAN MONROVIA MONROVIA, CALIFORNIA

PERSPECTIVE VIGNETTES

DATE: 03-05-19
JOB NO.: 2016-252

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VIEW 1 - EXISTING BUILDINGS



VIEW 2 - EXISTING BUILDINGS



VIEW 3 - EXISTING BUILDINGS



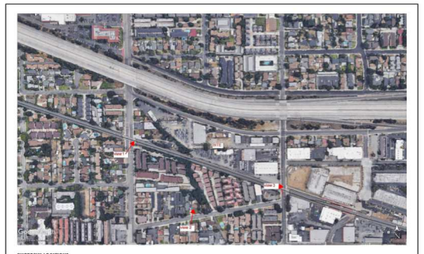
VIEW 1 - EXISTING BUILDINGS WITH PROPOSED BUILDING



VIEW 2 - EXISTING BUILDINGS WITH PROPOSED BUILDING



VIEW 3 - EXISTING BUILDINGS WITH PROPOSED BUILDING



PHOTOSIM LOCATIONS

A-1.2.3

ALEXAN MONROVIA MONROVIA, CALIFORNIA

VIEW SIMULATIONS

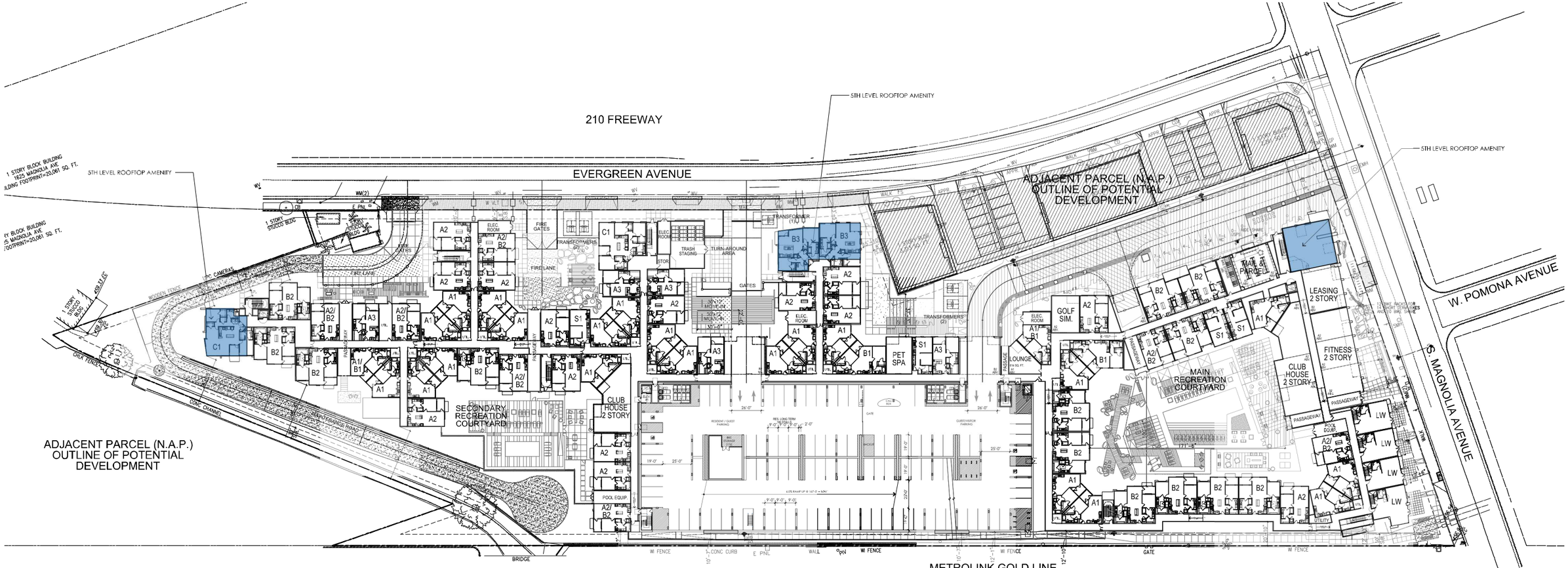
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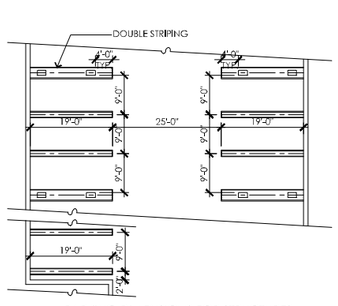
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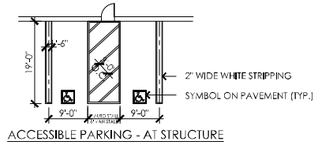


*SEE CIVIL PLANS FOR ADDITIONAL GRADING INFO.

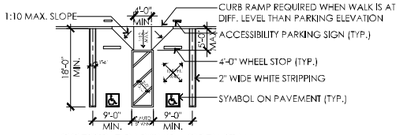
NOTES:
1. PLEASE SEE LANDSCAPE PLANS FOR PUBLIC OPEN SPACE LOCATIONS.
2. PLEASE SEE CIVIL PLANS FOR MORE INFORMATION.



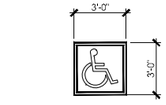
PARKING DIMENSIONS FOR STRUCTURES



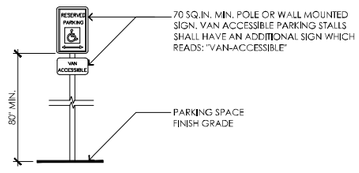
ACCESSIBLE PARKING - AT STRUCTURE



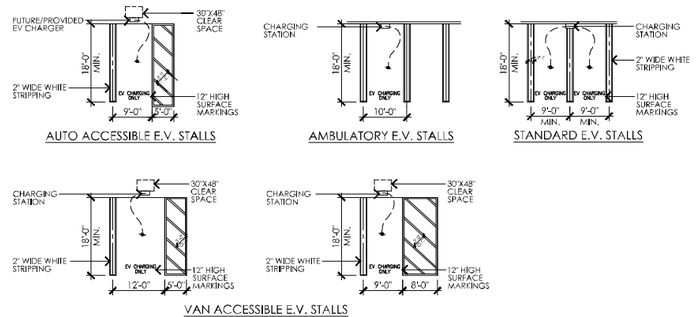
ACCESSIBLE PARKING - OPEN STALL

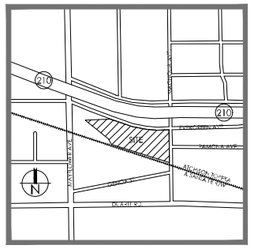


PAVEMENT MARKING
SYMBOL (WHEELCHAIR W/ OCCUPANT) MUST BE IN WHITE ON A BLUE BACKGROUND



POLE OR WALL SIGN
SYMBOL (WHEELCHAIR W/ OCCUPANT) MUST BE IN WHITE ON A BLUE BACKGROUND





VICINITY MAP
N.T.S.

CONCEPTUAL SITE PLAN

N

0 20' 40' 80' 160'

SCALE: 1" = 40'

A-1.3

DATE: 03-05-19
JOB NO.: 2016-252

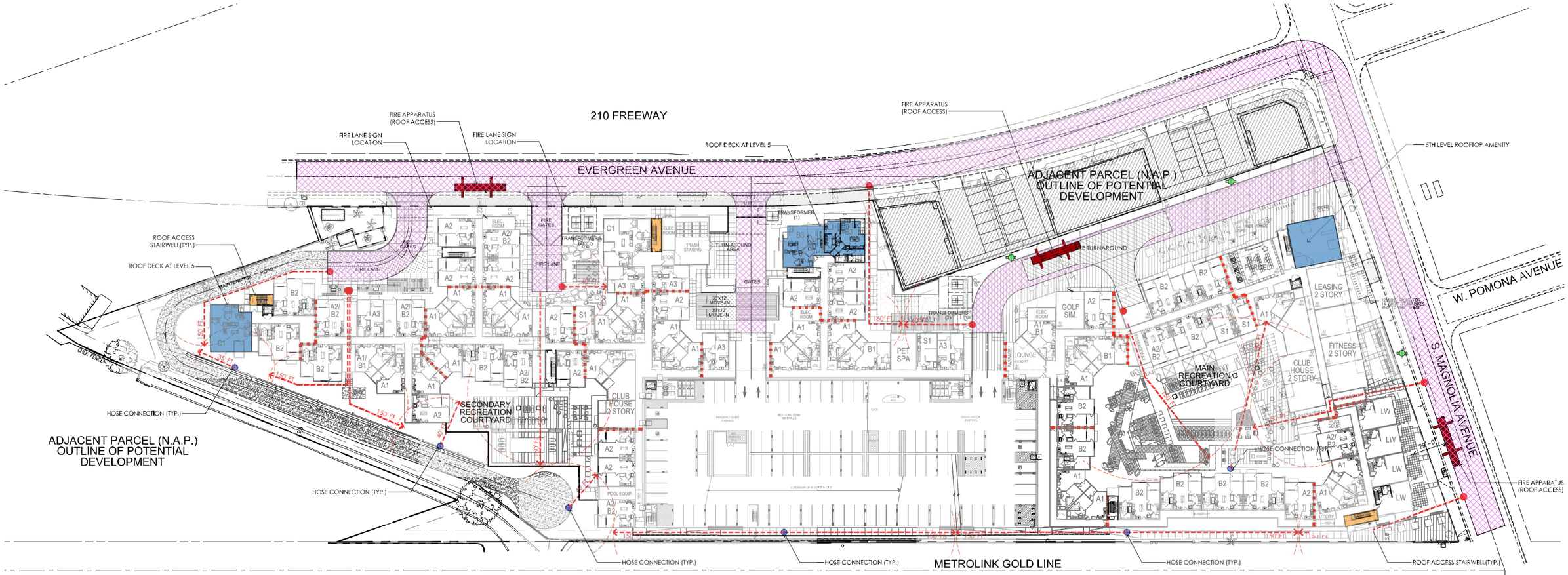
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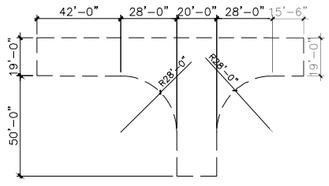
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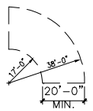


NOTES:

1. AN ON-SITE ACCESS ROAD SHALL BE PROVIDED FOR THE WEST SIDE OF THE PROJECT WITH A MINIMUM 26 FEET IN WIDTH AND PROVIDED WITH A MINIMUM 13 FEET 6 INCH HEIGHT CLEARANCE.
2. FIRE LANE MARKING AND SIGNAGE SHALL BE PROVIDED AS REQUIRED BY M.F.D.
3. FIRE HYDRANT SHALL BE PROVIDED ALONG ALL PUBLIC AND ON-SITE ACCESS ROADS. HYDRANT SHALL BE WITHIN 120 FEET OF THE STRUCTURE AND SPACED AT NO MORE THAN 200 FEET. THE MINIMUM FIRE FLOW SHALL BE 2,000 GPM AT 20 PSI.
4. A CLASS 1 STANDPIPE SYSTEM SHALL BE PROVIDED IN ALL STAIRWELLS ON ALL LEVELS INCLUDING THE ROOF AS SET FORTH BY BUILDING CODE AND FIRE CODE 905. STANDPIPES LOCATED BETWEEN STAIRWELLS MAY ALSO BE REQUIRED.
5. AN AUTOMATIC FIRE SPRINKLER SYSTEM AND FIRE ALARM AS SET FORTH BY FIRE CODE 903 AND 907.
6. DWELLING UNITS AND COMMON AREAS SHALL BE PROVIDED WITH VISIBLE ALARM NOTIFICATION APPLIANCES.
7. SMOKE ALARMS SHALL BE PROVIDED IN EACH ROOM FOR SLEEPING PURPOSES AND AT A POINT CENTRALLY LOCATED IN THE CORRIDOR OR AREA GIVING ACCESS TO EACH SEPARATE SLEEPING AREA.
8. CARBON MONOXIDE ALARMS SHALL BE PROVIDED EITHER WITHIN ALL SLEEPING UNITS OR ELSE THE BUILDING SHALL BE PROVIDED WITH A CARBON MONOXIDE ALARM SYSTEM THAT PROTECTS ALL COMMON AREAS.
9. A MINIMUM OF ONE RATED STAIRWELL SHALL EXTEND TO THE ROOF FOR EACH BUILDING.
10. ALL RATED EXIT STAIRWELLS SHALL HAVE KEYED EXTERIOR DOORS ON THE GROUND LEVEL. KNOX BOXES SHALL BE PROVIDED ADJACENT TO ALL EXIT STAIRWELL EXTERIOR DOORS AT APPROVED LOCATIONS. A KNOX BOX SHALL ALSO BE PROVIDED ADJACENT TO THE MAIN ENTRANCE OF ALL BUILDINGS AT AN APPROVED LOCATION.
11. ALL BUILDINGS SHALL HAVE A MINIMUM OF ONE ELEVATOR CAPABLE OF ACCOMMODATING GENERAL STRETCHER DIMENSIONS.
12. AN APPROVED NUMBER OR ADDRESS SHALL BE PROVIDED ON ALL NEW BUILDINGS IN SUCH A POSITION AS TO BE PLAINLY VISIBLE AND LEGIBLE FROM THE STREET OR ROAD FRONTING THE PROPERTY. NUMBERS SHALL BE A MINIMUM OF 6-INCH HIGH BY ½-INCH STROKE AND BE A CONTRASTING BACKGROUND.
13. PORTABLE FIRE EXTINGUISHERS SHALL BE INSTALLED PER CFC.
14. AN EMERGENCY RESPONDER RADIO COVERAGE SYSTEM SHALL BE PROVIDED.
15. A MINIMUM OF ONE STANDPIPE SYSTEM FOR USE DURING CONSTRUCTION SHALL BE PROVIDED. SUCH STANDPIPE SHALL BE INSTALLED WHEN THE PROGRESS OF CONSTRUCTION IS NOT MORE THAN 40 FEET IN HEIGHT ABOVE THE LOWEST LEVEL OF FIRE DEPARTMENT ACCESS.



FIRE DEPT. HAMMERHEAD
13'-6" MINIMUM VERTICAL CLEARANCE



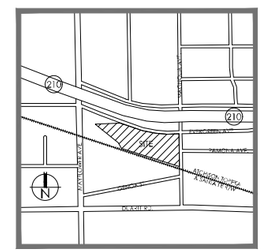
FIRE DEPT. TURNING RADIUS

RESIDENTIAL BUILDING - 5 STORIES
OCCUPANCY: R-2
CONSTRUCTION: TYPE III-A
RESIDENTIAL BUILDING AREA: 522,914 SQ. FT.

PARKING STRUCTURE - 7 LEVELS
OCCUPANCY: S-2
CONSTRUCTION: TYPE I-A
PARKING STRUCTURE AREA: 292,312 SQ.FT.

LEGEND

- FIRE ACCESS LANE (26' WIDE)
- ROOF DECK (@ LEVEL 5)
- ROOF ACCESS STAIRWELL
- FIRE DEPT. "FIRE LANE" SIGNAGE (TYP.)
- CLASS 1 STANDPIPE
- PROPOSED FIRE HYDRANT REFER TO CIVIL
- 150 FT. HOSE PULL
- FIRE SEPERATION WALL
- FIRE APPARATUS



VICINITY MAP
N.T.S.

FIRE ACCESS PLAN

N

0 20' 40' 80' 160'
SCALE: 1" = 40'

A-1.4

DATE: 03-05-19
JOB NO.: 2016-252

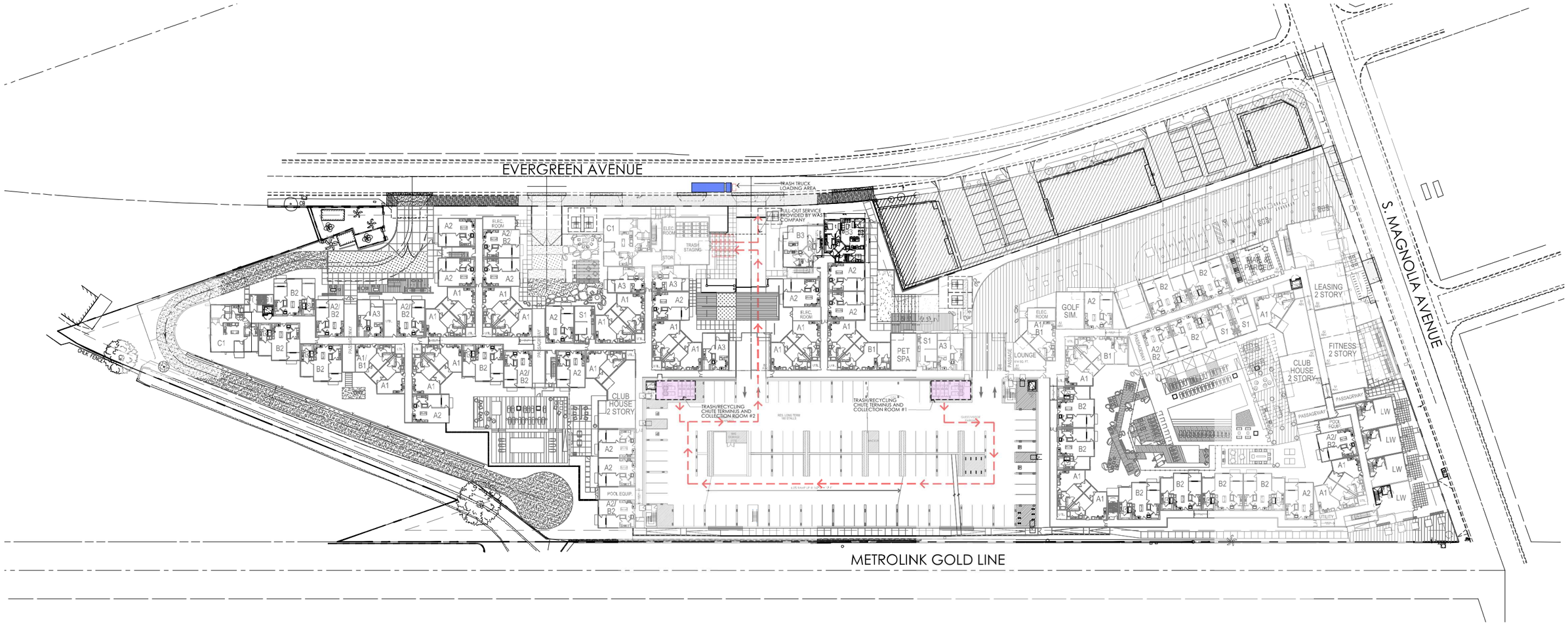
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TRASH NARRATIVE

Trash Truck Routing
Trucks will park at the building's entry along Evergreen Ave. The Waste company will pull out the bins from the trash staging area and move them to the trash loading area to commence operations (1000 ft. max).

Trash Rooms
Solid Waste:
- A min. total of twelve 12) 3-cu.yard trash bins are anticipated to be on site at all times for twice a week pick-up schedule.
- Trash bins within each trash room: Trash Room #1 will have six (6) 3-cu.yard trash bins; Trash Room #2 will have six (6) 3-cu.yard trash bins.

Recyclable:
-A min. total of four (4) 3-cu.yard recycle bins are anticipated to be on site at all times for twice a week pick-up schedule.
- Recycle bins each within trash room: Trash Room #1 will have two (2) 3-cu.yard trash bins; Trash Room #2 will have two (2) 3-cu.yard trash bins.

Dimensions for Trash Room #1 are +/- 15'-10" x 27'-5" (434 s.f.); Dimensions for Trash Room #2 are +/- 15'-10" x 27'-5" (434 s.f.).

Collection will be via recyclable and compacted solid waste trash chutes located within two separate enclosures located in the parking structure at each level. The two trash termination rooms will provide for a total number of twelve (12) 3-cu.yd. solid waste trash bins, four (4) 3-cu. yd.recycling bins.

Tenants will not access the trash termination rooms directly, but through trash-chute rooms located at every level of the building off the residential corridors.
The trash chutes will contain a mechanism that will allow complete shut-off in order to remove/replace the bins as they require emptying and limit access to all other floors when any one chute door is opened. A porter will be required to monitor the trash levels throughout the day as a part of daily duties. A vehicle appropriate for towing trash bins will be part of contracting with the service provider.
Satellite trash rooms for Residents will be monitored throughout the day as part of Property Managements duties and brought to the trash rooms located within the parking structure when full.

Staging Area
The Staging Area is where the collection of all bins will take place and where the hauler (trash truck) will pick-up the bins.

Maintenance of Trash Rooms
The maintenance of the trash rooms will be monitored and managed by Property Management.

Roll Out Service and Pick-up
Trash collection bins will be moved from the two trash rooms at Level 1 (parking structure) with an appropriate retrieval vehicle (stinger-truck). The property owner will contract for the property management company to provide on-site trash management to ensure that full bins are replaced with empty ones. A Service Provider will be contracted by the property owner to empty the bins as necessary per schedule.

The rental/ownership of the bins and the trash service for the tenants will be paid for by the building owner.
The Service Provider will be contracted to provide stinger-truck service for conveyance of bins to the staging area and collection of bins from the staging area.

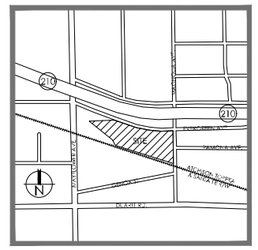
WASTE MANAGEMENT
TRASH GENERATION TABULATION
PER ATHENS WASTE MANAGEMENT CRITERIA

UNITS	LOAD FACTOR: 1 BINS/9 DU	COMPACT FACTOR: 1 COMPACTED BIN PER 3 BIN	FREQUENCY OF PICK-UP PER WEEK	TOTAL BINS
436	48.44	16.15	2	8 MIN.

LEGEND

STINGER TRUCK ROUTE

RESIDENTIAL TRASH ROOMS



VICINITY MAP
N.T.S.

WASTE MANAGEMENT PLAN

N

0 20' 40' 80' 160'
SCALE: 1" = 40'

DATE: 03-05-19
JOB NO.: 2016-252

A-1.5

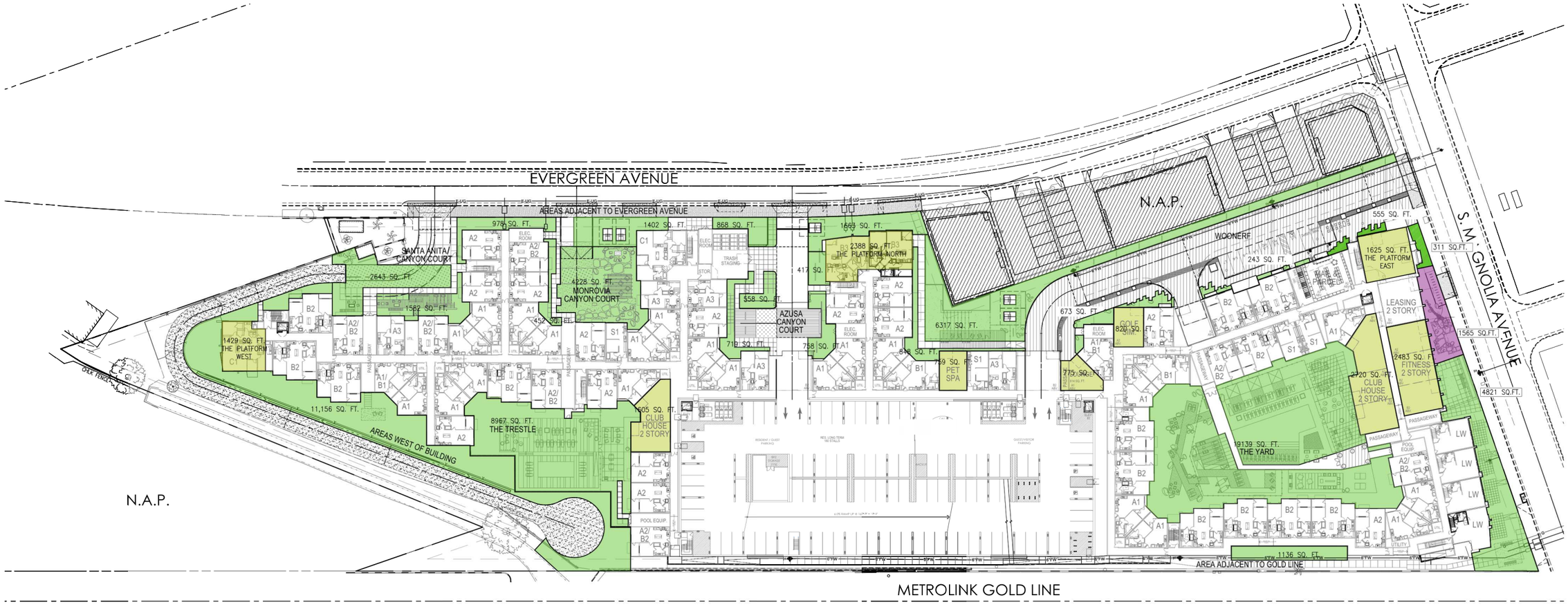
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INTERIOR RECREATIONAL AMENITIES		
LOCATIONS	BASE UNIT	S.F.
FITNESS CENTER	A2, A2, B2	2,483
CLUB HOUSE AT MAIN RECREATION AREA	A1,B1,A2,B2	2,720
GOLF SIMULATOR	A2	820
RESIDENT LOUNGE	A1	775
PET SPA	A3	759
CLUB HOUSE AT SECONDARY RECREATION AREA	A1, A2	1,605
TOTAL OPEN SPACE PROVIDED		**9,162**

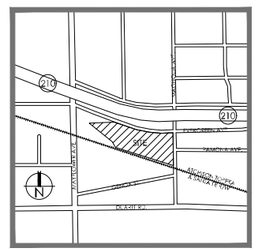
OPEN SPACE SUMMARY	
LOCATIONS	S.F.
THE YARD	19,139
THE TRESTLE	8,967
AZUSA CANYON COURT	2,452
MONROVIA CANYON COURT - MOTOR COURT	4,680
SANTA ANITA CANYON COURT	4,225
THE JUNCTION - AREAS ALONG WOONERF ENTRY DRIVE	8,081
THE TERMINAL - AREA AT ENTRY LOBBY	555
AREAS ALONG EVERGREEN AVE.	9,136
URBAN EDGE - AREAS ALONG MAGNOLIA AVE. (EXCLUDES PUBLIC SPACE)	4,821
AREAS WEST OF BUILDING	11,156
THE PLATFORM WEST - ROOF DECK	1,429
THE PLATFORM NORTH - ROOF DECK	2,388
THE PLATFORM EAST - ROOF DECK	1,625
AREA ADJACENT TO GOLD LINE	1,136
TOTAL OPEN SPACE PROVIDED	**79,790**

PRIVATE OPEN SPACE SUMMARY			
UNIT	NUMBER OF UNITS	PATIO/BALCONY S.F.	TOTAL S.F.
S1	20	0	0
A1	109	62	6,758
A2	107	72	7,704
A3	34	65	2,210
L/W	4	0	0
B1	25	69	1,725
B2	114	72	8,208
B3	8	65	520
C1	15	76	1,140
TOTAL	**436**	**481**	28,265

PUBLIC OPEN SPACE SUMMARY	
LOCATIONS	S.F.
PLAZA AT S. MAGNOLIA AVE.	1,565
TOTAL PUBLIC OPEN SPACE PROVIDED	**1,565**

LEGEND

- AT GRADE OPEN SPACE
- ROOF DECK/ INTERIOR OPEN SPACE
- PUBLIC OPEN SPACE



VICINITY MAP

N.T.S.

OPEN SPACE PLAN

N

0 20' 40' 80' 160'

SCALE: 1" = 40'

DATE: 03-05-19
JOB NO.: 2016-252

A-1.6

ALEXAN MONROVIA

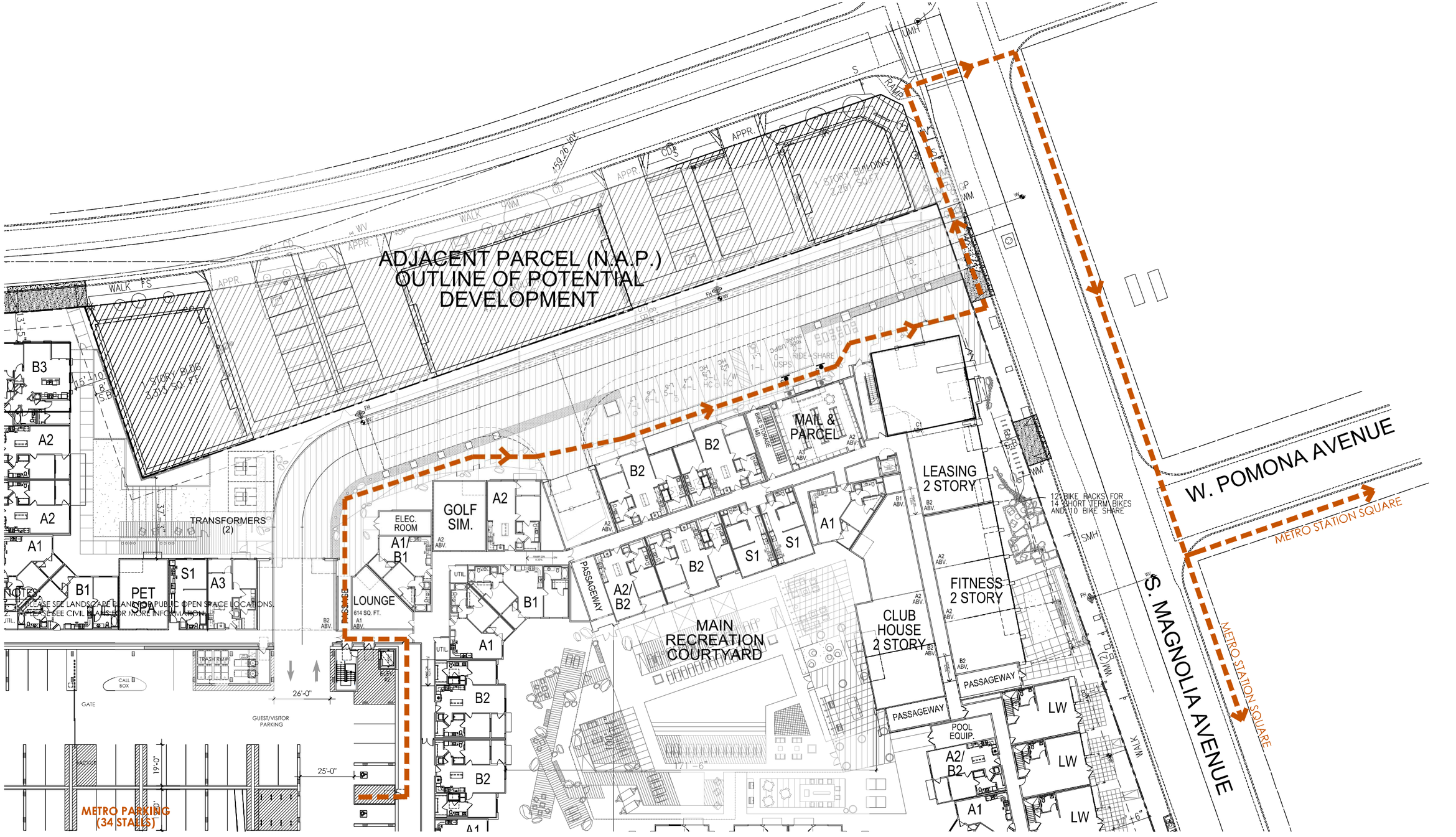
MONROVIA, CALIFORNIA

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METRO STATION SQUARE PATH

A-1.7

N

0 10' 20' 40' 60'

SCALE: 1" = 20'

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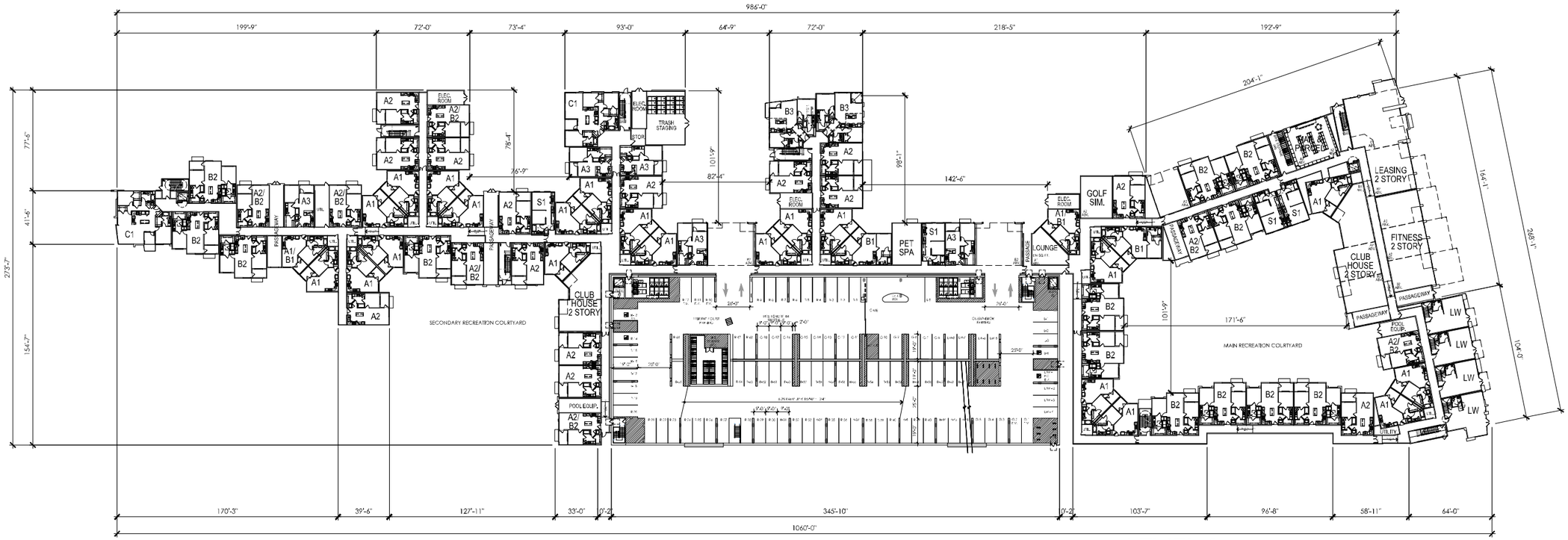
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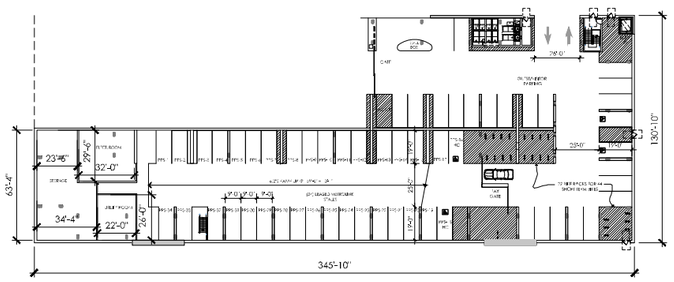
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LEVEL 1



