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City of Duarte

1600 Huntington Drive, Duarte, CA 91010 - (626) 357-7931 - FAX (626) 358-0018

NOTICE OF PREPARATION (NOP)
WESTMINSTER GARDENS SPECIFIC PLAN UPDATE
PROGRAM ENVIRONMENTAL IMPACT REPORT (PEIR)
AND
NOTICE OF PUBLIC SCOPING MEETING

DATE: April 4, 2024

TO: Responsible Agencies, Trustee Agencies, and Interested Parties

FROM: City of Duarte
Community Development Department, Planning Division
Attn: Scott Nash, Associate Planner
1600 Huntington Drive
Duarte, CA 91010

SUBJECT: Notice of Preparation of a Draft Program Environmental Impact Report (PEIR) for the Westminster Gardens Specific Plan Update Project

PROJECT APPLICANT: Human Good

NOTICE OF PREPARATION REVIEW PERIOD: April 4 through May 6, 2024

NOTICE IS HEREBY GIVEN that the City of Duarte (City), as Lead Agency, has determined, in accordance with California Environmental Quality Act (CEQA) Guidelines Section 15160 that an EIR is required for the proposed project to comply with CEQA. The City has further determined that in accordance with CEQA Guideline Section 15168 the EIR should be a Program EIR (PEIR) since the project will be implemented in stages over time. Because the City determined an EIR was clearly required in accordance with CEQA Guidelines 15060(d), an initial study was not prepared.

We need to know your agency's views regarding the scope and content of the Draft PEIR's environmental information pertaining to your agency's statutory responsibilities. For interested individuals, we would like to be informed of environmental topics of interest that you believe should be included in the PEIR.

Responding to this Notice
Pursuant to Public Resources Code Section 21092 and CEQA Guidelines Section 15082, the Notice of Preparation will be available for a 30-day public comment period beginning **Thursday, April 4** and ending **Monday, May 6, 2024**.

The City, as Lead Agency, requests that responsible and trustee agencies and other interested parties, including members of the public, respond in a manner consistent with Section 15082(b) of the CEQA Guidelines. All comments and responses to this notice must be submitted in writing to Scott Nash, Associate Planner City of Duarte, Community Development Department, Planning Division, 1600 Huntington Drive, Duarte, CA 91010, by 5:00 PM **May 6, 2024**. The City will also accept responses to this notice submitted via email (snash@accessduarte.com)

Scoping Meeting

Pursuant to CEQA Guidelines Section 15082(c) (Notice of Preparation and Determination of Scope of EIR), the City will conduct a public scoping meeting for the purpose of soliciting comments of adjacent cities, responsible agencies, trustee agencies, and interested parties requesting notice as to the appropriate scope and content of the Draft PEIR.

The purpose of the meeting is to present the project and environmental topics in a public setting and provide an opportunity for the City to hear from the community and interested agencies on what potential environmental issues are important to them. The meeting will include a brief presentation of the proposed project, the PEIR process, and the topics to be analyzed in the PEIR. Following the presentation, interested agencies, organizations, and members of the public will be encouraged to offer their views concerning what environmental issues should be included in the PEIR.

The Public Scoping Meeting will be held on the following date/time and location:

April 30, 2024 at 6:00 p.m.
Duarte Community Center
1600 Huntington Drive
Duarte, CA 91010

Project Location

Regionally, the project site is located in the City in Los Angeles County. Duarte is located in the northcentral portion of the San Gabriel Valley, approximately 21 miles northeast of the City of Los Angeles. Duarte is situated at the base of the San Gabriel Mountains and is bordered by the City of Irwindale to the south, the City of Monrovia and the City of Bradbury to the west, the Angeles National Forest to the north, and the City of Azusa to the east; refer to Figure 1, Project Location.

Locally, the project site is bordered by Huntington Drive to the north, Central Avenue to the south, Santo Domingo Avenue to the west and Bradbourne Avenue to the east. The site is located on the eastern edge of the recently adopted Town Center Specific Plan area and in proximity to the Gold Line Station and the Duarte Station Specific Plan area. A portion of the eastern boundary is immediately adjacent to the existing Amberwood Homes townhome development; refer to Figure 2, Project Vicinity.

Current Conditions

The approximately 32-acre site is developed with the Westminster Gardens Life Plan Community (LPC) senior residential community containing residential buildings, administrative offices, recreational facilities, internal vehicular drive aisles, stormwater conveyance facilities, and ornamental vegetation. The northwest portion of the site is undeveloped; refer to Figure 3, Project Site Detail.

Project Description

The proposed project will update the Westminster Gardens Specific Plan (WGSP) through a comprehensive update, repealing in its entirety the existing Specific Plan, replacing it with a new Specific Plan to facilitate redevelopment of the existing LPC. The updated WGSP identifies the long-term vision and objectives for private redevelopment, new residential and non-residential development capacity, and associated public and private improvements within the WGSP area over a 15-to-20-year span. The WGSP update establishes the general type, parameters, and character of the development aimed at transforming the current Westminster Gardens LPC campus into a vibrant and dynamic environment with senior-centric amenities, services, and multiple housing and continuum of care options at various price points, providing aging Duarte residents a destination to continue to reside within the City.

Redevelopment under the updated WGSP is intended to address the unmet demand for senior housing and services within Duarte and the surrounding communities. Implementation of this amendment allows for redevelopment of the Westminster Gardens LPC campus to allow build-out capacity of the following major components as shown in the following table.

Land Use	Residential (units/beds)	Residential (square feet)	Non-Residential (square feet)
Existing			
Independent Living Unit (market-rate)	107	113,453	
Independent Living Unit (affordable)	0		
Assisted Living/Memory Care Unit	42	24,055	
Resident Amenity			18,122
Utility and Maintenance			3,891
Office			5,650
Retail			0
Total	**149**	**137,508**	**27,663**
Proposed Build-Out Assumptions			
Independent Living Unit (market-rate)	310	539,500	
Independent Living Unit (affordable)	150	142,500	
Assisted Living/Memory Care Unit	90	81,000	
Resident Amenity			65,000
Utility and Maintenance			7,000
Office			25,000
Retail			15,000
Total	**550**	**763,000**	**112,000**
Net Difference Between Existing Conditions and Specific Plan Assumptions - TOTALS	**+401**	**+625,492**	**+84,337**

Another major goal of updating the WGSP is to achieve a coordinated, cohesive environment and character within the Westminster Gardens LPC by updating development and design standards. The updated Specific Plan reorganizes the existing Specific Plan to be more effectively implemented and is organized as follows:

- Specific Plan Setting

- Development Plan
- Development and Design Standards
- Infrastructure and Services
- Administration and Implementation
- Appendices (General Plan Consistency Analysis, Definitions, etc.)

The amended WGSP includes a Conceptual Development Plan for the redevelopment of Westminster Gardens LPC. Figure 4, Proposed Development Concept, illustrates broadly the overall plan for redevelopment, generally depicting building locations, and distribution of land uses throughout the 32-acre site. Two additional gate-controlled vehicular access points are proposed to connect to Santo Domingo Avenue and the unused existing curb cut along Central Avenue will be relocated eastward and serve as access to the Affordable Independent Living Units. Existing vehicular access will be retained at the main entrance on Santo Domingo Avenue, and the Huntington Drive access will serve as emergency vehicle access. All connections with the public right-of-way would also have access-controlled pedestrian gates.

Allowable uses, intensity and density of development, and specific development and design standards are defined for each of the respective land use categories contained within each building of the WGSP. The categories include Residential (both market-rate and affordable Independent Living Units), Residential Care Facilities (Assisted Living/Memory Care Units/Beds), Resident Amenity, Office, Maintenance, Private Park, and Mixed-Use (combining residential, office, and retail uses). Buildings may contain a single use or multiple land use categories specific to the unique function and operations of an LPC.

Redevelopment of Westminster Gardens LPC will result in multiple buildings ranging from single-story to multi-story with associated parking areas located within structures, partially subterranean, or at surface. Resident amenities may be located within residential buildings or in stand-alone buildings throughout the campus and would include areas for dining, activities, health and wellness, education, social, recreational, and other senior-centric functions. Mixed-Use buildings and associated parking would be developed within the northwest portion of the amended WGSP, with ground floor retail combined with either office and/or residential living units on upper floors (vertical) or immediately adjacent (horizontal).

Required Approvals

The City is the Lead Agency for the project and has discretionary authority which includes, but is not limited to, the approvals listed below. In its capacity as Lead Agency, the City determined the proposed amendment to the 1990 Westminster Gardens Specific Plan does not require an amendment to the Duarte Comprehensive General Plan.

- Certification of the Final EIR;
- Adoption of a Mitigation Monitoring and Reporting Program (MMRP);
- Adoption of the update to the Westminster Gardens Specific Plan;
- Approval of any required subdivision maps, or lot line adjustments;
- Discretionary review as necessary, including any applicable CEQA review, for other current and future development proposals within the Specific Plan area.

Future development proposals within the Specific Plan area may be expected to also require review or approvals from other jurisdictional agencies, including, but not limited to:

- California Department of Social Services (CDSS)
- California Department of Toxic Substances Control (DTSC)

- California Department of Transportation (Caltrans District 7)
- County of Los Angeles
- Duarte Unified School District
- Los Angeles County Fire Department
- Los Angeles County Sheriff's Department
- County Sanitation Districts of Los Angeles County (LASCD)
- Los Angeles County Metropolitan Transportation Authority (METRO)
- South Coast Air Quality Management District (SCAQMD)
- Los Angeles Regional Water Quality Control Board (RWQCB District 4)
- California Public Utilities Commission (CPUC)
- California Department of Fish and Wildlife
- Housing and Community Development
- Native American Heritage Commission
- Southern California Association of Governments (SCAG)

PEIR Scope
The City has determined that the proposed project will require preparation of a PEIR pursuant to CEQA that will address the issues listed below.

Aesthetics: The PEIR will describe the aesthetic and urban implications of the proposed project.

Agriculture and Forestry: The PEIR will evaluate potential impacts (if any) related to land used or zoned for agriculture or forestry resources.

Air Quality: The PEIR will describe the potential short-and long-term impacts of the proposed project on local and regional air quality based on methodologies defined by the South Coast Air Quality Management District (SCAQMD).

Biological Resources: The PEIR will evaluate potential impacts on biological resources resulting from development of the proposed project including potential impacts to wetlands, interference with migratory birds, and consistency with biological resources policies and ordinances.

Cultural and Historic Resources: The PEIR will describe any potential impacts and mitigation needs associated with historic and cultural (archaeological) resources.

Energy: The PEIR will evaluate inefficient or unnecessary consumption of energy resources or conflicts that obstruct a State or local plan for renewable energy or energy efficiency.

Geology and Soils: The PEIR will describe the potential geotechnical implications of development of the proposed project including the Sierra Madre Fault Line.

Greenhouse Gas Emissions and Global Climate Change: The PEIR will describe the potential impacts on local greenhouse gas emissions and global climate change using the latest approach and methodologies recommended by State and regional agencies.

Hazards and Hazardous Materials: The PEIR will describe the potential for hazardous material use or hazardous waste investigation and clean-up activities anticipated from the proposed project and will describe any associated potential impacts.

Hydrology and Water Quality: The PEIR will evaluate potential impacts on hydrology and water quality resulting from the proposed project including the onsite stormwater drainage channel.

Land Use and Planning: The PEIR will describe the potential effects of the proposed project on existing and planned land use characteristics in the project vicinity.

Mineral Resources: The PEIR will evaluate whether the project will result in the loss of availability of a known mineral resource or a local mineral resource recovery area.

Noise: The PEIR will describe the potential onsite and offsite noise impacts resulting from implementation of the proposed project.

Population and Housing: The PEIR will describe potential impacts on the City's existing and future housing supply.

Public Services: The PEIR will describe the potential impacts on public services (police and fire protection, parks and recreation, and schools).

Transportation: The PEIR will describe the transportation and circulation implications of the proposed 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, effects on pedestrian and bicycle circulation related to general plan consistency. Vehicles Miles Travelled (VMT) will also be analyzed.

Tribal Cultural Resources: The PEIR will describe potential impacts to Native American resources.

Utilities and Service Systems: The PEIR will describe potential impacts associated with the proposed project including water supply, water, wastewater treatment, and solid waste and recycling.

Wildfire: The PEIR will describe potential increase in exposure/risk to wildfires.

Alternatives: Pursuant to CEQA Guidelines Section 15126.6, the Draft PEIR will identify and compare a reasonable range of alternatives to the Project.

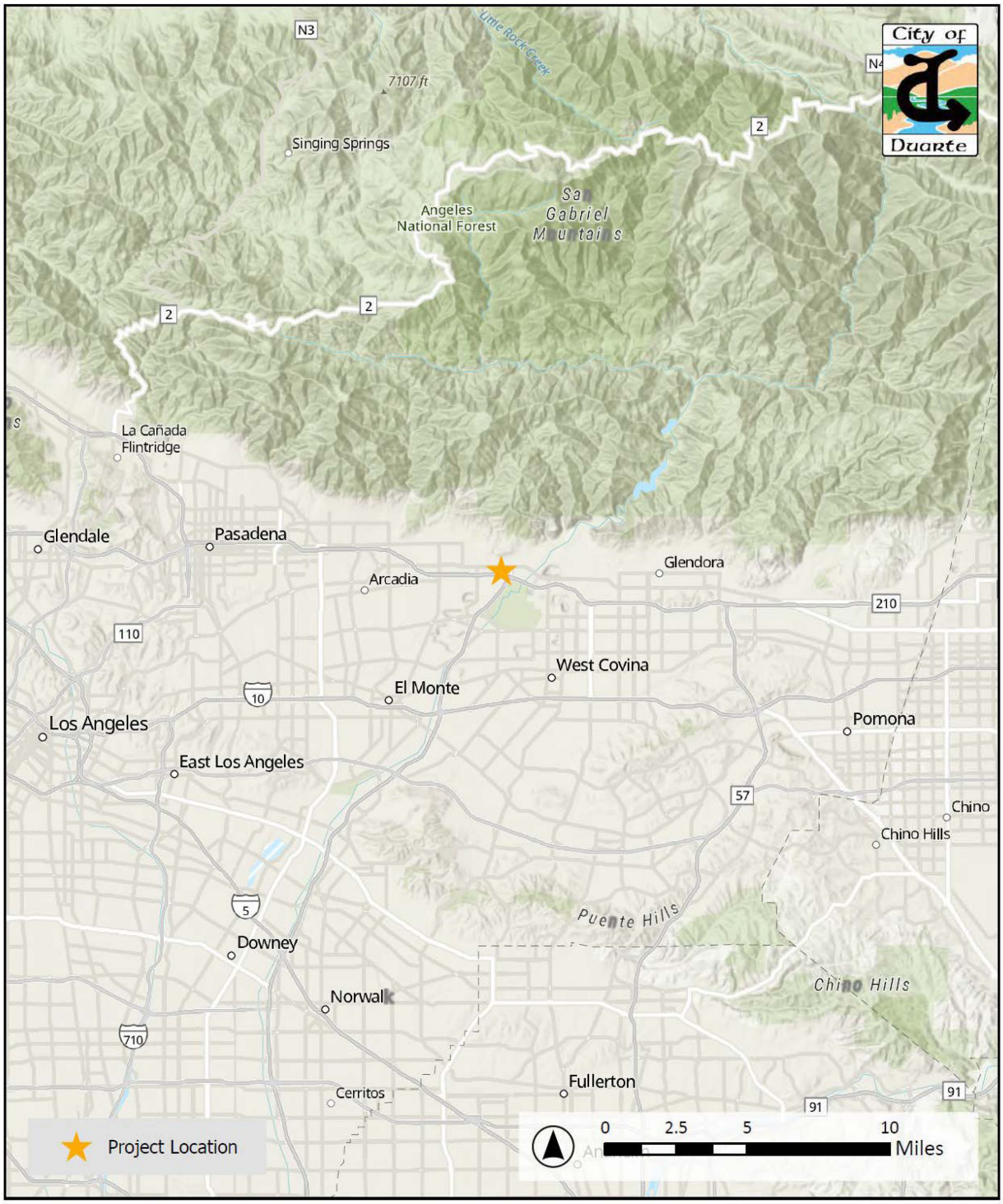
After the Draft PEIR has been completed, it will be available for review and comment during a 45-day public review period. Notice of the availability of the Draft PEIR will be released at a later date and will also be available on the City's website. Following that, a Final PEIR will be prepared that includes responses to all comments received during the public review period. Following the release of the Final PEIR, the Planning Commission will hold a public hearing on the PEIR and the proposed project.

Questions
Contact Scott Nash, Associate Planner at (626) 357-7931 or snash@accessduarte.com for information about the proposed project or if you have any questions regarding this notice.