LEVEL 0

BUILDING PLAN - LEVELS 1 AND 0

A-2.1

N

0 20' 40' 80' 160'

SCALE: 1" = 40'

DATE: 03-05-19
JOB NO.: 2016-252

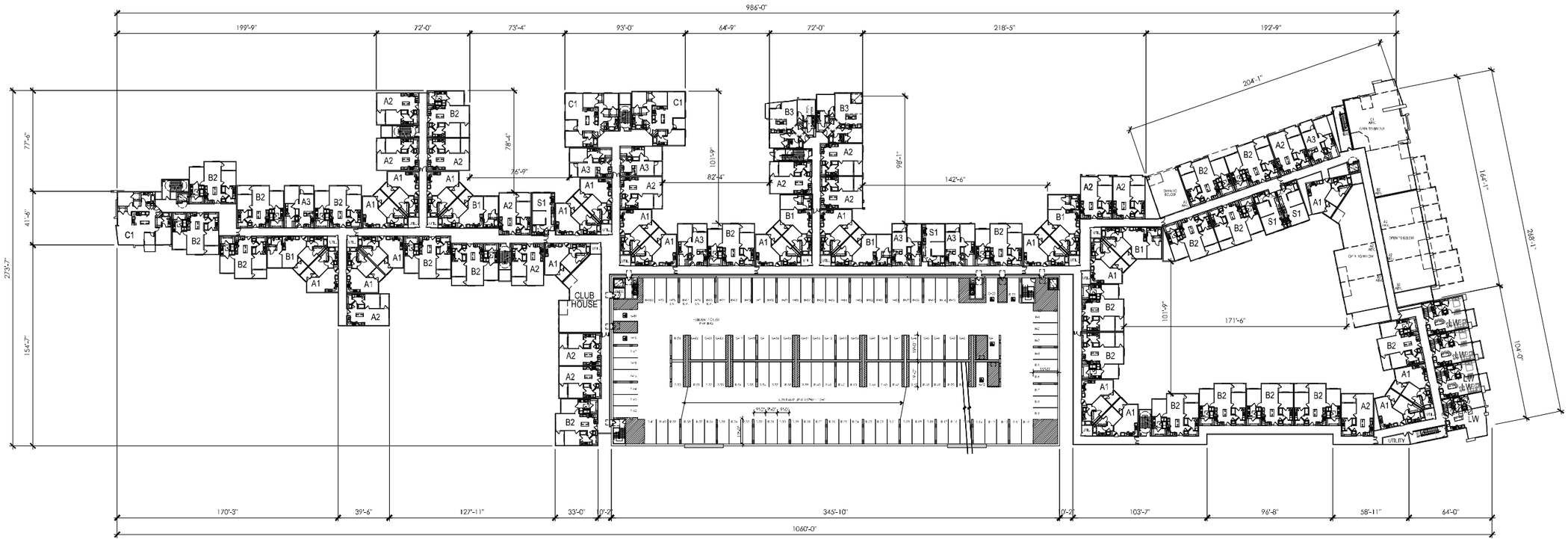
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BUILDING PLAN - LEVEL 2

A-2.2

N

0 20' 40' 80' 160'

SCALE: 1" = 40'

DATE: 03-05-19
JOB NO.: 2016-252

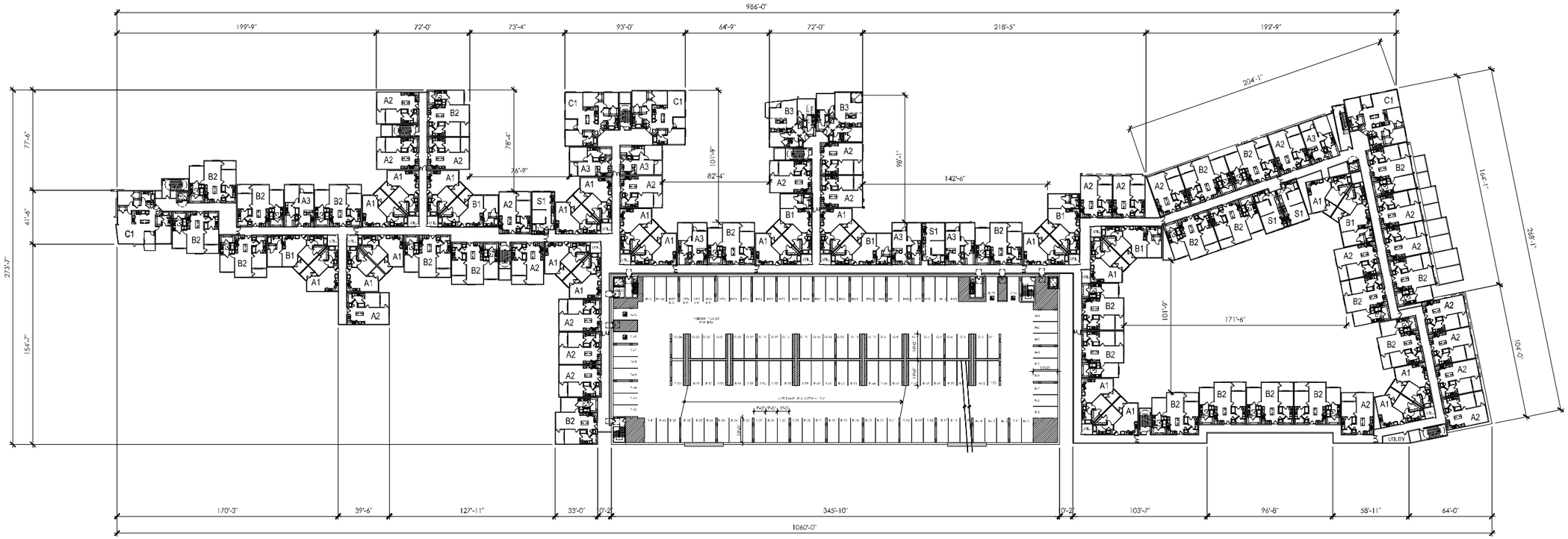
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BUILDING PLAN - LEVEL 3

A-2.3

N

0 20' 40' 80' 160'

SCALE: 1" = 40'

DATE: 03-05-19
JOB NO.: 2016-252

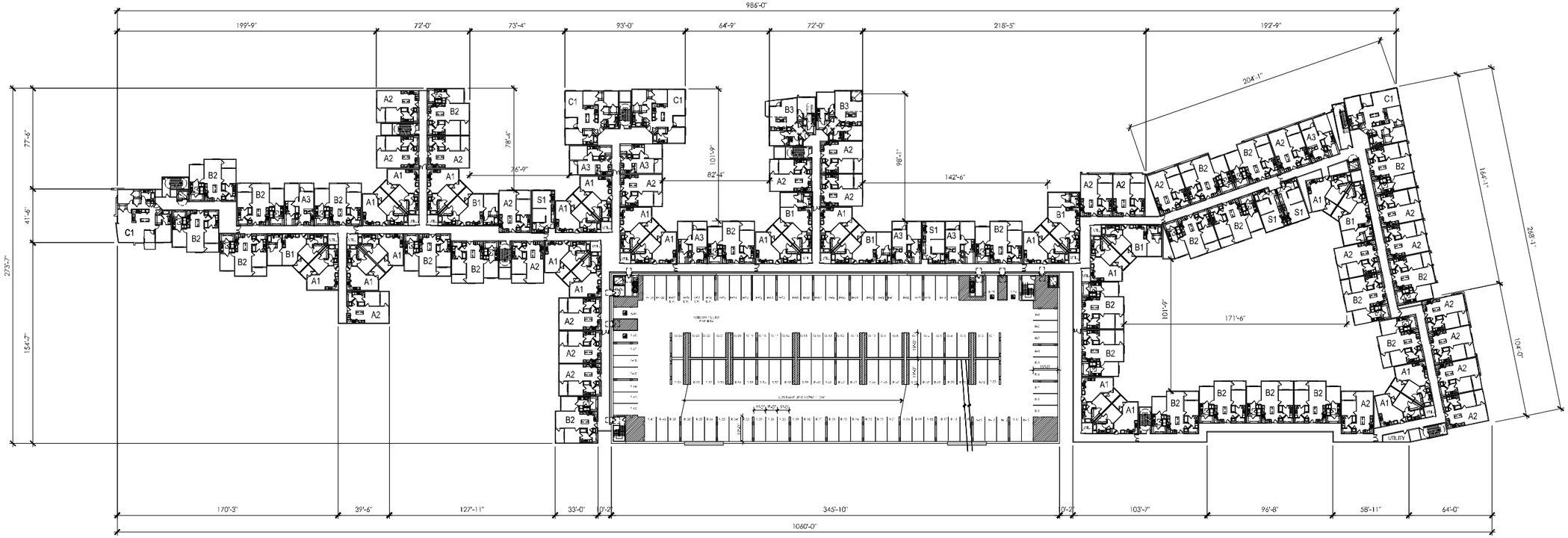
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BUILDING PLAN - LEVEL 4

N

0 20' 40' 80' 160'

SCALE: 1" = 40'

DATE: 03-05-19
JOB NO.: 2016-252

A-2.4

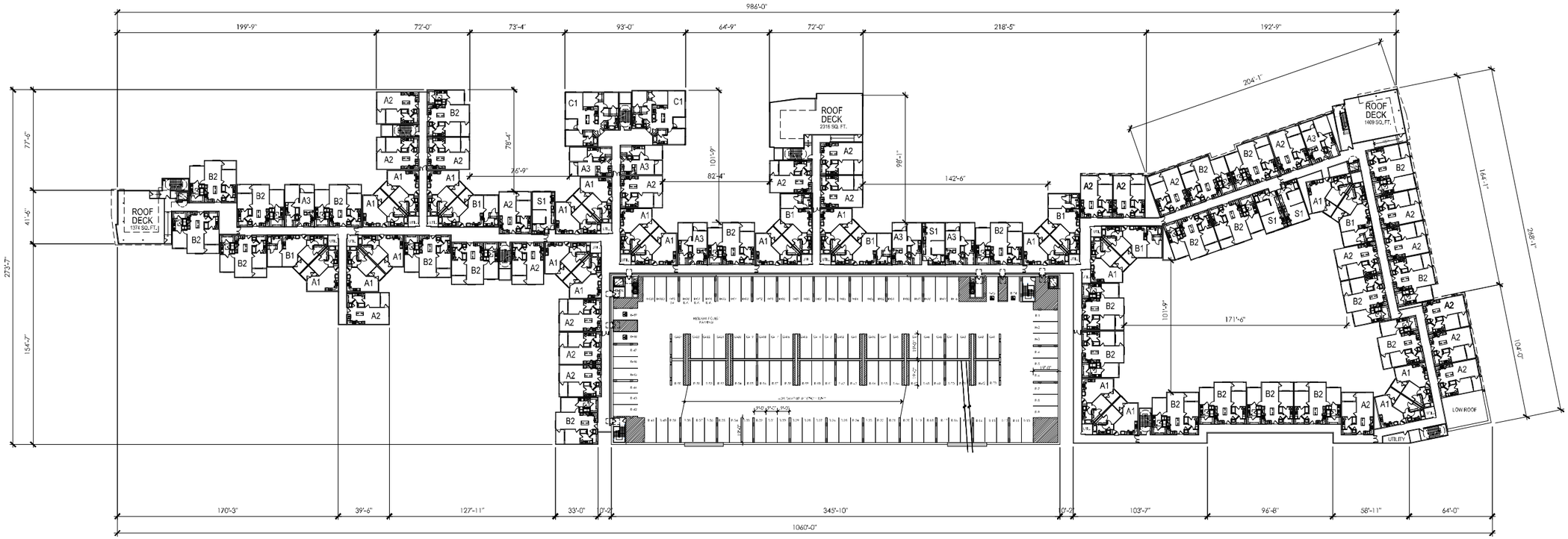
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BUILDING PLAN - LEVEL 5

A-2.5

N

0 20' 40' 80' 160'

SCALE: 1" = 40'

DATE: 03-05-19
JOB NO.: 2016-252

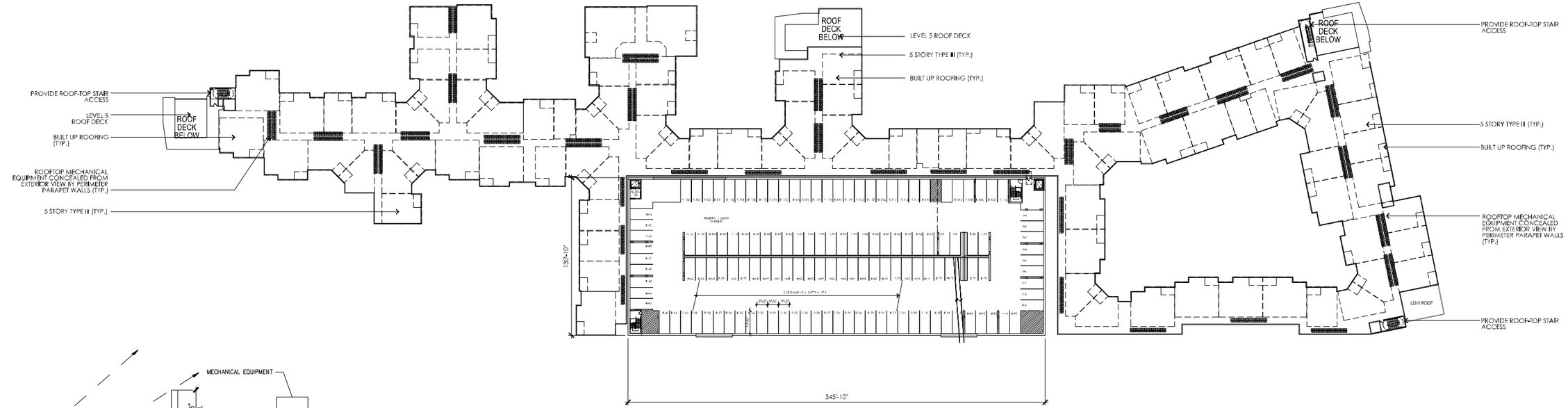
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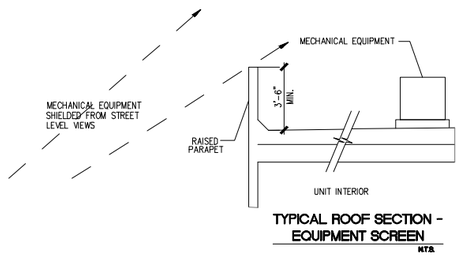
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TYPICAL ROOF SECTION - EQUIPMENT SCREEN
NTS.

BUILDING PLAN - LEVEL 6

N

0 20' 40' 80' 160'

SCALE: 1" = 40'

DATE: 03-05-19
JOB NO.: 2016-252

A-2.6

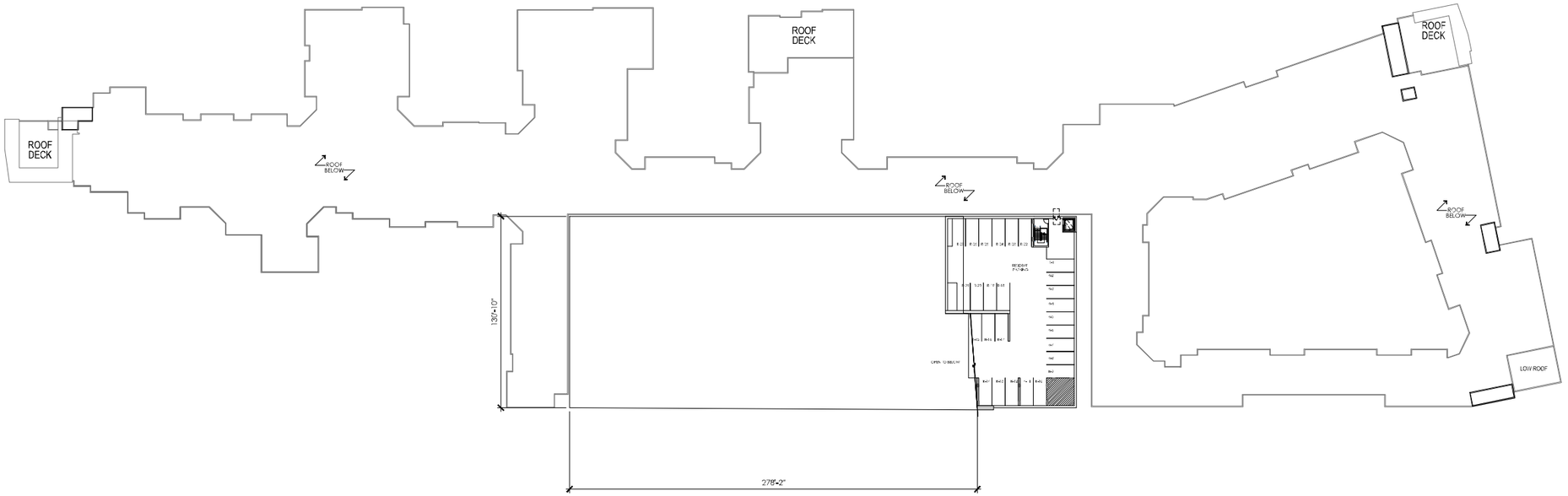
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BUILDING PLAN - LEVEL 7

N

0 20' 40' 80' 160'

SCALE: 1" = 40'

DATE: 03-05-19
JOB NO.: 2016-252

A-2.7

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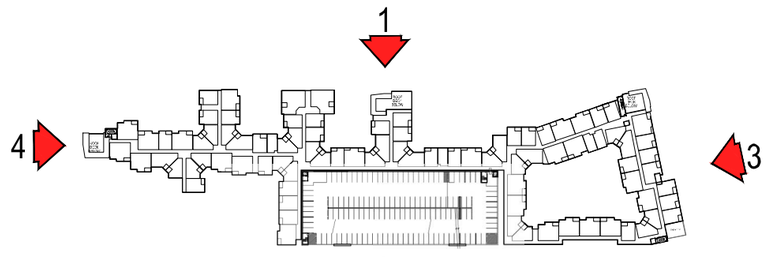
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1. NORTH ELEVATION
SEE SHEET A-3.2 FOR DETAILED ELEVATION

2. SOUTH ELEVATION
SEE SHEET A-3.3 FOR DETAILED ELEVATION

3. EAST ELEVATION
SEE SHEET A-3.4 FOR DETAILED ELEVATION

4. WEST ELEVATION
SEE SHEET A-3.4 FOR DETAILED ELEVATION



KEY MAP
N.T.S.

N

*SEE CIVIL PLANS FOR ADDITIONAL GRADING INFO.

ELEVATIONS

0 15' 30' 60' 90'
SCALE: 1" = 30'

DATE: 03-05-19
JOB NO.: 2016-252

A-3.1

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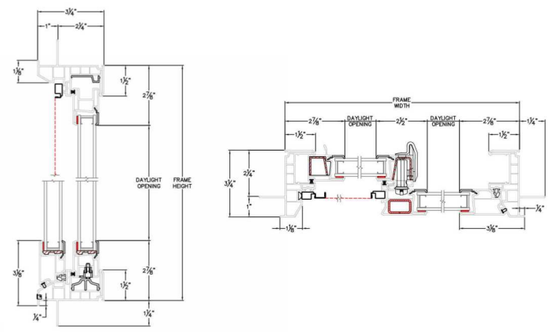
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1. NORTH ELEVATION



NORTH ELEVATION (CONT'D.)

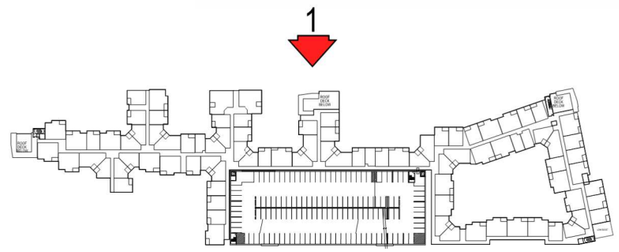


WINDOW DETAIL TYP.

MATERIALS LEGEND

1a	LA HABRA EXTERIOR PLASTER 20/30 FLOAT FINISH - PAINT GRADE
1b	LA HABRA EXTERIOR PLASTER 16/20 FLOAT FINISH - PAINT GRADE
2	HARDIE PLANK SIDING
3	APAVISA PORCELAIN TILE 'JUNOON' BEIGE NATURAL
4	DECORATIVE WIDE FLANGE TRIM
5	WIDE FLANGE TRELLIS W/ WOOD SLATS
6	MILGARD VINYL WINDOWS 'CLAY'
7	KAWNEER OR EQUAL ALUMINUM STOREFRONT 'MED. DARK BRONZE'
8	METAL MESH RAILING
9	METAL RAILING WITH COMPOSITE SLATS
10	GLASS RAILING
11	METAL RAILING
12	FLOOR GRES PORCELAIN TILE 'FLOWTECH' AGED BRONZE
13	EXPOSED FASTNER SHORT RIB PERFORATED PANELS
14	ORCO BLOCK SPLIT FACE PLANTERS 'BLACK 250'
15	ORCO BLOCK C.M.U. PLANTERS W/COMPOSITE WOOD SLATS
17	GABION WALL
18	MATCH SW 9161 'DUSTBLU' IN20/30 FLOAT FINISH
19	MATCH SW 9161 'DUSTBLU' IN16/20 FLOAT FINISH
20	LA HABRA STUCCO X50 'CRYSTAL WHITE" IN 20/30 FLOAT FINISH
21	A HABRA STUCCO X50 'CRYSTAL WHITE IN 16/20 FLOAT FINISH
22	MATCH SW 7075 'WEB GRAY' IN 20/30 FLOAT FINISH
23	MATCH SW 7075 'WEB GRAY' IN 16/20 FLOAT FINISH
24	AESPAN 'PERCEPTION COLLECTION CONCEALED FASTENED PANELS IN 'METALLIC SILVER' OR 'TOWN GRAY'
26	MATCH SW 6515 'LEISURE BLUE' IN 16/20 FINISH
27	MATCH SW 6514 'RESPITE' IN 20/30 FLOAT FINISH
28	MATCH SW 6004 'MINK' IN 20/30 FLOAT FINISH
29	MATCH SW7505 'MANOR HOUSE' IN 16/20 FLOAT FINISH
30	MATCH SW 7703 'EARTHEN JUG' IN 20/30 FLOAT FINISH
31	MATCH SW 6005 'FOLKSTONE' IN 2030 FLOAT FINISH
32	MATCH SW 7603 'POOL HOUSE' IN 16/20 FLOAT FINISH
33	MATCH SW 9167 'POLISHED CONCRETE' IN 20/30 FLOAT FINISH

THIS MATERIALS LEGEND IS A COMPLETE MATERIAL AND COLOR LIST FOR THE PROJECT. SOME IDENTIFIED NUMBERS DO NOT OCCUR ON THESE ELEVATIONS AND RELATE TO THE MATERIAL SAMPLE ON THE MATERIAL BOARD.



KEY MAP

N.T.S. N

*SEE CIVIL PLANS FOR ADDITIONAL GRADING INFO.

ELEVATIONS

0 8' 16' 32' 64'

SCALE: 1/16" = 1'

A-3.2

DATE: 03-05-19
JOB NO.: 2016-252

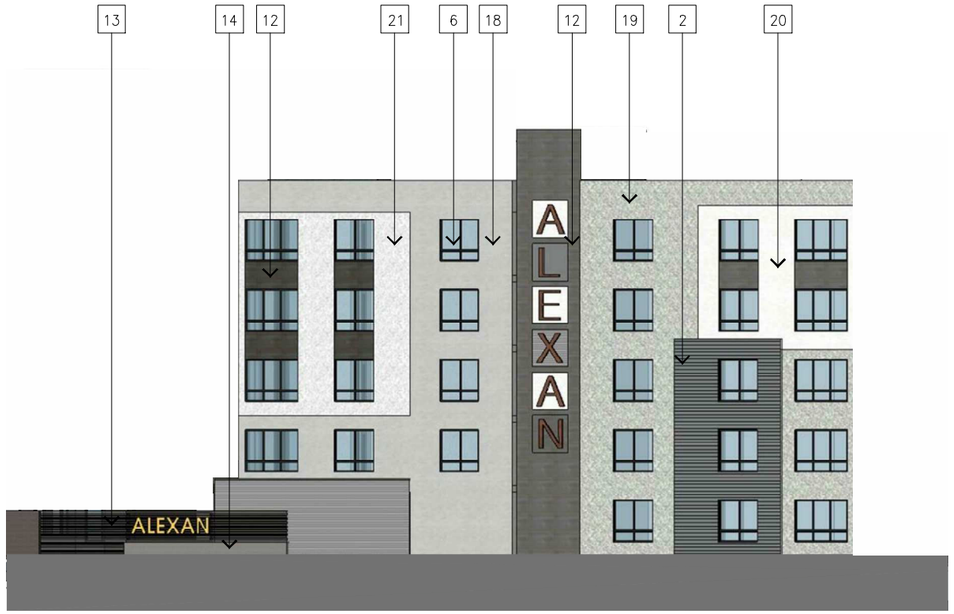
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NORTH ELEVATION 1B



NORTH ELEVATION 1C

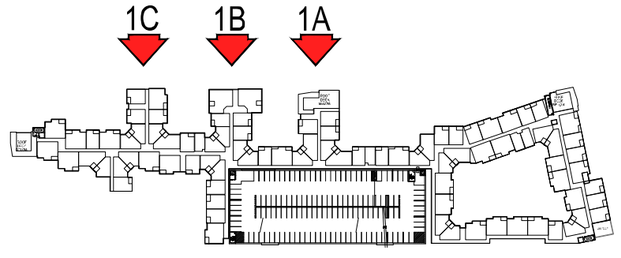


NORTH ELEVATION 1A

MATERIALS LEGEND

1a	LA HABRA EXTERIOR PLASTER 20/30 FLOAT FINISH - PAINT GRADE	18	MATCH SW 9161 "DUSTBLU" IN20/30 FLOAT FINISH
1b	LA HABRA EXTERIOR PLASTER 16/20 FLOAT FINISH - PAINT GRADE	19	MATCH SW 9161 "DUSTBLU" IN16/20 FLOAT FINISH
2	HARDIE PLANK SIDING	20	LA HABRA STUCCO X50 "CRYSTAL WHITE" IN 20/30 FLOAT FINISH
3	APAVISA PORCELAIN TILE "JUNOON" BEIGE NATURAL	21	A HABRA STUCCO X50 "CRYSTAL WHITE IN 16/20 FLOAT FINISH
4	DECORATIVE WIDE FLANGE TRIM	22	MATCH SW 7075 "WEB GRAY" IN 20/30 FLOAT FINISH
5	WIDE FLANGE TRELLIS W/ WOOD SLATS	23	MATCH SW 7075 "WEB GRAY" IN 16/20 FLOAT FINISH
6	MILGARD VINYL WINDOWS "CLAY"	24	AESPAN "PERCEPTION COLLECTION CONCEALED FASTENED PANELS IN "METALLIC SILVER" OR "TOWN GRAY"
7	KAWNEER OR EQUAL ALUMINUM STOREFRONT "MED. DARK BRONZE"	26	MATCH SW 6515 "LEISURE BLUE" IN 16/20 FINISH
8	METAL MESH RAILING	27	MATCH SW 6514 "RESPITE" IN 20/30 FLOAT FINISH
9	METAL RAILING WITH COMPOSITE SLATS	28	MATCH SW 6004 "MINK" IN 20/30 FLOAT FINISH
10	GLASS RAILING	29	MATCH SW7505 "MANOR HOUSE" IN 16/20 FLOAT FINISH
11	METAL RAILING	30	MATCH SW 7703 "EARTHEN JUG" IN 20/30 FLOAT FINISH
12	FLOOR GRES PORCELAIN TILE "FLOWTECH" AGED BRONZE	31	MATCH SW 6005 "FOLKSTONE" IN 2030 FLOAT FINISH
13	EXPOSED FASTNER SHORT RIB PERFORATED PANELS	32	MATCH SW 7603 "POOL HOUSE" IN 16/20 FLOAT FINISH
14	ORCO BLOCK SPLIT FACE PLANTERS "BLACK 250"	33	MATCH SW 9167 "POLISHED CONCRETE" IN 20/30 FLOAT FINISH
15	ORCO BLOCK C.M.U. PLANTERS W/COMPOSITE WOOD SLATS		
17	GABION WALL		

THIS MATERIALS LEGEND IS A COMPLETE MATERIAL AND COLOR LIST FOR THE PROJECT. SOME IDENTIFIED NUMBERS DO NOT OCCUR ON THESE ELEVATIONS AND RELATE TO THE MATERIAL SAMPLE ON THE MATERIAL BOARD.



KEY MAP

N.T.S. N

*SEE CIVIL PLANS FOR ADDITIONAL GRADING INFO.

ENLARGED ELEVATIONS

0 5' 10' 20' 30'

SCALE: 1:10

DATE: 03-05-19
JOB NO.: 2016-252

A-3.2.1

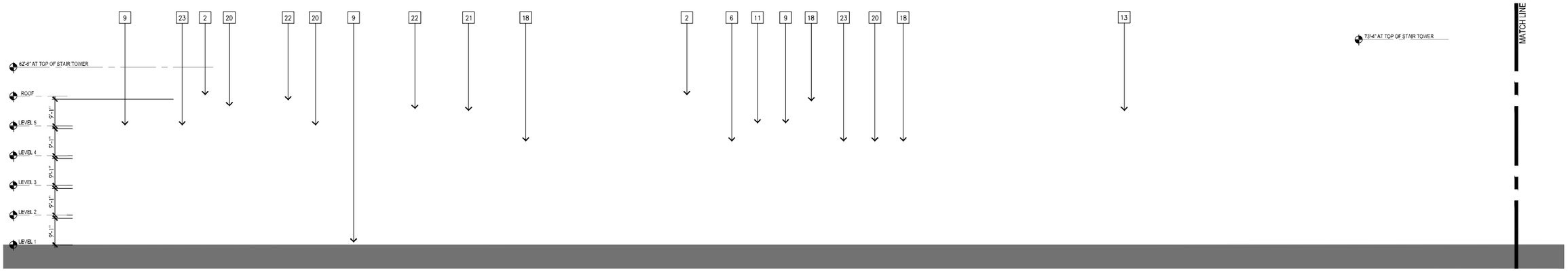
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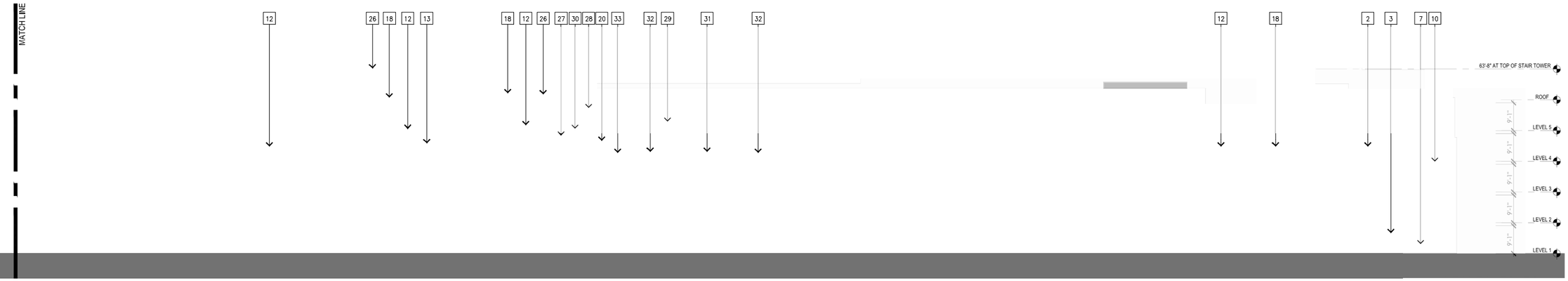
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2. SOUTH ELEVATION

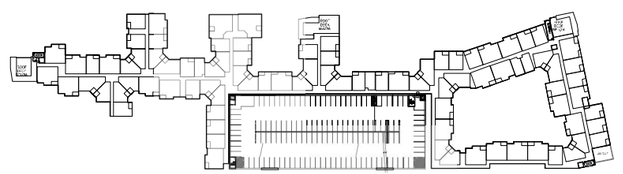


SOUTH ELEVATION (CONT'D.)

MATERIALS LEGEND

1a	LA HABRA EXTERIOR PLASTER 20/30 FLOAT FINISH - PAINT GRADE	18	MATCH SW 9161 'DUSTBLU' IN20/30 FLOAT FINISH
1b	LA HABRA EXTERIOR PLASTER 16/20 FLOAT FINISH - PAINT GRADE	19	MATCH SW 9161 'DUSTBLU' IN16/20 FLOAT FINISH
2	HARDIE PLANK SIDING	20	LA HABRA STUCCO X50 'CRYSTAL WHITE' IN 20/30 FLOAT FINISH
3	APAVISA PORCELAIN TILE 'JUNOON' BEIGE NATURAL	21	A HABRA STUCCO X50 'CRYSTAL WHITE IN 16/20 FLOAT FINISH
4	DECORATIVE WIDE FLANGE TRIM	22	MATCH SW 7075 'WEB GRAY' IN 20/30 FLOAT FINISH
5	WIDE FLANGE TRELLIS W/ WOOD SLATS	23	MATCH SW 7075 'WEB GRAY' IN 16/20 FLOAT FINISH
6	MILGARD VINYL WINDOWS 'CLAY'	24	AESPAN 'PERCEPTION COLLECTION CONCEALED FASTENED PANELS IN 'METALLIC SILVER' OR 'TOWN GRAY'
7	KAWNEER OR EQUAL ALUMINUM STOREFRONT 'MED. DARK BRONZE'	26	MATCH SW 6515 'LEISURE BLUE' IN 16/20 FINISH
8	METAL MESH RAILING	27	MATCH SW 6514 'RESPITE' IN 20/30 FLOAT FINISH
9	METAL RAILING WITH COMPOSITE SLATS	28	MATCH SW 6004 'MINK' IN 20/30 FLOAT FINISH
10	GLASS RAILING	29	MATCH SW7505 'MANOR HOUSE' IN 16/20 FLOAT FINISH
11	METAL RAILING	30	MATCH SW 7703 'EARTHEN JUG' IN 20/30 FLOAT FINISH
12	FLOOR GRES PORCELAIN TILE 'FLOWTECH' AGED BRONZE	31	MATCH SW 6005 'FOLKSTONE' IN 2030 FLOAT FINISH
13	EXPOSED FASTNER SHORT RIB PERFORATED PANELS	32	MATCH SW 7603 'POOL HOUSE' IN 16/20 FLOAT FINISH
14	ORCO BLOCK SPLIT FACE PLANTERS 'BLACK 250'	33	MATCH SW 9167 'POLISHED CONCRETE' IN 20/30 FLOAT FINISH
15	ORCO BLOCK C.M.U. PLANTERS W/COMPOSITE WOOD SLATS		
17	GABION WALL		

THIS MATERIALS LEGEND IS A COMPLETE MATERIAL AND COLOR LIST FOR THE PROJECT. SOME IDENTIFIED NUMBERS DO NOT OCCUR ON THESE ELEVATIONS AND RELATE TO THE MATERIAL SAMPLE ON THE MATERIAL BOARD.



KEY MAP

N.T.S. N

*SEE CIVIL PLANS FOR ADDITIONAL GRADING INFO.

ELEVATIONS

0 8' 16' 32' 64'

SCALE: 1/16" = 1'

A-3.3

DATE: 03-05-19
JOB NO.: 2016-252

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3. EAST ELEVATION

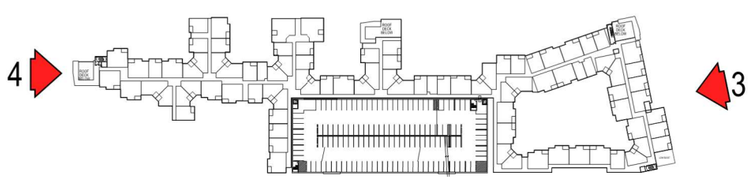


4. WEST ELEVATION

MATERIALS LEGEND

1a	LA HABRA EXTERIOR PLASTER 20/30 FLOAT FINISH - PAINT GRADE
1b	LA HABRA EXTERIOR PLASTER 16/20 FLOAT FINISH - PAINT GRADE
2	HARDIE PLANK SIDING
3	APAVISA PORCELAIN TILE 'JUNOON' BEIGE NATURAL
4	DECORATIVE WIDE FLANGE TRIM
5	WIDE FLANGE TRELLIS W/ WOOD SLATS
6	MILGARD VINYL WINDOWS 'CLAY'
7	KAWNEER OR EQUAL ALUMINUM STOREFRONT 'MED. DARK BRONZE'
8	METAL MESH RAILING
9	METAL RAILING WITH COMPOSITE SLATS
10	GLASS RAILING
11	METAL RAILING
12	FLOOR GRES PORCELAIN TILE 'FLOWTECH' AGED BRONZE
13	EXPOSED FASTNER SHORT RIB PERFORATED PANELS
14	ORCO BLOCK SPLIT FACE PLANTERS 'BLACK 250'
15	ORCO BLOCK C.M.U. PLANTERS W/COMPOSITE WOOD SLATS
17	GABION WALL
18	MATCH SW 9161 'DUSTBLU' IN20/30 FLOAT FINISH
19	MATCH SW 9161 'DUSTBLU' IN16/20 FLOAT FINISH
20	LA HABRA STUCCO X50 'CRYSTAL WHITE" IN 20/30 FLOAT FINISH
21	A HABRA STUCCO X50 'CRYSTAL WHITE IN 16/20 FLOAT FINISH
22	MATCH SW 7075 'WEB GRAY' IN 20/30 FLOAT FINISH
23	MATCH SW 7075 'WEB GRAY' IN 16/20 FLOAT FINISH
24	AESPAN 'PERCEPTION COLLECTION CONCEALED FASTENED PANELS IN 'METALLIC SILVER' OR 'TOWN GRAY'
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28	MATCH SW 6004 'MINK' IN 20/30 FLOAT FINISH
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31	MATCH SW 6005 'FOLKSTONE' IN 2030 FLOAT FINISH
32	MATCH SW 7603 'POOL HOUSE' IN 16/20 FLOAT FINISH
33	MATCH SW 9167 'POLISHED CONCRETE' IN 20/30 FLOAT FINISH

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KEY MAP

N.T.S. N

*SEE CIVIL PLANS FOR ADDITIONAL GRADING INFO.

ELEVATIONS

0 8' 16' 32' 64'

SCALE: 1/16" = 1'

A-3.4

DATE: 03-05-19
JOB NO.: 2016-252

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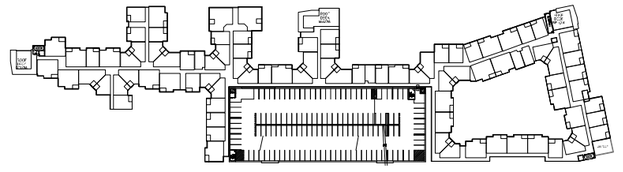


1. EAST ELEVATION (MAGNOLIA)

MATERIALS LEGEND

1a	LA HABRA EXTERIOR PLASTER 20/30 FLOAT FINISH - PAINT GRADE	18	MATCH SW 9161 "DUSTBLU" IN20/30 FLOAT FINISH
1b	LA HABRA EXTERIOR PLASTER 16/20 FLOAT FINISH - PAINT GRADE	19	MATCH SW 9161 "DUSTBLU" IN16/20 FLOAT FINISH
2	HARDIE PLANK SIDING	20	LA HABRA STUCCO X50 "CRYSTAL WHITE" IN 20/30 FLOAT FINISH
3	APAVISA PORCELAIN TILE "JUNOON" BEIGE NATURAL	21	A HABRA STUCCO X50 "CRYSTAL WHITE IN 16/20 FLOAT FINISH
4	DECORATIVE WIDE FLANGE TRIM	22	MATCH SW 7075 "WEB GRAY" IN 20/30 FLOAT FINISH
5	WIDE FLANGE TRELLIS W/ WOOD SLATS	23	MATCH SW 7075 "WEB GRAY" IN 16/20 FLOAT FINISH
6	MILGARD VINYL WINDOWS "CLAY"	24	AESPAN "PERCEPTION COLLECTION CONCEALED FASTENED PANELS IN "METALLIC SILVER" OR "TOWN GRAY"
7	KAWNEER OR EQUAL ALUMINUM STOREFRONT "MED. DARK BRONZE"	26	MATCH SW 6515 "LEISURE BLUE" IN 16/20 FINISH
8	METAL MESH RAILING	27	MATCH SW 6514 "RESPITE" IN 20/30 FLOAT FINISH
9	METAL RAILING WITH COMPOSITE SLATS	28	MATCH SW 6004 "MINK" IN 20/30 FLOAT FINISH
10	GLASS RAILING	29	MATCH SW7505 "MANOR HOUSE" IN 16/20 FLOAT FINISH
11	METAL RAILING	30	MATCH SW 7703 "EARTHEN JUG" IN 20/30 FLOAT FINISH
12	FLOOR GRES PORCELAIN TILE "FLOWTECH" AGED BRONZE	31	MATCH SW 6005 "FOLKSTONE" IN 2030 FLOAT FINISH
13	EXPOSED FASTNER SHORT RIB PERFORATED PANELS	32	MATCH SW 7603 "POOL HOUSE" IN 16/20 FLOAT FINISH
14	ORCO BLOCK SPLIT FACE PLANTERS "BLACK 250"	33	MATCH SW 9167 "POLISHED CONCRETE" IN 20/30 FLOAT FINISH
15	ORCO BLOCK C.M.U. PLANTERS W/COMPOSITE WOOD SLATS		
17	GABION WALL		

THIS MATERIALS LEGEND IS A COMPLETE MATERIAL AND COLOR LIST FOR THE PROJECT. SOME IDENTIFIED NUMBERS DO NOT OCCUR ON THESE ELEVATIONS AND RELATE TO THE MATERIAL SAMPLE ON THE MATERIAL BOARD.



KEY MAP

N.T.S. N

*SEE CIVIL PLANS FOR ADDITIONAL GRADING INFO.

ENLARGED ELEVATIONS

A-3.4.1

0 5' 10' 20' 30'

SCALE: 1:10

DATE: 03-05-19
JOB NO.: 2016-252

ALEXAN MONROVIA MONROVIA, CALIFORNIA

TCR
TRAMMELL CROW RESIDENTIAL
TRAMMELL CROW RESIDENTIAL
5790 FLEET STREET SUITE 140, CARLSBAD CA 92008
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1. EAST ELEVATION



2. WEST ELEVATION



3. EAST ELEVATION

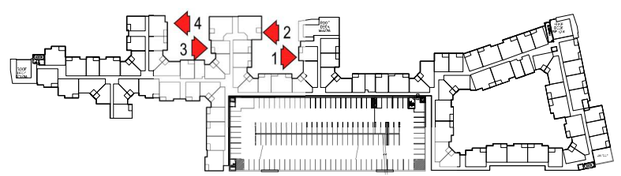


4. WEST ELEVATION

MATERIALS LEGEND

1a	LA HABRA EXTERIOR PLASTER 20/30 FLOAT FINISH - PAINT GRADE	18	MATCH SW 9161 'DUSTBLU' IN20/30 FLOAT FINISH
1b	LA HABRA EXTERIOR PLASTER 16/20 FLOAT FINISH - PAINT GRADE	19	MATCH SW 9161 'DUSTBLU' IN16/20 FLOAT FINISH
2	HARDIE PLANK SIDING	20	LA HABRA STUCCO X50 'CRYSTAL WHITE' IN 20/30 FLOAT FINISH
3	APAVISA PORCELAIN TILE 'JUNOON' BEIGE NATURAL	21	A HABRA STUCCO X50 'CRYSTAL WHITE IN 16/20 FLOAT FINISH
4	DECORATIVE WIDE FLANGE TRIM	22	MATCH SW 7075 'WEB GRAY' IN 20/30 FLOAT FINISH
5	WIDE FLANGE TRELLIS W/ WOOD SLATS	23	MATCH SW 7075 'WEB GRAY' IN 16/20 FLOAT FINISH
6	MILGARD VINYL WINDOWS 'CLAY'	24	AESPAN. 'PERCEPTION COLLECTION CONCEALED FASTENED PANELS IN 'METALLIC SILVER' OR 'TOWN GRAY'
7	KAWNEER OR EQUAL ALUMINUM STOREFRONT 'MED. DARK BRONZE'	26	MATCH SW 6515 'LEISURE BLUE' IN 16/20 FINISH
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13	EXPOSED FASTNER SHORT RIB PERFORATED PANELS	32	MATCH SW 7603 'POOL HOUSE' IN 16/20 FLOAT FINISH
14	ORCO BLOCK SPLIT FACE PLANTERS 'BLACK 250'	33	MATCH SW 9167 'POLISHED CONCRETE' IN 20/30 FLOAT FINISH
15	ORCO BLOCK C.M.U. PLANTERS W/COMPOSITE WOOD SLATS		
17	GABION WALL		

THIS MATERIALS LEGEND IS A COMPLETE MATERIAL AND COLOR LIST FOR THE PROJECT. SOME IDENTIFIED NUMBERS DO NOT OCCUR ON THESE ELEVATIONS AND RELATE TO THE MATERIAL SAMPLE ON THE MATERIAL BOARD.



KEY MAP

N.T.S. N

*SEE CIVIL PLANS FOR ADDITIONAL GRADING INFO.

COURTYARD ELEVATIONS

0 8' 16' 32' 64'

SCALE: 1/16" = 1'

A-3.5

DATE: 03-05-19
JOB NO.: 2016-252

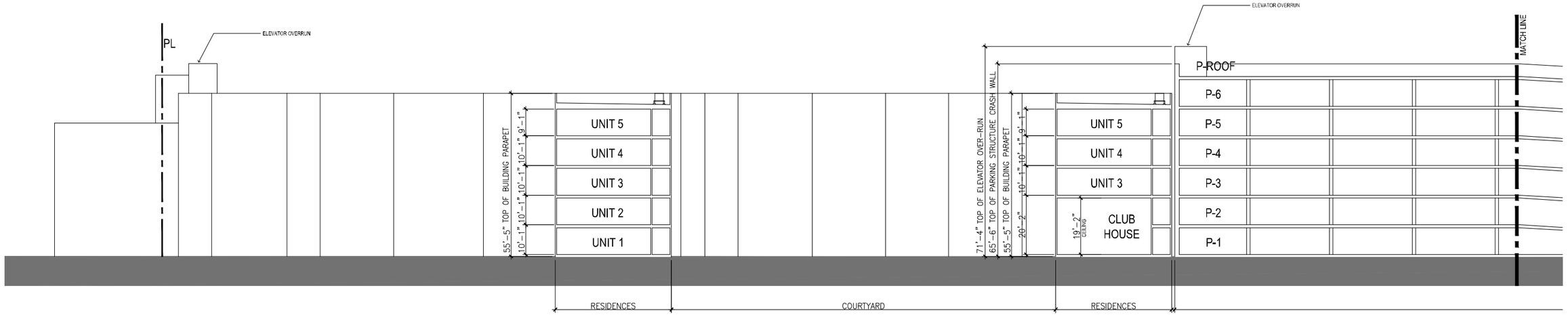
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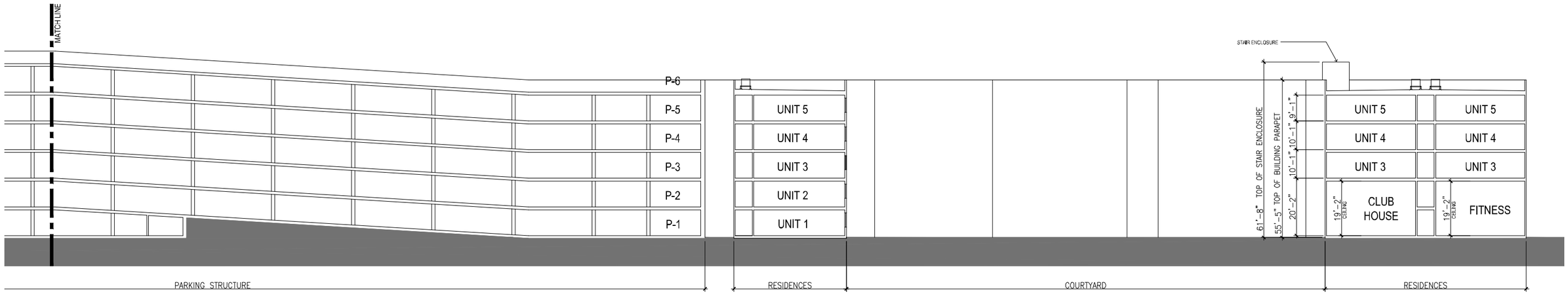
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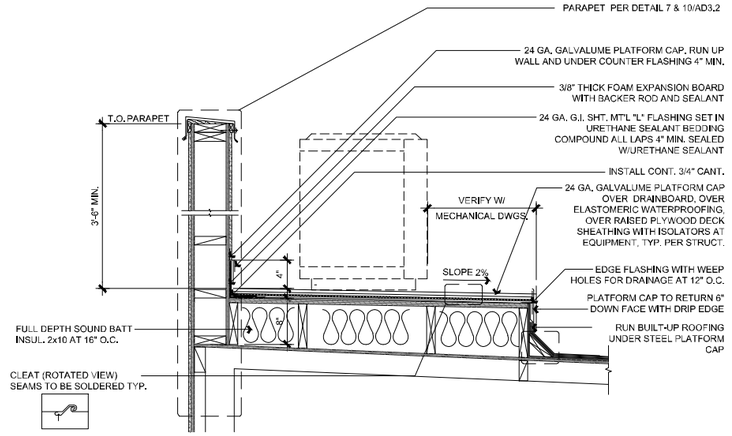
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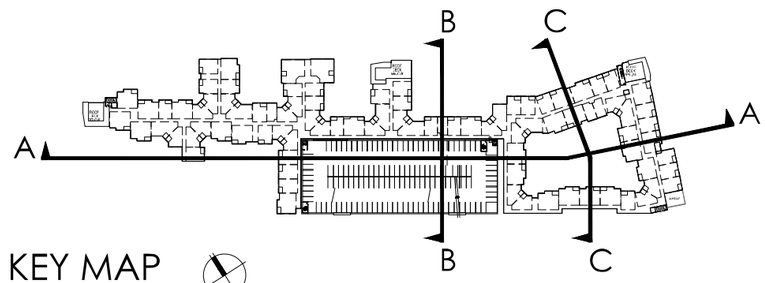
SECTION A



SECTION A



MECHANICAL EQUIPMENT PLATFORM @ PARAPET



KEY MAP

N.T.S.

N

SECTIONS

0 2' 4' 8' 12'

SCALE: 1/16" = 1'

A-3.6

DATE: 03-05-19

JOB NO.: 2016-252

ALEXAN MONROVIA

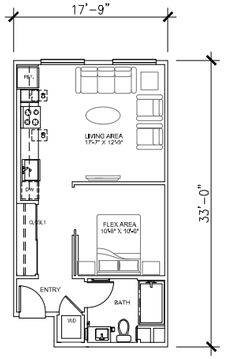
MONROVIA, CALIFORNIA

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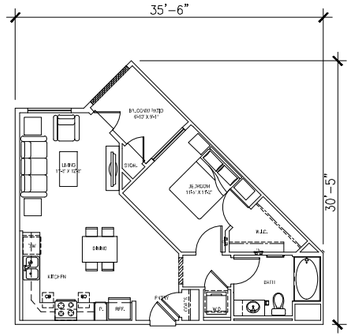
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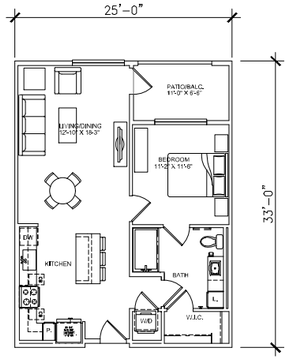
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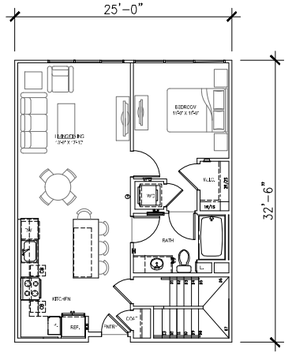
STUDIO S1
STUDIO - 1 BATH
LIVABLE AREA: 569 SQ. FT.



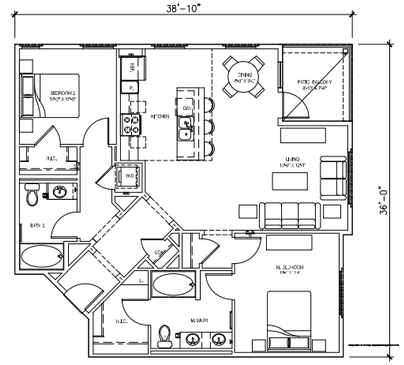
UNIT A1
1 BEDROOM - 1 BATH
LIVABLE AREA: 698 SQ. FT.
PATIO/BALCONY: 62 SQ. FT.



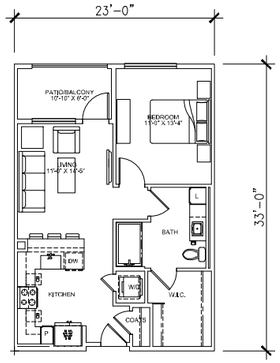
UNIT A2
1 BEDROOM - 1 BATH
LIVABLE AREA: 745 SQ. FT.
PATIO/BALCONY: 72 SQ. FT.



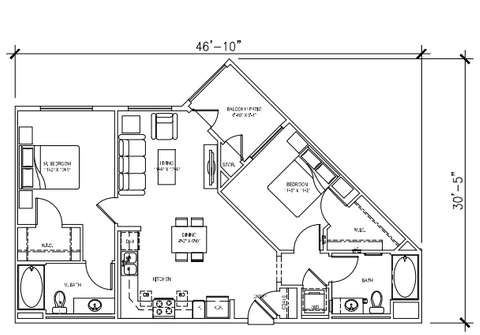
LIVE - WORK - UPPER LEVEL



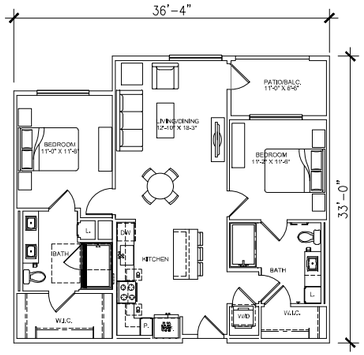
UNIT B3: 2BR / 2BA
LIVABLE AREA 1246 SQ. FT.
PATIO/BALCONY: 65 SQ. FT.



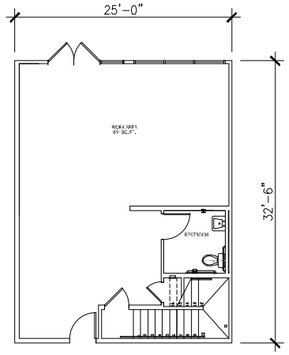
UNIT A3
1 BEDROOM - 1 BATH
LIVABLE AREA: 686 SQ. FT.
PATIO/BALCONY: 65 SQ. FT.



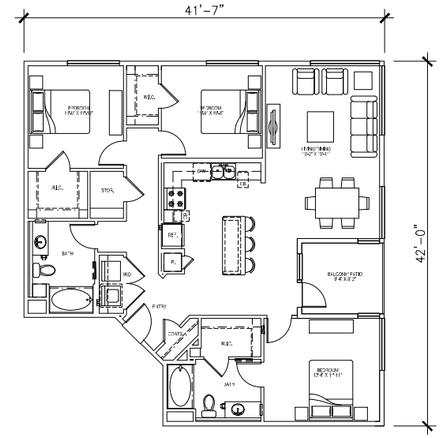
UNIT B1
2 BEDROOM - 2 BATH
LIVABLE AREA: 981 SQ. FT.
PATIO/BALCONY: 69 SQ. FT.



UNIT B2
2 BEDROOM - 2 BATH
UNIT AREA: 1074 SQ. FT.
PATIO/BALCONY: 72 SQ. FT.



LIVE - WORK - LOWER LEVEL
1 BEDROOM - 1 BATH + WORKSPACE
1ST FLOOR WORK AREA: 813 SQ. FT.
2ND FLOOR LIVABLE AREA: 748 SQ. FT.
TOTAL AREA: 1561 SQ. FT.



UNIT C1
3 BEDROOM - 2 BATH
LIVABLE AREA: 1481 SQ. FT.
PATIO/BALCONY: 76 SQ. FT.

PRIVATE OPEN SPACE			
UNIT	PATIO/ BALCONY	QTY	TOTAL S.F.
S1	0	20	0
A1	62	109	6,758
A2	72	107	7,704
A3	65	34	2,210
L/W	0	4	0
B1	69	25	1,725
B2	72	114	8,208
B3	65	8	520
C1	76	15	1,140

UNIT PLANS

0 4' 8' 16' 24'
SCALE: 1/8" = 1'-0"

A-4.1

DATE: 03-05-19
JOB NO.: 2016-252

ALEXAN MONROVIA MONROVIA, CALIFORNIA

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18 Sherwin Williams
SW 9161 Dustblu
in 20/30 Float Finish

19 Sherwin Williams
SW 9161 Dustblu
in 16/20 Finish

20 LaHabra Stucco -
50 Crystal White
in 20/30 Float Finish

21 LaHabra Stucco -
50 Crystal White
in 16/20 Finish

22 Sherwin Williams
SW 7050 Web Gray
in 20/30 Float Finish

23 Sherwin Williams
SW 7050 Web Gray
in 16/20 Finish

26 Sherwin Williams
SW 6515 Leisure Blue
in 16/20 Finish

27 Sherwin Williams
SW 6514 Respite
in 20/30 Float Finish

28 Sherwin Williams
SW 6004 Mink
in 20/30 Float Finish

29 Sherwin Williams
SW 7505 Manor House
in 16/20 Finish

30 Sherwin Williams
SW 7703 Earthen Jug
in 20/30 Float Finish

31 Sherwin Williams
SW 6005 Folkstone
in 20/30 Float Finish

32 Sherwin Williams
SW 7603 Pool House
in 16/20 Finish

33 Sherwin Williams
SW 9167 Polished Concrete
in 20/30 Float Finish

34 Sherwin Williams
SW 7076 Cyberspace



1a La Habra Exterior Plaster
20/30 Float Finish
Paint Grade



1b La Habra Exterior Plaster
16/20 Finish
Paint Grade



2 Hardie Plank Lap Siding
5/16" Select Cedarmill Finish
w/ 6" Exposed Face
Paint Grade to match
SW 7075 Web Gray



3 Apavisa Porcelain Tile
Junoon
Beige Natural



4 Decorative Wide Flange Trim
Paint to match
SW 7076 Cyberspace



5 Wide Flange Trellis w/ Composite
Wood Slats
Metal Frame paint to match
SW 7076 Cyberspace



6 Milgard Vinyl Windows
Clay



7 Kawneer or Equal
Aluminum Storefront
Medium Dark Bronze



8 Metal Mesh Railing
Paint to match SW 7076 Cyberspace



9 Metal Railing w/
Composite Slats
Metal Frame paint to match
SW 7076 Cyberspace



10 Glass Railing at Featured
Corner Units
Vitro Architectural Glass
Pacifica or Solar Blue



11 Metal Railing
Paint to match
SW 7076 Cyberspace



12 Floor Gres Porcelain Tile
Fowtech
Aged Bronze



13 Centria Ecoscreen Perforated
Panels BR5-36



14 Orco Block C.M.U. Planters
Burnished Black 500
Medium Weight
w/ Laticrete Grout 45 Raven



15 Orco Block C.M.U. Planters w/
Composite Wood Slats



17 Gabion Wall



24 AEPSPAN Concealed Fastened
Metal Wall Panels
Perception Collection
Old Town Gray

A-5.1

ALEXAN MONROVIA MONROVIA, CALIFORNIA

COLOR & MATERIAL BOARD

DATE: 03-05-19
JOB NO.: 2016-252

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Trammell Crow Residential

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GENERAL NOTES:

1. ALL GRADING AND CONSTRUCTION SHALL CONFORM TO THE 2014 COUNTY OF LOS ANGELES BUILDING CODES AND THE STATE MODEL WATER EFFICIENCY LANDSCAPE ORDINANCE UNLESS SPECIFICALLY NOTED ON THESE PLANS.
2. ANY MODIFICATIONS OF OR CHANGES TO APPROVED GRADING PLANS MUST BE APPROVED BY THE BUILDING OFFICIAL.
3. NO GRADING SHALL BE STARTED WITHOUT FIRST NOTIFYING THE BUILDING OFFICIAL A PRE-GRADING MEETING AT HE SITE IS REQUIRED BEFORE THE START OF THE GRADING WITH THE FOLLOWING PEOPLE PRESENT: OWNER, GRADING CONTRACTOR, DESIGN CIVIL ENGINEER, SOILS ENGINEER, GEOLOGIST, COUNTY GRADING INSPECTOR(S) OR THEIR REPRESENTATIVES, AND WHEN REQUIRED THE ARCHEOLOGIST OR OTHER JURISDICTIONAL AGENCIES. PERMITTEE OR HIS AGENT ARE RESPONSIBLE FOR ARRANGING PRE-GRADE MEETING AND MUST NOTIFY THE BUILDING OFFICIAL AT LEAST TWO BUSINESS DAYS PRIOR TO PROPOSED PRE-GRADE MEETING.
4. APPROVAL OF THESE PLANS REFLECT SOLELY THE REVIEW OF PLANS IN ACCORDANCE WITH THE COUNTY OF LOS ANGELES BUILDING CODE AND DOES NOT REFLECT ANY POSITION BY THE COUNTY OF LOS ANGELES OR THE DEPARTMENT OF PUBLIC WORKS REGARDING THE STATUS OF ANY TITLE ISSUES RELATING TO THE LAND ON WHICH THE IMPROVEMENTS MAY BE CONSTRUCTED. ANY DISPUTES RELATING TO TITLE ARE SOLELY A PRIVATE MATTER NOT INVOLVING THE COUNTY OF LOS ANGELES OR THE DEPARTMENT OF PUBLIC WORKS.
5. ALL GRADING AND CONSTRUCTION ACTIVITIES SHALL COMPLY WITH COUNTY OF LOS ANGELES CODE, TITLE 12, SECTION 12.12.030 THAT CONTROLS AND RESTRICTS NOISE FROM THE USE OF CONSTRUCTION AND GRADING EQUIPMENT FROM THE HOURS OF 8:00 PM TO 6:30 AM, AND ON SUNDAYS AND HOLIDAYS, (MORE RESTRICTIVE ACTIVITY TIMES MAY GOVERN, AS REQUIRED BY THE DEPARTMENT OF REGIONAL PLANNING AND SHOULD BE SHOWN ON THE GRADING PLANS WHEN APPLICABLE.)
6. CALIFORNIA PUBLIC RESOURCES CODE (SECTION 5097.98) AND HEALTH AND SAFETY CODE (SECTION 7050.5) ADDRESS THE DISCOVERY AND DISPOSITION OF HUMAN REMAINS. IN THE EVENT OF DISCOVERY OR RECOGNITION OF ANY HUMAN REMAINS IN ANY LOCATION OTHER THAN A DEDICATED CEMETERY, THE LAW REQUIRES THAT GRADING IMMEDIATELY STOPS AND NO FURTHER EXCAVATION OR DISTURBANCE OF THE SITE, OR ANY NEARBY AREA WHERE HUMAN REMAINS MAY BE LOCATED, OCCUR UNTIL THE FOLLOWING HAS BEEN MEASURES HAVE BEEN TAKEN:
   A. THE COUNTY CORONER HAS BEEN INFORMED AND HAS DETERMINED THAT NO INVESTIGATION OF THE CAUSE OF DEATH IS REQUIRED, AND
   B. IF THE REMAINS ARE OF NATIVE AMERICAN ORIGIN, THE DESCENDANTS FROM THE DECEASED NATIVE AMERICANS HAVE MADE A RECOMMENDATION FOR THE MEANS OF TREATING OR DISPOSING, WITH APPROPRIATE DIGNITY, OF THE HUMAN REMAINS AND ANY ASSOCIATED GRAVE GOODS.
7. THE LOCATION AND PROTECTION OF ALL UTILITIES IS THE RESPONSIBILITY OF THE PERMITTEE.
8. ALL EXPORT OF MATERIAL FROM THE SITE MUST GO TO A PERMITTED SITE APPROVED BY THE BUILDING OFFICIAL OR A LEGAL DUMPSITE. RECEIPTS FOR ACCEPTANCE OF EXCESS MATERIAL BY A DUMPSITE ARE REQUIRED AND MUST BE PROVIDED TO THE BUILDING OFFICIAL UPON REQUEST.
9. A COPY OF THE GRADING PERMIT AND APPROVED GRADING PLANS MUST BE IN THE POSSESSION OF A RESPONSIBLE PERSON AND AVAILABLE AT THE SITE AT ALL TIMES.
10. SITE BOUNDARIES, EASEMENTS, DRAINAGE DEVICES, RESTRICTED USE AREAS SHALL BE LOCATED PER CONSTRUCTION STAKING BY FIELD ENGINEER OR LICENSED SURVEYOR, PRIOR TO GRADING, AS REQUESTED BY THE BUILDING OFFICIAL. ALL PROPERTY LINES, EASEMENTS, AND RESTRICTED USE AREAS SHALL BE STAKED.
11. NO GRADING OR CONSTRUCTION SHALL OCCUR WITHIN THE PROTECTED ZONE OF ALL OAK AS REQUIRED PER TITLE CHAPTER 22.56 OF THE COUNTY OF LOS ANGELES ZONING CODE, THE PROTECTED ZONE SHALL MEAN THAT AREA WITHIN THE DRIP LINE OF AN OAK TREE EXTENDING THERE FROM A POINT AT LEAST FIVE FEET OUTSIDE THE DRIP LINE, OR 15 FEET FROM THE TRUNK(S) OF A TREE, WHICHEVER IS GREATER.
13. A PREVENTIVE PROGRAM TO PROTECT THE SLOPES FROM POTENTIAL DAMAGE FROM BURROWING RODENTS IS REQUIRED PER SECTION J101.8 OF THE COUNTY OF LOS ANGELES BUILDING CODE. OWNER IS TO INSPECT SLOPES PERIODICALLY FOR EVIDENCE OF BURROWING RODENTS AND A FIRST EVIDENCE OF THEIR EXISTENCE SHALL EMPLOY AN EXTERMINATOR FOR THEIR REMOVAL.
14. WHERE A GRADING PERMIT IS ISSUED AND THE BUILDING OFFICIAL DETERMINES THAT THE GRADING WILL NOT BE COMPLETED PRIOR TO NOVEMBER 1, THE OWNER OF THE SITE ON WHICH THE GRADING IS BEING PERFORMED SHALL, ON OR BEFORE OCTOBER 1, FILE OR CAUSE TO BE FILED WITH THE BUILDING OFFICIAL AS ESCP PER SECTION J110.8.3 OF THE COUNTY OF LOS ANGELES BUILDING CODE..
15. TRANSFER OF RESPONSIBILITY: IF THE FIELD ENGINEER, THE SOILS ENGINEER, OR THE ENGINEERING GEOLOGIST OF RECORD IS CHANGED DURING GRADING, THE WORK SHALL BE STOPPED UNTIL THE REPLACEMENT HAS AGREED IN WRITING TO ACCEPT THEIR RESPONSIBILITY WITHIN THE AREA OF TECHNICAL COMPETENCE FOR APPROVAL UPON COMPLETION OF THE WORK. IT SHALL BE THE DUTY OF THE PERMITTEE TO NOTIFY THE BUILDING OFFICIAL IN WRITING OF SUCH CHANGE PRIOR TO THE RECOMMENCEMENT OF SUCH GRADING.

INSPECTION NOTES:

16. THE PERMITTEE OR HIS AGENT SHALL NOTIFY THE BUILDING OFFICIAL AT LEAST ONE WORKING DAY IN ADVANCE OF REQUIRED INSPECTIONS AT FOLLOWING STAGES OF THE WORK. (SECTION J105.7 OF THE BUILDING CODE.)
   A. PRE-GRADE - BEFORE THE START OF ANY EARTH DISTURBING ACTIVITY OR CONSTRUCTION.
   B. INITIAL - WHEN THE SITE HAS BEEN CLEARED OF VEGETATION AND UNAPPROVED FILL HAS BEEN SCARIFIED, BENCHED OR OTHERWISE PREPARED FOR FILL, FILL SHALL NOT BE PLACED PRIOR TO THIS INSPECTION.
   NOTE: PRIOR TO ANY CONSTRUCTION ACTIVITIES, INCLUDING GRADING, ALL STORM WATER POLLUTION PREVENTION MEASURES INCLUDING EROSION CONTROL DEVICES WHICH CONTAIN SEDIMENTS MUST BE INSTALLED.
   C. ROUGH - WHEN APPROXIMATE FINAL ELEVATIONS HAVE BEEN ESTABLISHED; DRAINAGE TERRACES, SWALES AND BERMS INSTALLED AT THE TOP OF THE SLOPE, AND THE STATEMENTS REQUIRED IN THIS SECTION HAVE BEEN RECEIVED.
   D. FINAL - WHEN GRADING HAS BEEN COMPLETED; ALL DRAINAGE DEVICES INSTALLED; SLOPE PLANTING ESTABLISHED, IRRIGATION SYSTEMS INSTALLED AND THE AS-BUILT PLANS, REQUIRED STATEMENTS, AND REPORTS HAVE BEEN SUBMITTED AND APPROVED.
17. IN ADDITION TO THE INSPECTION REQUIRED OF THE BUILDING OFFICIAL FOR GRADING, REPORTS AND STATEMENTS SHALL BE SUBMITTED TO THE BUILDING OFFICIAL IN ACCORDANCE WITH SECTION J105 OF THE COUNTY OF LOS ANGELES BUILDING CODE.
18. UNLESS OTHERWISE DIRECTED BY THE BUILDING OFFICIAL, THE FIELD ENGINEER FOR ALL ENGINEERED GRADING PROJECTS SHALL PREPARE ROUTINE INSPECTION REPORTS AS REQUIRED UNDER SECTION J105.11 OF THE COUNTY OF LOS ANGELES BUILDING CODE. THESE REPORTS, KNOWN AS "REPORT OF GRADING ACTIVITIES", SHALL BE SUBMITTED TO THE BUILDING OFFICIAL AS FOLLOWS:
   1. BI-WEEKLY DURING ALL TIMES WHEN GRADING OF 400 CUBIC YARDS OR MORE PER WEEK IS OCCURRING ON THE SITE;
   2. MONTHLY, AT ALL OTHER TIMES; AND
   3. AT ANY TIME WHEN REQUESTED IN WRITING BY THE BUILDING OFFICIAL.