Craig Hensley, AICP
Community Development Director

Dated: April 4, 2024

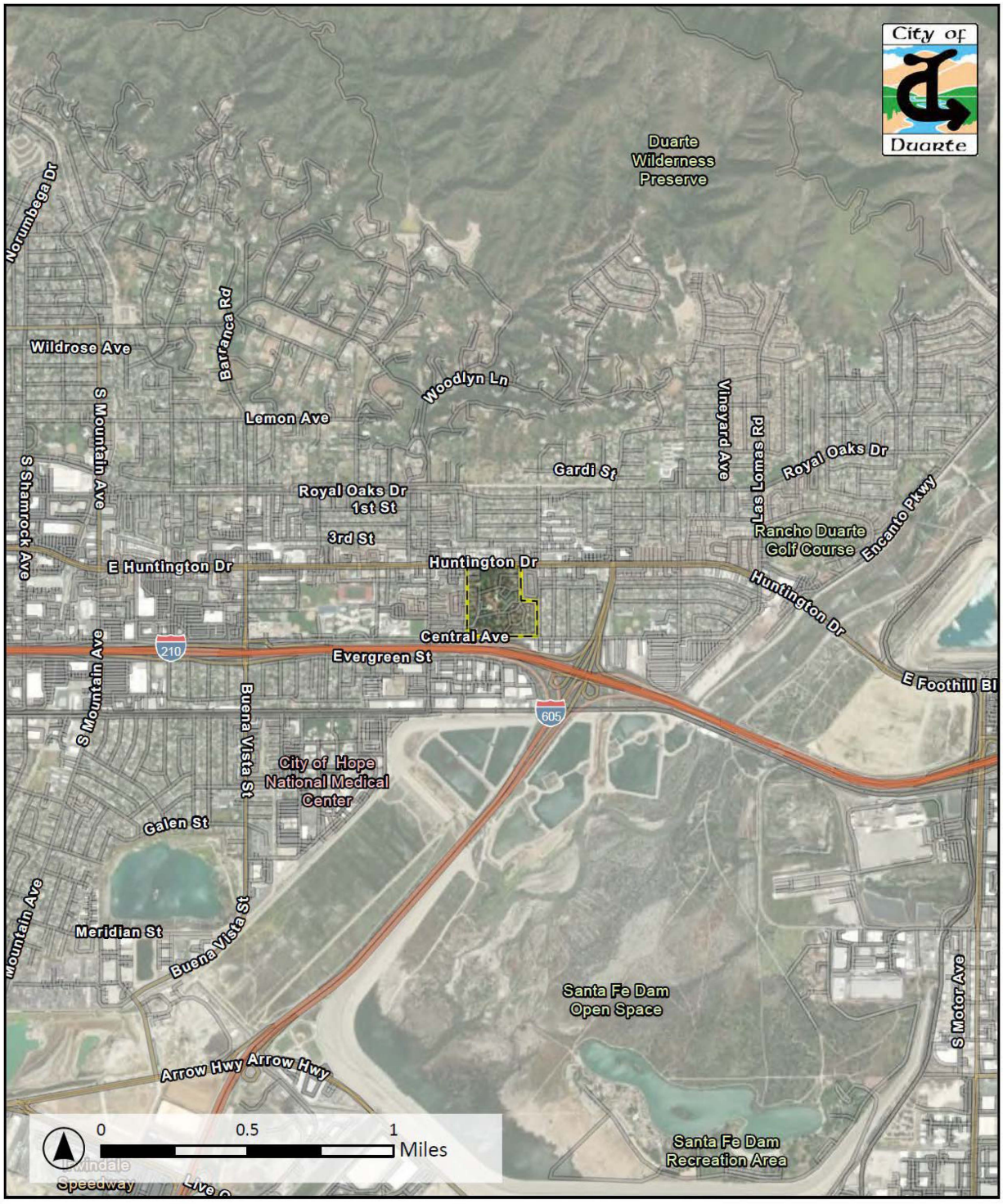
Figure 1 – Project Location



Westminster Gardens
Project Location

Revised 1.3.24

Figure 2 – Project Vicinity



Project Area

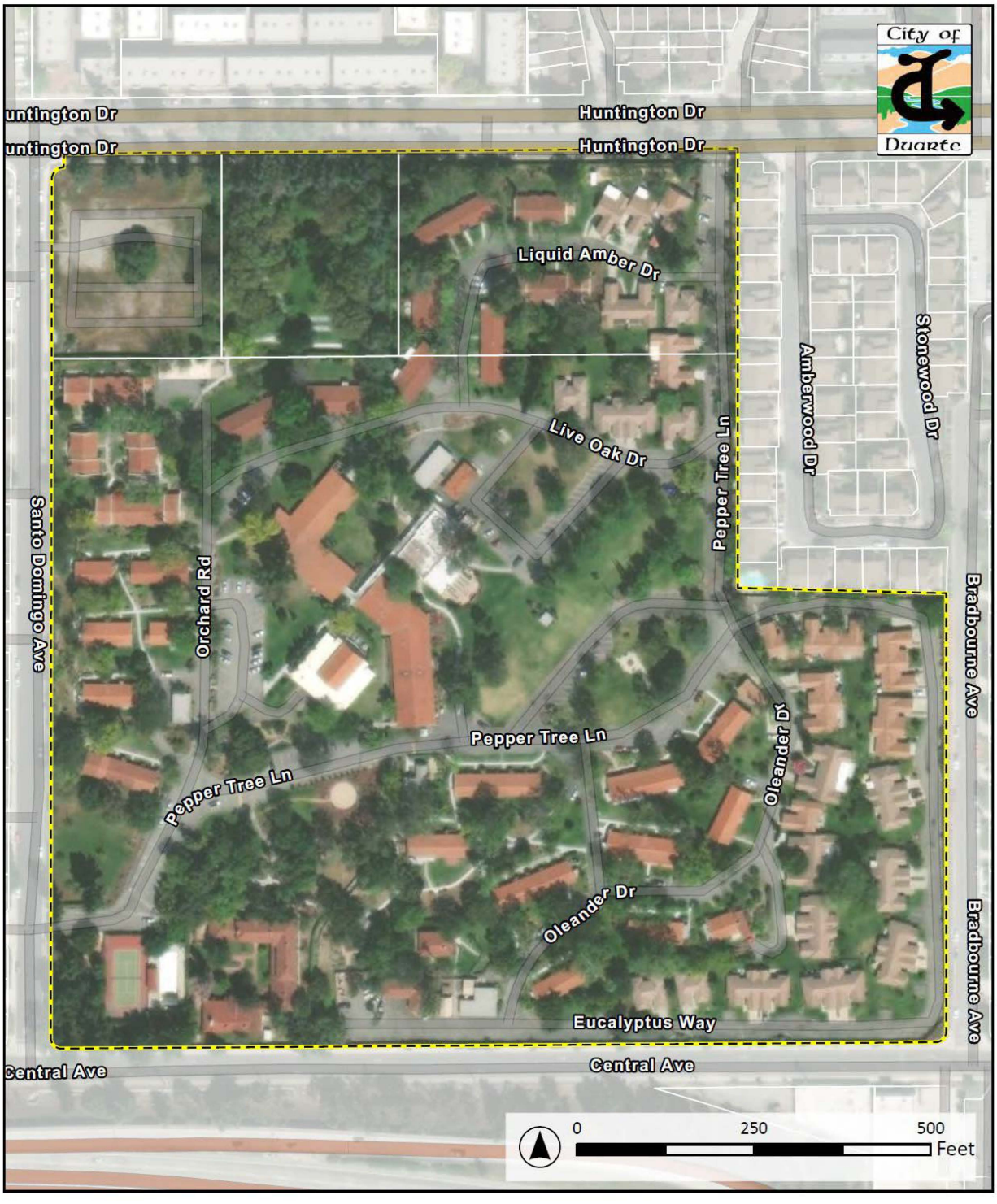
Westminster Gardens

Project Vicinity

MIG

Revised 1.3.24

Figure 3 – Project Site Detail



Project Area
Parcels

Westminster Gardens

Project Site Detail

MIG

Revised 1.3.24

Figure 4 – Proposed Development Concept



NOP Notification List

Los Angeles County Registrar-Recorder County Clerk
12400 Imperial Highway
Norwalk, CA 90650

California American Water Company
Los Angeles Division
8657 Grand Avenue
Rosemead, CA 91770-1221
www.amwater.com/caaw

California Department of Forestry & Fire Protection Resource Management
P.O. Box 944246
Sacramento, CA 94244-2460
Southern California Region
2524 Mulberry St.
Riverside, CA 92501
(951) 782-4140
www.fire.ca.gov

California Department of Social Services
744 P Street
Sacramento, CA 95814
https://www.cdss.ca.gov/

California Department of Substances Control
Cypress Office
5796 Corporate Avenue
Cypress, CA 90630
https://dtsc.ca.gov/

California Department of Transportation (Caltrans)
100 South Main Street
Los Angeles, CA 90012
https://dot.ca.gov/caltrans-near-me/district-7

California Public Utilities Commission
Los Angeles Office
320 West 4th Street
Suite 500
Los Angeles, CA 90013
https://www.cpuc.ca.gov/

California Department of Fish and Wildlife
South Coast Region
3883 Ruffin Road
San Diego, CA 92123
https://wildlife.ca.gov/

California Department of Housing and Community Development
2020 West El Camino Avenue
Sacramento, CA 95833
https://www.hcd.ca.gov/

City of Azusa
Community Development Department
213 E. Foothill Boulevard
Azusa, CA 91702
www.ci.azusa.ca.us

City of Bradbury
600 Winston Avenue
Bradbury, CA 91010
www.cityofbradbury.org

City of Irwindale
Community Development Department
16102 Arrow Highway
Second Floor
Irwindale, CA 91706

City of Monrovia
Planning Department
415 Ivy Avenue
Monrovia, CA 91016
www.ci.monrovia.ca.us

County of Los Angeles Department of Regional Planning
1390 Hall of Records
320 W. Temple Street
Los Angeles, CA 90012
www.planning.lacounty.gov

County of Los Angeles Fire Department
1320 N. Eastern Avenue
Los Angeles, CA 90063
https://fire.lacounty.gov/

County of Los Angeles Sanitation Districts
1955 Workman Mill Road
Whittier, CA 90601
https://www.lacsd.org/home

Los Angeles Regional Water Quality Control Board
320 West Fourth Street
Suite 200
Los Angeles, CA 90013
https://www.waterboards.ca.gov/losangeles/

Duarte Unified School District
1620 Huntington Drive
Duarte, CA 91010
www.duarte.k12.ca.us

L.A. County Fire Prevention Forestry Division
Fuel Modification Unit
605 N. Angeleno Avenue
Azusa, CA 91702-2904
www.fire.lacounty.gov/fireprevention/FirePrevention.asp

L.A. County Sheriff's Department
4700 Ramona Blvd.
Monterey Park CA 91754

L.A. County Flood Control District
900 S. Fremont
Alhambra, CA 91803-1331
www.dpw.lacounty.gov/apps/wmd/floodzone

L.A. County Metropolitan Transportation Authority
1 Gateway Plaza
P.O. Box 194
Los Angeles, CA 90053
www.metro.net

Metropolitan Water District of So. California
700 N. Alameda Street
Los Angeles, Ca 90012-2944
www.mwdh2o.com

South Coast AQMD
21865 Copley Drive
Diamond Bar, CA 91765
www.aqmd.gov

Southern California Association of Governments
Environmental Planning
818 W. Seventh Street, 12th Floor
Los Angeles, CA 90017
www.scag.ca.gov

Southern California Edison Company
Local Government Affairs
Land Use/Environmental Coordinator
2244 Walnut Grove Avenue
Rosemead, CA 91770
www.sce.com

Southern California Gas Company

Environmental Affairs
555 W. Fifth Street
Los Angeles, CA 90013
www.socalgas.com

U.S. Department of Fish and Wildlife
Pacific Region
Eastside Federal Complex
911 NE 11th Street, Suite 1
Portland, OR 97232
www.fws.gov

Lozeau Drury LLP
1939 Harrison St., Suite 150
Oakland, CA 94612
richard@lozeaudrury.com
komal@lozeaudrury.com
stacey@lozeaudrury.com

Gabrieleño Band of Mission Indians – Kizh Nation
Andrew Salas, Chairman
PO Box 393
Covina, CA 91723
Cell: 626-926-4131
Email: admin@gabrielenoindians.org

Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA 91778
Phone: (626) 483-3564
Fax: (626) 286-1262
GTTribalcouncil@aol.com

Gabrielino/Tongva Nation
Sandonne Goad, Chairperson
106 ½ Judge John Aiso St., #231
Los Angeles, CA 90012
Phone: (951) 807-0479
sgoad@gabrielino-tongva.com

Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490
Bellflower, CA 90707
Phone: (562) 761-6417
Fax: (562) 761-6417
gtongva@gmail.com

Gabrielino Tongva Indians of California Tribal Council
Christina Conley, Tribal Consultant and Administrator
P.O. Box 941078
Simi Valley, CA 93094
Phone: (626) 407-8761
Christina.marsden@alumni.usc.edu

Gabrielino-Tongva Tribe
Charles Alvarez
23454 Vanowen Street
West Hills, CA 91307
roadkingcharles@aol.com

San Manuel Band of mission Indians
Jessica Mauck, Director of Cultural Resources
26569 Community Center Drive
Highland, CA 92346
Phone: (909) 864-8933
jmauck@sanmanuel-nsn.gov

Santa Rosa Band of Cahuilla Indians
Lovina Redner, Tribal Chair
P.O. Box 391820
Anza, CA 92539
Phone: (951) 659-2700
Fax: (951) 659-2228

Soboba Band of Luiseno Indians
Joseph Ontiveros, Cultural Resource Department
P.O. BOX 487
San Jacinto, CA, 92581
Phone: (951) 663 - 5279
Fax: (951) 654-4198
jontiveros@soboba-nsn.gov

Soboba Band of Luiseño Indians
Isaiah Vivanco, Chairperson
P.O Box 487
San Jacinto, CA 92581
Phone: (951) 654-5544
Fax: (951) 654-4198
ivivanco@soboba-nsn.gov

LOS ANGELES COUNTY
SANITATION DISTRICTS
Converting Waste Into Resources

Robert C. Ferrante
Chief Engineer and General Manager

1955 Workman Mill Road, Whittier, CA 90601-1400
Mailing Address: P.O. Box 4998, Whittier, CA 90607-4998
(562) 699-7411 • www.lacsd.org

April 18, 2024

Ref. DOC 7195091

VIA EMAIL snash@accessduarte.com

Mr. Scott Nash, Associate Planner
City of Duarte
Community Development Department
Planning Division
1600 Huntington Drive
Duarte, CA 91010

Dear Mr. Nash:

NOP Response to Westminster Gardens Specific Plan Update

The Los Angeles County Sanitation Districts (Districts) received a Notice of Preparation (NOP) of a Draft Program Environmental Impact Report (DPEIR) for the subject project located in the City of Duarte on April 5, 2024. The proposed project is located within the jurisdictional boundaries of District No. 22. 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 either or both the Districts' Duarte Relief Trunk Sewer, or Duarte Trunk Sewer, both located in Highland Avenue at Central Avenue. The Districts' 18-inch diameter Duarte Relief Trunk Sewer has a capacity of 5.2 million gallons per day (mgd) and conveyed a peak flow of 1.1 mgd when last measured in 2023. The Districts' 12-inch diameter Duarte Trunk Sewer has a capacity of 1.8 mgd and conveyed a peak flow of 0.1 mgd when last measured in 2023.

2. The expected increase in average wastewater flow from the project, described in the NOP as 401 residential units and 84,337 square feet of non-residential buildings, the difference between existing conditions and Specific Plan assumptions, is 82,729 gallons per day. For a copy of the Districts' average wastewater generation factors, go to www.lacsd.org, under Services, then Wastewater Program and Permits and select Will Serve Program, and click on the Table 1, Loadings for Each Class of Land Use link.

3. 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 recycled flow of 62.9 mgd. All biosolids and wastewater flows that exceed the capacity of the San Jose Creek WRP are diverted to and treated at the A.K. Warren Water Resource Facility (formerly known as the Joint Water Pollution Control Plant) in the City of Carson.

4. The Districts are empowered by the California Health and Safety Code to charge a fee to connect facilities (directly or indirectly) to the Districts' Sewerage System or to increase the strength or quantity of wastewater discharged from connected facilities. This connection fee is used by the Districts for its capital facilities. Payment of a connection fee may 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, under Services, then Wastewater (Sewage) and select Rates & Fees. 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, please 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 CAA. 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 City that the Districts intend to provide this service up to the levels that are legally permitted and to inform the City 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 2742, or phorsley@lacsd.org.

Very truly yours,

Patricia Horsley

Patricia Horsley
Environmental Planner
Facilities Planning Department

PLH:plh

cc: A. Schmidt
A. Howard

City of Duarte

Scott Nash <snash@accessduarte.com>

Re: Westminster Gardens NOP and PEIR

4 messages

Jason Golding <goldingj@accessduarte.com> Mon, Apr 29, 2024 at 5:10 PM
To: Edmond Yee <edmondmingyee@gmail.com>
Cc: Dorothy Keane <dorothy.keane@gmail.com>, Scott Nash <snash@accessduarte.com>

Edmond,

We have received your email and we will make sure to add you to the notification list for this project.

Jason Golding
Planning Division Manager

City of Duarte
(626) 357-7931 x231
goldingj@accessduarte.com

On Mon, Apr 29, 2024 at 5:04 PM Edmond Yee <edmondmingyee@gmail.com> wrote:

> Good afternoon Mr. Golding,
>
> Thank you for taking my call regarding the meeting tomorrow involving the CEQA and EIR for the Westminster Gardens master plan change. I will not be able to attend but please place me on all future updates and emails.
>
> Best, Edmond Yee
> 626.201.8517
>
> https://duartecityofca.prod.govaccess.org/home/showdocument?id=2376

DEPARTMENT OF TRANSPORTATION
DISTRICT 7
100 S. MAIN STREET, MS 16
LOS ANGELES, CA 90012
PHONE (213) 269-1124
FAX (213) 897-1337
TTY 711
www.dot.ca.gov

Making Conservation a California Way of Life

May 1, 2024

Scott Nash, Associate Planner
Planning Division
Community Development Department
City of Duarte
1600 Huntington Drive
Duarte, CA 91010

RE: Westminster Gardens SP Update
SCH # 2024040196
Vic. LA-210/PM R36.53, LA-605/PM 25.8
GTS # LA-2024-04494-NOP-AL

Dear Scott Nash,

Thank you for including the California Department of Transportation (Caltrans) in the environmental review process for the above-referenced NOP. The proposed project will update the Westminster Gardens Specific Plan (WGSP) through a comprehensive update, repealing in its entirety the existing Specific Plan, and replacing it with a new Specific Plan to facilitate redevelopment of the existing Life Plan Community (LPC). The updated WGSP identifies the long-term vision and objectives for private redevelopment, new residential and non-residential development capacity, and associated public and private improvements within the WGSP area over a 15-to-20-year span. The WGSP update establishes the general type, parameters, and character of the development aimed at transforming the current Westminster Gardens LPC campus into a vibrant and dynamic environment with senior-centric amenities, services, and multiple housing and continuum of care options at various price points, providing aging Duarte residents a destination to continue to reside within the City.

Redevelopment under the updated WGSP is intended to address the unmet demand for senior housing and services within Duarte and the surrounding communities. Implementation of this amendment allows for redevelopment of the Westminster Gardens LPC campus to allow an increase in build-out capacity from 149 to 550 residential units/beds and from 27,663 to 112,000 square feet of non-residential floor area. Another major goal of updating the WGSP is to achieve a coordinated, cohesive environment and character within the Westminster Gardens LPC by updating development and design standards.

The mission of Caltrans is to provide a safe and reliable transportation network that serves all people and respects the environment. Senate Bill 743 (2013) has codified into CEQA law and 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 the Governor's Office of Planning and Research (OPR) for more information:

https://opr.ca.gov/ceqa/#guidelines-updates

As a reminder, VMT is the standard transportation analysis metric in CEQA for land use projects after July 1, 2020, which is the statewide implementation date.

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, all developments in the General Plan 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. Overall, the environmental report should ensure all modes are served well by planning and development activities. This includes reducing single occupancy vehicle trips, ensuring safety, reducing vehicle miles traveled, supporting accessibility, and reducing greenhouse gas emissions.

We 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. For any TDM options, please refer to the Federal Highway Administration's *Integrating Demand Management into the Transportation Planning Process: A Desk Reference* (Chapter 8). This reference is available online at:

http://ops.fhwa.dot.gov/publications/fhwahop12035/fhwahop12035.pdf

Also, Caltrans has published the VMT-focused Transportation Impact Study Guide (TISG), dated May 20, 2020 and the Caltrans Interim Land Development and Intergovernmental Review (LD-IGR) Safety Review Practitioners Guidance, prepared on December 18, 2020. You can review those document at the following link:

https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-05-20-approved-vmt-focused-tisg-a11y.pdf

https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/sb-743/2020-12-22-updated-interim-ldigr-safety-review-guidance-a11y.pdf

This development is near I-210 and I-605. It is anticipated that I-210 and Buena Vista Street Interchange, and I-210/I-605 and Huntington Drive intersections will be impacted by the project trips of the development. We recommend including the following in the traffic impact analysis.

A) Potential environmental effects of the Project should include the Transportation section with VMT analysis in the Draft Environmental Impact Report.

B) To address development traffic safety concerns on the State facilities, Caltrans recommends the Lead Agency include queuing analysis with actual signal timing for existing traffic conditions plus project trips at the impacted off-ramps on Freeway 210/605 on the State facilities. Perform Queuing Analysis at the following off-ramp intersections to make sure that the traffic on the off-ramp does not back up onto the freeway mainline, and for turn lane storage to be adequate and for this traffic not to cause through traffic blockage:

   a) WB/EB Route 210/NB Route 605 off-ramps to Huntington Dr.
   b) WB Route 210 off-ramp to Buena Vista St.
   c) EB Route 210 off-ramp to Buena Vista St.

C) For Potential Mitigation Measures the following may be included:
   a) Transportation Demand Management.
   b) Transportation System Management.

Caltrans encourages lead agencies to prepare traffic safety impact analysis for this Specific Plan in the California Environmental Quality Act (CEQA) review process using Caltrans guidelines above on the State facilities so that, through partnerships and collaboration, California can reach zero fatalities and serious injuries by 2050.

If you have any questions, please feel free to contact Mr. Alan Lin the project coordinator at (213) 269-1124 and refer to GTS # LA-2024-04494-NOP-AL.

Sincerely,

Anthony Higgins for

MIYA EDMONSON
LDR/CEQA Branch Chief

email: State Clearinghouse

Regarding the City of Duarte Draft Program Environmental Impact Report (PEIR) for the Westminster Gardens Specific Plan Update Project

Monday, May 6, 2024

Comments by Jim Kirchner
1420 Santo Domingo Avenue, Duarte, CA 91010

As presented in the April 4, 2024, Notice of Public Scoping Meeting document, and the actual Public Scoping Meeting held on Tuesday, April 30, 2024, 6 p.m., at the Duarte Senior Center, this proposed project changes the whole environment of Westminster Gardens.

Currently, it is primarily a single story community with a large variety of living options, as well as open space, a quiet environment, a large park, and a community garden. These are some of the reasons today's residents, and those on wait lists, have chosen Westminster Gardens to live. It's different, it's pleasant, it's peaceful, and safe to walk around – it invites you to stop and smell the roses.

This proposal changes that whole environment. It will no longer be Westminster "Gardens", more like Westminster "Towers". The charm that has driven so many residents to choose Westminster Gardens will be gone.

There are several other areas that should be considered:

1. **Water and irrigation infrastructure.** The water pipes are old and break occasionally, breakage from minor on up. I suspect they should all be replaced rather than tap into them.

2. **Maintenance.** The current Maintenance site has insufficient parking and inside/outside storage space for its constant movement of equipment, supplies, materials, machinery, collected/discarded waste, appliances, and work vehicles. With a proposed growth of over 3 times the current number of residential units, the amount of space for Maintenance in the new proposal is less than double the current space (7,000 sq ft vs. the current 3,891 sq ft). *I was unable to locate on the Proposed Development Concept map where the new Maintenance will be.*

3. **Noise/Landfill, green waste/compost, and recycle bins and pickup.** Currently, we have localized container pickups during the week that are then deposited into larger bins that the current hauler, Burrtec, picks up on a schedule. These bins are located at Maintenance and by the Dining Room (I'm assuming Burrtec does this pickup at Dining). Burrtec's large vehicles would drive to these locations. However, the bins are usually full at pickup time. With the expected increase in waste materials, and the new multiple story issues of managing waste, where are the additional bins going to be? Will Burrtec be driving its large vehicles throughout the campus? Multiple times a week? And be quiet about it? The trucks may be quiet but what about the banging of the bins?

4. **Parking.** With our current population, vehicle parking for cars and golf carts is a challenge in places. Residents currently have problems accessing Fellowship Hall with either vehicle. Whenever there is a special event at Packard Hall where non-residents are invited it becomes a bigger challenge because there is hardly any space for visitors. With the pending expansion of Packard Hall, for more occupancy capacity, it's not clear there is additional parking being provided. The Proposed Development Concept map suggests there will be less space.

   The notice says on page 4 "…buildings ranging from single-story to multi-story with associated parking areas located within structures, partially subterranean, or at surface." It seems subterranean is the best choice to accommodate cars/carts, and provide surface parking relief for other residents and guests. Pictures I've seen of "partial subterranean" don't seem a good use of space. Current dining room parking capacity seems ok for now, but would be a problem with increased number of residents.

   The proposed mixed-use building in the n/w corner needs adequate parking to support its own uses.

5. **Dining Room.** Is there going to be one dining room/kitchen as current or will there be dining rooms/kitchens in the new structures? It's not clear how food service will be handled for the increased number of people, and the dispersed locations.

6. **Aesthetics**. A couple of years ago a community garden was developed with the full support of Westminster Gardens' administration. It has been the site of many activities, including: a grand opening with City of Duarte leaders present; happy hours; hands-on garden planting and

education; evening special meals; a destination resting spot for assisted living residents on a walk; crop harvesting when it's time; and a tree planted and dedicated, with a plaque, in memory of a key Westminster Gardens staff member. The garden is visually pleasing to see as you walk by, walk through, drive by, or sit in. This community garden is not identified on the Proposed Development Concept map and appears to be eliminated.

7. **Air Quality/Energy.** Possible EV charging stations have been mentioned at Westminster Gardens' meetings in the past year. Is there any provision for those in this proposal? Are solar panels being considered for the tops of the tall structures?

8. **Security.** As a locked community, today residents feel safe and secure. With the proposed mixed use/retail area, it appears the parking for that complex will be in a shared area with residential parking. Is this no longer going to be a locked, secure community?

9. **Public Services.** Many Westminster Gardens residents utilize the Duarte Senior Center now. I suspect that usage would increase with the three-fold population growth in this proposal.

Thank you for the opportunity to comment on the preparation of the draft PEIR. I hope you will seriously consider my comments when you develop the actual draft PEIR.

Jim Kirchner

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

SENT VIA E-MAIL: May 6, 2024

snash@accessduarte.com
Scott Nash, Associate Planner
City of Duarte, Community Development Department, Planning Division
1600 Huntington Drive
Duarte, California CA 91010

Notice of Preparation of a Program Environmental Impact Report for the Westminster Gardens Specific Plan Update (Proposed Project)

South Coast Air Quality Management District (South Coast AQMD) staff appreciate the opportunity to comment on the above-mentioned document. Our comments are recommendations on the analysis of potential air quality impacts from the Proposed Project that should be included in the Draft Program Environmental Impact Report (PEIR). Please send a copy of the Draft PEIR upon its completion and public release directly to South Coast AQMD as copies of the Draft PEIR submitted to the State Clearinghouse are not forwarded. **In addition, please send all appendices and technical documents related to the air quality, health risk, and greenhouse gas analyses (electronic versions of all emission calculation spreadsheets, air quality modeling, and health risk assessment input and output files, not PDF files). Any delays in providing all supporting documentation for our review will require additional review time beyond the end of the comment period.**

CEQA Air Quality Analysis

Staff recommends that the Lead Agency use South Coast AQMD's CEQA Air Quality Handbook and website[1] as guidance when preparing the air quality and greenhouse gas analyses. It is also recommended that the Lead Agency use the CalEEMod[2] land use emissions software, which can estimate pollutant emissions from typical land use development and is the only software model maintained by the California Air Pollution Control Officers Association.

South Coast AQMD has developed both regional and localized significance thresholds. South Coast AQMD staff recommends that the Lead Agency quantify criteria pollutant emissions and compare the emissions to South Coast AQMD's CEQA regional pollutant emissions significance thresholds[3] and localized significance thresholds (LSTs)[4] to determine the Proposed Project's air quality impacts. The localized analysis can be conducted by either using the LST screening tables or performing dispersion modeling.

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

[1] South Coast AQMD's CEQA Handbook and other resources for preparing air quality analyses can be found at: http://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook.
[2] CalEEMod is available free of charge at: www.caleemod.com.
[3] South Coast AQMD's CEQA regional pollutant emissions significance thresholds can be found at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/south-coast-aqmd-air-quality-significance-thresholds.pdf
[4] South Coast AQMD's 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.

mobile sources (e.g., heavy-duty construction equipment) and on-road mobile sources (e.g., construction worker vehicle trips, material transport trips, and hauling trips). Operation-related air quality impacts may include, but are not limited to, emissions from stationary sources (e.g., boilers and air pollution control devices), 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. Furthermore, emissions from the overlapping construction and operational activities should be combined and compared to South Coast AQMD's regional air quality CEQA ***operational*** thresholds to determine the level of significance.

Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants and include schools, daycare centers, nursing homes, elderly care facilities, hospitals, and residential dwelling units. The Proposed Project will include, among others, residential development and is located in close proximity to I-210 and I-605, and to facilitate the purpose of an PEIR as an informational document, it is recommended that the Lead Agency perform a mobile source health risk assessment**Error! Bookmark not defined.** to disclose the potential health risks[5].

In the event that implementation of the Proposed Project requires a permit from South Coast AQMD, South Coast AQMD should be identified as a Responsible Agency for the Proposed Project in the Draft PEIR. The assumptions in the air quality analysis in the PEIR will be the basis for evaluating the permit under CEQA and imposing permit conditions and limits. Questions on permits should be directed to South Coast AQMD's Engineering and Permitting staff at (909) 396-3385.

The California Air Resources Board's (CARB) *Air Quality and Land Use Handbook: A Community Health Perspective*[6] is a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process with additional guidance on strategies to reduce air pollution exposure near high-volume roadways available in CARB's technical advisory[7].

The South Coast AQMD's *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*[8] includes 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. It is recommended that the Lead Agency review this Guidance Document as a tool when making local planning and land use decisions.

Mitigation Measures

In the event that the Proposed Project results in significant adverse air quality impacts, CEQA requires that all feasible mitigation measures that go beyond what is required by law be utilized to minimize these impacts. Any impacts resulting from mitigation measures must also be analyzed. Several resources to assist the Lead Agency with identifying potential mitigation measures for the Proposed Project include South Coast AQMD's CEQA Air Quality Handbook,[9] South Coast AQMD's Mitigation Monitoring and Reporting Plan for the 2022 Air Quality Management Plan,[10] and Southern California Association of

[5] *Ibid*.
[6] CARB's *Air Quality and Land Use Handbook: A Community Health Perspective* can be found at: https://www.aqmd.gov/docs/default-source/ceqa/handbook/california-air-resources-board-air-quality-and-land-use-handbook-a-community-health-perspective.pdf.
[7] CARB's technical advisory can be found at: https://ww2.arb.ca.gov/sites/default/files/2017-10/rd_technical_advisory_final.pdf.
[8] South Coast AQMD. 2005. *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*. Available at: http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf.
[9] https://www.aqmd.gov/home/rules-compliance/ceqa/air-quality-analysis-handbook
[10] South Coast AQMD's 2022 Air Quality Management Plan can be found at: http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan (Chapter 4 - Control Strategy and Implementation).

Government's Mitigation Monitoring and Reporting Plan for the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy.[11].

Health Risk Reduction Strategies

Many strategies are available to reduce exposures, including, but are not limited to, building filtration systems with MERV 13 or better, or in some cases, MERV 15 or better is recommended; building design, orientation, location; vegetation barriers or landscaping screening, etc. Enhanced filtration units are capable of reducing exposures. However, enhanced filtration systems have limitations. For example, in a study that South Coast AQMD conducted to investigate filters[12], a cost burden is expected to be within the range of $120 to $240 per year to replace each filter panel. The initial start-up cost could substantially increase if an HVAC system needs to be installed and if standalone filter units are required. Installation costs may vary and include costs for conducting site assessments and obtaining permits and approvals before filters can be installed. Other costs may include filter life monitoring, annual maintenance, and training for conducting maintenance and reporting. In addition, because the filters would not have any effectiveness unless the HVAC system is running, there may be increased energy consumption that the Lead Agency should evaluate in the Draft PEIR. It is typically assumed that the filters operate 100 percent of the time while residents are indoors, and the environmental analysis does not generally account for the times when the residents have their windows or doors open or are in common space areas of the project. These filters have no ability to filter out any toxic gases. Furthermore, when used filters are replaced, replacement has the potential to result in emissions from the transportation of used filters at disposal sites and generate solid waste that the Lead Agency should evaluate in the Draft PEIR. Therefore, the presumed effectiveness and feasibility of any filtration units should be carefully evaluated in more detail prior to assuming that they will sufficiently alleviate exposures to diesel particulate matter emissions.

South Coast AQMD staff is available to work with the Lead Agency to ensure that air quality, greenhouse gas, and health risk impacts from the Proposed Project are accurately evaluated and mitigated where feasible. If you have any questions regarding this letter, please contact me at swang1@aqmd.gov.

Sincerely,

Sam Wang

Sam Wang
Program Supervisor, CEQA IGR
Planning, Rule Development & Implementation

SW
LAC240410-09
Control Number

[11] Southern California Association of Governments' 2020-2045 RTP/SCS can be found at: https://www.connectsocal.org/Documents/PEIR/certified/Exhibit-A_ConnectSoCal_PEIR.pdf.

[12] This study evaluated filters rated MERV 13 or better. Accessed at: http://www.aqmd.gov/docs/default-source/ceqa/handbook/aqmdpilotstudyfinalreport.pdf. Also see 2012 Peer Review Journal article by South Coast AQMD: https://onlinelibrary.wiley.com/doi/10.1111/ina.12013.

To: Scott Nash, Associate Planner, City of Duarte
Craig Hensley, Community Development Director, City of Duarte

Subject: Request for Study and Review of Areas under consideration of a PEIR

As a resident of Duarte, living within the property being considered for Redevelopment and Rezoning by the City of Duarte, I request close examination of the Environmental Impact of the proposed plan.

As the proposal doubles the occupancy of Westminster Gardens, resulting in eliminating the present "one-story" homes/apartments and removing trees and green space that now represents an open-space environment for those living at Westminster Gardens, I request an examination of specific areas in the PEIR.

Aesthetics: The views of surrounding mountains will be eliminated IF the buildings proposed are "3 – 4 stories" instead of the one-story homes that exist.

Air Quality – Air quality will be affected by the removal of trees – that enhance breathing. The project increases the number of occupants of the land while removing the natural resource of having trees throughout the property. Reducing the intensity of heat on the walkways is another contribution of having many trees on the property.

Biological Resources – Removal of treees has a negative impact on the birds that thrive on the property

Energy: When climate change resarch is advocating for reducing or eliminating the use of fossil fuels, this project must include alternative energy for heating and cooling the living quarters.
Three – four story buildings will need more energy, while the substructure of Westminster Gardens is OLD and inefficient.

Greenhouse Gas Emissions & Global Climate Change: An increase in gas emissions from an increase of cars within the confines of the development can effect the Air Quality and general health of residents living at Westminster Gardens.

Transportation: The proposed plan includes a large increase in Parking places within the property, again requiring the removal of trees and green space to allow for parking.

Utilities and Service Systems: A close excamination of the present substructure of water and gas pipes needs to take place. The OLD piping now results in broken piping and a great loss of Water in the archaic watering system that now exists. Increasing buildings without addressing the need to replace utility piping is not environmentally sound.

I look forward to further opportunities to give feedback as this proposal is reviewed and modified.

Dorothy L Keane, Ed.D.
President, Residents' Association Westminster Gardens
1420 Santo Domingo Ave #248
Duarte, CA 91010
626-475-3854

Genevieve Sharrow <genevieves@migcom.com>

SB 18/AB 52 Consultation Notification

1 message

Genevieve Sharrow <genevieves@migcom.com> Fri, Jan 26, 2024 at 11:30 AM
To: Chavez1956metro@gmail.com
Cc: Scott Nash <snash@accessduarte.com>, "Craig Hensley, AICP" <chensley@accessduarte.com>

Dear Chairperson Alvarez,
Please find the attached notification regarding consultation pursuant to SB 18/AB 52 associated with the Westminster Gardens Specific Plan Update in the City of Duarte.
Thank you,

--

Genevieve Sharrow
Director of Planning Services (Pasadena Office)
she/her/hers

PLANNING | DESIGN | COMMUNICATIONS | MANAGEMENT | SCIENCE | TECHNOLOGY

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Westminster Gardens SB 18-AB 52 Letter_1-26-24 (Alvarez).pdf
636K

City of Duarte
1600 Huntington Drive, Duarte, CA 91010 | Tel (626) 357-7931 | Fax (626) 358-0018 | accessduarte.com

January 26, 2024

To: Gabrielino-Tongva Tribe
Charles Alvarez, Chairperson
23454 Vanowen Street
West Hills, CA 91307

Subject: Opportunity for Consultation/Tribal Consultation Notification pursuant to California Senate Bill 18 (SB 18) and Assembly Bill 52 (AB 52): Formal Notification of a Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to California Environmental Quality Act (CEQA) Public Resources Code §21080.3.1, §65352.3, and §65352.4.

Dear Chairperson Alvarez,

The City of Duarte is informing you and your tribe that a project is proposed that is subject to SB 18 and AB 52. The project is the **Westminster Gardens Specific Plan Update**.

In compliance with Public Resources Code §65352.3 and §65352.4 (SB 18), the city of Duarte is required to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

In addition, pursuant to California Assembly Bill (AB) 52 (Public Resources Code §21080.3.1(b)), the city of Duarte is providing you with formal notification of the Westminster Gardens Specific Plan Update Project (proposed project), located in the city of Duarte, California. The city of Duarte, as lead agency, is reaching out to all groups listed on the NAHC Sacred Lands File Contact List in a good faith effort to provide notification of the proposed project to groups that are traditionally or culturally affiliated with the geographic area of the proposed project.

The present notice includes:

- A description of the proposed project and project location;
- A clear and definitive statement that the tribe has 90 days to request SB 18 consultation and 30 days to request AB 52 consultation; and,
- The lead agency point of contact.

Project Description: The proposed project would amend the Westminster Gardens Specific Plan (WGSP or Specific Plan) through a comprehensive update, repealing in its entirety the 1997 Specific Plan, replacing it with a new Specific Plan to facilitate redevelopment of the existing Life Plan Community (LPC). The updated Specific Plan identifies the long-term vision and objectives

for private redevelopment of this previously developed site, with new residential and non-residential development capacity, and associated public improvements within the Specific Plan area over a fifteen-to-twenty-year span. The Specific Plan update establishes the general type, parameters, and character of the development aimed at transforming the current Westminster Gardens campus into a vibrant and dynamic environment with senior-centric amenities, services, and multiple housing and continuum of care options at various price points, providing aging Duarte residents a destination to continue to reside within the Duarte city limits.

Redevelopment under the updated Specific Plan is intended to address the unmet demand for senior housing and services within Duarte and the surrounding communities. The 1997 Specific Plan limits the total number of Independent and Assisted Living Units to 195. The amended Specific Plan contains provisions unique to the existing 32-acre, 147-unit Westminster Garden LPC. Implementation of this Specific Plan permits a maximum of 800 total units—150 of which are newly constructed affordable senior apartments. Overall, the Specific Plan allows for development of market rate Independent and Assisted Living Units, below-market rate Senior Apartments, support services, indoor resident amenities, and commercial uses to serve both on-site residents and the public.

Project Location: Regionally, the project site is located in the city of Duarte (city or Duarte) in Los Angeles County. Duarte is located in the northcentral portion of the San Gabriel Valley, approximately 21 miles northeast of the city of Los Angeles (refer to Project Location Map below). Locally, the project site is bordered by Huntington Drive to the north, Central Avenue to the south, Santo Domingo Avenue to the west and Bradbourne Avenue to the east. The site is located on the eastern edge of the recently adopted Town Center Specific Plan area and in proximity to the Metrolink Gold Line Station and the Duarte Station Specific Plan area. A portion of the eastern boundary is immediately adjacent to an existing townhome development known as Amberwood Homes.