   SUCH "REPORT OF GRADING ACTIVITIES" SHALL CERTIFY TO THE BUILDING OFFICIAL THAT THE FIELD ENGINEER HAS INSPECTED THE GRADING SITE AND RELATED ACTIVITIES AND HAS FOUND THEM IN COMPLIANCE WITH THE APPROVED GRADING PLANS & SPECIFICATIONS, THE BUILDING CODE, ALL GRADING PERMIT CONDITIONS, AND ALL OTHER APPLICABLE ORDINANCES AND REQUIREMENTS. THIS FORM IS AVAILABLE AT THE FOLLOWING WEBSITE http://dpw.lacounty.gov/bsd/dg/default.aspx. "REPORT OF GRADING ACTIVITIES" MAY BE SCANNED AND UPLOADED AT THE WEBSITE OR FAXED TO (310) 530-5482. FAILURE TO PROVIDE REQUIRED INSPECTION REPORTS WILL RESULT IN A "STOP WORK ORDER".
19. ALL GRADED SITES MUST HAVE DRAINAGE SWALES, BERMS, AND OTHER DRAINAGE DEVICES INSTALLED PRIOR TO ROUGH GRADING APPROVAL PER SECTION J105.7 OF THE COUNTY OF LOS ANGELES BUILDING CODE.
20. THE GRADING CONTRACTOR SHALL SUBMIT THE STATEMENT TO THE GRADING INSPECTOR AS REQUIRED BY SECTION J105.12 OF THE COUNTY OF LOS ANGELES BUILDING CODE AT THE COMPLETION OF ROUGH GRADING.
21. FINAL GRADING MUST BE APPROVED BEFORE OCCUPANCY OF BUILDINGS WILL BE ALLOWED PER SECTION J105 OF THE COUNTY OF LOS ANGELES BUILDING CODE.

DRAINAGE NOTES:

22. ROOF DRAINAGE MUST BE DIVERTED FROM GRADED SLOPES.
23. PROVISIONS SHALL BE MADE FOR CONTRIBUTORY DRAINAGE AT ALL TIMES.
24. ALL CONSTRUCTION AND GRADING WITHIN A STORM DRAIN EASEMENT ARE TO BE DONE PER PRIVATE DRAIN (PD) No. _____ OR MISCELLANEOUS TRANSFER DRAIN (MTD) No. _____.
25. ALL STORM DRAIN WORK IS TO BE DONE UNDER CONTINUOUS INSPECTION BY THE FIELD ENGINEER. STATUS REPORTS REQUIRED UNDER NOTE 18 AND SECTION J105.11 OF THE COUNTY OF LOS ANGELES BUILDING CODE SHALL INCLUDE INSPECTION INFORMATION AND REPORTS ON THE STORM DRAIN INSTALLATION.

AGENCY NOTES

26. AN ENCROACHMENT PERMIT FROM COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS IS REQUIRED FOR ALL WORK WITHIN OR AFFECTING ROAD RIGHT OF WAY. ALL WORK WITHIN ROAD RIGHT OF WAY SHALL CONFORM TO COUNTY OF LOS ANGELES DEPARTMENT OF PUBLIC WORKS ENCROACHMENT PERMIT.
27. AN ENCROACHMENT PERMIT /CONNECTION PERMIT IS REQUIRED FROM THE COUNTY OF LOS ANGELES FLOOD CONTROL DISTRICT FOR ALL WORK WITHIN THE COUNTY OF LOS ANGELES FLOOD CONTROL DISTRICT RIGHT OF WAY. ALL WORK SHALL CONFORM WITH CONDITIONS SET BY THE PERMIT.
28. PERMISSION TO OPERATE IN VERY HIGH FIRE HAZARD SEVERITY ZONE MUST BE OBTAINED FROM THE FIRE PREVENTION BUREAU OR THE LOCAL FIRE STATION PRIOR TO COMMENCING WORK.
29. ALL WORK WITHIN THE STREAMBED AND AREAS OUTLINED ON GRADING PLANS SHALL CONFORM TO:
   ARMY CORP 404 PERMIT NUMBER: N/A
   CALIFORNIA FISH & GAME PERMIT NO.: N/A
30. ALL CONSTRUCTION/ DEMOLITION, GRADING, AND STORAGE OF BULK MATERIALS MUST COMPLY WITH THE LOCAL AQMD RULE 403 FOR FUGITIVE DUST. INFORMATION ON RULE 403 IS AVAILABLE AT AQMD'S WEBSITE: http://aveqmd.com.

GENERAL GEOTECHNICAL NOTES:

31. ALL WORK MUST BE IN COMPLIANCE WITH THE RECOMMENDATIONS INCLUDED IN THE GEOTECHNICAL CONSULTANT'S REPORT(S) AND THE APPROVED GRADING PLANS AND SPECIFICATIONS.
32. GRADING OPERATIONS MUST BE CONDUCTED UNDER PERIODIC INSPECTIONS BY THE GEOTECHNICAL CONSULTANTS WITH MONTHLY INSPECTION REPORTS TO BE SUBMITTED TO THE GEOLOGY AND SOILS SECTION, (900 S. FREMONT, ALHAMBRA CA 91803 - 3RD FLOOR)
33. THE SOIL ENGINEER SHALL PROVIDE SUFFICIENT INSPECTIONS DURING THE PREPARATION OF THE NATURAL GROUND AND THE PLACEMENT AND COMPACTION OF THE FILL TO BE SATISFIED THAT THE WORK IS BEING PERFORMED IN ACCORDANCE WITH THE PLAN AND APPLICABLE CODE REQUIREMENTS.
34. ROUGH GRADING MUST BE APPROVED BY A FINAL ENGINEERING GEOLOGY AND SOILS ENGINEERING REPORT. AN AS-BUILT GEOLOGIC MAP MUST BE INCLUDED IN THE FINAL GEOLOGY REPORT. PROVIDE A FINAL REPORT STATEMENT THAT VERIFIES WORK WAS DONE IN ACCORDANCE WITH REPORT RECOMMENDATIONS AND CODE PROVISIONS (SECTION J105.12 OF THE COUNTY OF LOS ANGELES BUILDING CODE). THE FINAL REPORT(S) MUST BE SUBMITTED TO THE GEOTECHNICAL AND MATERIALS ENGINEERING DIVISION FOR REVIEW AND APPROVAL.
35. FOUNDATION, WALL AND POOL EXCAVATIONS MUST BE INSPECTED AND APPROVED BY THE CONSULTING GEOLOGIST AND SOIL ENGINEER, PRIOR TO THE PLACING OF STEEL OR CONCRETE.
36. BUILDING PADS LOCATED IN CUT/FILL TRANSITION AREAS SHALL BE OVER-EXCAVATED A MINIMUM OF THREE (3) FEET BELOW THE PROPOSED BOTTOM OF FOOTING.
   NOTE: PAVEMENT SECTIONS BASED ON RECOMMENDATIONS FROM "SUPPLEMENTAL GEOTECHNICAL RECOMMENDATIONS, PROPOSED RETAINING WALLS, UNIVERSAL HOLLYWOOD DRIVE" DATED MARCH 7, 2014 BY AMEC.

FILL NOTES:

37. ALL FILL SHALL BE COMPACTED TO THE FOLLOWING MINIMUM RELATIVE COMPACTION CRITERIA:
   A. 90 PERCENT OF MAXIMUM DRY DENSITY WITHIN 40 FEET BELOW FINISH GRADE.
   B. 93 PERCENT OF MAXIMUM DRY DENSITY DEEPER THAN 40 FEET BELOW FINISH GRADE, UNLESS LOWER RELATIVE COMPACTION (NOT LESS THAN 90 PERCENT OF MAXIMUM DRY DENSITY) IS JUSTIFIED BY THE GEOTECHNICAL ENGINEER.

   THE RELATIVE COMPACTION SHALL BE DETERMINED BY A.S.T.M. SOIL COMPACTION TEST D1557-91 WHERE APPLICABLE. WHERE NOT APPLICABLE, A TEST ACCEPTABLE TO THE BUILDING OFFICIAL SHALL BE USED. (SECTION J105.7 OF THE COUNTY OF LOS ANGELES BUILDING CODE).
38. FIELD DENSITY SHALL BE DETERMINED BY A METHOD ACCEPTABLE TO THE BUILDING OFFICIAL. (SECTION J107.5 OF THE COUNTY OF LOS ANGELES BUILDING CODE.) HOWEVER, NOT LESS THAN 10% OF THE REQUIRED DENSITY TEST, UNIFORMLY DISTRIBUTED, AND SHALL BE OBTAINED BY THE SAND CONE METHOD.
39. SUFFICIENT TESTS OF THE FILL SOILS SHALL BE MADE TO DETERMINE THE RELATIVE COMPACTION OF THE FILL IN ACCORDANCE WITH THE FOLLOWING MINIMUM GUIDELINES:
   A. ONE TEST FOR EACH TWO-FOOT VERTICAL LIFT.
   B. ONE TEST FOR EACH 1,000 CUBIC YARDS OF MATERIAL PLACED.
   C. ONE TEST AT THE LOCATION OF THE FINAL FILL SLOPE FOR EACH BUILDING SITE (LOT) IN EACH FOUR-FOOT VERTICAL LIFT OR PORTION THEREOF.
   D. ONE TEST IN THE VICINITY OF EACH BUILDING PAD FOR EACH FOUR-FOOT VERTICAL LIFT OR PORTION THEREOF.
40. SUFFICIENT TESTS OF FILL SOILS SHALL BE MADE TO VERIFY THAT THE SOIL PROPERTIES COMPLY WITH THE DESIGN REQUIREMENTS, AS DETERMINED BY THE SOIL ENGINEER INCLUDING SOIL TYPES, SHEAR STRENGTHS PARAMETERS AND CORRESPONDING UNIT WEIGHTS IN ACCORDANCE WITH THE FOLLOWING GUIDELINES:
   A. PRIOR AND SUBSEQUENT TO PLACEMENT OF THE FILL, SHEAR TESTS SHALL BE TAKEN ON EACH TYPE OF SOIL OR SOIL MIXTURE TO BE USED FOR ALL FILL SLOPES STEEPER THAN THREE (3) HORIZONTAL TO ONE VERTICAL.
   B. SHEAR TEST RESULTS FOR THE PROPOSED FILL MATERIAL MUST MEET OR EXCEED THE DESIGN VALUES USED IN THE GEOTECHNICAL REPORT TO DETERMINE SLOPE STABILITY REQUIREMENTS. OTHERWISE, THE SLOPE MUST BE REEVALUATED USING THE ACTUAL SHEAR TEST VALUE OF THE FILL MATERIAL THAT IS IN PLACE.
   C. FILL SOILS SHALL BE FREE OF DELETERIOUS MATERIALS.
41. FILL SHALL NOT BE PLACED UNTIL STRIPPING OF VEGETATION, REMOVAL OF UNSUITABLE SOILS, AND INSTALLATION OF SUBDRAIN (IF ANY) HAVE BEEN INSPECTED AND APPROVED BY THE SOIL ENGINEER. THE BUILDING OFFICIAL MAY REQUIRE A "STANDARD TEST METHOD FOR MOISTURE, ASH, ORGANIC MATTER, PEAT, OR OTHER ORGANIC SOILS" ASTM D-2974-87 ON ANY SUSPECT MATERIAL. DETRIMENTAL AMOUNTS OF ORGANIC MATERIAL SHALL NOT BE PERMITTED IN FILLS. SOIL CONTAINING SMALL AMOUNTS OF ROOTS MAY BE ALLOWED PROVIDED THAT THE ROOTS ARE IN A QUANTITY AND DISTRIBUTED IN A MANNER THAT MAY WILL NOT BE DETRIMENTAL TO THE FUTURE USE OF THE SITE AND THE SOILS ENGINEER APPROVES THE USE OF SUCH MATERIAL.
42. ROCK OR SIMILAR MATERIAL GREATER THAN 4 INCHES IN DIAMETER SHALL NOT BE PLACED IN THE FILL UNLESS RECOMMENDATIONS FOR SUCH PLACEMENT HAVE BEEN SUBMITTED BY THE SOIL ENGINEER AND APPROVED IN ADVANCE BY THE BUILDING OFFICIAL. LOCATION, EXTENT, AND ELEVATION OF ROCK DISPOSAL AREAS MUST BE SHOWN ON "AS-BUILT" GRADING PLAN.
43. CONTINUOUS INSPECTION BY THE SOIL ENGINEER, OR A RESPONSIBLE REPRESENTATIVE, SHALL BE PROVIDED DURING ALL AND COMPACTION OPERATIONS WHERE FILLS HAVE A DEPTH GREATER THAN 30 FEET OR SLOPE SURFACE STEEPER THAN 2:1. (SECTION J107.8 OF THE COUNTY OF LOS ANGELES BUILDING CODE).
44. CONTINUOUS INSPECTION BY THE SOIL ENGINEER, OR A RESPONSIBLE REPRESENTATIVE, SHALL BE PROVIDED DURING ALL SUBDRAIN INSTALLATION. (SECTION J107.2 OF THE COUNTY OF LOS ANGELES BUILDING CODE).
45. ALL SUBDRAIN OUTLETS ARE TO BE SURVEYED FOR LINE AND ELEVATION. SUBDRAIN INFORMATION MUST BE SHOWN ON AN "AS BUILT" GRADING PLAN.
46. FILL SLOPES IN EXCESS OF 2:1 STEEPNESS RATIO ARE TO BE CONSTRUCTED BY THE PLACEMENT OF SOIL AT SUFFICIENT DISTANCE BEYOND THE PROPOSED FINISH SLOPE TO ALLOW COMPACTION EQUIPMENT TO BE OPERATED AT THE OUTER LIMITS OF THE FINAL SLOPE SURFACE. THE EXCESS FILL IS TO BE REMOVED PRIOR TO COMPLETION OF ROUGH GRADING. OTHER CONSTRUCTION PROCEDURES MAY BE USED WHEN IT IS DEMONSTRATED TO THE SATISFACTION OF THE BUILDING OFFICIAL THAT THE ANGLE OF SLOPE, CONSTRUCTION METHOD AND OTHER FACTORS WILL HAVE EQUIVALENT EFFECT. (SECTION J107.5 OF THE COUNTY OF LOS ANGELES BUILDING CODE.)

PLANTING AND IRRIGATION NOTES:

47. PLANTING AND IRRIGATION ON GRADED SLOPES MUST COMPLY WITH THE FOLLOWING MINIMUM GUIDELINES:
   A. THE SURFACE OF ALL CUT SLOPES MORE THAN 5 FEET IN HEIGHT AND FILL SLOPES MORE THAN 3 FEET IN HEIGHT SHALL BE PROTECTED AGAINST DAMAGE BY EROSION BY PLANTING WITH GRASS OR GROUNDCOVER PLANTS. SLOPES EXCEEDING 15 FEET IN VERTICAL HEIGHT SHALL WITH SHRUBS, SPACED AT NOT TO EXCEED 10 FEET ON CENTERS, OR TREES, SPACED AT NOT TO EXCEED 20 FEET ON CENTERS, OR A COMBINATION OF SHRUBS AND TREES AT EQUIVALENT SPACING. IN ADDITION TO THE GRASS OR GROUNDCOVER PLANTS, THE PLANTS SELECTED AND PLANTING METHODS USED SHALL BE THE SUITABLE FOR THE SOIL AND CLIMATIC CONDITIONS OF THE SITE. PLANT MATERIAL SHALL BE SELECTED WHICH WILL PRODUCE A COVERAGE OF PERMANENT PLANTING EFFECTIVELY CONTROLLING EROSION. CONSIDERATION SHALL BE GIVEN TO DEEP-ROOTED PLANTING MATERIAL NEEDING LIMITED WATERING, MAINTENANCE, HIGH ROOT TO SHOOT RATIO, WIND SUSCEPTIBILITY AND FIRE-RETARDANT CHARACTERISTICS. ALL PLANT MATERIALS MUST BE APPROVED BY THE BUILDING OFFICIAL. (SECTION J110.3 OF THE COUNTY OF LOS ANGELES BUILDING CODE)
   NOTE: PLANTING MAY BE MODIFIED FOR THE SITE IF SPECIFIC RECOMMENDATIONS ARE PROVIDED BY BOTH THE SOILS ENGINEER AND A LANDSCAPE ARCHITECT. SPECIFIC RECOMMENDATIONS MUST CONSIDER SOILS AND CLIMATIC CONDITIONS, IRRIGATION REQUIREMENTS, PLANTING METHODS, FIRE RETARDANT CHARACTERISTICS, WATER EFFICIENCY, MAINTENANCE NEEDS, AND OTHER REGULATORY REQUIREMENTS. RECOMMENDATIONS MUST INCLUDE A FINDING THAT THE ALTERNATIVE PLANTING WILL PROVIDE A PERMANENT AND EFFECTIVE METHOD OF EROSION CONTROL. MODIFICATIONS TO PLANTING MUST BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO INSTALLATION.
   B. SLOPES REQUIRED TO BE PLANTED BY SECTION J110.3 SHALL BE PROVIDED WITH AN APPROVED SYSTEM OF IRRIGATION THAT IS DESIGNED TO COVER ALL PORTIONS OF THE SLOPE. IRRIGATION SYSTEM PLANS SHALL BE SUBMITTED AND APPROVED PRIOR TO INSTALLATION. A FUNCTIONAL TEST OF THE SYSTEM MAY BE REQUIRED. FOR SLOPES LESS THAN 20 FEET IN VERTICAL HEIGHT, HOSE BIBS TO PERMIT HAND WATERING WILL BE ACCEPTABLE IF SUCH HOSE BIBS ARE INSTALLED AT CONVENIENTLY ACCESSIBLE LOCATIONS WHERE A HOSE NO LONGER THAN 50 FEET IS NECESSARY FOR IRRIGATION. THE REQUIREMENTS FOR PERMANENT IRRIGATION SYSTEMS MAY BE MODIFIED UPON SPECIFIC RECOMMENDATION OF A LANDSCAPE ARCHITECT OR EQUIVALENT AUTHORITY THAT, BECAUSE OF THE TYPE OF PLANTS SELECTED, THE PLANTING METHODS USED AND THE SOIL AND CLIMATIC CONDITIONS AT THE SITE, IRRIGATION WILL NOT BE NECESSARY FOR THE MAINTENANCE OF THE SLOPE PLANTING. (SECTION J110.4 OF THE COUNTY OF LOS ANGELES BUILDING CODE).
   C. OTHER GOVERNMENTAL AGENCIES MAY HAVE ADDITIONAL REQUIREMENTS FOR LANDSCAPING AND IRRIGATION. IT IS THE RESPONSIBILITY OF THE APPLICANT TO COORDINATE WITH OTHER AGENCIES TO MEET THEIR REQUIREMENTS WHILE MAINTAINING COMPLIANCE WITH THE COUNTY OF LOS ANGELES BUILDING CODE.
48. THE PLANTING AND IRRIGATION SYSTEMS SHALL BE INSTALLED AS SOON AS PRACTICAL AFTER ROUGH GRADING. PRIOR TO FINAL GRADING APPROVAL ALL REQUIRED SLOPE PLANTING MUST BE WELL ESTABLISHED. (SECTION J110.7 OF THE COUNTY OF LOS ANGELES BUILDING CODE)
49. LANDSCAPE IRRIGATION SYSTEM SHALL BE DESIGNED AND MAINTAINED TO PREVENT SPRAY ON STRUCTURES. (TITLE 31, SECTION 5.407.2.1)
50. PRIOR TO ROUGH GRADE APPROVAL THIS PROJECT REQUIRES A LANDSCAPE PERMIT. LANDSCAPE PLANS IN COMPLIANCE WITH THE "MODEL WATER EFFICIENT LANDSCAPE ORDINANCE" TITLE 23, CHAPTER 2.7 OF CALIFORNIA CODE OF REGULATIONS (AB 1881) MUST BE SUBMITTED TO THE DEPARTMENT OF PUBLIC WORKS, LAND DEVELOPMENT DIVISION, (900 S. FREMONT AVE. ALHAMBRA - 3RD FLOOR, CA 91803 (626) 458-4921). TO OBTAIN LANDSCAPE PERMIT APPROVED PLANS AND WATER PURVEYOR ACKNOWLEDGEMENT FORM MUST BE SUBMITTED TO THE LOCAL BUILDING AND SAFETY OFFICE.

PRIVATE/UTILITY EASEMENT:

ANY PROPOSED WORK WITHIN A PRIVATE/UTILITY EASEMENT OR ACCESS EASEMENT REQUIRES PERMISSION LETTERS AND/OR COVENANTS FROM EASEMENT HOLDER, PERMISSION FROM THE EASEMENT HOLDER MAY NOT BE REQUIRED IF IT CAN BE SHOWN THE PROPOSED CONSTRUCTION WORK IS CONSISTENT AND IN CONFORMANCE WITH INTENDED EASEMENT USE. COPIES OF RECORDED EASEMENT SHALL BE SUBMITTED FOR REVIEW. GRADING PLANS MUST SHOW ALL BEARINGS, DISTANCES, (LINEAR AND CURVE DATA) FOR THE ENTIRE EASEMENT(S).

AS CIVIL ENGINEER/LAND SURVEYOR OF THIS PROJECT, I HAVE IDENTIFIED THE LOCATION OF ALL EASEMENTS WHICH ARE DEPICTED ON THESE PLANS, I HAVE REVIEWED THE PROPOSED EASEMENT DOCUMENTS AND VERIFIED THE PROPOSED CONSTRUCTION DOES NOT CONFLICT OR INTERFERE WITH THE INTENDED EASEMENT USE.

_____ _____
CIVIL ENGINEER/LAND SURVEYOR DATE

I CERTIFY THAT A COPY OF THE LATEST GRADING PLAN HAS BEEN PROVIDED TO ALL THE EASEMENT HOLDERS

SIGNATURE _____ _____
Print Name and Title (OWNER/DEVELOPER) DATE

PROJECT PROPOSED START DATE: _____

PROJECT PROPOSED COMPLETION DATE: _____

GEOTECHNICAL INFORMATION:

GEOTECHNICAL ENGINEER:

GEOCON WEST, INC.
3303 N SAN FERNANDO BLVD, SUITE 100
BURBANK, CA 91504
TEL: (818) 841-8388
REPRESENTATIVE: ARNOLD GASTELUM

REPORT:
GEOTECHNICAL DESIGN REPORT.

REPORT DATED: JULY 12, 2017

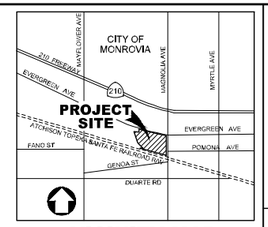
_____ _____
SOILS ENGINEER DATE

_____ _____
ENGINEERING GEOLOGIST DATE

BENCHMARK: 4G3072
LOS ANGELES COUNTY PUBLIC WORKS SURVEY SECTION L & N IN W CS 5 FT N/O SCR NW COR, MONTANA AVE. AND MYRTLE AVE.
ELEV. 472.844 FEET ADJUSTMENT: 2005

LEGEND

450	CONTOUR EXISTING	CF	CURB FACE
450	CONTOUR PROPOSED	EL	ELEVATION
(450.00)	ELEVATION EXISTING	FL	FLOW LINE
450.00	ELEVATION PROPOSED	FS	FINISHED SURFACE
-x-x-	FENCE CHAIN LINK	FG	FINISHED GRADE
	FLOW ARROW	TC	TOP OF CURB
	RETAINING WALL	TW	TOP OF WALL
-GB-	GRADE BREAK	TG	TOP OF GRATE
E	EXISTING ELECTRICAL	INV	INVERT
G	EXISTING GAS LINE	FF	FINISHED FLOOR
SD	EXISTING STORM DRAIN	AC	ASPHALT CONCRETE
T	EXISTING TELEPHONE LINE	CB	CATCH BASIN
SS	EXISTING SANITARY SEWER	BW	BACK OF WALK
W	EXISTING WATER	HP	HIGH POINT
CATV	PROPOSED CABLE TV	LP	LOW POINT
E	PROPOSED ELECTRICAL	MAX	MAXIMUM
FW	PROPOSED FIRE WATER LINE	MIN	MINIMUM
SD	PROPOSED STORM DRAIN	GB	GRADE BREAK
SS	PROPOSED SANITARY SEWER	EG	EDGE OF GUTTER
W	PROPOSED WATER	EP	EDGE OF PAVEMENT
CL	CENTER LINE	PVMT	PAVEMENT
PL	PROPERTY LINE	RD	ROOF DRAIN
RW	RIGHT OF WAY	RCP	REINFORCED CONCRETE PIPE
EX	EXISTING	SD	STORM DRAIN
PROP	PROPOSED	PP	POWER POLE
SS	SANITARY SEWER	SL	STREET LIGHT
MH	MANHOLE	TS	TRAFFIC SIGNAL
CO	CLEAN OUT	PB	PULL BOX
POC	POINT OF CONNECTION	CLF	CHAIN LINK FENCE
WV	WATER VALVE		
WM	WATER METER		
FH	FIRE HYDRANT		



VICINITY MAP
NOT TO SCALE

SHEET INDEX

Sheet Number	Sheet Title
C0.00	COVER SHEET AND NOTES
C0.01	EXISTING TOPOGRAPHY
C1.00	DEMOLITION PLAN (SHEET 1 OF 2)
C1.10	DEMOLITION PLAN (SHEET 2 OF 2)
C2.00	ROUGH GRADING PLAN
C2.10	EROSION & SEDIMENT CONTROL PLAN
C3.00	OVERALL GRADING PLAN
C3.01	PROXIMITY TO ADJACENT BLDGS
C3.10	GRADING AND DRAINAGE PLAN (SHEET 1 OF 6)
C3-20	GRADING AND DRAINAGE PLAN (SHEET 2 OF 6)
C3.30	GRADING AND DRAINAGE PLAN (SHEET 3 OF 6)
C3.40	GRADING AND DRAINAGE PLAN (SHEET 4 OF 6)
C3.50	GRADING AND DRAINAGE PLAN (SHEET 5 OF 6)
C3.60	GRADING AND DRAINAGE PLAN (SHEET 6 OF 6)
C3.70	SECTIONS
C4.00	UTILITY PLAN (SHEET 1 OF 2)
C4.10	UTILITY PLAN (SHEET 2 OF 2)
C5.00	DETAILS (SHEET 1 OF 2)
C5.10	DETAILS (SHEET 2 OF 2)
C6.00	HORIZONTAL CONTROL AND STRIPING PLAN (SHT 1 OF 2)
C6.10	HORIZONTAL CONTROL AND STRIPING PLAN (SHT 2 OF 2)

GENERAL PROJECT NOTES

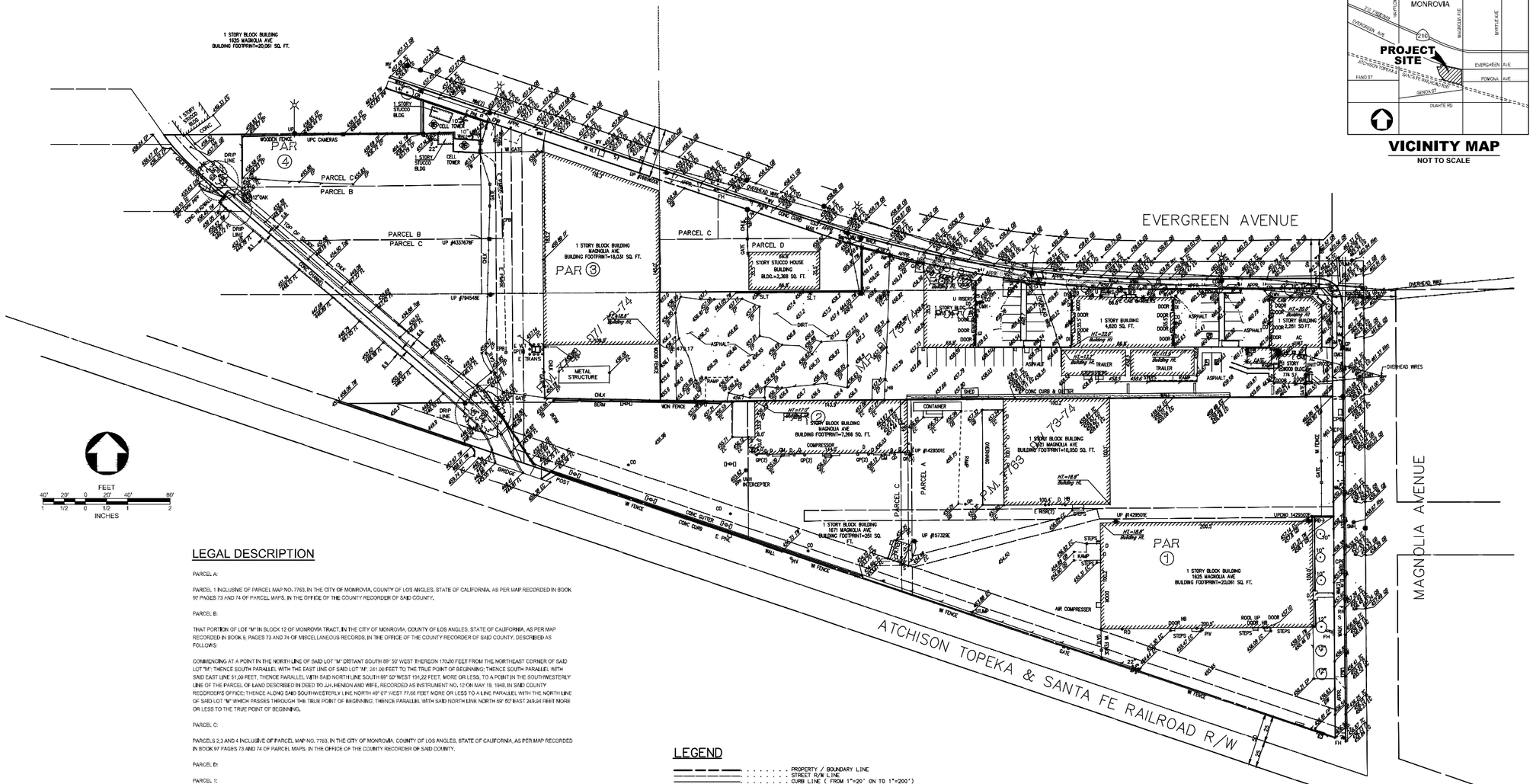
OWNER:

TRAMMELL CROW RESIDENTIAL
5790 FLEET STREET, SUITE 140
CARLSBAD, CA 92008
TEL: (858) 210-9737
REPRESENTATIVE: MR. ALEC SCHIFFER
JOB ADDRESS:

1625 SOUTH MAGNOLIA AVENUE
MONROVIA, CA 91016

CIVIL ENGINEER:

PSOMAS
27220 TURNBERRY, SUITE 190
VALENCIA, CA 91355
www.psomas.com
TEL: (661



VICINITY MAP

NOT TO SCALE

LEGAL DESCRIPTION

PARCEL A:

PARCEL 1 INCLUSIVE OF PARCEL MAP NO. 7763, IN THE CITY OF MONROVIA, COUNTY OF LOS ANGLES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 97 PAGES 73 AND 74 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL B:

THAT PORTION OF LOT "M" IN BLOCK 12 OF MONROVIA TRACT, IN THE CITY OF MONROVIA, COUNTY OF LOS ANGLES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 9, PAGES 73 AND 74 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY, DESCRIBED AS FOLLOWS:

COMMENCING AT A POINT IN THE NORTH LINE OF SAID LOT "M" DISTANT SOUTH 89° 50' WEST THEREON 170.00 FEET FROM THE NORTHEAST CORNER OF SAID LOT "M"; THENCE SOUTH PARALLEL WITH THE EAST LINE OF SAID LOT "M", 241.00 FEET TO THE TRUE POINT OF BEGINNING; THENCE SOUTH PARALLEL WITH SAID EAST LINE 51.00 FEET; THENCE PARALLEL WITH SAID NORTH LINE SOUTH 89° 50' WEST 191.22 FEET, MORE OR LESS, TO A POINT IN THE SOUTHWESTERLY LINE OF THE PARCEL OF LAND DESCRIBED IN DEED TO J.H. HENSON AND WIFE, RECORDED AS INSTRUMENT NO. 12 ON MAY 19, 1948, IN SAID COUNTY RECORDER'S OFFICE; THENCE ALONG SAID SOUTHWESTERLY LINE NORTH 49° 07' WEST 77.66 FEET MORE OR LESS TO A LINE PARALLEL WITH THE NORTH LINE OF SAID LOT "M" WHICH PASSES THROUGH THE TRUE POINT OF BEGINNING; THENCE PARALLEL WITH SAID NORTH LINE NORTH 89° 50' EAST 249.94 FEET MORE OR LESS TO THE TRUE POINT OF BEGINNING.