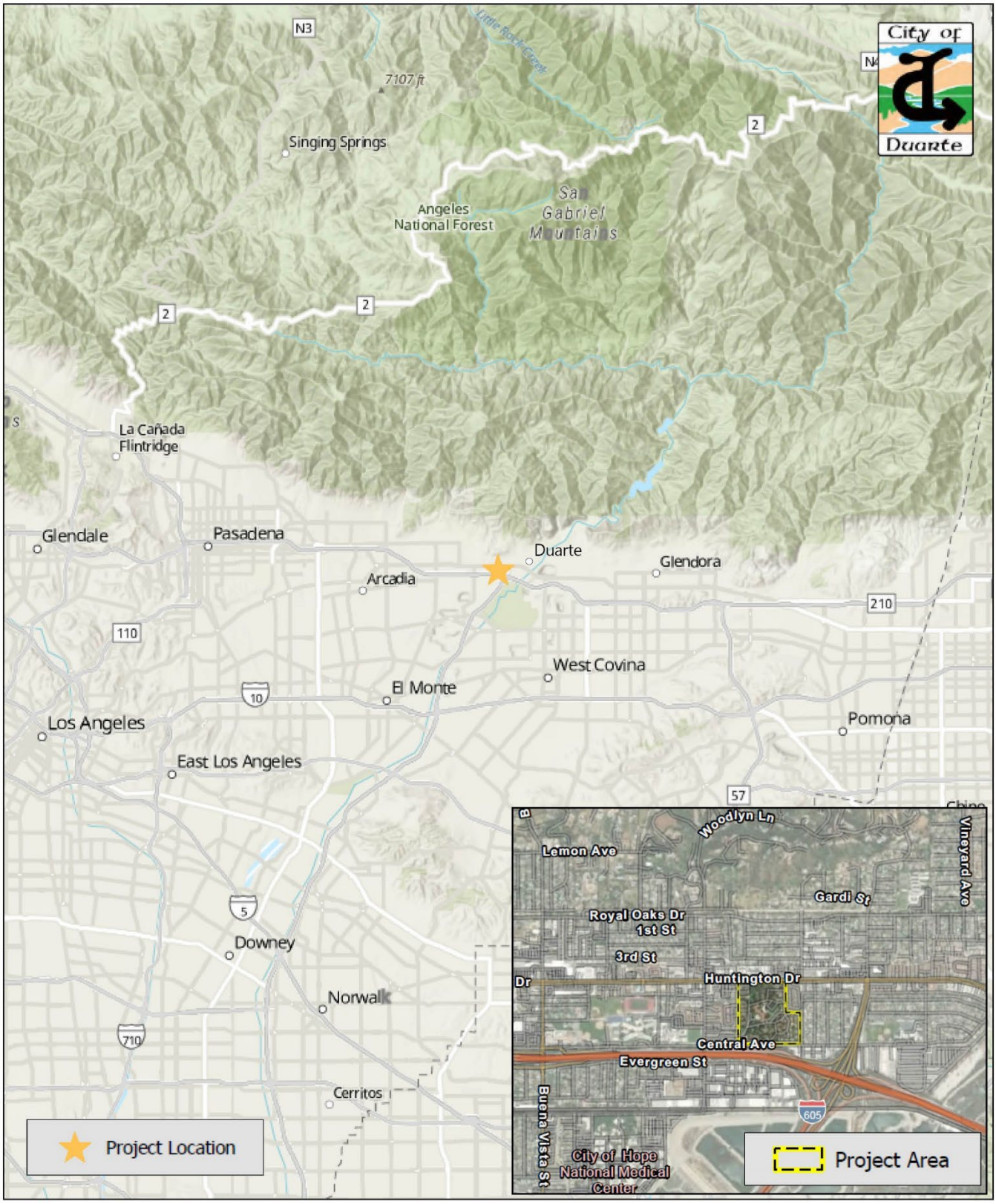
Consultation Request: If you wish to consult with the city of Duarte regarding this project under SB 18 please respond to this letter with the specific issue or area of concern within 90 days from the date of receipt of this notice to request consultation, per Government Code §65352.3(a).

If you wish to consult with the city of Duarte regarding this project under AB 52 please respond in writing to this letter with the specific issue or area of concern within 30 days from the date of receipt of this notice to request consultation, per Government Code §21080.3(b).

Please include in the written response the name of a designated lead contact person. If we do not receive notification within the 30- and 90-day periods, we will assume that the Gabrielino-Tongva Tribe has no tribal cultural resource concerns regarding this project.

Lead Agency Point of Contact: Craig Hensley, Community Development Director, City of Duarte, 1600 Huntington Drive, Duarte, CA 91010

Project Location Map:



Genevieve Sharrow <genevieves@migcom.com>

SB 18/AB 52 Consultation Notification

Genevieve Sharrow <genevieves@migcom.com> Fri, Jan 26, 2024 at 11:52 AM
To: christina.marsden@alumni.usc.edu
Cc: Scott Nash <snash@accessduarte.com>, "Craig Hensley, AICP" <chensley@accessduarte.com>

Dear Ms. Conley,
Please find the attached notification regarding consultation pursuant to SB 18/AB 52 associated with the Westminster Gardens Specific Plan Update in the City of Duarte.
Thank you,

--
Genevieve Sharrow
Director of Planning Services (Pasadena Office)
she/her/hers

PLANNING | DESIGN | COMMUNICATIONS | MANAGEMENT | SCIENCE | TECHNOLOGY

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635K

City of Duarte
1600 Huntington Drive, Duarte, CA 91010 | Tel (626) 357-7931 | Fax (626) 358-0018 | accessduarte.com

January 26, 2024

To: Gabrielino Tongva Indians of California Tribal Council
Christina Conley, Tribal Consultant/Administrator
P.O. Box 941078
Simi Valley, CA 93094

Subject: Opportunity for Consultation/Tribal Consultation Notification pursuant to California Senate Bill 18 (SB 18) and Assembly Bill 52 (AB 52): Formal Notification of a Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to California Environmental Quality Act (CEQA) Public Resources Code §21080.3.1, §65352.3, and §65352.4.

Dear Ms. Conley,

The City of Duarte is informing you and your tribe that a project is proposed that is subject to SB 18 and AB 52. The project is the **Westminster Gardens Specific Plan Update**.

In compliance with Public Resources Code §65352.3 and §65352.4 (SB 18), the city of Duarte is required to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

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The present notice includes:

- A description of the proposed project and project location;
- A clear and definitive statement that the tribe has 90 days to request SB 18 consultation and 30 days to request AB 52 consultation; and,
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Project Description: The proposed project would amend the Westminster Gardens Specific Plan (WGSP or Specific Plan) through a comprehensive update, repealing in its entirety the 1997 Specific Plan, replacing it with a new Specific Plan to facilitate redevelopment of the existing Life Plan Community (LPC). The updated Specific Plan identifies the long-term vision and objectives

for private redevelopment of this previously developed site, with new residential and non-residential development capacity, and associated public improvements within the Specific Plan area over a fifteen-to-twenty-year span. The Specific Plan update establishes the general type, parameters, and character of the development aimed at transforming the current Westminster Gardens campus into a vibrant and dynamic environment with senior-centric amenities, services, and multiple housing and continuum of care options at various price points, providing aging Duarte residents a destination to continue to reside within the Duarte city limits.

Redevelopment under the updated Specific Plan is intended to address the unmet demand for senior housing and services within Duarte and the surrounding communities. The 1997 Specific Plan limits the total number of Independent and Assisted Living Units to 195. The amended Specific Plan contains provisions unique to the existing 32-acre, 147-unit Westminster Garden LPC. Implementation of this Specific Plan permits a maximum of 800 total units—150 of which are newly constructed affordable senior apartments. Overall, the Specific Plan allows for development of market rate Independent and Assisted Living Units, below-market rate Senior Apartments, support services, indoor resident amenities, and commercial uses to serve both on-site residents and the public.

Project Location: Regionally, the project site is located in the city of Duarte (city or Duarte) in Los Angeles County. Duarte is located in the northcentral portion of the San Gabriel Valley, approximately 21 miles northeast of the city of Los Angeles (refer to Project Location Map below). Locally, the project site is bordered by Huntington Drive to the north, Central Avenue to the south, Santo Domingo Avenue to the west and Bradbourne Avenue to the east. The site is located on the eastern edge of the recently adopted Town Center Specific Plan area and in proximity to the Metrolink Gold Line Station and the Duarte Station Specific Plan area. A portion of the eastern boundary is immediately adjacent to an existing townhome development known as Amberwood Homes.

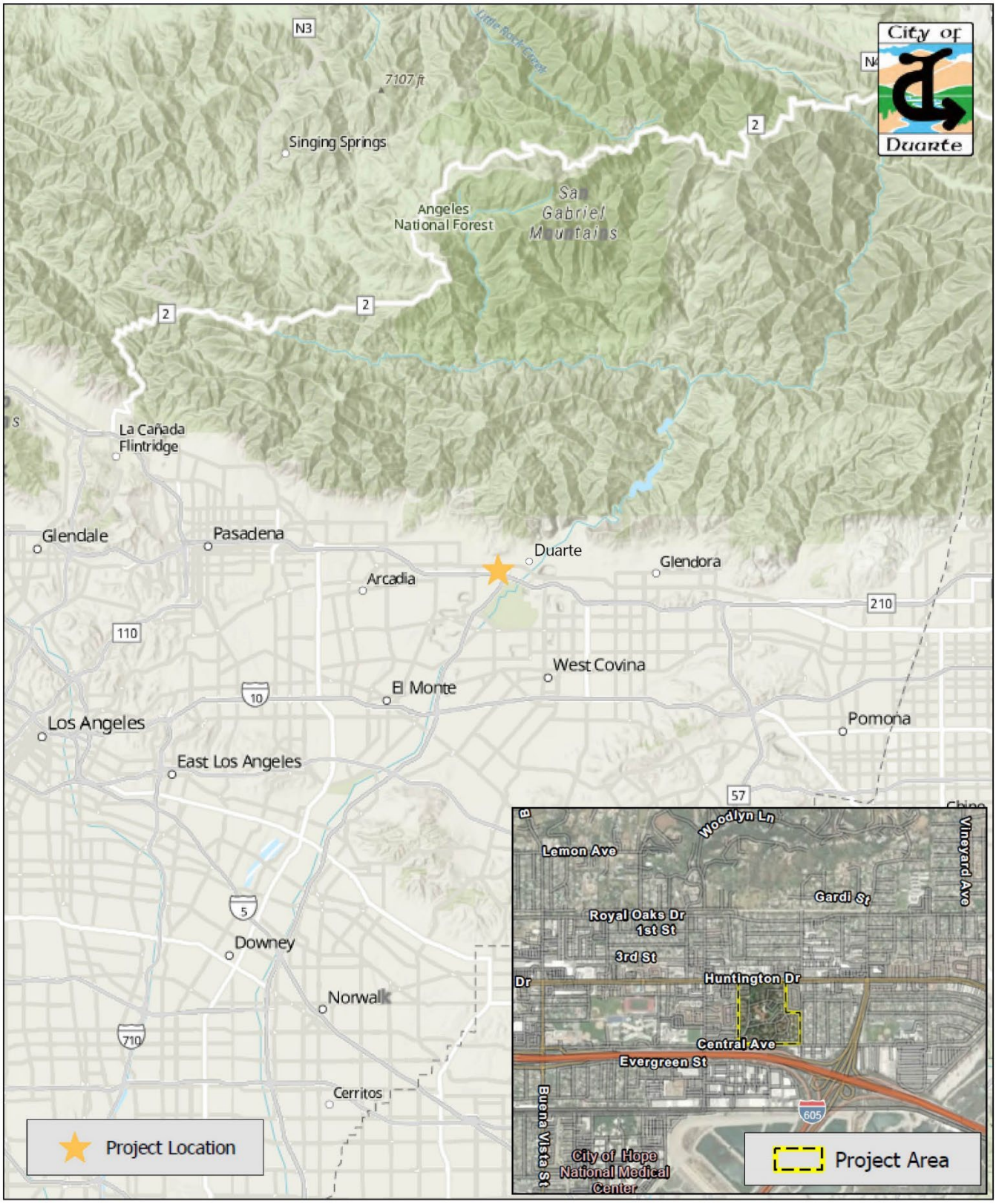
Consultation Request: If you wish to consult with the city of Duarte regarding this project under SB 18 please respond to this letter with the specific issue or area of concern within 90 days from the date of receipt of this notice to request consultation, per Government Code §65352.3(a).

If you wish to consult with the city of Duarte regarding this project under AB 52 please respond in writing to this letter with the specific issue or area of concern within 30 days from the date of receipt of this notice to request consultation, per Government Code §21080.3(b).

Please include in the written response the name of a designated lead contact person. If we do not receive notification within the 30- and 90-day periods, we will assume that the Gabrielino Tongva Indians of California Tribal Council has no tribal cultural resource concerns regarding this project.

Lead Agency Point of Contact: Craig Hensley, Community Development Director, City of Duarte, 1600 Huntington Drive, Duarte, CA 91010

Project Location Map:



Genevieve Sharrow <genevieves@migcom.com>

SB 18/AB 52 Consultation Notification

Genevieve Sharrow <genevieves@migcom.com> Fri, Jan 26, 2024 at 11:55 AM
To: gtongva@gmail.com
Cc: Scott Nash <snash@accessduarte.com>, "Craig Hensley, AICP" <chensley@accessduarte.com>

Dear Chairperson Dorame,
Please find the attached notification regarding consultation pursuant to SB 18/AB 52 associated with the Westminster Gardens Specific Plan Update in the City of Duarte.
Thank you,

--
Genevieve Sharrow
Director of Planning Services (Pasadena Office)
she/her/hers

PLANNING | DESIGN | COMMUNICATIONS | MANAGEMENT | SCIENCE | TECHNOLOGY

537 S. Raymond Avenue
Pasadena, California 91105 | USA
office: 626-744-9872 *extension:* 3110 *cell:* 734-709-0042
genevieves@migcom.com
www.migcom.com
facebook twitter linkedin instagram

Westminster Gardens SB 18-AB 52 Letter_1-26-24 (Dorame).pdf
634K

City of Duarte
1600 Huntington Drive, Duarte, CA 91010 | Tel (626) 357-7931 | Fax (626) 358-0018 | accessduarte.com

January 26, 2024

To: Gabrielino Tongva Indians of California Tribal Council
Robert Dorame, Chairperson
P.O. Box 490
Bellflower, CA 90707

Subject: Opportunity for Consultation/Tribal Consultation Notification pursuant to California Senate Bill 18 (SB 18) and Assembly Bill 52 (AB 52): Formal Notification of a Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to California Environmental Quality Act (CEQA) Public Resources Code §21080.3.1, §65352.3, and §65352.4.

Dear Chairperson Dorame,

The City of Duarte is informing you and your tribe that a project is proposed that is subject to SB 18 and AB 52. The project is the **Westminster Gardens Specific Plan Update**.

In compliance with Public Resources Code §65352.3 and §65352.4 (SB 18), the city of Duarte is required to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

In addition, pursuant to California Assembly Bill (AB) 52 (Public Resources Code §21080.3.1(b)), the city of Duarte is providing you with formal notification of the Westminster Gardens Specific Plan Update Project (proposed project), located in the city of Duarte, California. The city of Duarte, as lead agency, is reaching out to all groups listed on the NAHC Sacred Lands File Contact List in a good faith effort to provide notification of the proposed project to groups that are traditionally or culturally affiliated with the geographic area of the proposed project.

The present notice includes:

- A description of the proposed project and project location;
- A clear and definitive statement that the tribe has 90 days to request SB 18 consultation and 30 days to request AB 52 consultation; and,
- The lead agency point of contact.

Project Description: The proposed project would amend the Westminster Gardens Specific Plan (WGSP or Specific Plan) through a comprehensive update, repealing in its entirety the 1997 Specific Plan, replacing it with a new Specific Plan to facilitate redevelopment of the existing Life Plan Community (LPC). The updated Specific Plan identifies the long-term vision and objectives

for private redevelopment of this previously developed site, with new residential and non-residential development capacity, and associated public improvements within the Specific Plan area over a fifteen-to-twenty-year span. The Specific Plan update establishes the general type, parameters, and character of the development aimed at transforming the current Westminster Gardens campus into a vibrant and dynamic environment with senior-centric amenities, services, and multiple housing and continuum of care options at various price points, providing aging Duarte residents a destination to continue to reside within the Duarte city limits.

Redevelopment under the updated Specific Plan is intended to address the unmet demand for senior housing and services within Duarte and the surrounding communities. The 1997 Specific Plan limits the total number of Independent and Assisted Living Units to 195. The amended Specific Plan contains provisions unique to the existing 32-acre, 147-unit Westminster Garden LPC. Implementation of this Specific Plan permits a maximum of 800 total units—150 of which are newly constructed affordable senior apartments. Overall, the Specific Plan allows for development of market rate Independent and Assisted Living Units, below-market rate Senior Apartments, support services, indoor resident amenities, and commercial uses to serve both on-site residents and the public.

Project Location: Regionally, the project site is located in the city of Duarte (city or Duarte) in Los Angeles County. Duarte is located in the northcentral portion of the San Gabriel Valley, approximately 21 miles northeast of the city of Los Angeles (refer to Project Location Map below). Locally, the project site is bordered by Huntington Drive to the north, Central Avenue to the south, Santo Domingo Avenue to the west and Bradbourne Avenue to the east. The site is located on the eastern edge of the recently adopted Town Center Specific Plan area and in proximity to the Metrolink Gold Line Station and the Duarte Station Specific Plan area. A portion of the eastern boundary is immediately adjacent to an existing townhome development known as Amberwood Homes.

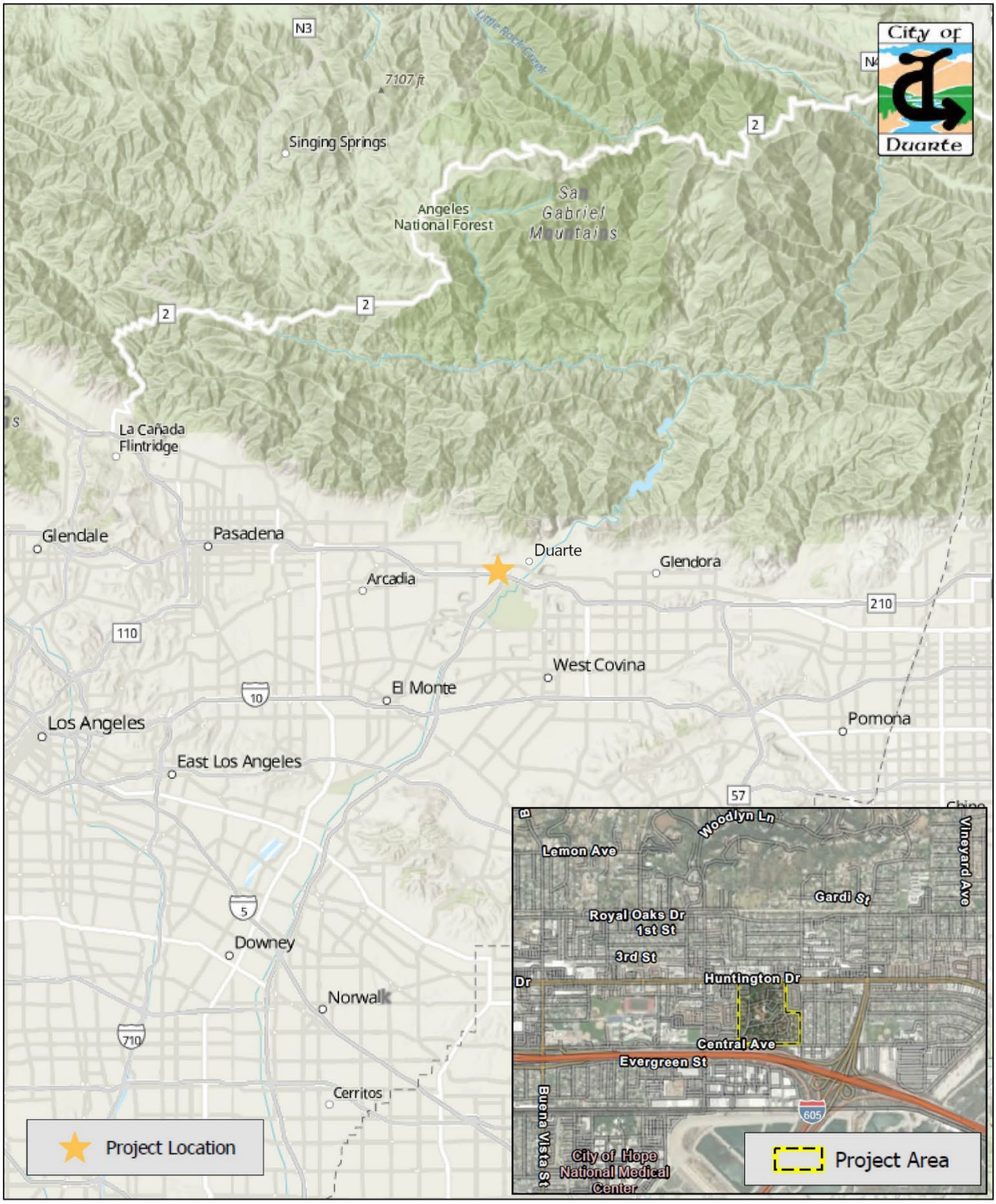
Consultation Request: If you wish to consult with the city of Duarte regarding this project under SB 18 please respond to this letter with the specific issue or area of concern within 90 days from the date of receipt of this notice to request consultation, per Government Code §65352.3(a).