PARCEL C:

PARCELS 2, 3 AND 4 INCLUSIVE OF PARCEL MAP NO. 7763, IN THE CITY OF MONROVIA, COUNTY OF LOS ANGLES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 97 PAGES 73 AND 74 OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL D:

PARCEL 1:

THE SOUTHERLY 50 FEET OF THE WESTERLY 190 FEET OF THAT PORTION OF BLOCK 12 OF MONROVIA TRACT, IN THE CITY OF MONROVIA, COUNTY OF LOS ANGLES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 9 PAGES 73 AND 74 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

BEGINNING AT A POINT IN THE WEST LINE OF MAGNOLIA AVENUE, DISTANCE THEREON 1650 FEET SOUTH FROM THE CENTER LINE OF HUNTINGTON DRIVE (FORMERLY FALLING LEAF AVENUE), THENCE WEST 634.50 FEET TO THE PROLONGATION NORTHERLY OF THE EAST LINE OF LOT "M", BLOCK 12 OF SAID TRACT, THENCE SOUTH ALONG PROLONGATION OF SAID EAST LINE OF LOT "M" TO THE NORTHEAST CORNER OF LOT "M", THENCE SOUTH ALONG THE EAST LINE OF SAID LOT "M" AND THE PROLONGATION THEREOF SOUTHERLY 343.08 FEET, MORE OR LESS, TO THE CENTER LINE OF EVERGREEN AVENUE; THENCE EAST ALONG THE CENTER LINE OF EVERGREEN AVENUE AS VACATED, 634.50 FEET TO THE WEST LINE OF MAGNOLIA AVENUE, THENCE NORTH ALONG THE WEST LINE OF MAGNOLIA AVENUE TO THE POINT OF BEGINNING.

EXCEPT THEREFROM THAT PORTION CONVEYED TO THE STATE OF CALIFORNIA IN THE DEED RECORDED JANUARY 16, 1968 AS INSTRUMENT NO. 428, OFFICIAL RECORDS AND MORE PARTICULARLY DESCRIBED AS FOLLOWS:

THAT PORTION OF BLOCK 12 OF SAID MONROVIA TRACT, LYING WITHIN THAT CERTAIN PARCEL OF LAND CONVEYED TO CHARLES B. SIMONS AND DOROTHY M. SIMONS, BY DEED RECORDED IN BOOK 51124, PAGE 296 OF OFFICIAL RECORDS IN THE OFFICE OF THE COUNTY RECORDER, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID PARCEL OF LAND; THENCE ALONG THE NORTHERLY LINE OF SAID PARCEL OF LAND, WESTERLY 26.81 FEET TO THE INTERSECTION THEREOF WITH A CURVE CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 1026.00 FEET; THENCE ALONG SAID CURVE SOUTHEASTERLY AN ARC DISTANCE OF 28.05 FEET TO A POINT IN THE EASTERLY LINE OF SAID PARCEL OF LAND, DISTANT ALONG SAID EASTERLY LINE, SOUTHERLY 8.35 FEET FROM THE POINT OF BEGINNING; THENCE ALONG SAID EASTERLY LINE NORTHERLY 8.37 FEET TO SAID POINT OF BEGINNING.

SAID LAND IS SHOWN AS PART OF PARCEL "L" ON RECORD OF SURVEYS RECORDED IN BOOK 69, PAGE 30, RECORD OF SURVEYS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

PARCEL 2:

THAT PORTION OF THAT CERTAIN PARCEL OF LAND IN BLOCK 12 OF THE MONROVIA TRACT, IN THE CITY OF MONROVIA, COUNTY OF LOS ANGLES, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 9 PAGES 73 AND 74 OF MISCELLANEOUS RECORDS, IN THE OFFICE OF THE COUNTY RECORDER OF LOS ANGELES COUNTY, CONVEYED TO THE STATE OF CALIFORNIA, BY DEED RECORDED IN BOOK D3000 PAGE 526, OFFICIAL RECORDS, IN SAID OFFICE, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

BEGINNING AT A POINT IN THE SOUTHERLY LINE OF SAID PARCEL OF LAND, DISTANT ALONG SAID SOUTHERLY LINE SOUTH 68° 52' 58" WEST 26.81 FEET FROM THE SOUTHEASTERLY CORNER OF SAID PARCEL OF LAND, SAID POINT BEING THE INTERSECTION OF SAID SOUTHERLY LINE WITH A CURVE CONCAVE NORTHEASTERLY AND HAVING A RADIUS OF 1026.00 FEET; THENCE NORTHWESTERLY ALONG SAID CURVE FROM A TANGENT WHICH BEARS NORTH 72° 58' 22" WEST THROUGH AN ANGLE OF 0° 58' 22" AN ARC DISTANCE OF 17.42 FEET; THENCE TANGENT TO SAID CURVE NORTH 72° 00' 00" WEST 67.55 FEET; THENCE SOUTH 1° 00' 58" EAST 27.67 FEET TO A POINT IN SAID SOUTHERLY LINE DISTANT ALONG SAID SOUTHERLY LINE SOUTH 68° 52' 58" WEST 65.55 FEET FROM THE POINT OF BEGINNING; THENCE ALONG SAID SOUTHERLY LINE NORTH 68° 52' 58" EAST 65.55 FEET TO SAID POINT OF BEGINNING.

EXCEPT FROM SAID PARCEL NO. 2, ALL MINERALS, OILS, GASES AND OTHER HYDROCARBONS BY WHATSOEVER NAME KNOWN THAT MAY BE WITHIN OR UNDER THE PARCEL OF LAND HEREINABOVE DESCRIBED, WITHOUT HOWEVER, THE RIGHT TO DRILL, DIG, OR MINE THROUGH THE SURFACE THEREOF, AS RESERVED BY THE STATE OF CALIFORNIA, BY DEED RECORDED JANUARY 16, 1968 AS INSTRUMENT NO. 782, OF OFFICIAL RECORDS.

APN: 8507-006-041 (AFFECTS: PARCEL A); 8507-006-042 (AFFECTS: PARCEL 2 OF PARCEL C)
8507-005-043 (AFFECTS: PARCEL 3 OF PARCEL C); 8507-006-044 (AFFECTS: PARCEL 4 OF PARCEL C)
8507-006-022 (AFFECTS: PORTION OF PARCEL B) AND 8507-006-024 (AFFECTS: PORTION OF PARCEL B)
8507-006-016 (AFFECTS: PARCEL D)

LEGEND

- PROPERTY / BOUNDARY LINE
- STREET R/W LINE
- CURB LINE (FROM 1"=20' ON TO 1"=200')
- CURB LINE (1"=10', 1"=8', 1"=16')
- CENTER LINE
- FLOW LINE
- LOT LINE / PARCEL LINE
- EASEMENT LINE (W=WIDTH)
- CONTOUR LINE (APPROX/MATE)
- BUILDING FOOT PRINT LINE
- OVERHANG LINE
- FENCE LINE
- GUARD RAIL
- RETAINING WALL
- CONC. BLOCK WALL
- EDGE OF ASPHALT PAVING
- CONCRETE PAVING
- AREA DRAIN
- CATCH BASIN W/ACCESS HOLE
- MANHOLE (SEWER, STORM DRAIN, POWER, TELEPHONE)
- POWER POLE (P.P.) / TELEPHONE POLE (T.P.)
- SIGN (ALL KINDS)
- STREET LIGHT
- TRAFFIC SIGNAL
- TRAFFIC SIGNAL W/STREET LIGHT
- YARD LIGHT
- FIRE HYDRANT
- DOWNSPOUT
- FIRE DEPARTMENT CONNECTION
- POST INDICATOR VALVE
- DIRECTION OF WATER DRAINAGE FLOW
- PARKING METER
- GAS / WATER METER
- GAS / WATER VALVE
- ELEC./STREET LIGHT/TRAFFIC/UNKNOWN PULL BOX
- TREE IN WELL W/TRUNK DIAMETER
- PLANTER
- GUARD POST
- APPROACH (DRIVEWAY)
- BACKFLOW PREVENTER
- CLEAN OUT
- CHAIN LINK (FENCE/GATE)
- BENCHMARK
- TOPOGRAPHIC SPOT ELEVATION, NO LEADER
- BW — BACK OF WALK ELEVATION
- EC — EDGE OF CONCRETE ELEVATION
- EG — EDGE OF GUTTER ELEVATION
- EP — EDGE OF PAVEMENT ELEVATION
- FL — FLOW LINE ELEVATION
- TC — TOP OF CURB ELEVATION
- TG — TOP OF GRATE ELEVATION
- TW — TOP OF WALL ELEVATION
- RIM — MANHOLE RIM ELEVATION
- INV — MANHOLE INVERT ELEVATION
- CD — CURB DRAIN
- (2) — RECORD LOT / PARCEL NUMBER
- (100.00') — RECORD DIMENSION OR BEARING IF DIFFERENT THAN MEASURED
- /F — IMPROVEMENT FACE
- /E — IMPROVEMENT EDGE
- /End — IMPROVEMENT END
- N/E/S/W — NORTH/EAST/SOUTH/WEST LOCATION OF IMPROVEMENT W/ RESPECT TO REFERENCE NORTH AND PROPERTY LINE.
- [NAME] — ADJACENT PROPERTY OWNER

BENCHMARK: 4G3072
LOS ANGELES COUNTY PUBLIC WORKS SURVEY SECTION L & N IN W CB 5 FT N/O BCR NW COR. MONTANA AVE. AND MYRTLE AVE.
ELEV. 472.844 FEET ADJUSTMENT: 2005

REVISED 3/5/2019

S. MAGNOLIA AVE APARTMENT MONROVIA, CA

TCR TRAMMELL CROW RESIDENTIAL
5790 FLEET STREET
SUITE 140
CARLSBAD, CA 92008
T. 858.531.3905

ARCHITECTS ORANGE
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ORANGE, CA 92866 714.639.9860

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www.psomas.com

REGISTERED PROFESSIONAL ENGINEER DAVID S. MARTIN No. C 74143 Exp. 06-30-2019 CIVIL STATE OF CALIFORNIA

Seal / Signature

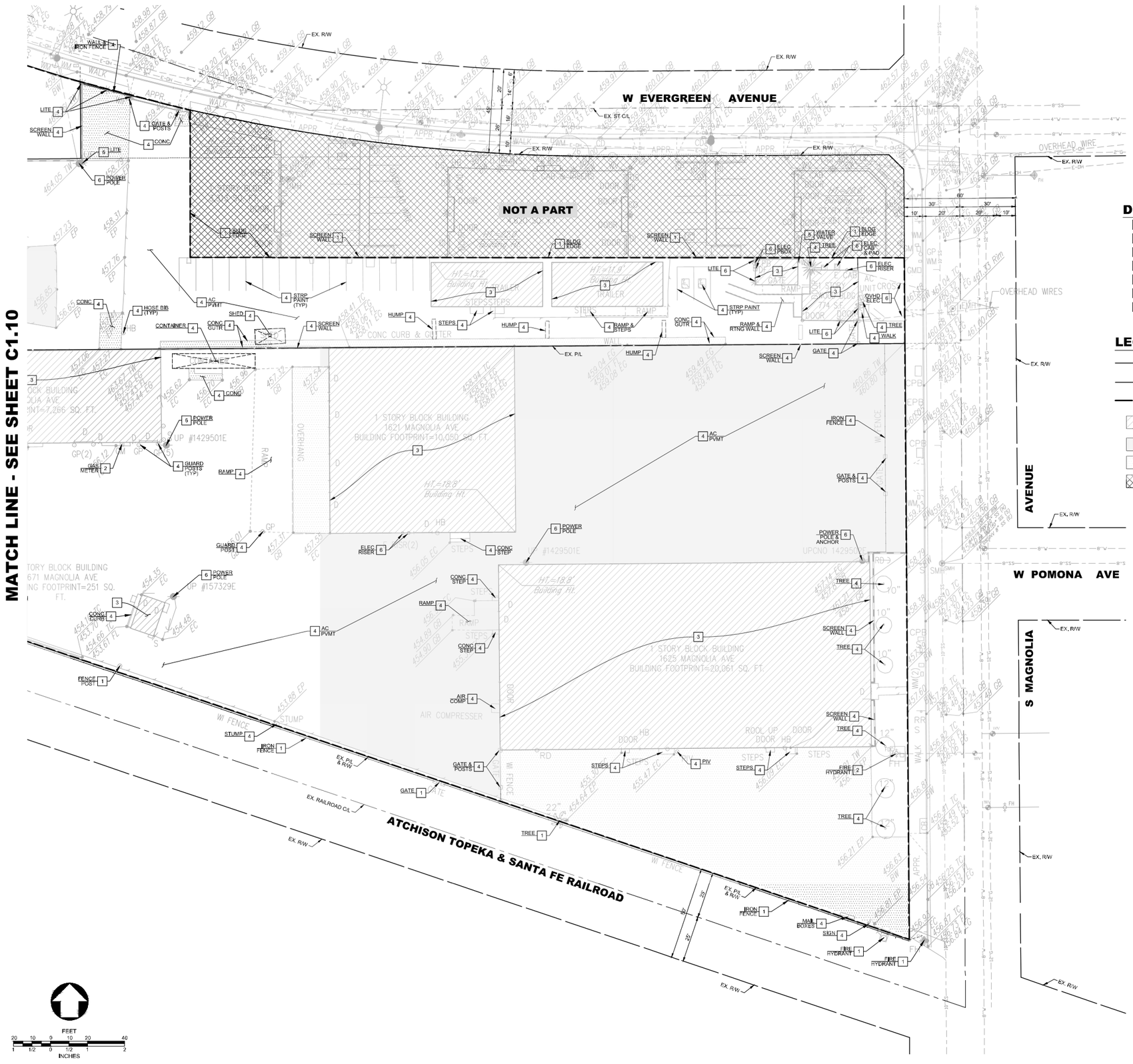
Project Name
-

Project Number

As indicated
Scale

EXISTING TOPOGRAPHY
Title

C0.01



DEMOLITION NOTES

1. PROTECT IN PLACE EXISTING
2. REMOVE AND RELOCATE EXISTING
3. DEMOLISH EXISTING BUILDING / TRAILER
4. REMOVE EXISTING
5. EXISTING TO REMAIN
6. REMOVE AND RELOCATE BY OTHERS
7. CUT AND CAP EXISTING

LEGEND:

- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- DEMOLITION LIMIT
- REMOVE EXISTING BUILDINGS/TRAILER, INCLUDING CONCRETE STEPS, OVERHANG & ROOF DRAINS
- REMOVE EXISTING ASPHALT CONCRETE PAVEMENT
- REMOVE EXISTING CONCRETE PAVEMENT
- NOT A PART OF THE PROJECT

REVISED 3/5/2019

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Seal / Signature

Project Name

-

Project Number

As indicated
Scale

DEMOLITION PLAN
(SHEET 1 OF 2)
Title

C1.00

J:\PROJECTS\PROJECTS (ESD)\ESD_700\ESD_700_01\Plan\Demo - 01.dwg, jamie on Oct 31, 2018 at 10:57 am

NOT A PART

NOT A PART

W EVERGREEN AVENUE

EX. ST CL

EX. P/L & R/W

EX. P/L

EX. R/W

EX. RAILROAD C/L

ATCHISON TOPEKA & SANTA FE RAILROAD

MATCH LINE - SEE SHEET C1.00

1 STORY STUCCO BLDG.

CONC

WOODEN FENCE

UPC CAMERAS

CELL TOWER

GATE

SCREEN WALL

OVHD ELEC

FENCE (CLF)

GATE & POSTS

UG ELEC

ELEC PBOX

POWER POLE

AC PVMT

TRANS/ VAULT

CONC PAD & BOLLARDS

METAL STRUCTURE

WOOD FENCE

RAMP

CONC

BERM

TREE

12"OAK

CONCRETE CHANNEL TO REMAIN

EX BRIDGE

STORY BLOCK BUILDING MAGNOLIA AVE BUILDING FOOTPRINT=18,031 SQ. FT.

1 STORY STUCCO HOUSE BUILDING BUILDING=2,000 SQ. FT.

1 STORY BLOCK BUILDING MAGNOLIA AVE BUILDING FOOTPRINT=7,266 SQ. FT.

1 STORY BLOCK BUILDING 1671 MAGNOLIA AVE BUILDING FOOTPRINT=251 SQ. FT.

COMPRESSOR

UTIL MH

SEWER MH INTERCEPTER

GUARD POSTS (TYP)

GAS METER

WALL & IRON FENCE

LITE

SCREEN WALL

CONC CURB

CURB & GUTTER

FENCE POST

IRON FENCE

ELEC PANEL

CLEAN OUT

PIV

DIRT

UP #4337676F

UP #794548E

UP #1663600E

LEGEND:

- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- DEMOLITION LIMIT
- REMOVE EXISTING BUILDINGS/TRAILER, INCLUDING CONCRETE STEPS, OVERHANG & ROOF DRAINS
- REMOVE EXISTING ASPHALT CONCRETE PAVEMENT
- REMOVE EXISTING CONCRETE PAVEMENT
- NOT A PART OF THE PROJECT

DEMOLITION NOTES

1. PROTECT IN PLACE EXISTING
2. REMOVE AND RELOCATE EXISTING
3. DEMOLISH EXISTING BUILDING / TRAILER
4. REMOVE EXISTING
5. EXISTING TO REMAIN
6. REMOVE AND RELOCATE BY OTHERS
7. CUT AND CAP EXISTING

FEET
20 10 0 10 20 40
1 1/2 0 1/2 1 2
INCHES

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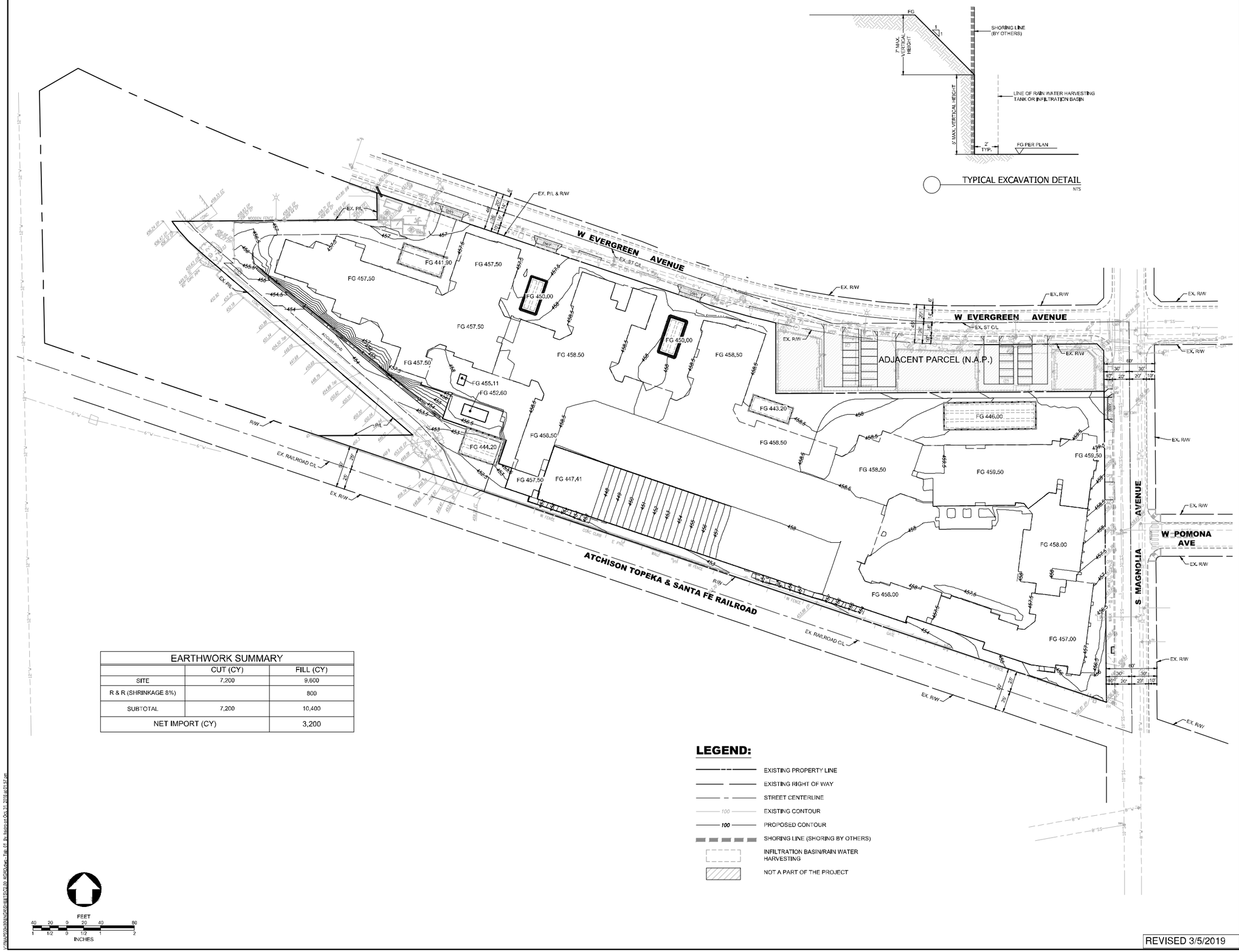
Project Name
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Project Number

As indicated
Scale

DEMOLITION PLAN
(SHEET 2 OF 2)
Title

C1.10



EARTHWORK SUMMARY		
	CUT (CY)	FILL (CY)
SITE	7,200	9,600
R & R (SHRINKAGE 8%)		800
SUBTOTAL	7,200	10,400
NET IMPORT (CY)		3,200

LEGEND:

- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- STREET CENTERLINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- SHORING LINE (SHORING BY OTHERS)
- INFILTRATION BASIN/RAIN WATER HARVESTING
- NOT A PART OF THE PROJECT

FEET
40 20 0 20 40 80
INCHES
1 1/2 0 1/2 1 2

REVISED 3/5/2019

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Seal / Signature

Project Name

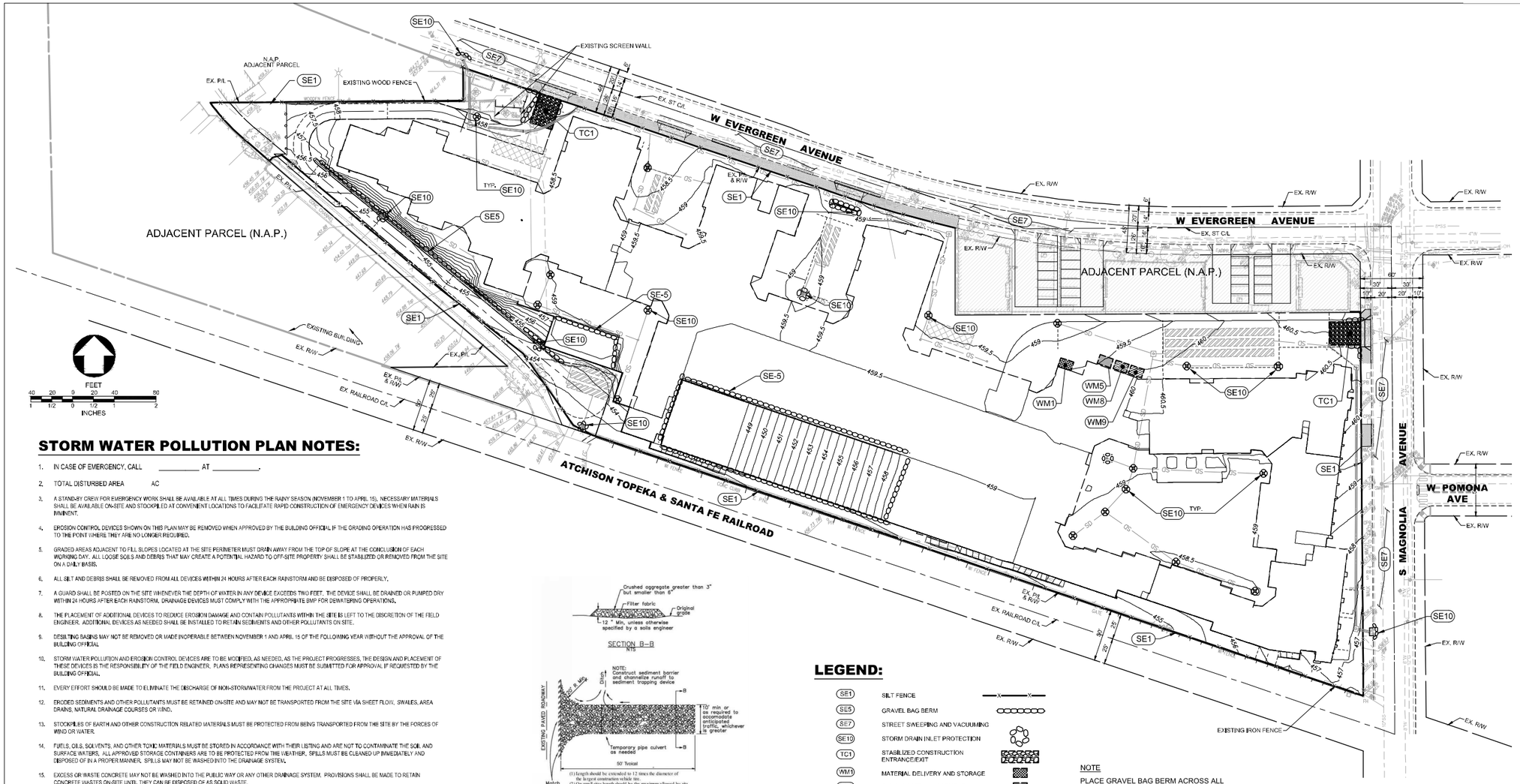
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Project Number

As indicated
Scale

ROUGH GRADING PLAN
Title

C2.00



STORM WATER POLLUTION PLAN NOTES:

1. IN CASE OF EMERGENCY, CALL _____ AT _____.
2. TOTAL DISTURBED AREA AC
3. A STAND-BY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (NOVEMBER 1 TO APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF EMERGENCY DEVICES WHEN RAIN IS IMMINENT.
4. EROSION CONTROL DEVICES SHOWN ON THIS PLAN MAY BE REMOVED WHEN APPROVED BY THE BUILDING OFFICIAL IF THE GRADING OPERATION HAS PROGRESSED TO THE POINT WHERE THEY ARE NO LONGER REQUIRED.
5. GRADED AREAS ADJACENT TO FILL SLOPES LOCATED AT THE SITE PERIMETER MUST DRAIN AWAY FROM THE TOP OF SLOPE AT THE CONCLUSION OF EACH WORKING DAY. ALL LOOSE SOILS AND DEBRIS THAT MAY CREATE A POTENTIAL HAZARD TO OFF-SITE PROPERTY SHALL BE STABILIZED OR REMOVED FROM THE SITE ON A DAILY BASIS.
6. ALL SILT AND DEBRIS SHALL BE REMOVED FROM ALL DEVICES WITHIN 24 HOURS AFTER EACH RAINSTORM AND BE DISPOSED OF PROPERLY.
7. A GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN ANY DEVICE EXCEEDS TWO FEET. THE DEVICE SHALL BE DRAINED OR PUMPED DRY WITHIN 24 HOURS AFTER EACH RAINSTORM. DRAINAGE DEVICES MUST COMPLY WITH THE APPROPRIATE BMP FOR DEWATERING OPERATIONS.
8. THE PLACEMENT OF ADDITIONAL DEVICES TO REDUCE EROSION DAMAGE AND CONTAIN POLLUTANTS WITHIN THE SITE IS LEFT TO THE DISCRETION OF THE FIELD ENGINEER. ADDITIONAL DEVICES AS NEEDED SHALL BE INSTALLED TO RETAIN SEDIMENTS AND OTHER POLLUTANTS ON SITE.
9. DESILTING BASINS MAY NOT BE REMOVED OR MADE INOPERABLE BETWEEN NOVEMBER 1 AND APRIL 15 OF THE FOLLOWING YEAR WITHOUT THE APPROVAL OF THE BUILDING OFFICIAL
10. STORM WATER POLLUTION AND EROSION CONTROL DEVICES ARE TO BE MODIFIED, AS NEEDED, AS THE PROJECT PROGRESSES. THE DESIGN AND PLACEMENT OF THESE DEVICES IS THE RESPONSIBILITY OF THE FIELD ENGINEER. PLANS REPRESENTING CHANGES MUST BE SUBMITTED FOR APPROVAL IF REQUESTED BY THE BUILDING OFFICIAL.
11. EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORMWATER FROM THE PROJECT AT ALL TIMES.
12. ERODED SEDIMENTS AND OTHER POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES OR WIND.
13. STOCKPILES OF EARTH AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
14. FUELS, OILS, SOLVENTS, AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
15. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON-SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
16. DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO INSPECT ALL EROSION CONTROL DEVICES AND BMPS ARE INSTALLED AND FUNCTIONING PROPERLY IF THERE IS A 40% CHANCE OF 0.25 INCHES OR GREATER OF PREDICTED PRECIPITATION, AND AFTER ACTUAL PRECIPITATION. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL (COPIES OF THE SELF-INSPECTION CHECKLIST AND INSPECTION LOGS ARE AVAILABLE UPON REQUEST).
17. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
18. SEDIMENTS AND OTHER MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
19. THE CONTRACTOR SHALL INSTALL PORTABLE WHEEL WASH STATIONS FOR THE DURATION OF CONSTRUCTION ACTIVITIES TO PREVENT THE SPREAD OF INVASIVE WEED SEED FROM THE TIRE TREADS OF VEHICLES ENTERING AND LEAVING THE PROJECT SITES. THE BASINS COLLECTED FROM THE DEBRIS BASINS OF THESE WASH STATIONS SHALL BE DISPOSED OF IN GREEN WASTE OR TRASH RECEPTACLES WHEN THE BASINS REQUIRE MAINTENANCE.
20. ANY SLOPES WITH DISTURBED SOILS OR DENUDED OF VEGETATION MUST BE STABILIZED SO AS TO INHIBIT EROSION BY WIND AND WATER.
21. AS THE ARCHITECT/ENGINEER OF RECORD, I HAVE SELECTED APPROPRIATE BMPs TO EFFECTIVELY MINIMIZE THE NEGATIVE IMPACTS OF THIS PROJECT'S CONSTRUCTION ACTIVITIES ON STORM WATER QUALITY. THE PROJECT OWNER AND CONTRACTOR ARE AWARE THAT THE SELECTED BMPs MUST BE INSTALLED, MONITORED, AND MAINTAINED TO ENSURE THEIR EFFECTIVENESS. THE BMPs NOT SELECTED FOR IMPLEMENTATION ARE REDUNDANT OR DEEMED NOT APPLICABLE TO THE PROPOSED CONSTRUCTION ACTIVITY.

DAVID MARTIN, PE RCE # C74143 Date

22. AS THE PROJECT OWNER OR AUTHORIZED AGENT OF THE OWNER, I HAVE READ AND UNDERSTAND THE REQUIREMENTS TO CONTROL STORM WATER POLLUTION FROM SEDIMENTS, EROSION, AND CONSTRUCTION MATERIALS, AND I CERTIFY THAT I WILL COMPLY WITH THESE REQUIREMENTS. I, OR MY REPRESENTATIVE, CONTRACTOR, DEVELOPER, OR ENGINEER WILL MAKE CERTAIN THAT ALL BMP SHOWN ON THIS PLAN WILL BE FULLY IMPLEMENTED, AND ALL EROSION CONTROL DEVICES WILL BE KEPT CLEAN AND FUNCTIONING. PERIODIC INSPECTIONS OF ALL BMPS WILL BE CONDUCTED AND A CURRENT LOG, SPECIFYING THE EXACT NATURE OF THE INSPECTION AND ANY REMEDIAL MEASURES, WILL BE KEPT AT THE CONSTRUCTION SITE AT ALL TIMES AND WILL BE AVAILABLE FOR THE REVIEW OF THE BUILDING OFFICIAL.

AS THE PROJECT OWNER OF AUTHORIZED AGENT OF THE OWNER, "I CERTIFY THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM OF THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, TO THE BEST OF MY KNOWLEDGE AND BELIEF, THE INFORMATION SUBMITTED IS TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT SUBMITTING FALSE AND/OR INACCURATE INFORMATION TO UPDATE THE LOCAL SWPPP TO REFLECT CURRENT CONDITIONS, OR FAILING TO PROPERLY AND/OR ADEQUATELY IMPLEMENT THE LOCAL SWPPP MAY RESULT IN REVOCATION OF GRADING AND/OR OTHER PERMITS OR OTHER SANCTIONS PROVIDED BY LAW.

Owner or Authorized Representative (Permittee) Date

23. DEVELOPERS/CONTRACTORS ARE RESPONSIBLE TO INSPECT ALL EROSION CONTROL DEVICES AND THAT BMPs ARE INSTALLED AND FUNCTIONING PROPERLY AS REQUIRED BY THE STATE CONSTRUCTION GENERAL PERMIT. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL.
24. THE FOLLOWING BMPs FROM THE "CASQA CONSTRUCTION BMP ONLINE HANDBOOK" MUST BE IMPLEMENTED FOR ALL CONSTRUCTION ACTIVITIES AS APPLICABLE. AS AN ALTERNATIVE, DETAILS FROM "CALTRANS STORMWATER QUALITY HANDBOOKS, CONSTRUCTION SITE BEST MANAGEMENT PRACTICES (BMP) MANUAL" MAY BE USED. ADDITIONAL MEASURE MAY BE REQUIRED IF DEEMED APPROPRIATE BY THE BUILDING OFFICIAL.