If you wish to consult with the city of Duarte regarding this project under AB 52 please respond in writing to this letter with the specific issue or area of concern within 30 days from the date of receipt of this notice to request consultation, per Government Code §21080.3(b).

Please include in the written response the name of a designated lead contact person. If we do not receive notification within the 30- and 90-day periods, we will assume that the Gabrielino Tongva Indians of California Tribal Council has no tribal cultural resource concerns regarding this project.

Lead Agency Point of Contact: Craig Hensley, Community Development Director, City of Duarte, 1600 Huntington Drive, Duarte, CA 91010

Project Location Map:



Genevieve Sharrow <genevieves@migcom.com>

SB 18/AB 52 Consultation Notification

Genevieve Sharrow <genevieves@migcom.com> Fri, Jan 26, 2024 at 12:05 PM
To: tongvatcr@gmail.com
Cc: Scott Nash <snash@accessduarte.com>, "Craig Hensley, AICP" <chensley@accessduarte.com>

Dear Mr. Dunlap,
Please find the attached notification regarding consultation pursuant to SB 18/AB 52 associated with the Westminster Gardens Specific Plan Update in the City of Duarte.
Thank you,

--
Genevieve Sharrow
Director of Planning Services (Pasadena Office)
she/her/hers

PLANNING | DESIGN | COMMUNICATIONS | MANAGEMENT | SCIENCE | TECHNOLOGY

537 S. Raymond Avenue
Pasadena, California 91105 | USA
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www.migcom.com
facebook twitter linkedin instagram

Westminster Gardens SB 18-AB 52 Letter_1-26-24 (Dunlap).pdf
635K

City of Duarte

1600 Huntington Drive, Duarte, CA 91010 | Tel (626) 357-7931 | Fax (626) 358-0018 | accessduarte.com

January 26, 2024

To: Gabrielino-Tongva Tribe
Sam Dunlap, Cultural Resource Specialist
P.O. Box 3919
Seal Beach, CA, 90740

Subject: Opportunity for Consultation/Tribal Consultation Notification pursuant to California Senate Bill 18 (SB 18) and Assembly Bill 52 (AB 52): Formal Notification of a Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to California Environmental Quality Act (CEQA) Public Resources Code §21080.3.1, §65352.3, and §65352.4.

Dear Mr. Dunlap,

The City of Duarte is informing you and your tribe that we are proposing a project that is subject to SB 18 and AB 52. The project is the **Westminster Gardens Specific Plan Update**.

In compliance with Public Resources Code §65352.3 and §65352.4 (SB 18), the city of Duarte is required to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

In addition, pursuant to California Assembly Bill (AB) 52 (Public Resources Code §21080.3.1(b)), the city of Duarte is providing you with formal notification of the Westminster Gardens Specific Plan Update Project (proposed project), located in the city of Duarte, California. The city of Duarte, as lead agency, is reaching out to all groups listed on the NAHC Sacred Lands File Contact List in a good faith effort to provide notification of the proposed project to groups that are traditionally or culturally affiliated with the geographic area of the proposed project.

The present notice includes:

- A description of the proposed project and project location;
- A clear and definitive statement that the tribe has 90 days to request SB 18 consultation and 30 days to request AB 52 consultation; and,
- The lead agency point of contact.

Project Description: The proposed project would amend the Westminster Gardens Specific Plan (WGSP or Specific Plan) through a comprehensive update, repealing in its entirety the 1997 Specific Plan, replacing it with a new Specific Plan to facilitate redevelopment of the existing Life Plan Community (LPC). The updated Specific Plan identifies the long-term vision and objectives

for private redevelopment of this previously developed site, with new residential and non-residential development capacity, and associated public improvements within the Specific Plan area over a fifteen-to-twenty-year span. The Specific Plan update establishes the general type, parameters, and character of the development aimed at transforming the current Westminster Gardens campus into a vibrant and dynamic environment with senior-centric amenities, services, and multiple housing and continuum of care options at various price points, providing aging Duarte residents a destination to continue to reside within the Duarte city limits.

Redevelopment under the updated Specific Plan is intended to address the unmet demand for senior housing and services within Duarte and the surrounding communities. The 1997 Specific Plan limits the total number of Independent and Assisted Living Units to 195. The amended Specific Plan contains provisions unique to the existing 32-acre, 147-unit Westminster Garden LPC. Implementation of this Specific Plan permits a maximum of 800 total units—150 of which are newly constructed affordable senior apartments. Overall, the Specific Plan allows for development of market rate Independent and Assisted Living Units, below-market rate Senior Apartments, support services, indoor resident amenities, and commercial uses to serve both on-site residents and the public.

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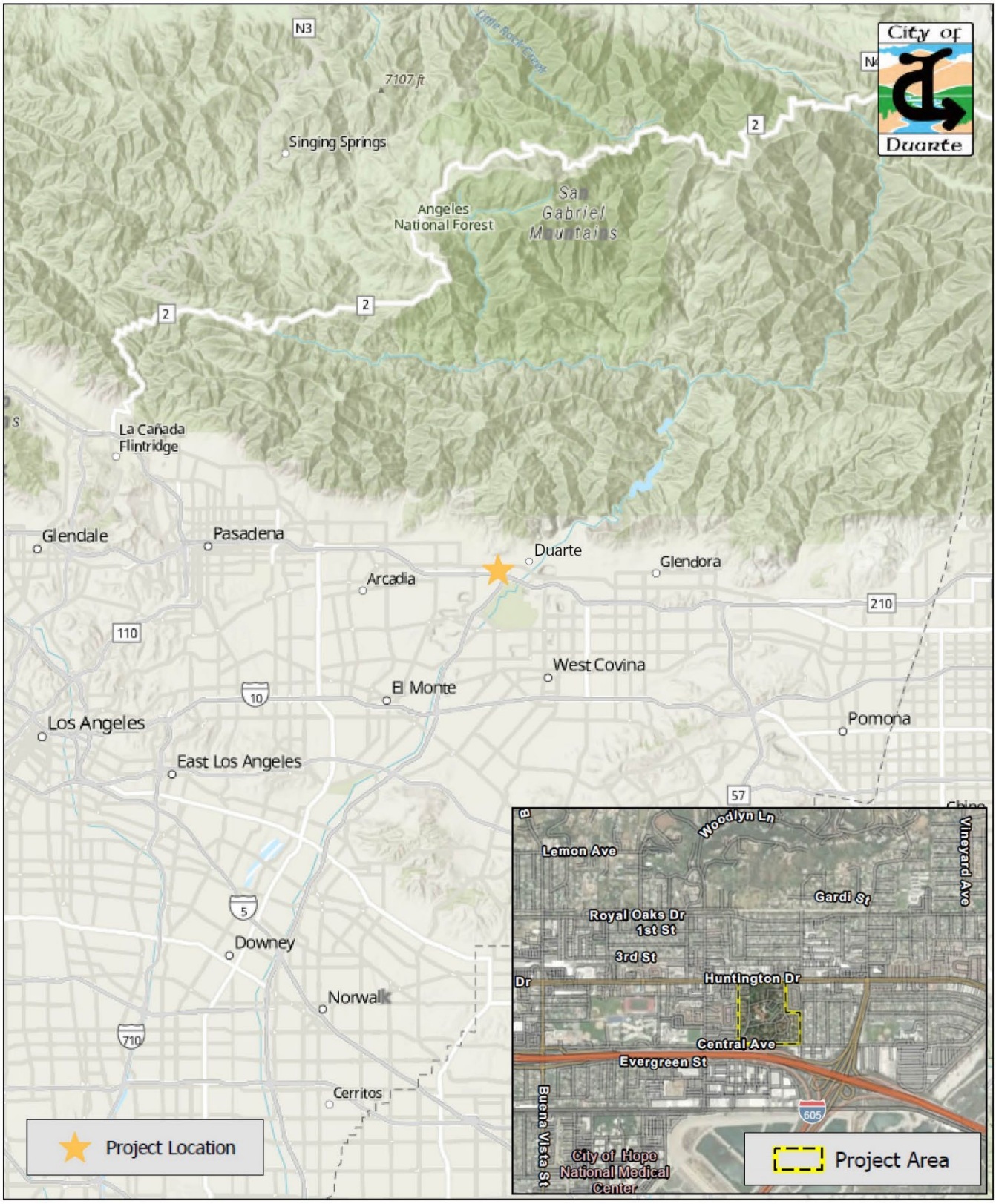
Consultation Request: If you wish to consult with the city of Duarte regarding this project under SB 18 please respond to this letter with the specific issue or area of concern within 90 days from the date of receipt of this notice to request consultation, per Government Code §65352.3(a).

If you wish to consult with the city of Duarte regarding this project under AB 52 please respond in writing to this letter with the specific issue or area of concern within 30 days from the date of receipt of this notice to request consultation, per Government Code §21080.3(b).

Please include in the written response the name of a designated lead contact person. If we do not receive notification within the 30- and 90-day periods, we will assume that the Gabrielino-Tongva Tribe has no tribal cultural resource concerns regarding this project.

Lead Agency Point of Contact: Craig Hensley, Community Development Director, City of Duarte, 1600 Huntington Drive, Duarte, CA 91010

Project Location Map:



Genevieve Sharrow <genevieves@migcom.com>

SB 18/AB 52 Consultation Notification

Genevieve Sharrow <genevieves@migcom.com> Fri, Jan 26, 2024 at 12:08 PM
To: sgoad@gabrielino-tongva.com
Cc: Scott Nash <snash@accessduarte.com>, "Craig Hensley, AICP" <chensley@accessduarte.com>

Dear Chairperson Goad,
Please find the attached notification regarding consultation pursuant to SB 18/AB 52 associated with the Westminster Gardens Specific Plan Update in the City of Duarte.
Thank you,

--
Genevieve Sharrow
Director of Planning Services (Pasadena Office)
she/her/hers

PLANNING | DESIGN | COMMUNICATIONS | MANAGEMENT | SCIENCE | TECHNOLOGY

537 S. Raymond Avenue
Pasadena, California 91105 | USA
office: 626-744-9872 *extension:* 3110 *cell:* 734-709-0042
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www.migcom.com
facebook twitter linkedin instagram

Westminster Gardens SB 18-AB 52 Letter_1-26-24 (Goad).pdf
634K

City of Duarte
1600 Huntington Drive, Duarte, CA 91010 | Tel (626) 357-7931 | Fax (626) 358-0018 | accessduarte.com

January 26, 2024

To: Gabrielino/Tongva Nation
Sandonne Goad, Chairperson
106 ½ Judge John Aiso Street #231
Los Angeles, CA 90012

Subject: Opportunity for Consultation/Tribal Consultation Notification pursuant to California Senate Bill 18 (SB 18) and Assembly Bill 52 (AB 52): Formal Notification of a Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to California Environmental Quality Act (CEQA) Public Resources Code §21080.3.1, §65352.3, and §65352.4.

Dear Chairperson Goad,

The City of Duarte is informing you and your tribe that a project is proposed that is subject to SB 18 and AB 52. The project is the **Westminster Gardens Specific Plan Update**.

In compliance with Public Resources Code §65352.3 and §65352.4 (SB 18), the city of Duarte is required to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

In addition, pursuant to California Assembly Bill (AB) 52 (Public Resources Code §21080.3.1(b)), the city of Duarte is providing you with formal notification of the Westminster Gardens Specific Plan Update Project (proposed project), located in the city of Duarte, California. The city of Duarte, as lead agency, is reaching out to all groups listed on the NAHC Sacred Lands File Contact List in a good faith effort to provide notification of the proposed project to groups that are traditionally or culturally affiliated with the geographic area of the proposed project.

The present notice includes:

- A description of the proposed project and project location;
- A clear and definitive statement that the tribe has 90 days to request SB 18 consultation and 30 days to request AB 52 consultation; and,
- The lead agency point of contact.

Project Description: The proposed project would amend the Westminster Gardens Specific Plan (WGSP or Specific Plan) through a comprehensive update, repealing in its entirety the 1997 Specific Plan, replacing it with a new Specific Plan to facilitate redevelopment of the existing Life Plan Community (LPC). The updated Specific Plan identifies the long-term vision and objectives

for private redevelopment of this previously developed site, with new residential and non-residential development capacity, and associated public improvements within the Specific Plan area over a fifteen-to-twenty-year span. The Specific Plan update establishes the general type, parameters, and character of the development aimed at transforming the current Westminster Gardens campus into a vibrant and dynamic environment with senior-centric amenities, services, and multiple housing and continuum of care options at various price points, providing aging Duarte residents a destination to continue to reside within the Duarte city limits.

Redevelopment under the updated Specific Plan is intended to address the unmet demand for senior housing and services within Duarte and the surrounding communities. The 1997 Specific Plan limits the total number of Independent and Assisted Living Units to 195. The amended Specific Plan contains provisions unique to the existing 32-acre, 147-unit Westminster Garden LPC. Implementation of this Specific Plan permits a maximum of 800 total units—150 of which are newly constructed affordable senior apartments. Overall, the Specific Plan allows for development of market rate Independent and Assisted Living Units, below-market rate Senior Apartments, support services, indoor resident amenities, and commercial uses to serve both on-site residents and the public.

Project Location: Regionally, the project site is located in the city of Duarte (city or Duarte) in Los Angeles County. Duarte is located in the northcentral portion of the San Gabriel Valley, approximately 21 miles northeast of the city of Los Angeles (refer to Project Location Map below). Locally, the project site is bordered by Huntington Drive to the north, Central Avenue to the south, Santo Domingo Avenue to the west and Bradbourne Avenue to the east. The site is located on the eastern edge of the recently adopted Town Center Specific Plan area and in proximity to the Metrolink Gold Line Station and the Duarte Station Specific Plan area. A portion of the eastern boundary is immediately adjacent to an existing townhome development known as Amberwood Homes.

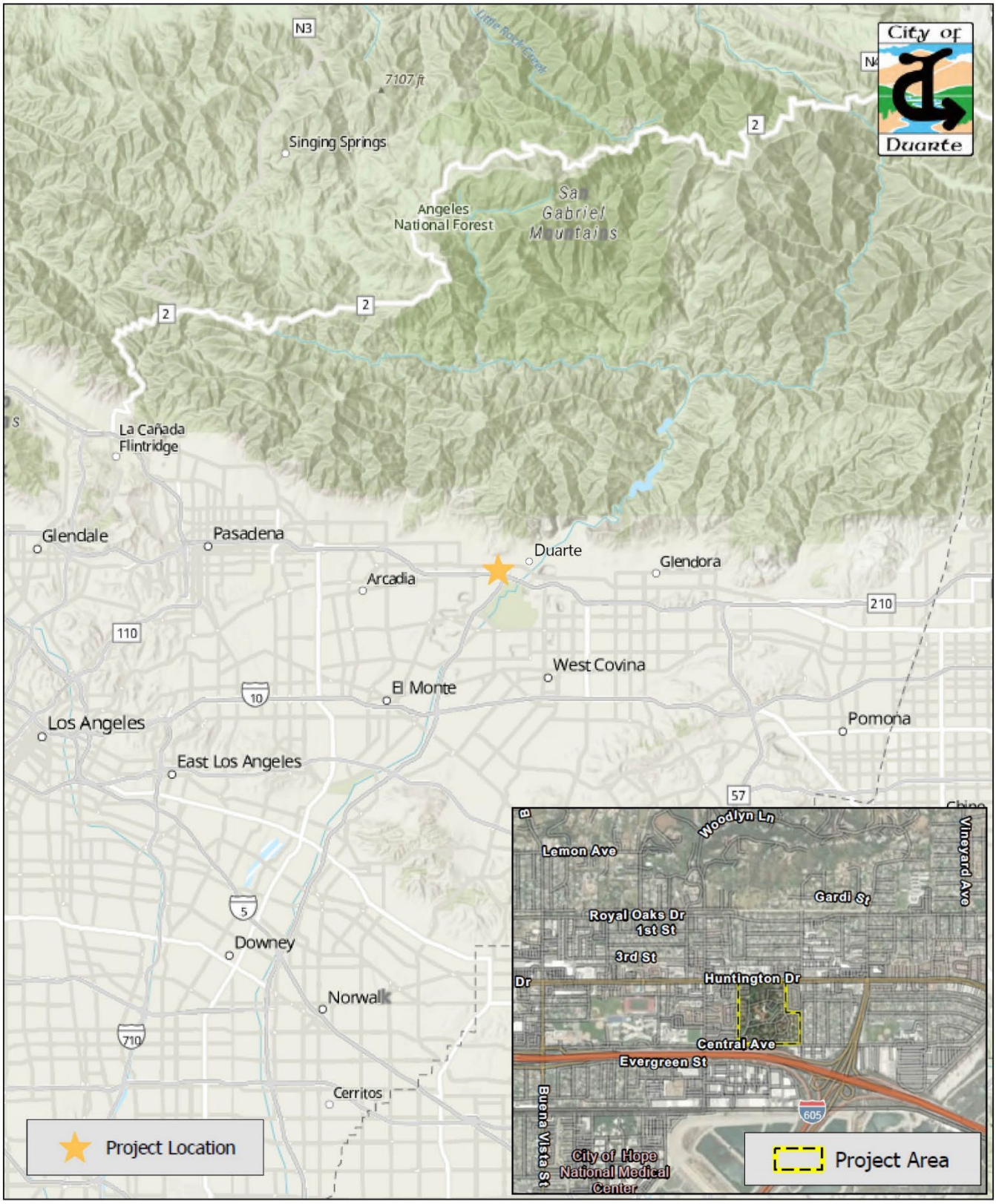
Consultation Request: If you wish to consult with the city of Duarte regarding this project under SB 18 please respond to this letter with the specific issue or area of concern within 90 days from the date of receipt of this notice to request consultation, per Government Code §65352.3(a).

If you wish to consult with the city of Duarte regarding this project under AB 52 please respond in writing to this letter with the specific issue or area of concern within 30 days from the date of receipt of this notice to request consultation, per Government Code §21080.3(b).

Please include in the written response the name of a designated lead contact person. If we do not receive notification within the 30- and 90-day periods, we will assume that the Gabrielino/Tongva Nation has no tribal cultural resource concerns regarding this project.

Lead Agency Point of Contact: Craig Hensley, Community Development Director, City of Duarte, 1600 Huntington Drive, Duarte, CA 91010

Project Location Map:



Genevieve Sharrow <genevieves@migcom.com>

SB 18/AB 52 Consultation Notification

Genevieve Sharrow <genevieves@migcom.com> Fri, Jan 26, 2024 at 12:30 PM
To: admin@gabrielenoindians.org
Cc: Scott Nash <snash@accessduarte.com>, "Craig Hensley, AICP" <chensley@accessduarte.com>

Dear Secretary Martinez,
Please find the attached notification regarding consultation pursuant to SB 18/AB 52 associated with the Westminster Gardens Specific Plan Update in the City of Duarte.
Thank you,

--
Genevieve Sharrow
Director of Planning Services (Pasadena Office)
she/her/hers

PLANNING | DESIGN | COMMUNICATIONS | MANAGEMENT | SCIENCE | TECHNOLOGY

537 S. Raymond Avenue
Pasadena, California 91105 | USA
office: 626-744-9872 *extension:* 3110 *cell:* 734-709-0042
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www.migcom.com
facebook twitter linkedin instagram

Westminster Gardens SB 18-AB 52 Letter_1-26-24 (Martinez).pdf
686K

City of Duarte
1600 Huntington Drive, Duarte, CA 91010 | Tel (626) 357-7931 | Fax (626) 358-0018 | accessduarte.com

January 26, 2024

To: Gabrieleno Band of Mission Indians – Kizh Nation
Christina Swindall Martinez, Secretary
P.O. Box 393
Covina, CA 91723

Subject: Opportunity for Consultation/Tribal Consultation Notification pursuant to California Senate Bill 18 (SB 18) and Assembly Bill 52 (AB 52): Formal Notification of a Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to California Environmental Quality Act (CEQA) Public Resources Code §21080.3.1, §65352.3, and §65352.4.

Dear Secretary Martinez,

The City of Duarte is informing you and your tribe that a project is proposed that is subject to SB 18 and AB 52. The project is the **Westminster Gardens Specific Plan Update**.

In compliance with Public Resources Code §65352.3 and §65352.4 (SB 18), the city of Duarte is required to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

In addition, pursuant to California Assembly Bill (AB) 52 (Public Resources Code §21080.3.1(b)), the city of Duarte is providing you with formal notification of the Westminster Gardens Specific Plan Update Project (proposed project), located in the city of Duarte, California. The city of Duarte, as lead agency, is reaching out to all groups listed on the NAHC Sacred Lands File Contact List in a good faith effort to provide notification of the proposed project to groups that are traditionally or culturally affiliated with the geographic area of the proposed project.

The present notice includes:

- A description of the proposed project and project location;
- A clear and definitive statement that the tribe has 90 days to request SB 18 consultation and 30 days to request AB 52 consultation; and,
- The lead agency point of contact.

Project Description: The proposed project would amend the Westminster Gardens Specific Plan (WGSP or Specific Plan) through a comprehensive update, repealing in its entirety the 1997 Specific Plan, replacing it with a new Specific Plan to facilitate redevelopment of the existing Life Plan Community (LPC). The updated Specific Plan identifies the long-term vision and objectives

for private redevelopment of this previously developed site, with new residential and non-residential development capacity, and associated public improvements within the Specific Plan area over a fifteen-to-twenty-year span. The Specific Plan update establishes the general type, parameters, and character of the development aimed at transforming the current Westminster Gardens campus into a vibrant and dynamic environment with senior-centric amenities, services, and multiple housing and continuum of care options at various price points, providing aging Duarte residents a destination to continue to reside within the Duarte city limits.

Redevelopment under the updated Specific Plan is intended to address the unmet demand for senior housing and services within Duarte and the surrounding communities. The 1997 Specific Plan limits the total number of Independent and Assisted Living Units to 195. The amended Specific Plan contains provisions unique to the existing 32-acre, 147-unit Westminster Garden LPC. Implementation of this Specific Plan permits a maximum of 800 total units—150 of which are newly constructed affordable senior apartments. Overall, the Specific Plan allows for development of market rate Independent and Assisted Living Units, below-market rate Senior Apartments, support services, indoor resident amenities, and commercial uses to serve both on-site residents and the public.

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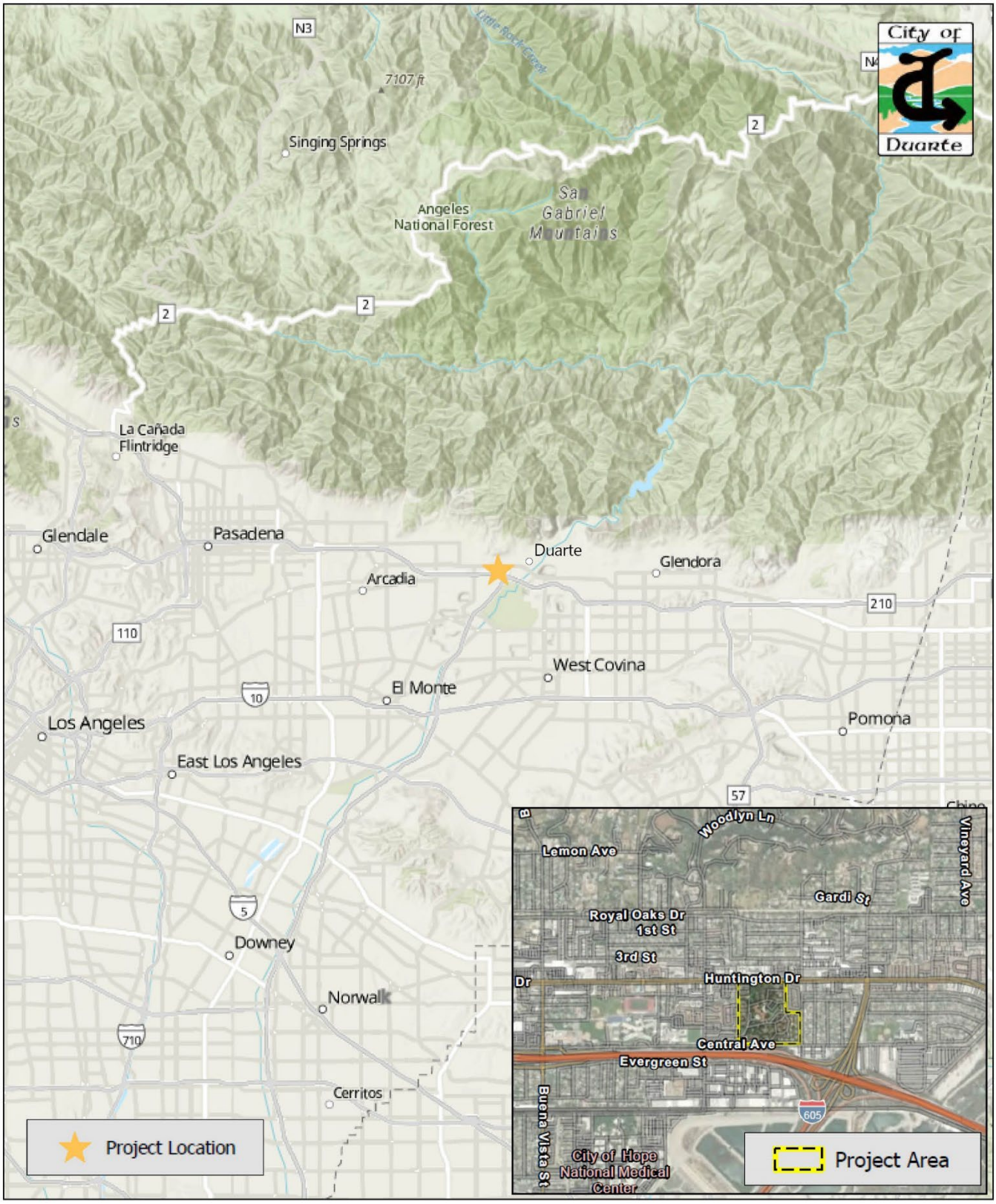
Consultation Request: If you wish to consult with the city of Duarte regarding this project under SB 18 please respond to this letter with the specific issue or area of concern within 90 days from the date of receipt of this notice to request consultation, per Government Code §65352.3(a).

If you wish to consult with the city of Duarte regarding this project under AB 52 please respond in writing to this letter with the specific issue or area of concern within 30 days from the date of receipt of this notice to request consultation, per Government Code §21080.3(b).

Please include in the written response the name of a designated lead contact person. If we do not receive notification within the 30- and 90-day periods, we will assume that the Gabrieleno Band of Mission Indians – Kizh Nation has no tribal cultural resource concerns regarding this project.

Lead Agency Point of Contact: Craig Hensley, Community Development Director, City of Duarte, 1600 Huntington Drive, Duarte, CA 91010

Project Location Map:



Genevieve Sharrow <genevieves@migcom.com>

SB 18/AB 52 Consultation Notification

Genevieve Sharrow <genevieves@migcom.com> Fri, Jan 26, 2024 at 12:33 PM
To: GTTribalcouncil@aol.com
Cc: Scott Nash <snash@accessduarte.com>, "Craig Hensley, AICP" <chensley@accessduarte.com>

Dear Chairperson Morales,
Please find the attached notification regarding consultation pursuant to SB 18/AB 52 associated with the Westminster Gardens Specific Plan Update in the City of Duarte.
Thank you,
--

Genevieve Sharrow
Director of Planning Services (Pasadena Office)
she/her/hers

PLANNING | DESIGN | COMMUNICATIONS | MANAGEMENT | SCIENCE | TECHNOLOGY

537 S. Raymond Avenue
Pasadena, California 91105 | USA
office: 626-744-9872 *extension:* 3110 *cell:* 734-709-0042
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Westminster Gardens SB 18-AB 52 Letter_1-26-24 (Morales).pdf
634K

City of Duarte
1600 Huntington Drive, Duarte, CA 91010 | Tel (626) 357-7931 | Fax (626) 358-0018 | accessduarte.com

January 26, 2024

To: Gabrieleno/Tongva San Gabriel Band of Mission Indians
Anthony Morales, Chairperson
P.O. Box 693
San Gabriel, CA 91778

Subject: Opportunity for Consultation/Tribal Consultation Notification pursuant to California Senate Bill 18 (SB 18) and Assembly Bill 52 (AB 52): Formal Notification of a Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to California Environmental Quality Act (CEQA) Public Resources Code §21080.3.1, §65352.3, and §65352.4.

Dear Chairperson Morales,

The City of Duarte is informing you and your tribe that a project is proposed that is subject to SB 18 and AB 52. The project is the **Westminster Gardens Specific Plan Update**.

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Project Description: The proposed project would amend the Westminster Gardens Specific Plan (WGSP or Specific Plan) through a comprehensive update, repealing in its entirety the 1997 Specific Plan, replacing it with a new Specific Plan to facilitate redevelopment of the existing Life Plan Community (LPC). The updated Specific Plan identifies the long-term vision and objectives

for private redevelopment of this previously developed site, with new residential and non-residential development capacity, and associated public improvements within the Specific Plan area over a fifteen-to-twenty-year span. The Specific Plan update establishes the general type, parameters, and character of the development aimed at transforming the current Westminster Gardens campus into a vibrant and dynamic environment with senior-centric amenities, services, and multiple housing and continuum of care options at various price points, providing aging Duarte residents a destination to continue to reside within the Duarte city limits.

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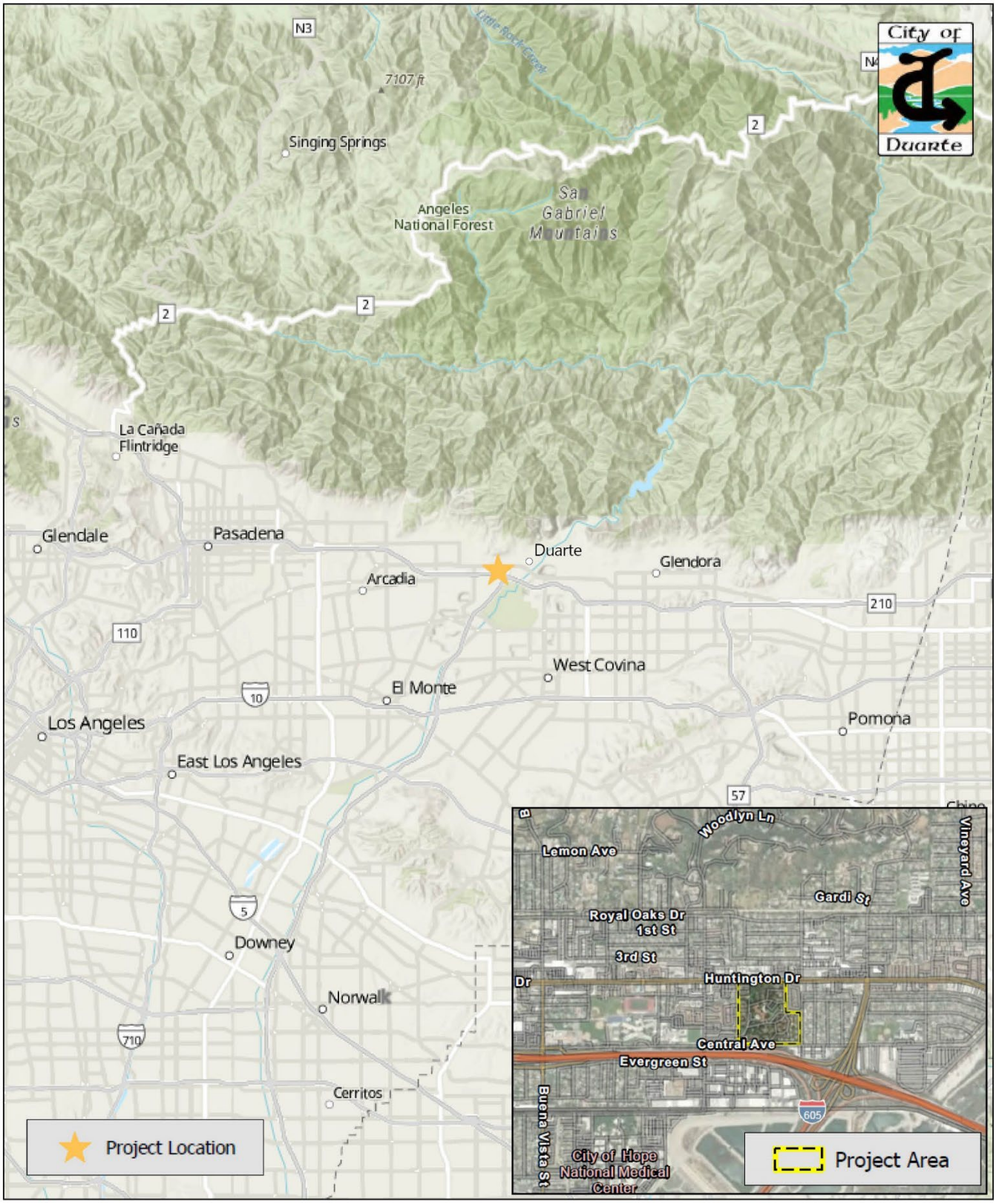
Consultation Request: If you wish to consult with the city of Duarte regarding this project under SB 18 please respond to this letter with the specific issue or area of concern within 90 days from the date of receipt of this notice to request consultation, per Government Code §65352.3(a).

If you wish to consult with the city of Duarte regarding this project under AB 52 please respond in writing to this letter with the specific issue or area of concern within 30 days from the date of receipt of this notice to request consultation, per Government Code §21080.3(b).

Please include in the written response the name of a designated lead contact person. If we do not receive notification within the 30- and 90-day periods, we will assume that the Gabrieleno/Tongva San Gabriel Band of Mission Indians has no tribal cultural resource concerns regarding this project.

Lead Agency Point of Contact: Craig Hensley, Community Development Director, City of Duarte, 1600 Huntington Drive, Duarte, CA 91010

Project Location Map:



Genevieve Sharrow <genevieves@migcom.com>

SB 18/AB 52 Consultation Notification

Genevieve Sharrow <genevieves@migcom.com> Fri, Jan 26, 2024 at 12:35 PM
To: jontiveros@soboba-nsn.gov
Cc: Scott Nash <snash@accessduarte.com>, "Craig Hensley, AICP" <chensley@accessduarte.com>

Dear Mr. Ontiveros,
Please find the attached notification regarding consultation pursuant to SB 18/AB 52 associated with the Westminster Gardens Specific Plan Update in the City of Duarte.
Thank you,
--

Genevieve Sharrow
Director of Planning Services (Pasadena Office)
she/her/hers

PLANNING | DESIGN | COMMUNICATIONS | MANAGEMENT | SCIENCE | TECHNOLOGY

537 S. Raymond Avenue
Pasadena, California 91105 | USA
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Westminster Gardens SB 18-AB 52 Letter_1-26-24 (Ontiveros).pdf
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City of Duarte
1600 Huntington Drive, Duarte, CA 91010 | Tel (626) 357-7931 | Fax (626) 358-0018 | accessduarte.com

January 26, 2024

To: Soboba Band of Luiseno Indians
Joseph Ontiveros, Tribal Historic Preservation Officer
P.O. Box 487
San Jacinto, CA 92581

Subject: Opportunity for Consultation/Tribal Consultation Notification pursuant to California Senate Bill 18 (SB 18) and Assembly Bill 52 (AB 52): Formal Notification of a Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to California Environmental Quality Act (CEQA) Public Resources Code §21080.3.1, §65352.3, and §65352.4.

Dear Mr. Ontiveros,

The City of Duarte is informing you and your tribe that a project is proposed that is subject to SB 18 and AB 52. The project is the **Westminster Gardens Specific Plan Update**.

In compliance with Public Resources Code §65352.3 and §65352.4 (SB 18), the city of Duarte is required to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

In addition, pursuant to California Assembly Bill (AB) 52 (Public Resources Code §21080.3.1(b)), the city of Duarte is providing you with formal notification of the Westminster Gardens Specific Plan Update Project (proposed project), located in the city of Duarte, California. The city of Duarte, as lead agency, is reaching out to all groups listed on the NAHC Sacred Lands File Contact List in a good faith effort to provide notification of the proposed project to groups that are traditionally or culturally affiliated with the geographic area of the proposed project.

The present notice includes:

- A description of the proposed project and project location;
- A clear and definitive statement that the tribe has 90 days to request SB 18 consultation and 30 days to request AB 52 consultation; and,
- The lead agency point of contact.