TC1 STABILZED CONSTRUCTION ENTRANCE/EXIT
NOT TO SCALE

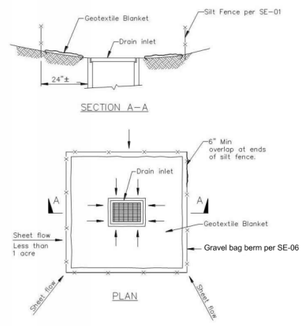
LEGEND:

SE1	SILT FENCE
SE5	GRAVEL BAG BERM
SE7	STREET SWEEPING AND VACUUMING
SE10	STORM DRAIN INLET PROTECTION
TC1	STABILIZED CONSTRUCTION ENTRANCE/EXIT
WM1	MATERIAL DELIVERY AND STORAGE
WM5	SOLID WASTE MANAGEMENT
WM8	CONCRETE WASTE MANAGEMENT
WM9	SANITARY/SEPTIC WASTE MANAGEMENT

NOTE
PLACE GRAVEL BAG BERM ACROSS ALL DRAINAGE PATH FROM WORK AREAS TO TRAP SEDIMENT TRANSPORT PRIOR TO DISCHARGE INTO DRAIN OR LEAVING PROPERTY

EROSION CONTROL	
EC1	SCHEDULING
EC2	PRESERVATION OF EXISTING VEGETATION
EC3	HYDRAULIC MULCH
EC4	HYDROSEEDING
EC5	SOIL BINDERS
EC6	STRAW MULCH
EC7	GEOTEXTILES AND MATS
EC8	WOOD MULCHING
EC9	EARTH DIKES AND DRAINAGE SWALES
EC10	VELOCITY DISSIPATION DEVICES
EC11	SLOPE DRAINS
EC12	STREAMBANK STABILIZATION
EC13	RESERVED
EC14	COMPOST BLANKETS
EC15	SOIL PREPARATION/ROUGHENING
EC16	NON-VEGETATED STABILIZATION
TEMPORARY SEDIMENT CONTROL	
SE1	SILT FENCE
SE2	SEDIMENT BASIN
SE3	SEDIMENT TRAP
SE4	CHECK DAM
SE5	FIBER ROLLS
SE6	GRAVEL BAG BERM
SE7	STREET SWEEPING AND VACUUMING
SE8	SAND BAG BARRIER
SE9	STRAW BALE BARRIER
SE10	STORM DRAIN INLET PROTECTION
SE11	ACTIVE TREATMENT SYSTEMS
SE12	TEMPORARY SILT DIKE
SE13	COMPOST SOCKS AND BERMS
SE14	BIOFILTER BAGS
WIND EROSION CONTROL	
WE1	WIND EROSION CONTROL

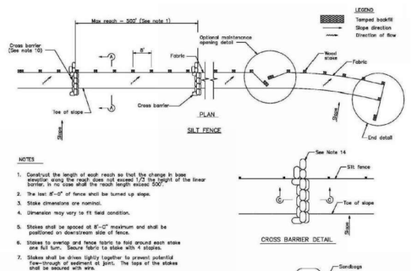
EQUIPMENT TRACKING CONTROL	
TC1	STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC2	STABILIZED CONSTRUCTION ROADWAY
TC3	ENTRANCE/OUTLET TIRE WASH
NON-STORMWATER MANAGEMENT	
NS1	WATER CONSERVATION PRACTICES
NS2	DEWATERING OPERATIONS
NS3	PAVING AND GRINDING OPERATIONS
NS4	TEMPORARY STREAM CROSSING
NS5	CLEAR WATER DIVERSION
NS6	ILLICIT CONNECTION/DISCHARGE
NS7	POTABLE WATER/IRRIGATION
NS8	VEHICLE AND EQUIPMENT CLEANING
NS9	VEHICLE AND EQUIPMENT FUELING
NS10	VEHICLE AND EQUIPMENT MAINTENANCE
NS11	PILE DRIVING OPERATIONS
NS12	CONCRETE CURING
NS13	CONCRETE FINISHING
NS14	MATERIAL AND EQUIPMENT USE
NS15	DEMOLITION ADJACENT TO WATER
NS16	TEMPORARY BATCH PLANTS
WASTE MANAGEMENT & MATERIAL POLLUTION CONTROL	
WM1	MATERIAL DELIVERY AND STORAGE
WM2	MATERIAL USE
WM3	STOCKPILE MANAGEMENT
WM4	SPILL PREVENTION AND CONTROL
WM5	SOLID WASTE MANAGEMENT
WM6	HAZARDOUS WASTE MANAGEMENT
WM7	CONTAMINATION SOIL MANAGEMENT
WM8	CONCRETE WASTE MANAGEMENT
WM9	SANITARY/SEPTIC WASTE MANAGEMENT
WM10	LIQUID WASTE MANAGEMENT



DI PROTECTION TYPE 1
NOT TO SCALE

NOTES:
1. For use in areas where grading has been completed and final soil stabilization and seeding are pending.
2. Not applicable in paved areas.
3. Not applicable with concentrated flows.

SE10 DI PROTECTION - TYPE 1
NOT TO SCALE



SE1 DI PROTECTION - TYPE 1
NOT TO SCALE

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PROFESSIONAL ENGINEER DAVID S. MARTIN No. C 74143 Exp. 06-30-2019 CIVIL STATE OF CALIFORNIA

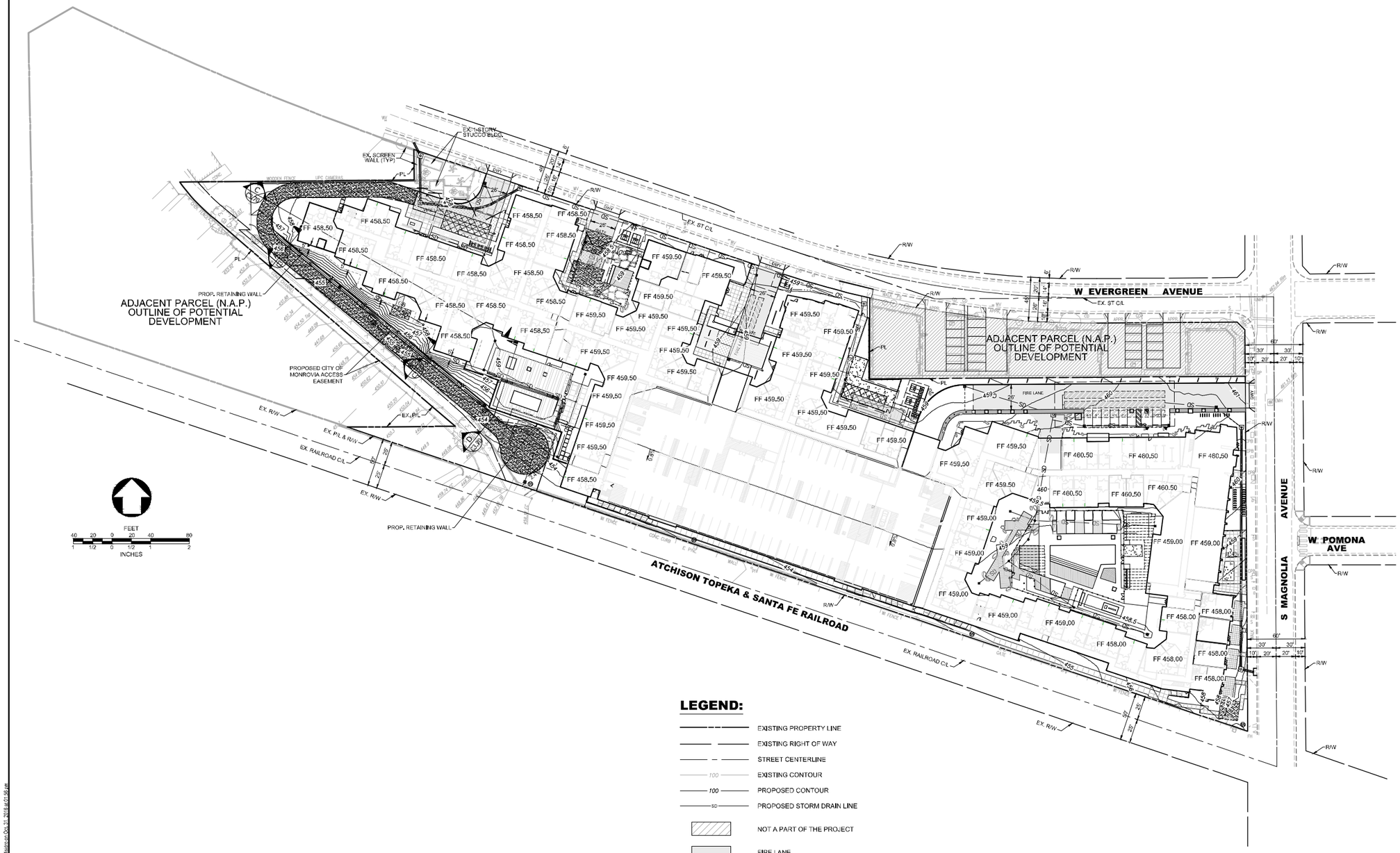
Seal / Signature

Project Name
-
Project Number

As indicated
Scale

EROSION & SEDIMENT CONTROL PLAN
Title

C2.10



LEGEND:

- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- STREET CENTERLINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- PROPOSED STORM DRAIN LINE
- NOT A PART OF THE PROJECT
- FIRE LANE
- ACCESS ROAD
- INFILTRATION BASIN
- RAINWATER HARVESTING SYSTEM

REVISED 3/5/2019

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Project Name

-

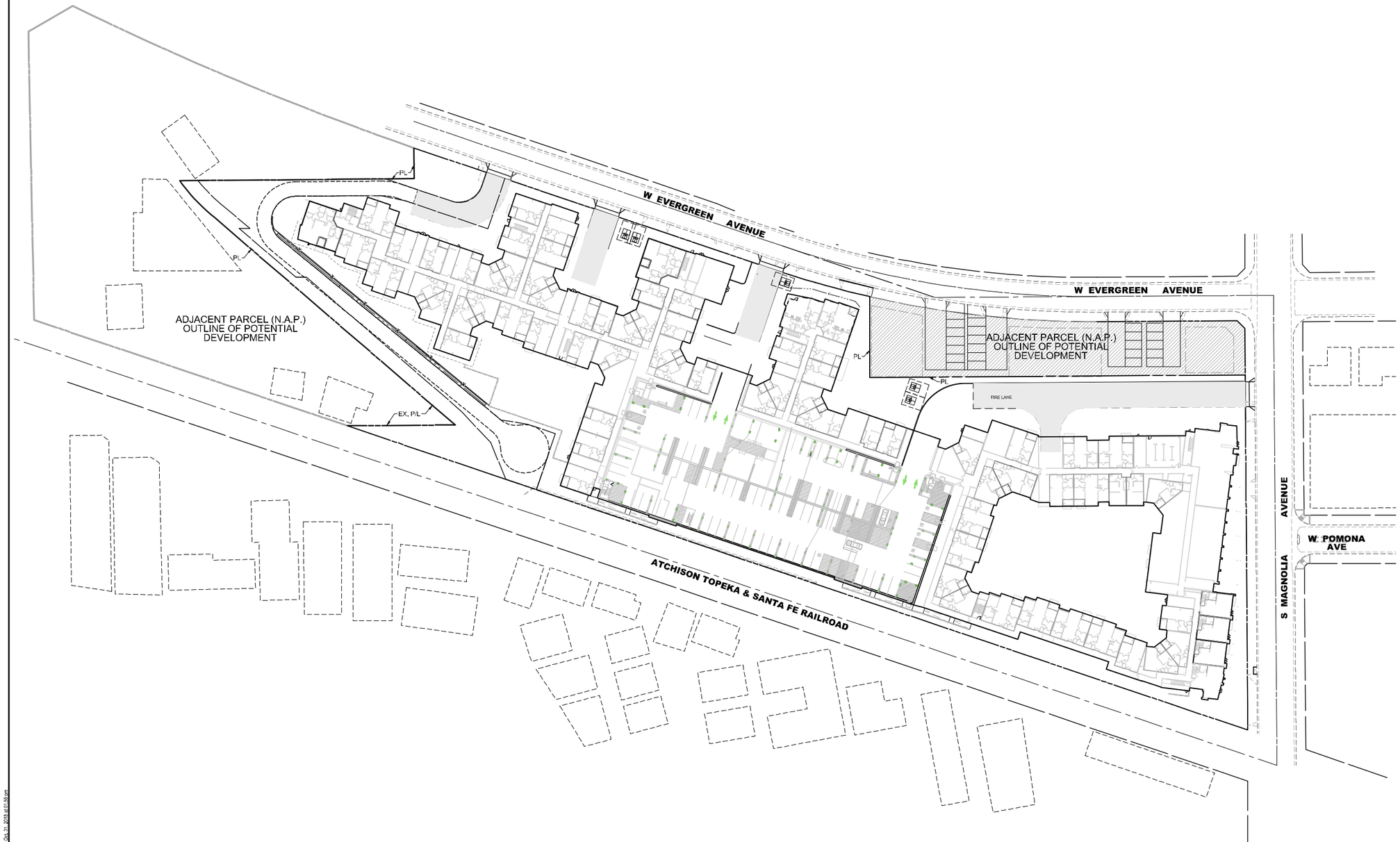
Project Number

As indicated
Scale

OVERALL GRADING PLAN
Title

C3.00

J:\MONROVIA\PLOTS\EE Exhibit\Plot Plan - Overall Grading Plan.dwg, 10/11/2018 01:58 pm



FEET
40 20 0 20 40 80
1 1/2 0 1 2
INCHES

LEGEND:

- EXISTING PROPERTY LINE
- EXISTING RIGHT OF WAY
- STREET CENTERLINE
- EXISTING BUILDING
- PROPOSED BUIDING

REVISED 3/5/2019

J:\MAGNOLIA\PLANCHECK\SET\SCD\1 BLOCK.dwg, 1a EXISTING By Rebecca Oct 10, 2018 4:01:03 pm

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STATE OF CALIFORNIA

Seal / Signature

Project Name
-

Project Number

As indicated
Scale

PROXIMITY TO ADJACENT BLDGS
Title

C3.01

CONSTRUCTION NOTES

1. CONSTRUCT CONCRETE CURB PER SPPWC PLAN 120-1, A1-6(150)
2. CONSTRUCT RETAINING WALL, TYPE 7B PER SPPWC STD PLAN 616-3 OR APPROVED SIMILAR
3. CONSTRUCT 4" CONCRETE WALK PER DETAIL 3 ON SHEET C5.00, FINISH PER LANDSCAPE
4. 6" THICK REINFORCED CONCRETE PAVEMENT PER DETAIL 1 ON C5.00
5. CONSTRUCT 15' WIDE ACCESS ROAD PER DETAIL ON SHEET 5.00
6. CONSTRUCT CONCRETE DRIVEWAY PER SEPARATE PERMIT
7. CONSTRUCT FLUSH CURB, 0" CF PER SPPWC PLAN 120-1, TYPE A1
8. INSTALL 24"x24" BROOKS AREA DRAIN OR APPROVED SIMILAR
9. INSTALL PVC STORM DRAIN, SLOPE & LENGTH PER PLAN
10. INSTALL PVC STORM DRAIN OVERFLOW, SLOPE & LENGTH PER PLAN
11. INSTALL STORM DRAIN CLEANOUT PER DETAIL ON SHEET 7 C5.10
12. INSTALL STORM DRAIN MANHOLE PER SPPWC STD. PLAN 321-2
13. INSTALL INFILTRATION BASIN, SIZE PER PLAN PER DETAIL 5 ON SHEET C5.00
14. INSTALL RAINWATER HARVESTING SYSTEM PER DETAIL ON SHEET C5.00
15. INSTALL 12"x24" CATCHBASIN, ZURN MODEL Z887, WITH CONNECTING TRENCH DRAIN 8" W x 12" D, ZURN MODEL Z886 WITH REINFORCED SLOTTED STAINLESS STEEL GRATE CLASS C, OR APPROVED EQUAL
16. EXISTING ADJUST TO GRADE
17. 3' WIDE LONGITUDINAL GUTTER PER DETAIL 4 ON SHEET C5.00
18. 12"x12" BROOKS AREA DRAIN OR APPROVED SIMILAR

ADJACENT PARCEL (N.A.P.)
OUTLINE OF POTENTIAL
DEVELOPMENT

FEET
20 10 0 10 20 40
INCHES
1 1/2 0 1/2 1 2

MATCH LINE - SEE SHEET C3.60

MATCH LINE - SEE SHEET C3-20

REVISED 3/5/2019

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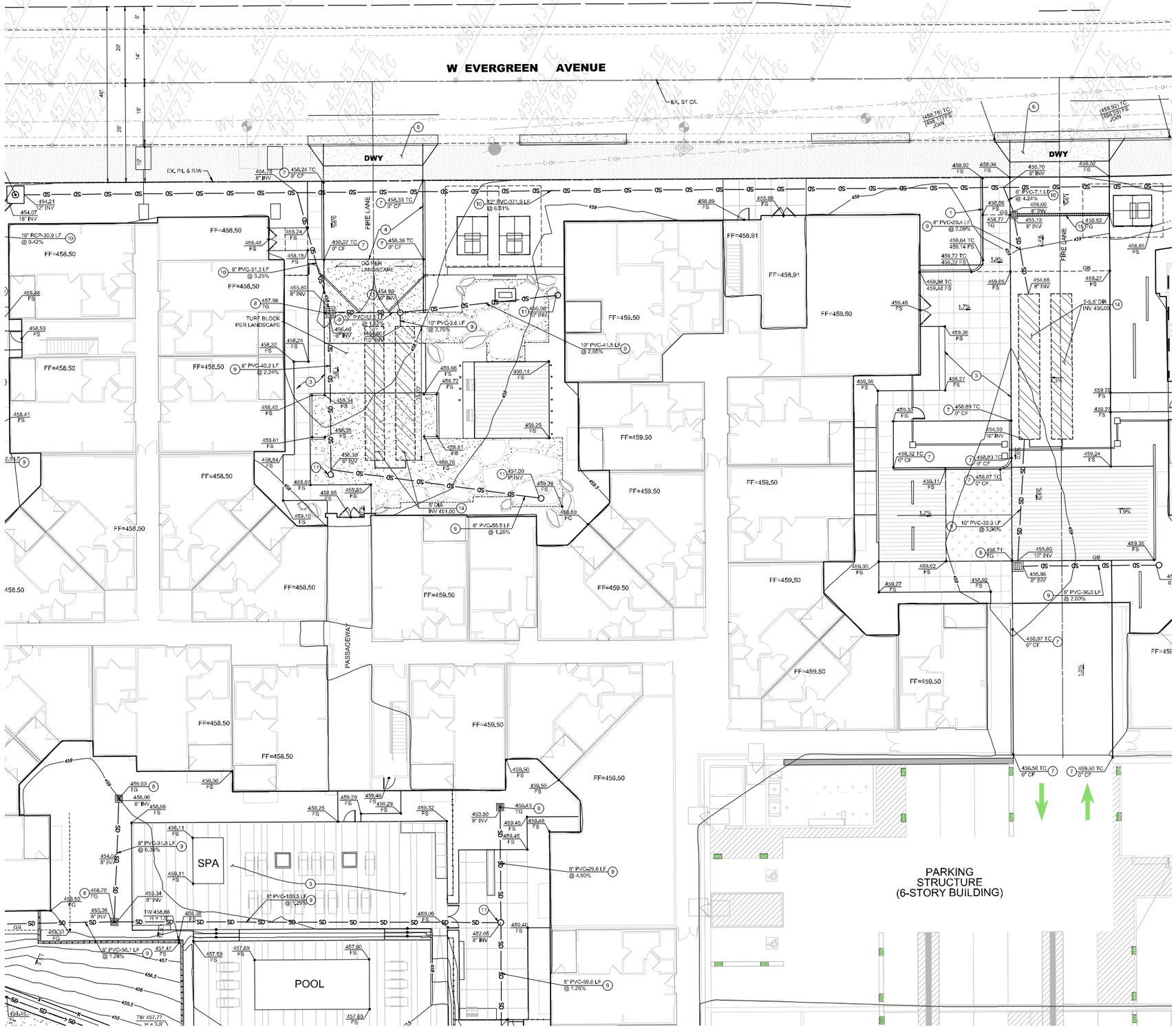
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Project Name
-
Project Number
As indicated
Scale

GRADING AND DRAINAGE PLAN
(SHEET 1 OF 6)
Title

C3.10



CONSTRUCTION NOTES

1. CONSTRUCT CONCRETE CURB PER SPPWC PLAN 120-1, A1-8(150)
2. CONSTRUCT RETAINING WALL, TYPE 7B PER SPPWC STD PLAN 616-3 OR APPROVED SIMILAR
3. CONSTRUCT 4" CONCRETE WALK PER DETAIL 3 ON SHEET C5.00, FINISH PER LANDSCAPE
4. 6" THICK REINFORCED CONCRETE PAVEMENT PER DETAIL 1 ON C5.00
5. CONSTRUCT 15' WIDE ACCESS ROAD PER DETAIL ON SHEET 5.00
6. CONSTRUCT CONCRETE DRIVEWAY PER SEPARATE PERMIT
7. CONSTRUCT FLUSH CURB, 0" CF PER SPPWC PLAN 120-1, TYPE A1
8. INSTALL 24"x24" BROOKS AREA DRAIN OR APPROVED SIMILAR
9. INSTALL PVC STORM DRAIN, SLOPE & LENGTH PER PLAN
10. INSTALL PVC STORM DRAIN OVERFLOW, SLOPE & LENGTH PER PLAN
11. INSTALL STORM DRAIN CLEANOUT PER DETAIL ON SHEET 7 C5.10
12. INSTALL STORM DRAIN MANHOLE PER SPPWC STD. PLAN 321-2
13. INSTALL INFILTRATION BASIN, SIZE PER PLAN PER DETAIL 5 ON SHEET C5.00
14. INSTALL RAINWATER HARVESTING SYSTEM PER DETAIL ON SHEET C5.00
15. INSTALL 12"x24" CATCHBASIN, ZURN MODEL Z887, WITH CONNECTING TRENCH DRAIN 6" W x 12" D. ZURN MODEL Z886 WITH REINFORCED SLOTTED STAINLESS STEEL GRATE CLASS C, OR APPROVED EQUAL
16. EXISTING ADJUST TO GRADE
17. 3' WIDE LONGITUDINAL GUTTER PER DETAIL 4 ON SHEET C5.00
18. 12"x12" BROOKS AREA DRAIN OR APPROVED SIMILAR

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REGISTERED PROFESSIONAL ENGINEER JAMES S. MARTIN No. C 74143 Exp. 06-30-2019 CIVIL STATE OF CALIFORNIA

Seal / Signature

Project Name

-

Project Number

As indicated

Scale

GRADING AND DRAINAGE PLAN (SHEET 2 OF 6)

Title

C3-20

REVISED 3/5/2019

CONSTRUCTION NOTES

1. CONSTRUCT CONCRETE CURB PER SPPWC PLAN 120-1, A1-6(150)
2. CONSTRUCT RETAINING WALL, TYPE 7B PER SPPWC STD PLAN 616-3 OR APPROVED SIMILAR
3. CONSTRUCT 4' CONCRETE WALK PER DETAIL 3 ON SHEET C5.00, FINISH PER LANDSCAPE
4. 6" THICK REINFORCED CONCRETE PAVEMENT PER DETAIL 1 ON C5.00
5. CONSTRUCT 18' WIDE ACCESS ROAD PER DETAIL ON SHEET 5.00
6. CONSTRUCT CONCRETE DRIVEWAY PER SEPARATE PERMIT
7. CONSTRUCT FLUSH CURB, 0" CF PER SPPWC PLAN 120-1, TYPE A1
8. INSTALL 24"x24" BROOKS AREA DRAIN OR APPROVED SIMILAR
9. INSTALL PVC STORM DRAIN, SLOPE & LENGTH PER PLAN
10. INSTALL PVC STORM DRAIN OVERFLOW, SLOPE & LENGTH PER PLAN
11. INSTALL STORM DRAIN CLEANOUT PER DETAIL ON SHEET 7 C5.10
12. INSTALL STORM DRAIN MANHOLE PER SPPWC STD. PLAN 321-2
13. INSTALL INFILTRATION BASIN, SIZE PER PLAN PER DETAIL 5 ON SHEET C5.00
14. INSTALL RAINWATER HARVESTING SYSTEM PER DETAIL ON SHEET C5.00
15. INSTALL 12"x24" CATCHBASIN, ZURN MODEL Z887, WITH CONNECTING TRENCH DRAIN 6" W x 12" D, ZURN MODEL Z886 WITH REINFORCED SLOTTED STAINLESS STEEL GRATE CLASS C, OR APPROVED EQUAL
16. EXISTING ADJUST TO GRADE
17. 3' WIDE LONGITUDINAL GUTTER PER DETAIL 4 ON SHEET C5.00
18. 12"x12" BROOKS AREA DRAIN OR APPROVED SIMILAR

FEET
10 5 0 5 10 20
1 1/2 0 1/2 1 2
INCHES

EX. R/W
EX. ST C/L
ADJACENT PARCEL (N.A.P.)
OUTLINE OF POTENTIAL DEVELOPMENT
PROP. P/L
FIRE LANE
GARAGE ENTRY
PET SPA (BELOW)
ELEC RM. (BELOW)
LOUNGE (BELOW)
DEPTH 3.0'
BASIN INVERT ELEV. = 444.00'
TOP BASIN ELEV. = 447.00'
45.00'
40.00'

MATCH LINE - SEE SHEET C3.20

MATCH LINE - SEE SHEET C3.40

MATCH LINE - SEE SHEET C3.60

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Project Name
-

Project Number

As indicated
Scale

GRADING AND DRAINAGE PLAN
(SHEET 3 OF 6)
Title

C3.30

CONSTRUCTION NOTES

1. CONSTRUCT CONCRETE CURB PER SPPWC PLAN 120-1, A1-6(150)
2. CONSTRUCT RETAINING WALL, TYPE 7B PER SPPWC STD PLAN 616-3 OR APPROVED SIMILAR
3. CONSTRUCT 4" CONCRETE WALK PER DETAIL 3 ON SHEET C5.00. FINISH PER LANDSCAPE
4. 6" THICK REINFORCED CONCRETE PAVEMENT PER DETAIL 1 ON C5.00
5. CONSTRUCT 15' WIDE ACCESS ROAD PER DETAIL ON SHEET 5.00
6. CONSTRUCT CONCRETE DRIVEWAY PER SEPARATE PERMIT
7. CONSTRUCT FLUSH CURB, 0" CF PER SPPWC PLAN 120-1, TYPE A1
8. INSTALL 24"x24" BROOKS AREA DRAIN OR APPROVED SIMILAR
9. INSTALL PVC STORM DRAIN, SLOPE & LENGTH PER PLAN
10. INSTALL PVC STORM DRAIN OVERFLOW, SLOPE & LENGTH PER PLAN
11. INSTALL STORM DRAIN CLEANOUT PER DETAIL ON SHEET 7 C5.10
12. INSTALL STORM DRAIN MANHOLE PER SPPWC STD. PLAN 321-2
13. INSTALL INFILTRATION BASIN, SIZE PER PLAN PER DETAIL 5 ON SHEET C5.20
14. INSTALL RAINWATER HARVESTING SYSTEM PER DETAIL ON SHEET C5.00
15. INSTALL 12"x24" CATCHBASIN, ZURN MODEL Z887, WITH CONNECTING TRENCH DRAIN 6" W x 12" D, ZURN MODEL Z886 WITH REINFORCED SLOTTED STAINLESS STEEL GRATE CLASS C, OR APPROVED EQUAL
16. EXISTING ADJUST TO GRADE
17. 3' WIDE LONGITUDINAL GUTTER PER DETAIL 4 ON SHEET C5.00
18. 12"x12" BROOKS AREA DRAIN OR APPROVED SIMILAR

MATCH LINE - SEE SHEET C3.30

MATCH LINE - SEE SHEET C3.50

FEET 10 5 0 5 10 20
INCHES 1 1/2 0 1/2 1 2

REVISED 3/5/2019

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Project Name

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Project Number

As indicated
Scale

GRADING AND DRAINAGE PLAN (SHEET 4 OF 6)
Title

C3.40

MATCH LINE - SEE SHEET C3.40

MATCH LINE - SEE SHEET C3.40 & C3.60

MATCH LINE - SEE SHEET #####

CONSTRUCTION NOTES

1. CONSTRUCT CONCRETE CURB PER SPPWC PLAN 120-1, A1-5(150)
2. CONSTRUCT RETAINING WALL, TYPE 7B PER SPPWC STD PLAN 616-3 OR APPROVED SIMILAR
3. CONSTRUCT 4" CONCRETE WALK PER DETAIL 3 ON SHEET C5.00, FINISH PER LANDSCAPE
4. 6" THICK REINFORCED CONCRETE PAVEMENT PER DETAIL 1 ON C5.00
5. CONSTRUCT 15' WIDE ACCESS ROAD PER DETAIL ON SHEET 5.00
6. CONSTRUCT CONCRETE DRIVEWAY PER SEPARATE PERMIT
7. CONSTRUCT FLUSH CURB, 0' CF PER SPPWC PLAN 120-1, TYPE A1
8. INSTALL 24"x24" BROOKS AREA DRAIN OR APPROVED SIMILAR
9. INSTALL PVC STORM DRAIN, SLOPE & LENGTH PER PLAN
10. INSTALL PVC STORM DRAIN OVERFLOW, SLOPE & LENGTH PER PLAN
11. INSTALL STORM DRAIN CLEANOUT PER DETAIL ON SHEET 7 C5.10
12. INSTALL STORM DRAIN MANHOLE PER SPPWC STD. PLAN 321-2
13. INSTALL INFILTRATION BASIN, SIZE PER PLAN PER DETAIL 5 ON SHEET C5.00
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15. INSTALL 12"x24" CATCHBASIN, ZURN MODEL Z887, WITH CONNECTING TRENCH DRAIN 6" W x 12" D. ZURN MODEL Z886 WITH REINFORCED SLOTTED STAINLESS STEEL GRATE CLASS C, OR APPROVED EQUAL
16. EXISTING ADJUST TO GRADE
17. 3' WIDE LONGITUDINAL GUTTER PER DETAIL 4 ON SHEET C5.00
18. 12"x12" BROOKS AREA DRAIN OR APPROVED SIMILAR

FEET
10 5 0 5 10 20
1 1/2 0 1/2 1 2
INCHES

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Project Name
-

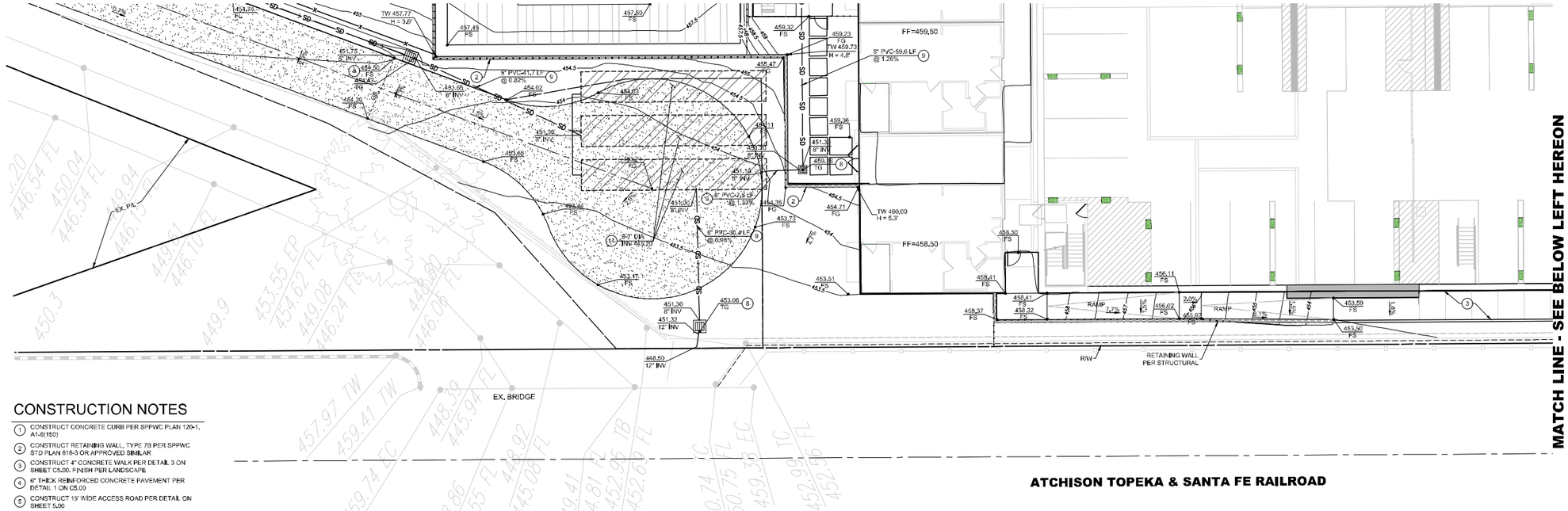
Project Number

As indicated
Scale

GRADING AND DRAINAGE PLAN (SHEET 5 OF 6)
Title

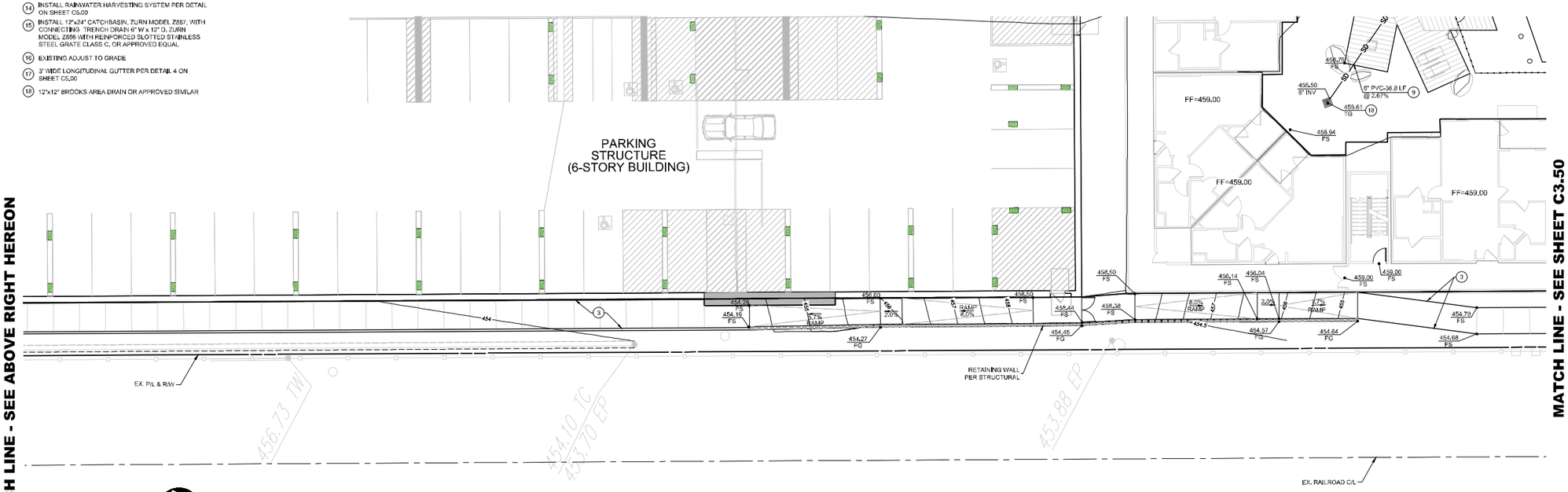
C3.50

MATCH LINE - SEE SHEET C3.10 & C3-20



CONSTRUCTION NOTES

1. CONSTRUCT CONCRETE CURB PER SPPWC PLAN 120-1, A1-6(150)
2. CONSTRUCT RETAINING WALL, TYPE 7B PER SPPWC STD PLAN 618-3 OR APPROVED SIMILAR
3. CONSTRUCT 4" CONCRETE WALK PER DETAIL 3 ON SHEET C5.00, FINISH PER LANDSCAPE
4. 6" THICK REINFORCED CONCRETE PAVEMENT PER DETAIL 1 ON C5.00
5. CONSTRUCT 15' WIDE ACCESS ROAD PER DETAIL ON SHEET 5.00
8. CONSTRUCT CONCRETE DRIVEWAY PER SEPARATE PERMIT
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8. INSTALL 24"x24" BROOKS AREA DRAIN OR APPROVED SIMILAR
9. INSTALL PVC STORM DRAIN, SLOPE & LENGTH PER PLAN
10. INSTALL PVC STORM DRAIN OVERFLOW, SLOPE & LENGTH PER PLAN
11. INSTALL STORM DRAIN CLEANOUT PER DETAIL ON SHEET 7 C5.10
12. INSTALL STORM DRAIN MANHOLE PER SPPWC STD. PLAN 321-2
13. INSTALL INFILTRATION BASIN, SIZE PER PLAN PER DETAIL 5 ON SHEET C5.00
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15. INSTALL 12"x24" CATCHBASIN, ZURN MODEL Z887, WITH CONNECTING TRENCH DRAIN 6" W x 12" D, ZURN MODEL Z886 WITH REINFORCED SLOTTED STAINLESS STEEL GRATE CLASS C, OR APPROVED EQUAL
16. EXISTING ADJUST TO GRADE
17. 3' WIDE LONGITUDINAL GUTTER PER DETAIL 4 ON SHEET C5.00
18. 12"x12" BROOKS AREA DRAIN OR APPROVED SIMILAR