Project Description: The proposed project would amend the Westminster Gardens Specific Plan (WGSP or Specific Plan) through a comprehensive update, repealing in its entirety the 1997 Specific Plan, replacing it with a new Specific Plan to facilitate redevelopment of the existing Life Plan Community (LPC). The updated Specific Plan identifies the long-term vision and objectives

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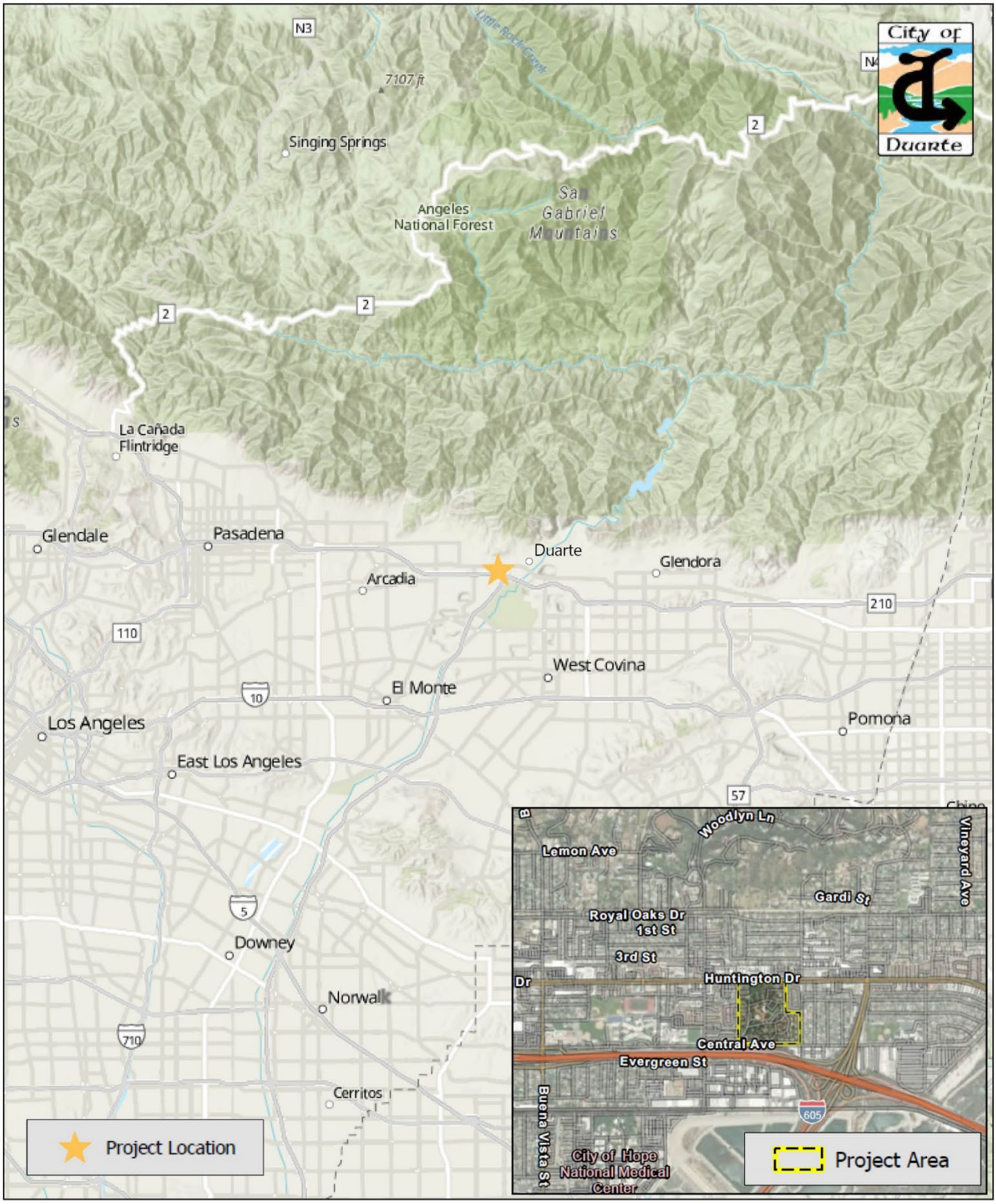
Please include in the written response the name of a designated lead contact person. If we do not receive notification within the 30- and 90-day periods, we will assume that the Soboba Band of Luiseno Indians has no tribal cultural resource concerns regarding this project.

Lead Agency Point of Contact: Craig Hensley, Community Development Director, City of Duarte, 1600 Huntington Drive, Duarte, CA 91010

Project Location Map:



Genevieve Sharrow <genevieves@migcom.com>

SB 18/AB 52 Consultation Notification

Genevieve Sharrow <genevieves@migcom.com> Fri, Jan 26, 2024 at 12:37 PM
To: lsaul@santarosa-nsn.gov
Cc: Scott Nash <snash@accessduarte.com>, "Craig Hensley, AICP" <chensley@accessduarte.com>

Dear Chairperson Redner,
Please find the attached notification regarding consultation pursuant to SB 18/AB 52 associated with the Westminster Gardens Specific Plan Update in the City of Duarte.
Thank you,
--

Genevieve Sharrow
Director of Planning Services (Pasadena Office)
she/her/hers

PLANNING | DESIGN | COMMUNICATIONS | MANAGEMENT | SCIENCE | TECHNOLOGY

537 S. Raymond Avenue
Pasadena, California 91105 | USA
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www.migcom.com
facebook twitter linkedin instagram

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City of Duarte
1600 Huntington Drive, Duarte, CA 91010 | Tel (626) 357-7931 | Fax (626) 358-0018 | accessduarte.com

January 26, 2024

To: Santa Rosa Band of Cahuilla Indians
Lovina Redner, Chairperson
P.O. Box 391820
Anza, CA 92539

Subject: Opportunity for Consultation/Tribal Consultation Notification pursuant to California Senate Bill 18 (SB 18) and Assembly Bill 52 (AB 52): Formal Notification of a Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to California Environmental Quality Act (CEQA) Public Resources Code §21080.3.1, §65352.3, and §65352.4.

Dear Chairperson Redner,

The City of Duarte is informing you and your tribe that a project is proposed that is subject to SB 18 and AB 52. The project is the **Westminster Gardens Specific Plan Update**.

In compliance with Public Resources Code §65352.3 and §65352.4 (SB 18), the city of Duarte is required to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

In addition, pursuant to California Assembly Bill (AB) 52 (Public Resources Code §21080.3.1(b)), the city of Duarte is providing you with formal notification of the Westminster Gardens Specific Plan Update Project (proposed project), located in the city of Duarte, California. The city of Duarte, as lead agency, is reaching out to all groups listed on the NAHC Sacred Lands File Contact List in a good faith effort to provide notification of the proposed project to groups that are traditionally or culturally affiliated with the geographic area of the proposed project.

The present notice includes:

- A description of the proposed project and project location;
- A clear and definitive statement that the tribe has 90 days to request SB 18 consultation and 30 days to request AB 52 consultation; and,
- The lead agency point of contact.

Project Description: The proposed project would amend the Westminster Gardens Specific Plan (WGSP or Specific Plan) through a comprehensive update, repealing in its entirety the 1997 Specific Plan, replacing it with a new Specific Plan to facilitate redevelopment of the existing Life Plan Community (LPC). The updated Specific Plan identifies the long-term vision and objectives

for private redevelopment of this previously developed site, with new residential and non-residential development capacity, and associated public improvements within the Specific Plan area over a fifteen-to-twenty-year span. The Specific Plan update establishes the general type, parameters, and character of the development aimed at transforming the current Westminster Gardens campus into a vibrant and dynamic environment with senior-centric amenities, services, and multiple housing and continuum of care options at various price points, providing aging Duarte residents a destination to continue to reside within the Duarte city limits.

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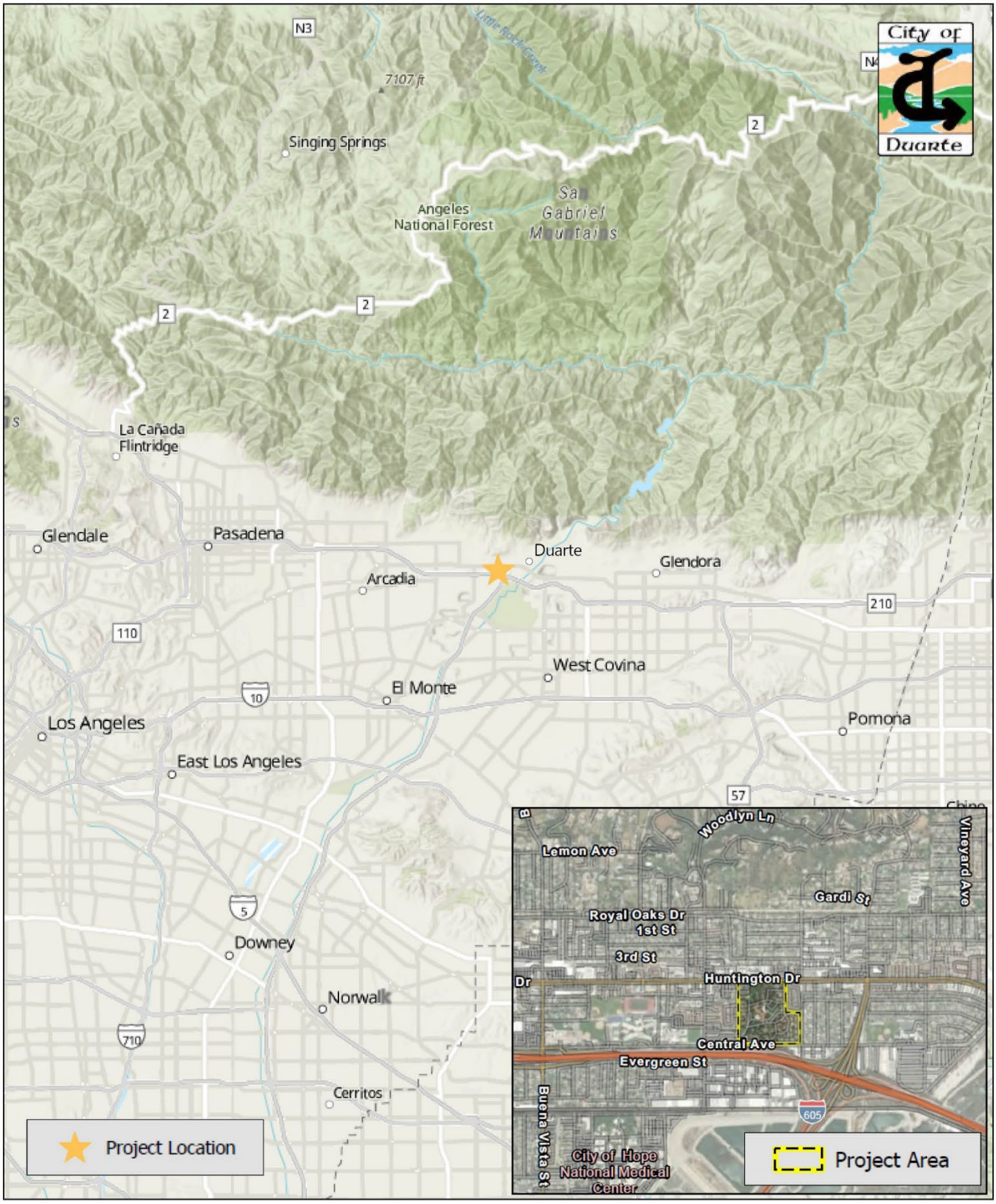
Please include in the written response the name of a designated lead contact person. If we do not receive notification within the 30- and 90-day periods, we will assume that the Santa Rosa Band of Cahuilla Indians has no tribal cultural resource concerns regarding this project.

Lead Agency Point of Contact: Craig Hensley, Community Development Director, City of Duarte, 1600 Huntington Drive, Duarte, CA 91010

Project Location Map:



Genevieve Sharrow <genevieves@migcom.com>

SB 18/AB 52 Consultation Notification

Genevieve Sharrow <genevieves@migcom.com> Fri, Jan 26, 2024 at 12:39 PM
To: admin@gabrielenoindians.org
Cc: Scott Nash <snash@accessduarte.com>, "Craig Hensley, AICP" <chensley@accessduarte.com>

Dear Chairperson Salas,
Please find the attached notification regarding consultation pursuant to SB 18/AB 52 associated with the Westminster Gardens Specific Plan Update in the City of Duarte.
Thank you,
--

Genevieve Sharrow
Director of Planning Services (Pasadena Office)
she/her/hers

PLANNING | DESIGN | COMMUNICATIONS | MANAGEMENT | SCIENCE | TECHNOLOGY

537 S. Raymond Avenue
Pasadena, California 91105 | USA
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www.migcom.com
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635K

City of Duarte
1600 Huntington Drive, Duarte, CA 91010 | Tel (626) 357-7931 | Fax (626) 358-0018 | accessduarte.com

January 26, 2024

To: Gabrieleno Band of Mission Indians – Kizh Nation
Andrew Salas, Chairperson
P.O. Box 393
Covina, CA 91723

Subject: Opportunity for Consultation/Tribal Consultation Notification pursuant to California Senate Bill 18 (SB 18) and Assembly Bill 52 (AB 52): Formal Notification of a Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to California Environmental Quality Act (CEQA) Public Resources Code §21080.3.1, §65352.3, and §65352.4.

Dear Chairperson Salas,

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- A description of the proposed project and project location;
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for private redevelopment of this previously developed site, with new residential and non-residential development capacity, and associated public improvements within the Specific Plan area over a fifteen-to-twenty-year span. The Specific Plan update establishes the general type, parameters, and character of the development aimed at transforming the current Westminster Gardens campus into a vibrant and dynamic environment with senior-centric amenities, services, and multiple housing and continuum of care options at various price points, providing aging Duarte residents a destination to continue to reside within the Duarte city limits.

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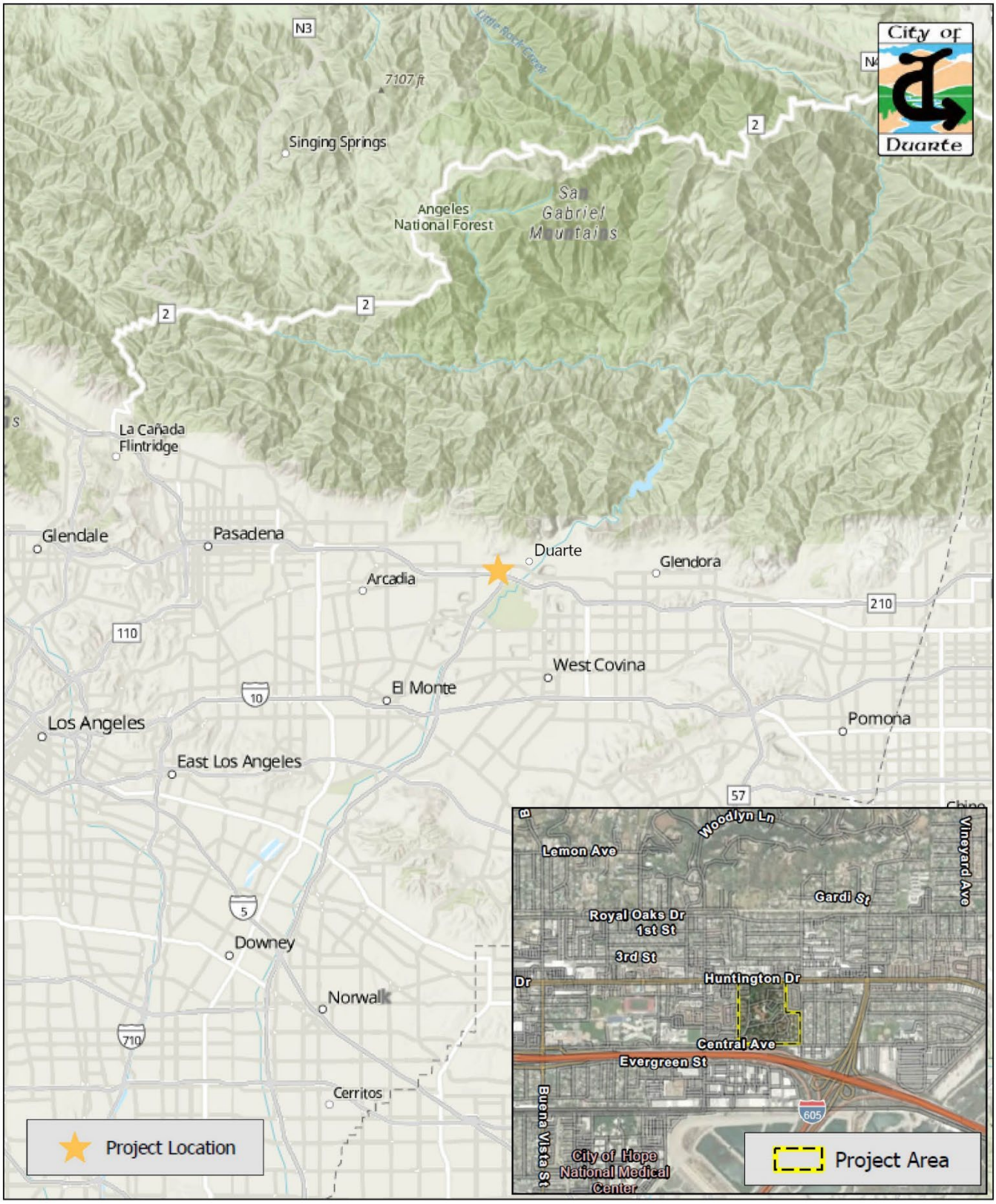
Please include in the written response the name of a designated lead contact person. If we do not receive notification within the 30- and 90-day periods, we will assume that the Gabrieleno Band of Mission Indians – Kizh Nation has no tribal cultural resource concerns regarding this project.

Lead Agency Point of Contact: Craig Hensley, Community Development Director, City of Duarte, 1600 Huntington Drive, Duarte, CA 91010

Project Location Map:



Genevieve Sharrow <genevieves@migcom.com>

SB 18/AB 52 Consultation Notification

1 message

Genevieve Sharrow <genevieves@migcom.com> Fri, Jan 26, 2024 at 12:43 PM
To: jvaldez@soboba-nsn.gov
Cc: Scott Nash <snash@accessduarte.com>, "Craig Hensley, AICP" <chensley@accessduarte.com>

Dear Ms. Valdez,
Please find the attached notification regarding consultation pursuant to SB 18/AB 52 associated with the Westminster Gardens Specific Plan Update in the City of Duarte.
Thank you,

--

Genevieve Sharrow
Director of Planning Services (Pasadena Office)
she/her/hers

PLANNING | DESIGN | COMMUNICATIONS | MANAGEMENT | SCIENCE | TECHNOLOGY

537 S. Raymond Avenue
Pasadena, California 91105 | USA
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www.migcom.com
facebook twitter linkedin instagram

Westminster Gardens SB 18-AB 52 Letter_1-26-24 (Valdez).pdf
728K

City of Duarte
1600 Huntington Drive, Duarte, CA 91010 | Tel (626) 357-7931 | Fax (626) 358-0018 | accessduarte.com

January 26, 2024

To: Soboba Band of Luiseno Indians
Jessica Valdez, Cultural Resource Specialist
P.O. Box 487
San Jacinto, CA 92581

Subject: Opportunity for Consultation/Tribal Consultation Notification pursuant to California Senate Bill 18 (SB 18) and Assembly Bill 52 (AB 52): Formal Notification of a Decision to Undertake a Project, and Notification of Consultation Opportunity, pursuant to California Environmental Quality Act (CEQA) Public Resources Code §21080.3.1, §65352.3, and §65352.4.