FEET
10 5 0 5 10 20
1 1/2 0 1/2 1 2
INCHES

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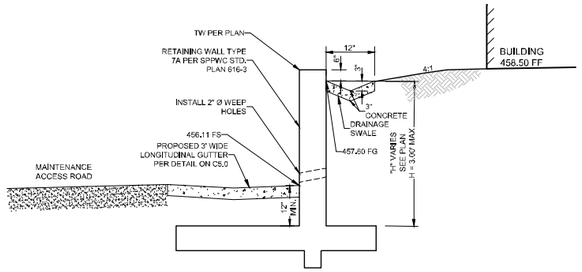
Project Name
-

Project Number

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Scale

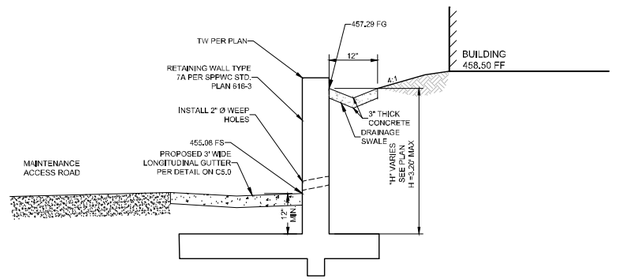
GRADING AND DRAINAGE PLAN (SHEET 6 OF 6)
Title

C3.60



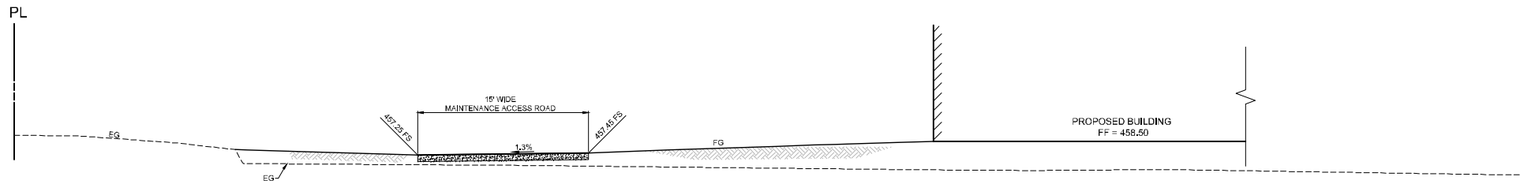
RETAINING WALL SECTION A

NTS



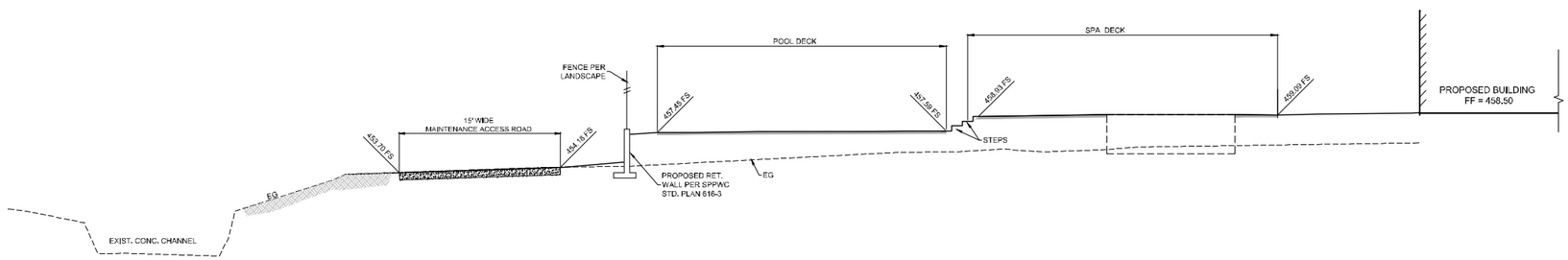
RETAINING WALL SECTION B

NTS



RETAINING WALL SECTION C

SCALE 1" = 5'



RETAINING WALL SECTION D

SCALE 1" = 5'

REVISED 3/5/2019

S. MAGNOLIA AVE
APARTMENT MONROVIA, CA

TCR TRAMMELL CROW RESIDENTIAL
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Seal / Signature

Project Name
-

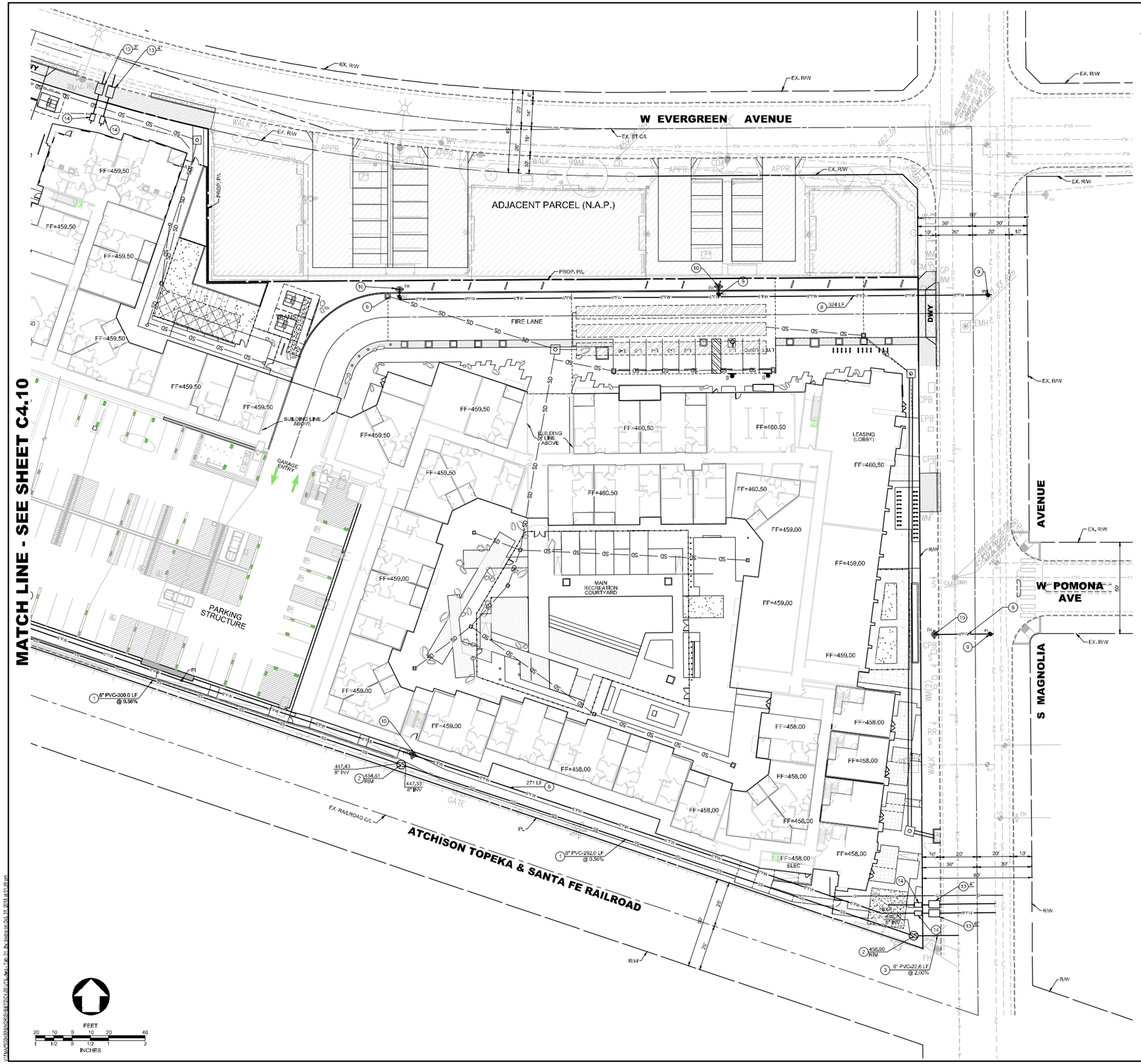
Project Number

As indicated
Scale

SECTIONS
Title

C3.70

J:\PLANS\2018\PMG\SHEETS\C3.70 WALL SECTIONS.dwg 11:48:18 AM Oct 31, 2018 dmahfoud



CONSTRUCTION NOTES

1. INSTALL SANITARY SEWER, PVC SDR35, SIZE, LENGTH & SLOPE PER PLAN
2. CONSTRUCT SANITARY SEWER MANHOLE PER SPPWC STD PLAN 200-3
3. INSTALL HOUSE CONNECTION SEWER PER SPPWC STD. PLAN 222-2
4. BUILDING POINT OF CONNECTION. REFER TO MEP FOR CONTINUATION
5. INSTALL CLEANOUT STRUCTURE PER SPPWC STD. PLAN 204-2
6. FIRE HOSE CONNECTION. REFER TO ARCH/MEP PLANS FOR LOCATION
7. INSTALL DOMESTIC WATER LINE, SIZE AND LENGTH PER PLAN
8. INSTALL FIRE WATER LINE, SIZE AND LENGTH PER PLAN
9. INSTALL GATE VALVE, SIZE PER PLAN
10. INSTALL FIRE HYDRANT
11. CONSTRUCT THRUST BLOCK PER DETAIL 6 ON SHEET C5.10
12. INSTALL WATER VALVE
13. INSTALL FIRE WATER METER, SIZE PER PLAN
14. INSTALL BACK FLOW PREVENTER

NOTE:

ALL UTILITIES ON SITE ARE PRIVATE

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Seal / Signature

Project Name

-

Project Number

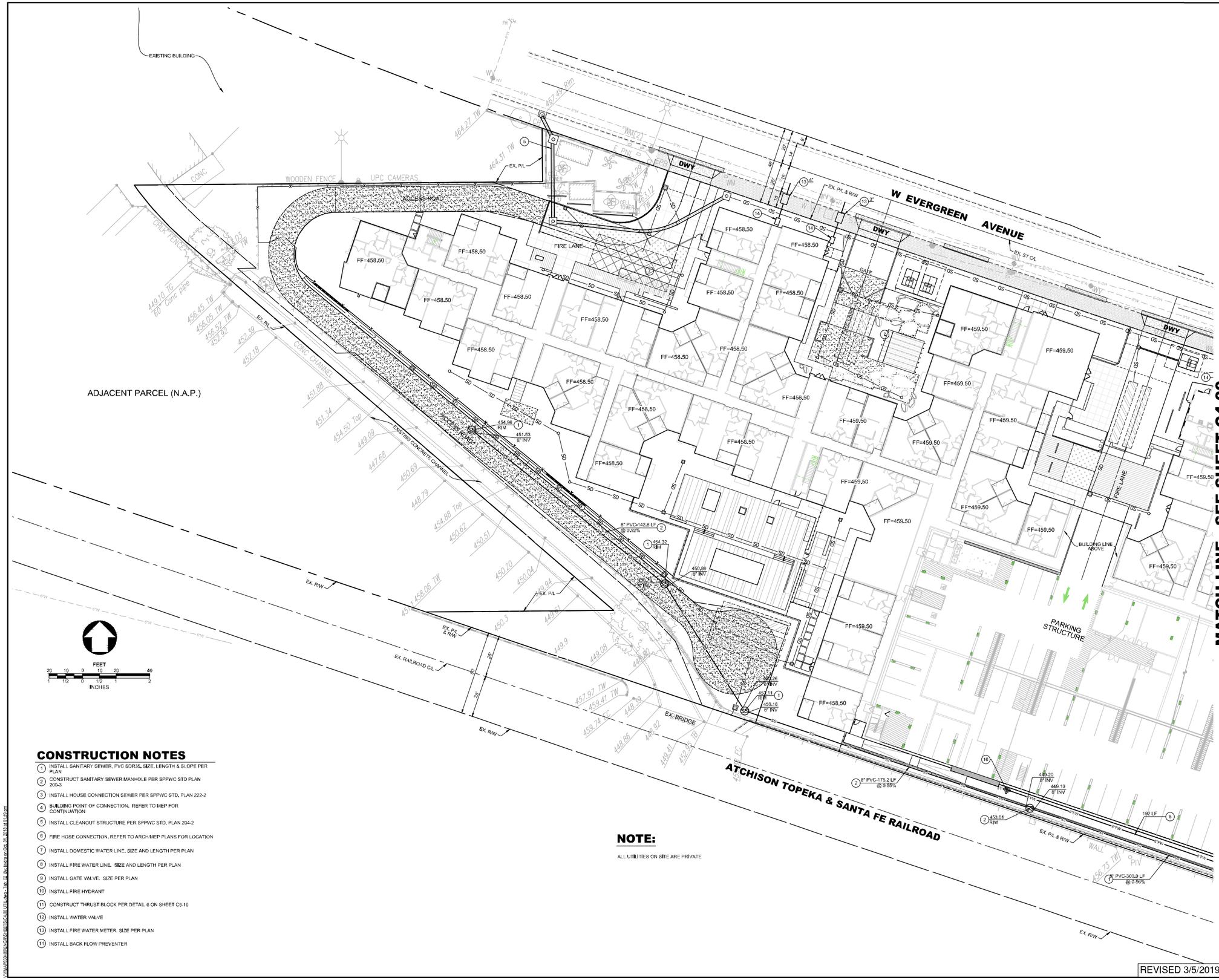
As indicated

Scale

UTILITY PLAN
(SHEET 1 OF 2)

Title

C4.00



CONSTRUCTION NOTES

1. INSTALL SANITARY SEWER, PVC SDR35, SIZE, LENGTH & SLOPE PER PLAN
2. CONSTRUCT SANITARY SEWER MANHOLE PER SPPWC STD PLAN 200-3
3. INSTALL HOUSE CONNECTION SEWER PER SPPWC STD. PLAN 222-2
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Seal / Signature

Project Name

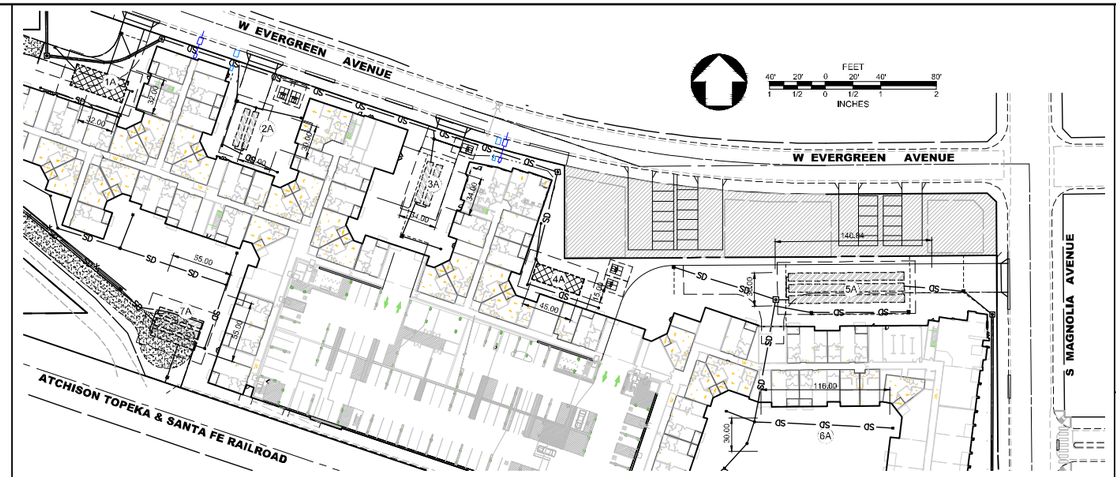
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Project Number

As indicated
Scale

UTILITY PLAN
(SHEET 2 OF 2)
Title

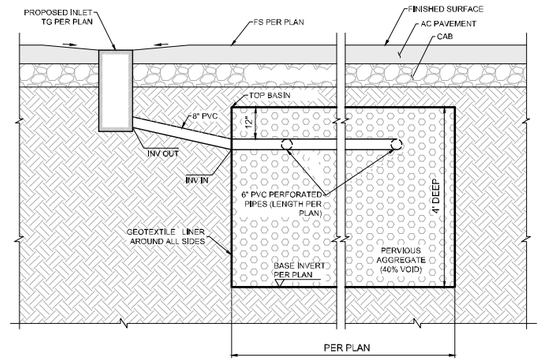
C4.10



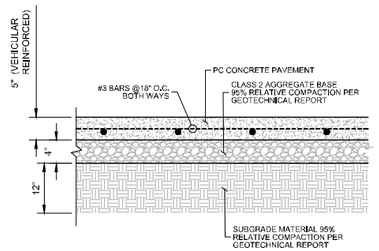
INFILTRATION BASIN LAYOUTS
NOT TO SCALE

LID CALCULATIONS								
SUBAREA	(1A)	(2A)	(3A)	(4A)	(5A)	(6A)	(7A)	
DRAINAGE AREA	0.46	0.41	0.53	0.31	1.98	1.60	1.43	AC
FLOW PATH LENGTH	128	155	125	118	581	276	267	FT
FLOW PATH SLOPE	0.005	0.005	0.005	0.005	0.005	0.005	0.005	FT/FT
RAINFALL DEPTH	1.1	1.1	1.1	1.1	1.1	1.1	1.1	INCH
SOIL TYPE	006	006	006	006	006	006	006	UNITLESS
IMPERVIOUS	0.9	0.9	0.9	0.9	0.9	0.9	0.9	
RUNOFF VOLUME	1495	1332	1722	1008	6430	5196	4644	CF
PEAK FLOW RATE	0.174	0.148	0.200	0.123	0.466	0.472	0.422	CFS
INFILTRATION RATE*	0.48	0.48	0.48	0.48	0.48	0.48	0.48	IN/HR
POROSITY	40	40	40	40	40	40	40	%
DRY WELL								
DRY WELL AREA REQUIRED	974	868	1122	657	4186	3383	3023	SF
CALCULATED DEPTH	3.84'	3.84'	3.84'	3.84'	3.84'	3.84'	3.84'	FT
DEPTH**	15'	15'	15'	15'	15'	15'	15'	FT
DRY WELL AREA PROVIDED	1024	900	1156	676	4225	3481	3025	SF

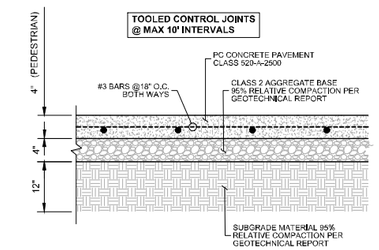
*ADJUSTED RATE, STORM WATER ARE TO BE PRETREATED, DOWNSPOUT AND CATCH BASINS SHALL HAVE FILTERS.
**THIS IS APPROXIMATE DEPTH AND IT IS SUBJECT TO CHANGE PER THE DIRECTION OF GEOTECHNICAL ENGINEER.



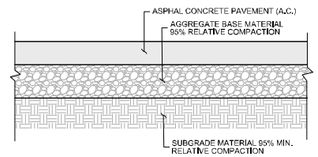
5 TYPICAL INFILTRATION BASIN DETAIL
NOT TO SCALE



1 TYP. REINF. CONCRETE PAVEMENT (VEHICULAR)
NOT TO SCALE

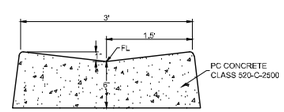


2 TYPICAL CONCRETE WALK
NOT TO SCALE



A.C. PAVEMENT TYPE	ASPHALT CONCRETE (INCHES)	BASE COURSE (INCHES)	RECOMPACTED SUBGRADE (INCHES)
PARKING	3"	4"	12"
DRIVEWAYS	3"	5"	12"
TRASH TRUCK & FIRE LANES	4"	8"	12"
NOTE: PAVEMENT SECTIONS ARE BASED ON GEOTECHNICAL REPORT RECOMMENDATIONS			

3 TYPICAL AC PAVEMENT DETAIL
NOT TO SCALE



4 CONC. LONGITUDINAL GUTTER
NOT TO SCALE

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Project Name
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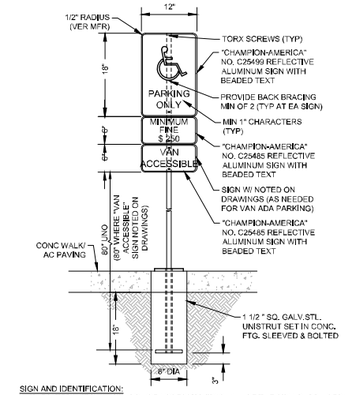
Project Number

As indicated
Scale

DETAILS
(SHEET 1 OF 2)
Title

C5.00

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SIGN AND IDENTIFICATION:

1. THE INTERNATIONAL SYMBOL OF ACCESSIBILITY SHALL BE THE STANDARD USED TO IDENTIFY FACILITIES THAT ARE ACCESSIBLE TO AND USABLE BY PHYSICALLY DISABLED PERSON. THE SYMBOL SHALL CONSIST OF A WHITE FIGURE ON A BLUE BACKGROUND. THE BLUE SHALL BE EQUAL TO (COLOR NO. 15090 IN FEDERAL STANDARD 595B)

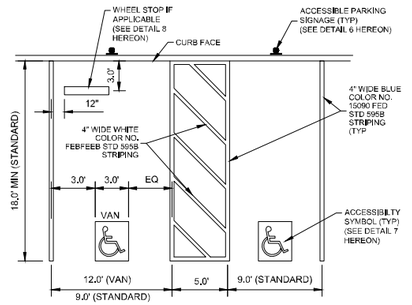
2. CHARACTERS AND SYMBOLS SHALL BE WHITE ON BLUE BACKGROUND. (COLOR NO. 15090 PER FED STD 595B)

INTERNATIONAL SYMBOL OF ACCESSIBILITY NOTES:

1. 3'X3' SURFACE IDENTIFICATION AT ALL ACCESSIBLE PARKING STALLS.

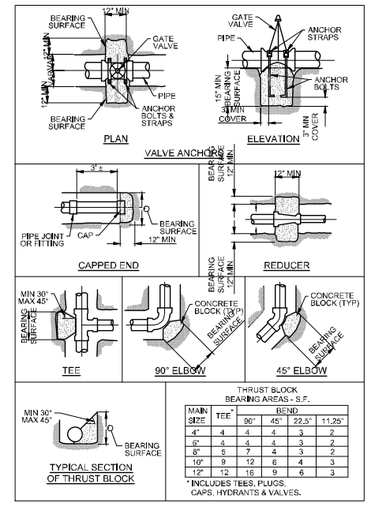
11 ACCESSIBLE ACCESS PARKING SIGNAGE DETAIL

NOT TO SCALE



8 DOUBLE ACCESSIBLE PARKING STALLS DETAIL

NOT TO SCALE



THRUST BLOCK BEARING AREAS - S.F.

MAIN SIZE	TEE*	BEND			
		90°	45°	22.5°	11.25°
4"	4	4	4	3	2
6"	4	4	4	3	2
8"	5	7	4	3	2
10"	9	12	6	4	3
12"	12	16	9	6	3

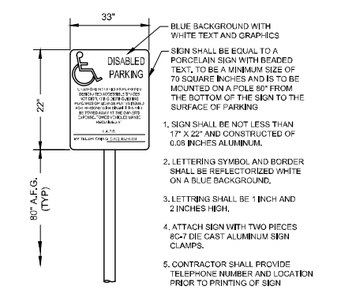
* INCLUDES TEES, PLUGS, CAPS, HYDRANTS & VALVES.

GENERAL NOTES:

1. ALL THRUST/ANCHOR BLOCKS SHALL BEAR AGAINST UNDISTURBED SOIL
2. CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS
3. ALL ANCHOR RODS AND ANCHOR BOLTS SHALL BE MINIMUM 1/2" DIA & ANCHOR STRAPS SHALL BE 1/2" X 2" BAR
4. THRUST BLOCK DESIGN IS BASED ON A WATER PRESSURE OF 150 PSI, AND A MAXIMUM ALLOWABLE SOIL BEARING VALUE OF 2000 PSF FOR MAXIMUM SOIL BEARING VALUES OF 1000 PSF INCREASE BEARING VALUES BY A FACTOR OF 2
5. THE RATIO OF WIDTH TO HEIGHT OF THRUST BLOCKS SHALL NOT EXCEED 1.5 TO 1
6. ANCHOR BLOCKS FOR VERTICAL BENDS SHALL BE CONSTRUCTED PER SPECIAL DETAIL

6 THRUST AND ANCHOR BLOCK DETAILS

NOT TO SCALE

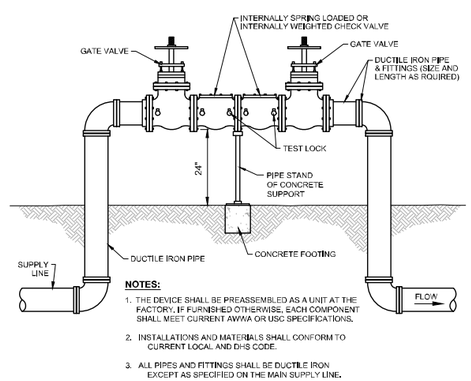


SIGN SHALL BE EQUAL TO A PORCELAIN SIGN WITH BEADED TEXT, TO BE A MINIMUM SIZE OF 70 SQUARE INCHES AND IS TO BE MOUNTED ON A POLE 80" FROM THE BOTTOM OF THE SIGN TO THE SURFACE OF PARKING

1. SIGN SHALL BE NOT LESS THAN 17" X 22" AND CONSTRUCTED OF 0.08 INCHES ALUMINUM.
2. LETTERING SYMBOL AND BORDER SHALL BE REFLECTORIZED WHITE ON A BLUE BACKGROUND.
3. LETTRING SHALL BE 1 INCH AND 2 INCHES HIGH.
4. ATTACH SIGN WITH TWO PIECES 8C-7 DIE CAST ALUMINUM SIGN CLAMPS.
5. CONTRACTOR SHALL PROVIDE TELEPHONE NUMBER AND LOCATION PRIOR TO PRINTING OF SIGN

12 SITE ACCESSIBILITY TOW AWAY DETAIL

NOT TO SCALE



NOTES:

1. THE DEVICE SHALL BE PREASSEMBLED AS A UNIT AT THE FACTORY, IF FURNISHED OTHERWISE, EACH COMPONENT SHALL MEET CURRENT AWWA OR USC SPECIFICATIONS.
2. INSTALLATIONS AND MATERIALS SHALL CONFORM TO CURRENT LOCAL AND DHS CODE.
3. ALL PIPES AND FITTINGS SHALL BE DUCTILE IRON EXCEPT AS SPECIFIED ON THE MAIN SUPPLY LINE.
4. VALVES SHALL BE OUTSIDE STEM AND YOKE.

9 BACKFLOW PREVENTION ASSEMBLY

CLEANOUT FRAME & COVER PER ALHAMBRA FOUNDRY CO. PRODUCT NO. A-1240 FOR 6" RISER OR A-1241 FOR 5" RISER OR APPROVED EQUAL
ACCESS CAP, 11" DIA. x 1/2" THICK FOR 5" & 6" x 1/2" THICK FOR 6" WITH 3/4" DIA. FINGER HOLE IN CENTER
12" MIN
12" MIN
TOP OF CLEANOUT
FINISHED SURFACE
OPTIONAL CONSTRUCTION JOINT
RISER
DIAMETER OF RISER SHALL BE THE SAME AS MAIN PIPE DIAMETER
CONC. BASE AND WALL SUPPORT FOR TRAFFIC LOAD CONDITION
BEND
INSTALL CAP & SEAL IF TERMINAL CLEANOUT, INSTALL WYE IF IN-LINE CLEANOUT
WYE
MAIN PIPE
13" MIN
20" MIN
2% MIN
2% MIN
2%

SEE RIGHT BELOW HEREON

W EVERGREEN AVENUE

ADJACENT PARCEL (N.A.P.)

PARKING STRUCTURE (5-STORY BUILDING)

POOL

W POMONA AVE

S MAGNOLIA AVENUE

ATCHISON TOPEKA & SANTA FE RAILROAD

EX. BRIDGE

EXISTING CONCRETE CHANNEL

EX. SCREEN WALL (TYP)

EX. 1-STORY STUCCO BLDG.

Passageway

Building Line (above)

GARAGE ENTRY

PROP. P/L

EX. P/L

EX. ST. C/L

EX. C & G

EX. P/L & R/W

EX. R/W

EX. RAILROAD C/L

FEET
30 15 0 15 30 60
1 1/2 0 1/2 1 2
INCHES

SEE LEFT ABOVE HEREON

ADJACENT PARCEL (N.A.P.)

ATCHISON TOPEKA & SANTA FE RAILROAD

SEE SHEET C6.01 FOR COORDINATES TABLE

SEE SHEET C6.01 FOR STRIPING

REVISED 3/5/2019

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Seal / Signature

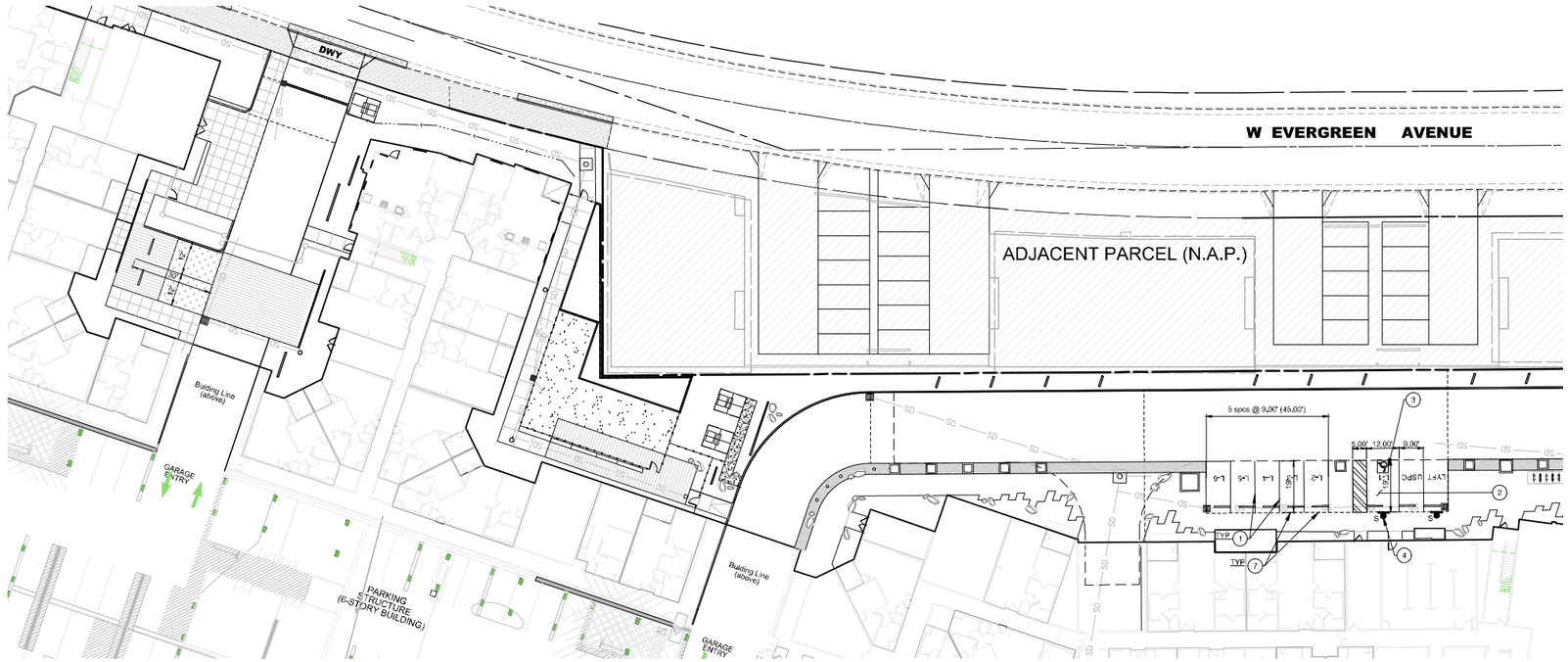
Project Name
-

Project Number

As indicated
Scale

HORIZONTAL CONTROL AND STRIPING PLAN (SHT 1 OF 2)
Title

C6.00



GENERAL NOTES:

1. ALL STRIPING AND PAVEMENT MARKINGS SHALL CONFORM TO THE CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2012; CALTRANS STANDARD PLANS AND SPECIFICATIONS (JULY 2010); AND CITY OF GLENDALE STANDARD PLANS. SEE CALTRANS STANDARD PLANS A20(A-D) AND A24(A-E) FOR STRIPING DETAILS INCLUDING INSTALLATION AND REMOVAL OF RAISED PAVEMENT MARKERS.
2. ALL WORK AND MATERIALS FOR THE FURNISHING AND APPLICATION OF TRAFFIC STRIPES, PAVEMENT MARKINGS, AND PAVEMENT MARKERS SHALL CONFORM TO THE CALTRANS STANDARD SPECIFICATIONS, SECTIONS 84 AND 85.
3. ALL TRAFFIC STRIPES AND PAVEMENT MARKINGS SHALL BE THERMOPLASTIC.
4. STRIPING SHALL BE CAT TRACKED AND APPROVED BY THE CITY ENGINEER PRIOR TO FINAL INSTALLMENT.
5. PRIOR TO COMPLETION OF THE FINAL SIGNING AND STRIPING, THE CONTRACTOR SHALL NOTIFY THE CITY ENGINEER WHEN THE STRIPING LAYOUT IS COMPLETE BEFORE APPLYING ANY PAVEMENT MARKERS.
6. LANE WIDTHS SHALL BE MEASURED BETWEEN THE CENTER LINES OF EACH ADJACENT SINGLE OR DOUBLE STRIPE OR CURB FACE AS APPROPRIATE.
7. ALL LANE LINES AT INTERSECTION APPROACHES AND DEPARTURES SHALL BEGIN AND END WITH 30 FEET OF CONTINUOUS PAINT (TYP).
8. CONTRACTOR SHALL REMOVE ALL CONFLICTING PAINTED LINES, MARKINGS AND PAVEMENT LEGENDS BY WET SANDBLASTING. SANDBLASTING DEBRIS SHALL BE REMOVED CONTINUOUSLY DURING SANDBLASTING OPERATIONS.
9. PAVEMENT THAT IS DAMAGED DUE TO THE REMOVAL OF MARKERS OR STRIPING SHALL BE REPAIRED TO THE SATISFACTION OF THE CITY ENGINEER.
10. LOCATION OF PAVEMENT LEGENDS SHALL MATCH THE CITY STANDARDS AND STENCILS.
11. SIGNING SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE SUBJECT TO CITY ENGINEER'S APPROVAL. ALL SIGNS SHALL CONFORM TO THE CALIFORNIA MUTCD 2012.
12. ALL SIGN FACE REFLECTIVE SHEETING SHALL BE HIGH INTENSITY GRADE WITH PROTECTIVE OVERLAY FILM
13. A SINGLE BLUE RAISED REFLECTIVE PAVEMENT MARKER SHALL BE INSTALLED ADJACENT TO ALL EXISTING FIRE HYDRANTS IN ACCORDANCE WITH CALIFORNIA MUTCD 2012, FIGURE 3B-102.
14. ALL DAMAGED OR OBLITERATED PAVEMENT MARKINGS AND ARROWS SHALL BE REAPPLIED IN KIND AS DIRECTED BY THE CITY ENGINEER.

CONSTRUCTION NOTES

1. APPLY PARKING STALL STRIPING 4" WHITE SOLID LINE
2. APPLY DOUBLE ACCESSIBLE PARKING STALL STRIPING PER DETAIL ON SHEET C5.10
3. APPLY TYPICAL PARKING SYMBOL OF ACCESSIBILITY PER DETAIL PER DETAIL ON SHEET C5.10
4. INSTALL ACCESSIBILITY PARKING SIGNAGE PER DETAIL ON SHEET C5.10
5. APPLY 4" WHITE DIAGONAL STRIPING AT 2FT ON CENTER
6. INSTALL SITE TOW AWAY SIGN PER DETAIL ON SHEET C5.10
7. INSTALL CONCRETE WHEEL STOP PER DETAIL ON SHEET C5.10

COORDINATES TABLE		
NO.	NORTHING	EASTING
1	19897.72	50000.74
2	19882.59	49680.13
3	19870.65	49674.48
4	19910.51	49970.65
5	19884.52	49970.84
6	19884.31	49940.82
7	19883.98	49892.53
8	19864.98	49892.66
9	19858.44	49829.56
10	19887.39	49891.41
11	19910.31	49940.69
12	19883.66	49857.54
13	19883.60	49848.54
14	19864.75	49857.66
15	19858.87	49891.54
16	19909.23	49780.71
17	19579.14	49902.58
18	19864.29	49803.67
19	19859.42	49670.68
20	19877.80	49771.87
21	19992.56	49575.57
22	19873.18	49613.91
23	19882.89	49731.53
24	19580.38	49965.18
25	19867.42	49657.54
26	19779.29	49998.07
27	19757.72	49948.62
28	19873.87	49631.99
29	19908.54	49679.96
30	20052.43	49487.19
31	20023.74	49491.21
32	19805.76	49954.66
33	19851.67	49652.22
34	19936.95	49434.45
35	19951.84	49466.92
36	19940.54	49398.83
37	19970.05	49413.03
38	19950.65	49439.29
39	19962.54	49443.09
40	19971.69	49446.18

COORDINATES TABLE		
NO.	NORTHING	EASTING
41	19990.44	49415.69
42	20009.66	49437.76
43	20016.24	49436.27
44	20011.92	49449.04
45	20013.81	49452.84
46	20032.01	49466.56
47	20109.91	49317.07
48	20081.16	49321.09
49	20028.61	49303.33
50	20010.37	49282.38
51	20015.44	49267.38
52	20089.48	49296.46
53	20147.71	49205.18
54	20081.14	49196.93
55	20109.15	49114.02
56	20083.34	49100.03
57	20077.17	49118.29
58	20066.85	49126.94
59	20080.55	49202.01
60	20118.97	49209.19
61	20127.30	49184.56
62	20113.17	49179.79
63	20079.29	49288.61
64	20094.94	49109.22
65	20124.89	49191.57
66	20056.87	49194.01
67	20097.62	49148.14
68	20092.74	49135.35
69	20110.86	49075.64
70	20107.84	49064.49
71	20110.18	48986.44
72	20052.54	48966.08
73	20077.68	48986.69
74	19859.30	49190.02
75	19811.97	49222.74
76	19863.00	49197.51
77	19927.91	49134.70
78	19841.01	49224.16
79	19845.85	49205.93
80	19859.81	49263.17

COORDINATES TABLE		
NO.	NORTHING	EASTING
81	19560.54	49662.68
82	19857.99	49257.35
83	19865.52	49219.77
84	19806.58	49223.71
85	19843.60	49198.91
86	20003.03	49026.50
87	19877.79	49167.47
88	19832.31	49259.15
89	19885.36	49187.54
90	19925.71	49161.84
91	19929.83	49245.50
92	19947.12	49194.34
93	19913.82	49572.69
94	19980.38	49573.28
95	20039.92	49412.95
96	20061.74	49314.53
97	19910.07	49625.08
98	20088.08	49196.28
99	20064.93	49154.51
100	20070.07	49289.90
101	20006.77	49330.46
102	19754.22	49771.28
103	19767.95	49735.49
104	19910.53	49556.99
105	19881.70	49616.79
106	19742.69	49836.02
107	19697.36	49812.64
108	19774.90	49870.55
109	19742.20	49768.35
110	19832.02	49253.78
111	19913.78	49197.14
112	19587.59	49870.44
113	19641.86	49709.80
114	19653.52	49684.94
115	19697.01	49552.62
116	19761.89	49360.62
117	19786.99	49287.65
118	19946.69	49111.79
119	20043.51	48893.67
120	20059.82	48873.77

COORDINATES TABLE		
NO.	NORTHING	EASTING
121	20059.50	48971.79
122	20063.74	48967.76
123	19585.11	49957.71
124	19614.05	49961.35
125	19605.23	49960.24
126	19634.17	49963.88
127	19638.77	49964.46
128	19613.91	49966.08
129	19864.57	49966.76
130	19575.44	49932.35
131	19566.01	49943.21
132	19568.50	49923.42
133	19583.38	49890.05
134	19588.08	49966.15
135	19599.00	49959.46
136	19627.94	49963.10
137	19662.66	49966.20
138	19660.11	49957.06
139	19663.74	49967.60
140	19683.86	49970.13
141	19677.83	49969.35
142	19705.74	49947.14
143	19705.83	49959.14
144	19695.66	49937.54
145	19749.76	49952.67
146	19802.18	49957.92
147	19820.49	49958.24
148	19840.82	49963.93
149	19875.18	49921.92
150	19884.11	49911.42
151	19883.38	49803.54
152	19902.53	49887.21
153	19901.47	49783.21
154	19901.16	49610.17
155	19899.14	49565.24
156	19890.81	49543.04
157	19894.58	49550.64
158	19939.02	49565.66
159	19970.40	49569.91
160	19691.31	49972.12

REVISED 3/5/2019

S. MAGNOLIA AVE APARTMENT MONROVIA, CA

TCR TRAMMELL CROW RESIDENTIAL
5790 FLEET STREET
SUITE 140
CARLSBAD, CA 92008
T. 858.531.3905

ARCHITECTS ORANGE
144 NORTH ORANGE ST.
ORANGE, CA 92866 714.639.9860

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△ Date Description

PLANS PREPARED BY:
PSOMAS
27220 Turnberry Lane, Suite 190
Valencia, CA 91355
(661)219-9000 (661) 775-2718 fax
www.psomas.com

REGISTERED PROFESSIONAL ENGINEER DAVID S. MARTIN No. C 74143 Exp. 06-30-2019 CIVIL STATE OF CALIFORNIA

Seal / Signature

Project Name

-

Project Number

As indicated
Scale

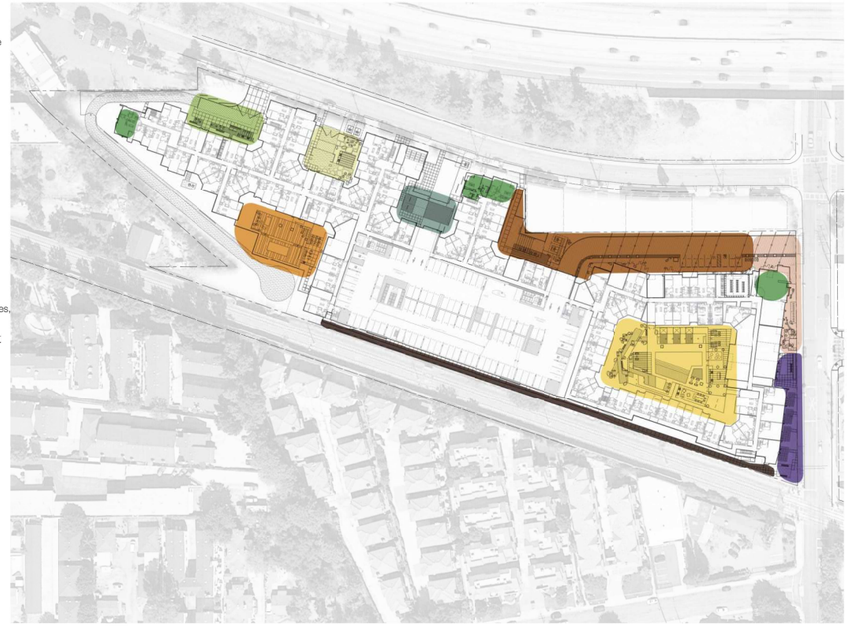
HORIZONTAL CONTROL AND STRIPING PLAN (SHT 2 OF 2)
Title

C6.10

J:\1M\3092400\PACKAGES\ENGR\00\HORZ.dwg - Tab: 00 By: Martin on Dec 31, 2018 at 4:00 pm

Legend

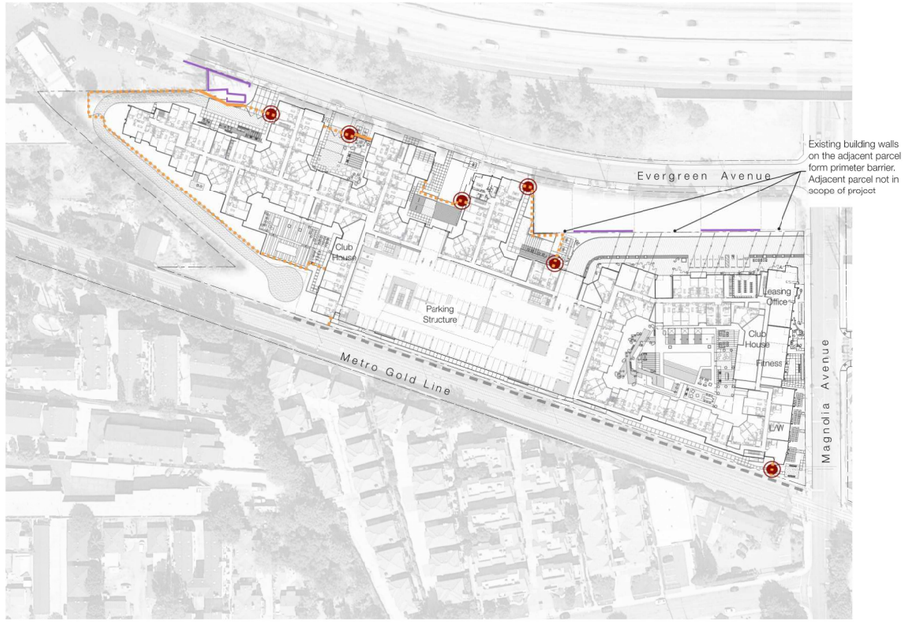
- **The Terminal** — Public plaza, leasing entrance, bike parking, shaded seating
- **The Junction** — Arrival sequence, visitor parking 'Woonerf' shared street, private dog park
- **The Yard** — Pool, spa, lounges, table games, outdoor kitchen, firepits, stage
- **The Zoetrope** — Private pedestrian access, public art viewable from Gold Line ride's
- **The Trestle** — Pool, spa, natural landscape areas, outdoor kitchen, firepit
- **The Platforms** — Roofdecks, mountain views, lounges, outdoor kitchens, yoga deck
- **Santa Anita Canyon Court** — Lawn, outdoor kitchen, lounge deck, wood materials theme
- **Monrovia Canyon Court** — Games area, outdoor kitchen, firepits, stone materials theme
- **Azusa Canyon Court** — Move-in parking, photo-op art wall, steel materials theme
- **Urban Edge** — Private outdoor fitness, shaded seating area, live/work patios



Concept Diagram

Legend

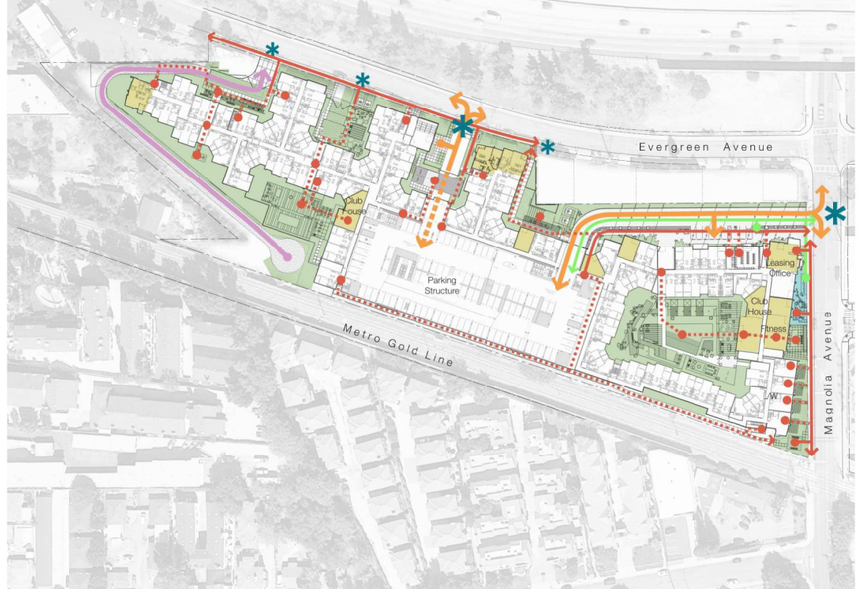
- Perimeter Wall (See page 5 for wall type & heights)
- Perimeter Fencing (See page 5 for wall type & heights)
- Existing Block Wall to Remain (See page 5 for wall type & heights)
- Existing Metro Fence to Remain (See page 5 for wall type & heights)
- Private Pedestrian Gate



Perimeter Fence and Wall Diagram

Legend

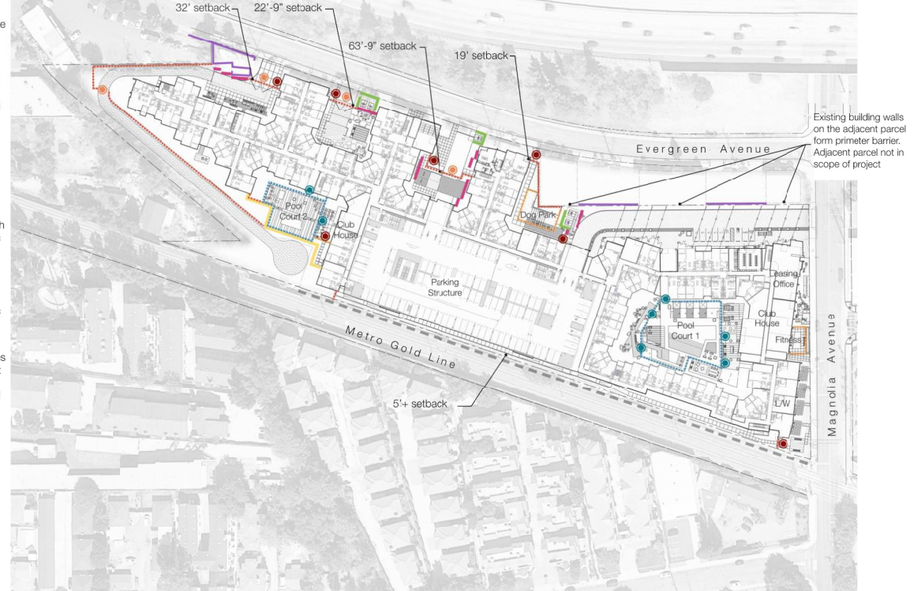
- Vehicular (Public)
- Vehicular (Private)
- Vehicular (Maintenance)
- Bicycle (Public)
- Pedestrian (Public)
- Pedestrian (Private)
- At Grade Open Space
- Roof Deck/Interior Open Space
- Public Open Space
- Primary Entry
- Secondary Entry



Public/Private Circulation Diagram

Legend

- **Concrete Retaining Wall** (3'-4"H) Natural grey concrete
- **Decorative Screen Wall** (6'H Max.) Constructed from steel and or block w/ a decorative finish or veneer of tile, steel, wood, or stone to match building colors and aesthetic
- **Tubular Steel Fence** (4'H) "Dark Bronze" finish to match building colors and aesthetic
- **Tubular Steel Fence** (6'H Max.) "Dark Bronze" finish to match building colors and aesthetic
- **Pool Enclosure Fence** (5'H Min - 6'H Max.) Constructed from steel and/ or glass, finish to match building colors and aesthetic
- **Utility Screen** (6'H Max.) Screening materials may include hedges and/or green screen product with climbing vines. Colors to match building colors and aesthetic
- **Existing Block Wall** (Approx. 6'H) On adjacent parcel, protect in place
- **Existing Metro Fence** (Ht. varies) On metro property, protect in place
- **Pedestrian Gate**
- **Vehicular Gate**
- **Pool Gate**



Fence and Wall Type Diagram

L1.00

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TCR
Trammell Crow Residential

TRAMMELL CROW RESIDENTIAL
5790 FLEET STREET SUITE 140, CARLSBAD CA 92008
(858) 531-3905

Site Analysis

DATE: 03.05.19
JOB NO.:

ARCHITECTS ORANGE
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(714) 639-9860

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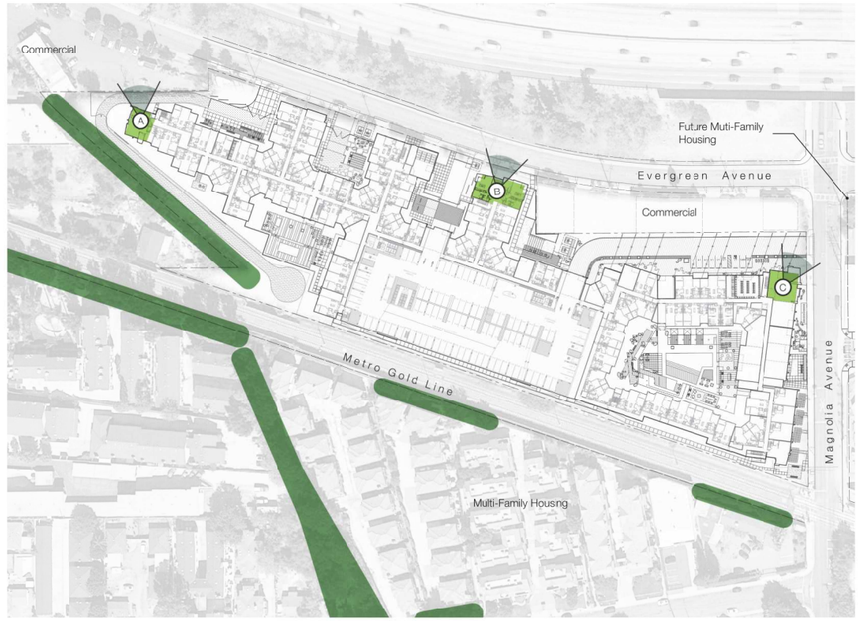
Legend

Roof Deck A
Views north to the mountain.
Views south and west to private property to be screened by architecture and planting.

Roof Deck B
Views north to the mountains.

Roof Deck C
Views north to the mountains, and commercial properties. Views east to multi-family housing.

Existing tree buffer screens views onto property.



View Analysis

Legend

1. Enhanced paving with zero-curb and no lane striping
2. 18" High raised P..P planter (10) doubles with seating - Concrete finish to match architectural building
3. 18" High raised steel planter (2)
4. Lounge seating at ride share waiting area
5. Short term bikes (14) and bike share (10)
6. Fire lane and turnaround
7. Overhead pendant lighting - Installing with 14'6" HT. Min. CLR.
8. Vehicular parking
9. Bollard (4)
10. Feature wall
11. Transformers
12. Parking signage
13. Truncated dome paving
14. Public garden plaza with stationary furniture

Planting Area
- Lomandra longifolia Breeze
- Pennisetum orientale 'Karley Rose'
- Pittosporum crassifolium
- Agave

Boulder

Screen Planting
- Bambusa textilis

Small Shade Tree
- Lagerstroemia indica

Specimen Tree
- Platanus racemosa



Enlargement Plan at Woonerf Area

Legend

- Existing Oak Tree (Protect in Place)
- Existing Tree (Protect in Place)
- Existing Palm (To Be Removed)
- Existing Vegetation (Protect In Place)
- Existing Tree of Heaven (Protect in Place)

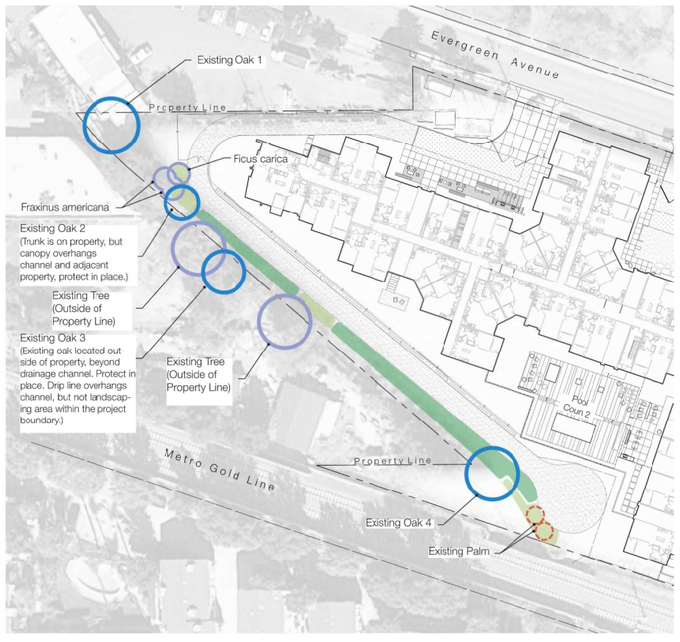
Existing Trees

Oak Tree 2
(Protect in Place)



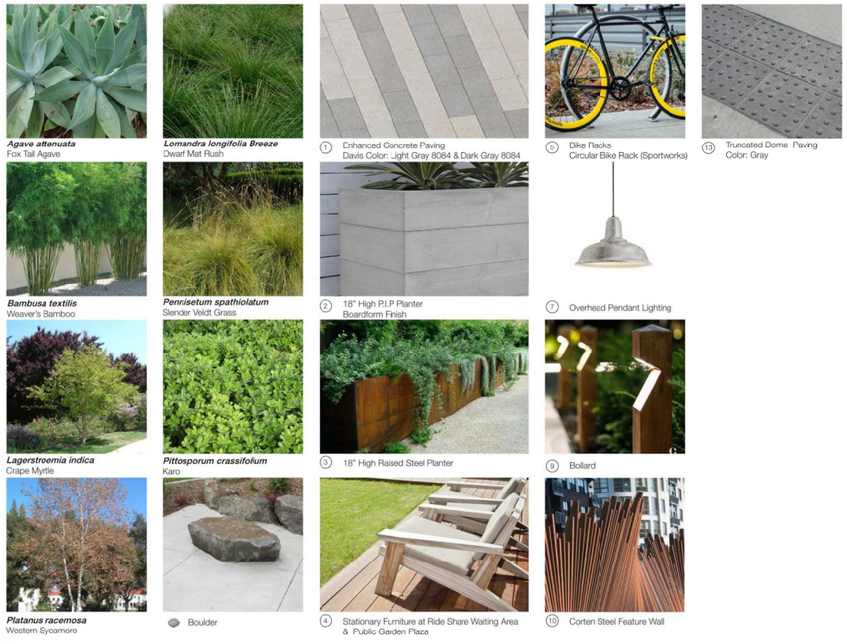
Fraxinus americana
Ficus carica
(Protect in Place)





Existing Tree Diagram

Note:
Refer to Enlargement Plan for material locations.



Planting and Material Imagery

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Site Analysis & Enlargement Plan

DATE: 03.05.19
JOB NO.:

L2.00

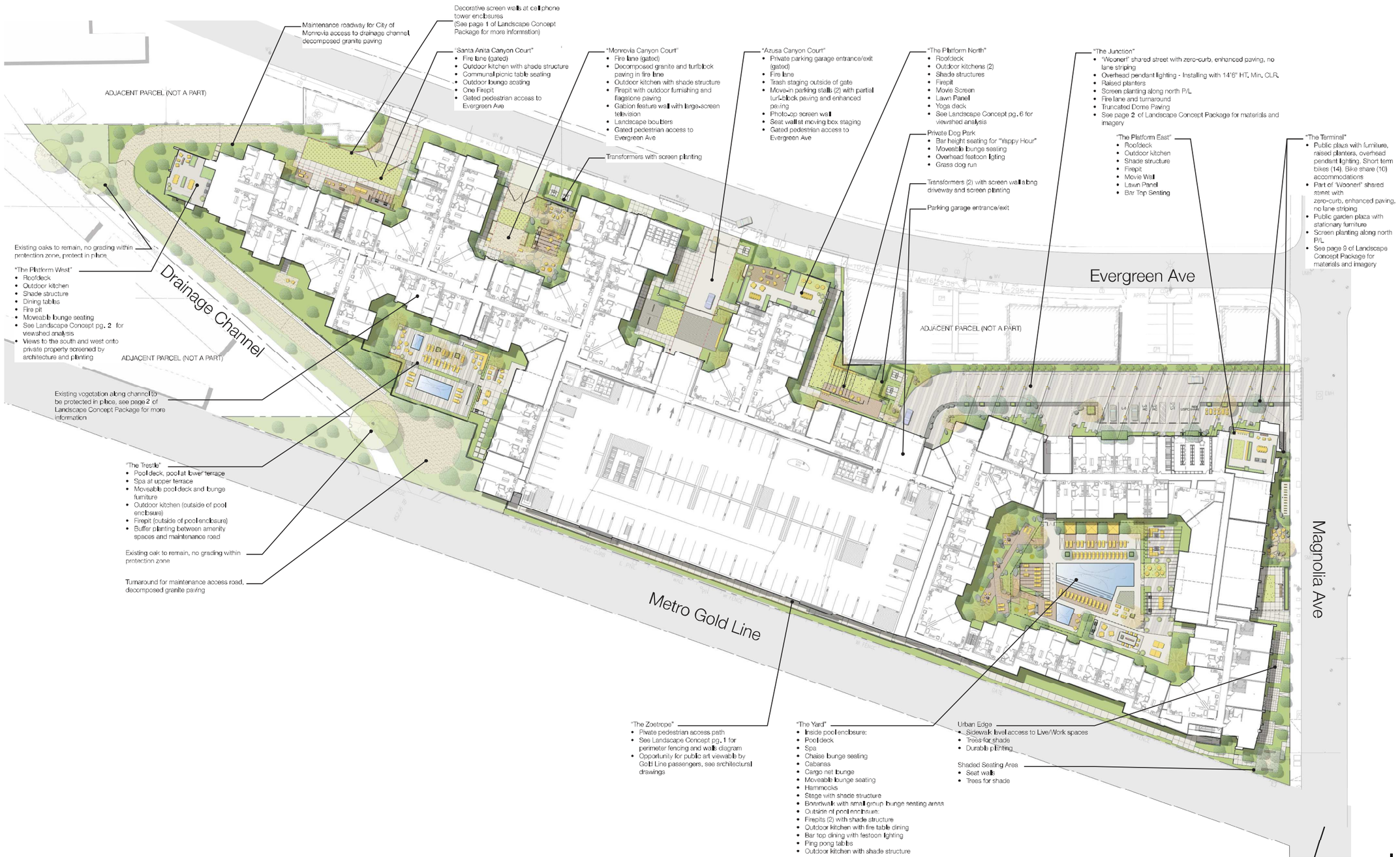
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ALEXAN MONROVIA MONROVIA, CALIFORNIA

Illustrative Plan

DATE: 03.05.19
JOB NO.:

L3.00

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ALEXAN MONROVIA MONROVIA, CALIFORNIA

Outdoor Amenity Plan

DATE: 03.05.19
JOB NO.:

L4.00

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M2
3D RENDERINGS


ALEXAN


ALEXAN


STOP



M3
SHADE AND SHADOW ANALYSIS



JUNE 21 10:00 am

SHADE/SHADOW STUDY

N.

N.T.S.

DATE: 07.09.19
JOB NO. 2016-252

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JUNE 21 11:00 am

SHADE/SHADOW STUDY

N.

N.T.S.

DATE: 07.09.19
JOB NO. 2016-252

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JUNE 21 12:00 pm

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N.T.S.

SHADE/SHADOW STUDY

DATE: 07.09.19
JOB NO. 2016-252

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JUNE 21 1:00 pm

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TCR
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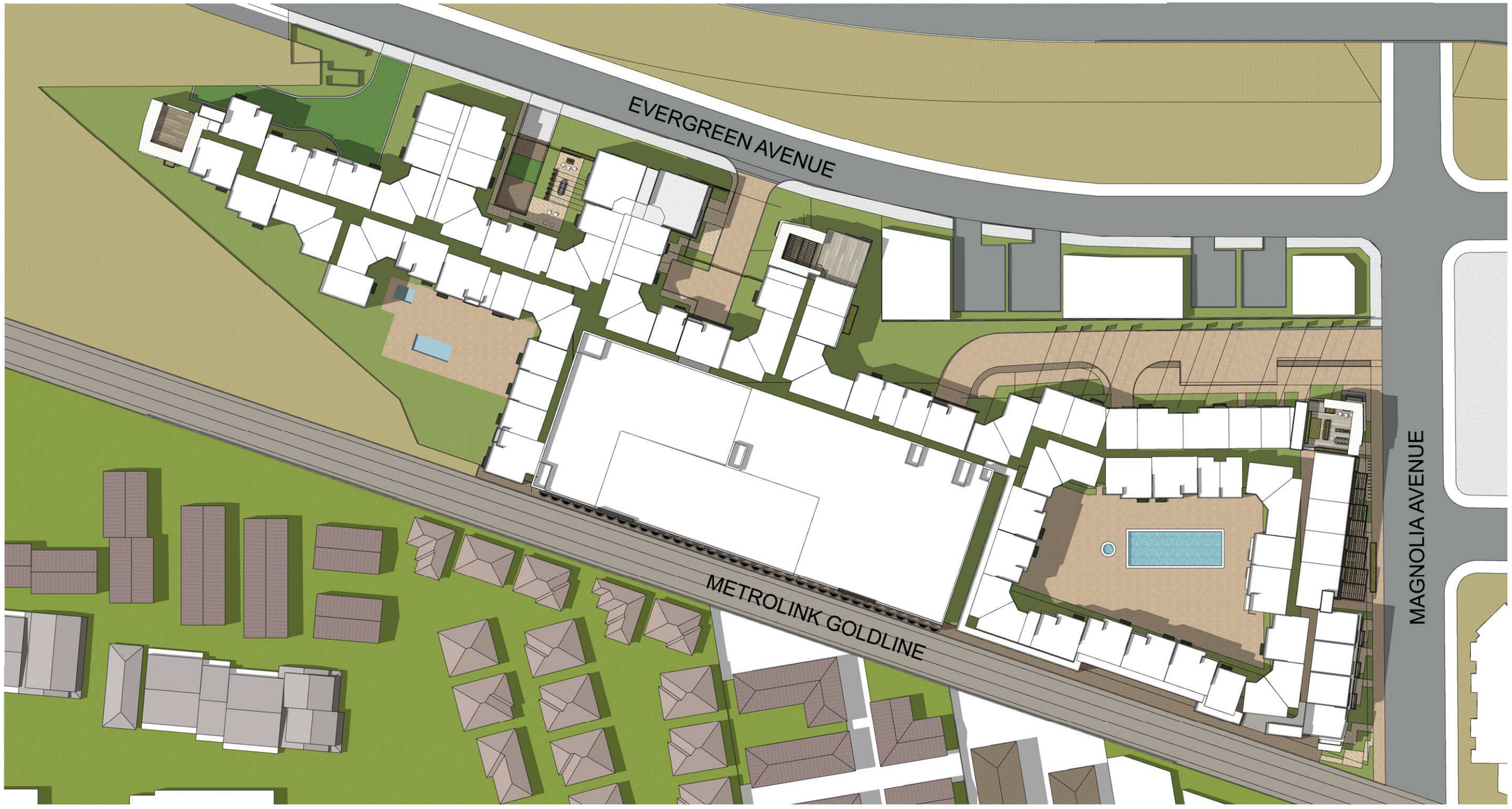
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SHADE/SHADOW STUDY

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JUNE 21 2:00 pm

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N.T.S.

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DATE: 07.09.19
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SEPTEMBER 23 10:00 am

SHADE/SHADOW STUDY

N.

N.T.S.

DATE: 07.09.19
JOB NO. 2016-252

ALEXAN MONROVIA MONROVIA, CALIFORNIA

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SEPTEMBER 23 11:00 am

ALEXAN MONROVIA MONROVIA, CALIFORNIA

N.
N.T.S.

SHADE/SHADOW STUDY

DATE: 07.09.19
JOB NO. 2016-252

TCR
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SEPTEMBER 23 12:00 pm

ALEXAN MONROVIA MONROVIA, CALIFORNIA

SHADE/SHADOW STUDY

N.
N.T.S.

DATE: 07.09.19
JOB NO. 2016-252

TCR
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SEPTEMBER 23 1:00 pm

ALEXAN MONROVIA MONROVIA, CALIFORNIA

SHADE/SHADOW STUDY

N.

N.T.S.

DATE: 07.09.19
JOB NO. 2016-252

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SEPTEMBER 23 2:00 pm

SHADE/SHADOW STUDY

N.

N.T.S.

DATE: 07.09.19
JOB NO. 2016-252

ALEXAN MONROVIA MONROVIA, CALIFORNIA

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M4
VIEW SIMULATIONS



VIEW 1 - EXISTING BUILDINGS



VIEW 2 - EXISTING BUILDINGS



VIEW 3 - EXISTING BUILDINGS



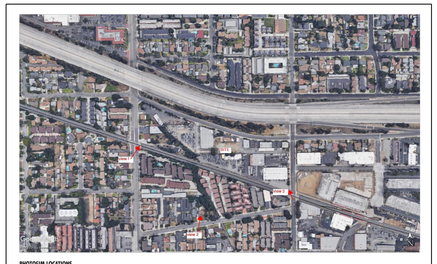
VIEW 1 - EXISTING BUILDINGS WITH PROPOSED BUILDING



VIEW 2 - EXISTING BUILDINGS WITH PROPOSED BUILDING



VIEW 3 - EXISTING BUILDINGS WITH PROPOSED BUILDING



PHOTOSIM LOCATIONS

A-1.2.3

ALEXAN MONROVIA MONROVIA, CALIFORNIA

VIEW SIMULATIONS

DATE: 03-05-19
JOB NO.: 2016-252

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