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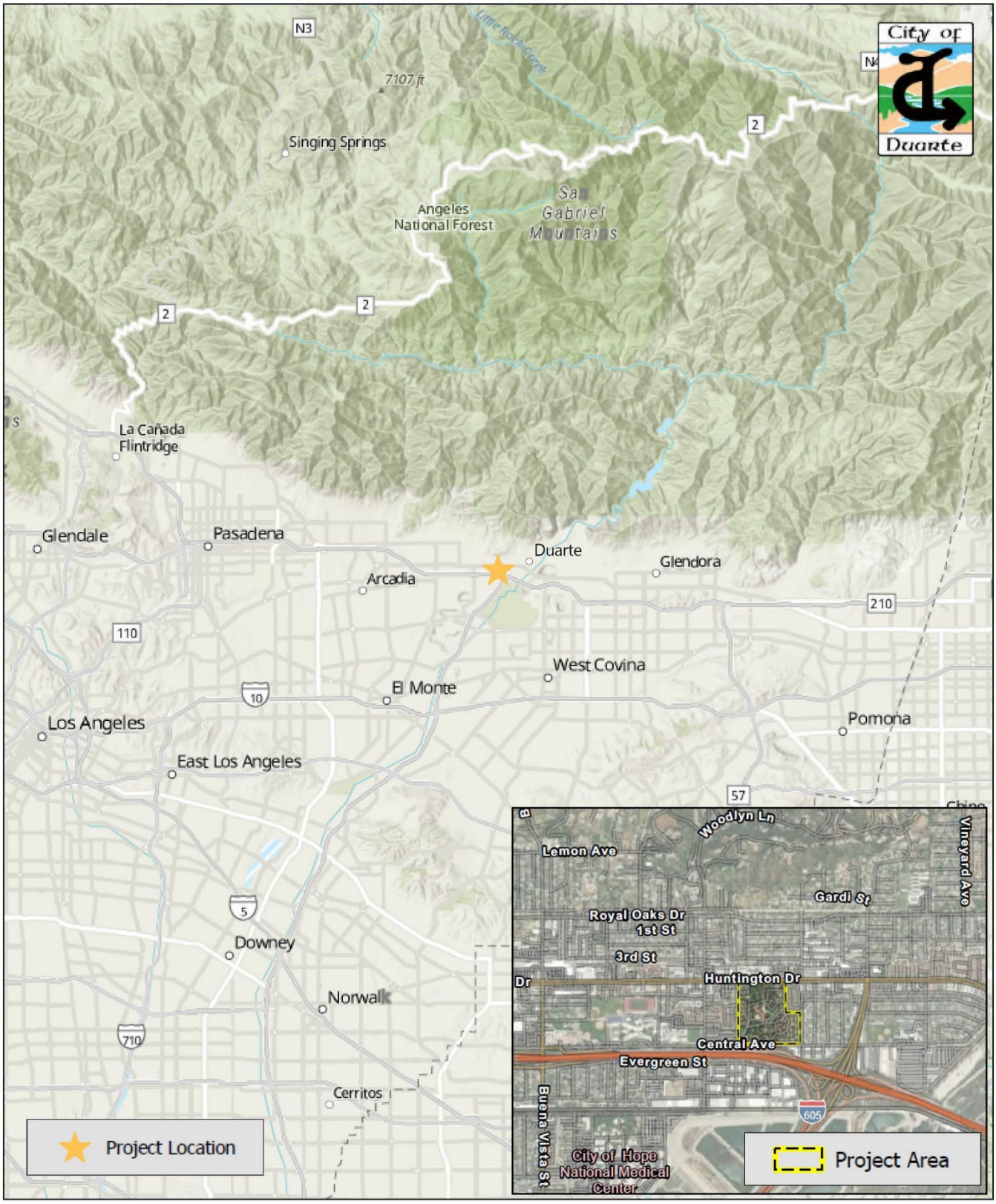
Lead Agency Point of Contact: Craig Hensley, Community Development Director, City of Duarte, 1600 Huntington Drive, Duarte, CA 91010

Project Location Map:



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WESTMINSTER GARDENS

SPECIFIC PLAN



Originally Adopted November 27, 1990
Ordinance Number 675

Amended TBD (Public Review Draft October 2026)
Ordinance TBD

City of Duarte

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Executive Summary

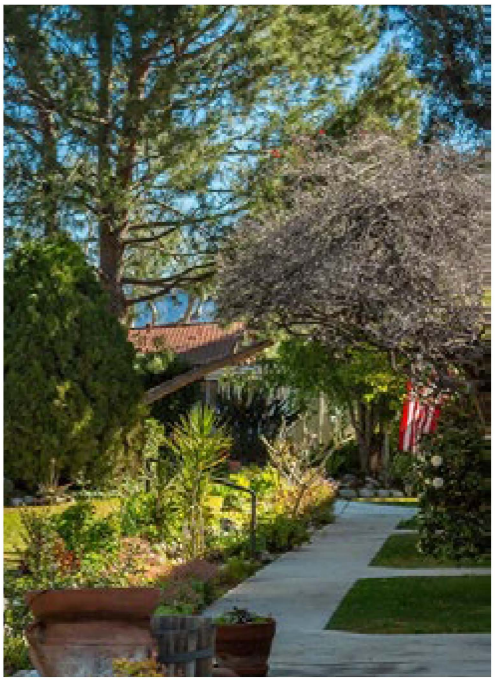
Since 1950, Westminster Gardens has served as a life plan community, offering independent senior living, assisted living, skilled nursing, and memory care services. With growing demand for a variety of senior living options, in 2026, Westminster Gardens initiated an amendment to the Westminster Gardens Specific Plan to expand within the existing campus, providing additional senior housing and assisted living/ memory care capacity. In addition, the amended Specific Plan allows for a variety of opportunities on a vacant parcel at the corner of Huntington Drive and Santo Domingo Avenue and establishes guidelines for new affordable senior housing located within the Specific Plan area, consistent with the City's Housing Element.

The amended Westminster Gardens Specific Plan (2026) establishes the general type, parameters, and character of development that will guide evolution of the Westminster Gardens LPC in a manner compatible with the surrounding area. The development concept provides flexibility with regard to phasing and ultimate project design, within the parameters of a fixed development envelope. The Specific Plan allows the following at build-out:

- A maximum of 310 Independent Living Units (market rate)
- A minimum of 150 Independent Living Units (affordable)
- A maximum of 90 Assisted Living/Memory Care Units/Beds
- A maximum of 65,000 square feet of Resident Amenity space, plus 7,000 square feet of Utility and Maintenance space
- A maximum of 15,000 square feet of retail
- A maximum of 25,000 square feet of office









1

Specific Plan Setting

The Westminster Gardens Specific Plan responds to the unique characteristics of the site and its surrounding community, emphasizing high-quality design, accessible open spaces, pedestrian connectivity, and a welcoming sense of place. Through a coordinated approach to land use, circulation, infrastructure, and development standards, the Westminster Gardens Specific Plan provides a foundation for a vibrant, connected, and enduring community that respects the site's history and surrounding environment.

1.1 The Project

The Westminster Gardens Life Plan Community (LPC) has a long history in the Duarte community. Originally established in the 1920s as a private residential property known as Morrison Ranch, the site includes the historic Morrison House which was built in the 1930s. In 1950, the Ranch was purchased and donated to the Presbyterian Missionary Board to build a group of residences for retired Presbyterian missionaries. The former Morrison Ranch was subsequently adapted for this purpose and became known as Westminster Gardens.

For the past 75 years, Westminster Gardens has served as a life plan community, offering independent senior living, assisted living, skilled nursing, and memory care services. The 32-acre campus is organized around a central nucleus containing administrative and common use buildings set within large lawns, surrounded by vehicular access roads and residences. The Morrison House and features associated with original Morrison Ranch occupy the southwest corner of the property.

With growing demand for a variety of senior living options, Westminster Gardens is seeking to expand within the existing campus, providing additional senior housing and assisted living/ memory care capacity as well as mixed-use opportunities on a vacant parcel at the corner of Huntington Drive and Santo Domingo Avenue, and new affordable senior housing, consistent with the City's Housing Element.

1.2 Project Location

Westminster Gardens is located in the City of Duarte in Los Angeles County. Duarte, in the northcentral portion of the San Gabriel Valley, is situated at the base of the San Gabriel Mountains, approximately 21 miles northeast of downtown Los Angeles. Duarte is bordered by the City of Irwindale to the south, the City of Monrovia to the west, the City of Bradbury and the Angeles National Forest to the north, and the City of Azusa to the east. **Exhibit 1-1: Regional Vicinity** shows the location of Duarte within the region.

Locally, the project site is bordered by Huntington Drive to the north, Central Avenue to the south, Santo Domingo Avenue to the west, and Bradbourne Avenue to the east. The site is located east of the Duarte Town Center Specific Plan and is approximately 0.3-miles away from the Duarte/City of Hope Metro A Line Station. A portion of the eastern boundary abuts a townhome development. Refer to **Exhibit 1-2: Local Vicinity**.

EXHIBIT 1-1: REGIONAL VICINITY

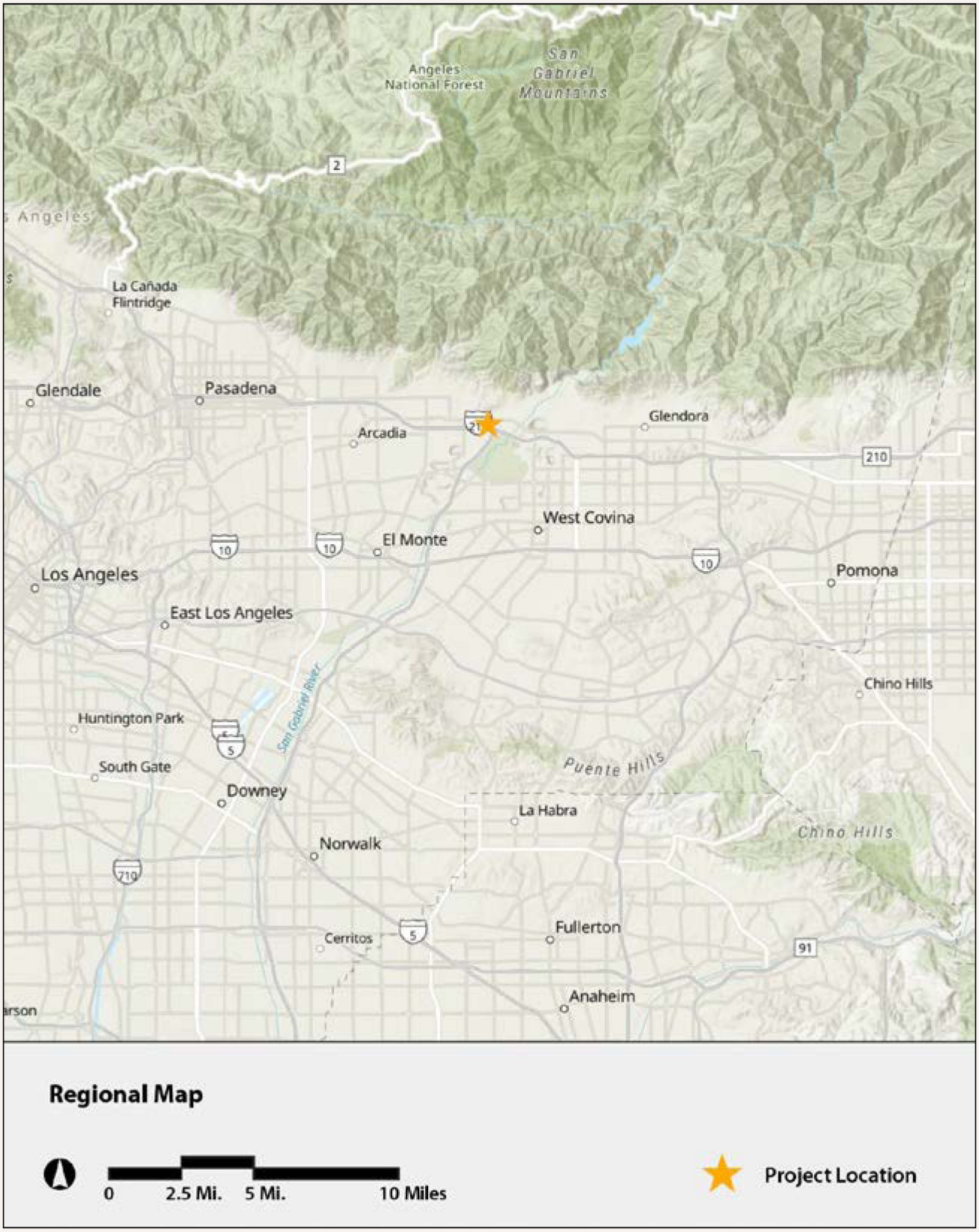
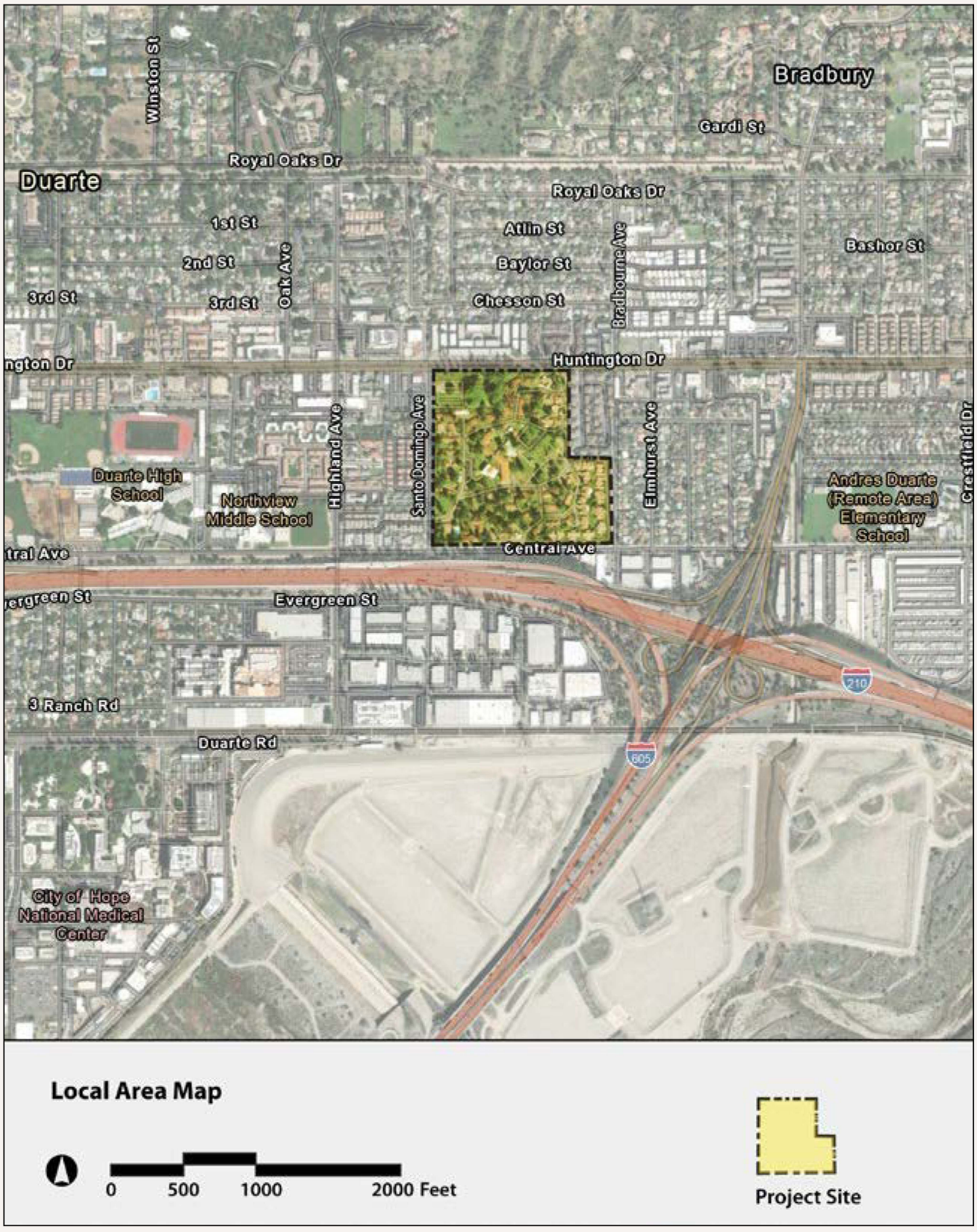


EXHIBIT 1-2: LOCAL VICINITY



1.3 Surrounding Land Uses and Development

The surrounding area is characterized by its relatively flat topography and mix of low-rise residential development, including single-family homes, duplexes, and apartment buildings dating from the 1950s through 1990s. The images below illustrate the surrounding residential uses.





Huntington Drive



Bradbourne Avenue



Santo Domingo Avenue



Central Avenue

1.4 Established Improvements and Land Uses

Exhibit 1-3: Specific Plan Area shows the four parcels, under single-ownership, comprising the approximately 32-acre Specific Plan area. **Table 1-1: Specific Plan Parcel Summary** describes existing improvements on each parcel.

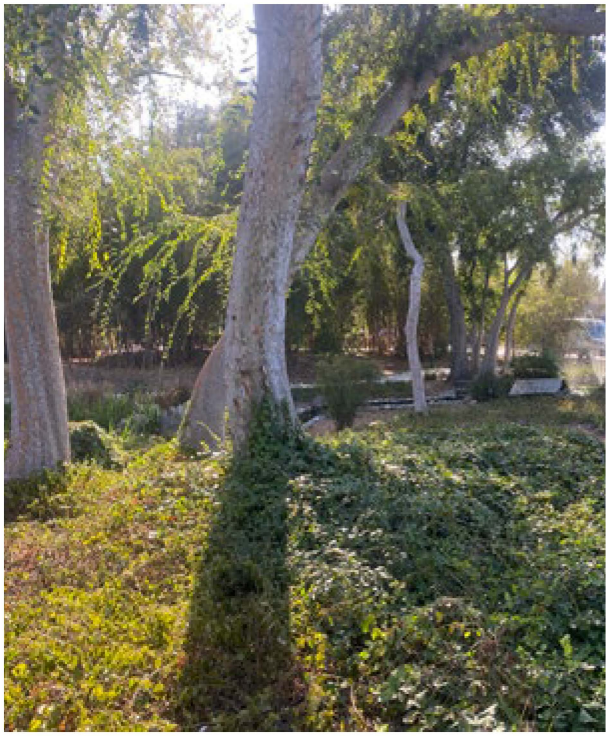


TABLE 1-1: SPECIFIC PLAN PARCEL SUMMARY

Parcel Characteristics	Parcel 1	Parcel 4	Parcel 2	Parcel 3
Assessor Number	8529-014-025	8529-014-026	8529-014-028	8529-014-029
Parcel Size	26 acres	3 acres	1.5 acres	1.4 acres
Improvement Summary	• 165,171 square feet of Life Plan Community (LPC) buildings • 74 garage/carport parking spaces • 204 surface parking spaces • Private street system • Landscaped areas Parcel 1 includes the historic Morrison House and grounds, currently including offices, mail room, library, and a social hall for the LPC.		• LPC private park • Covered patio area/ picnic shelter • Shuffleboard courts	Vacant

Exhibit 1-3: SPECIFIC PLAN AREA

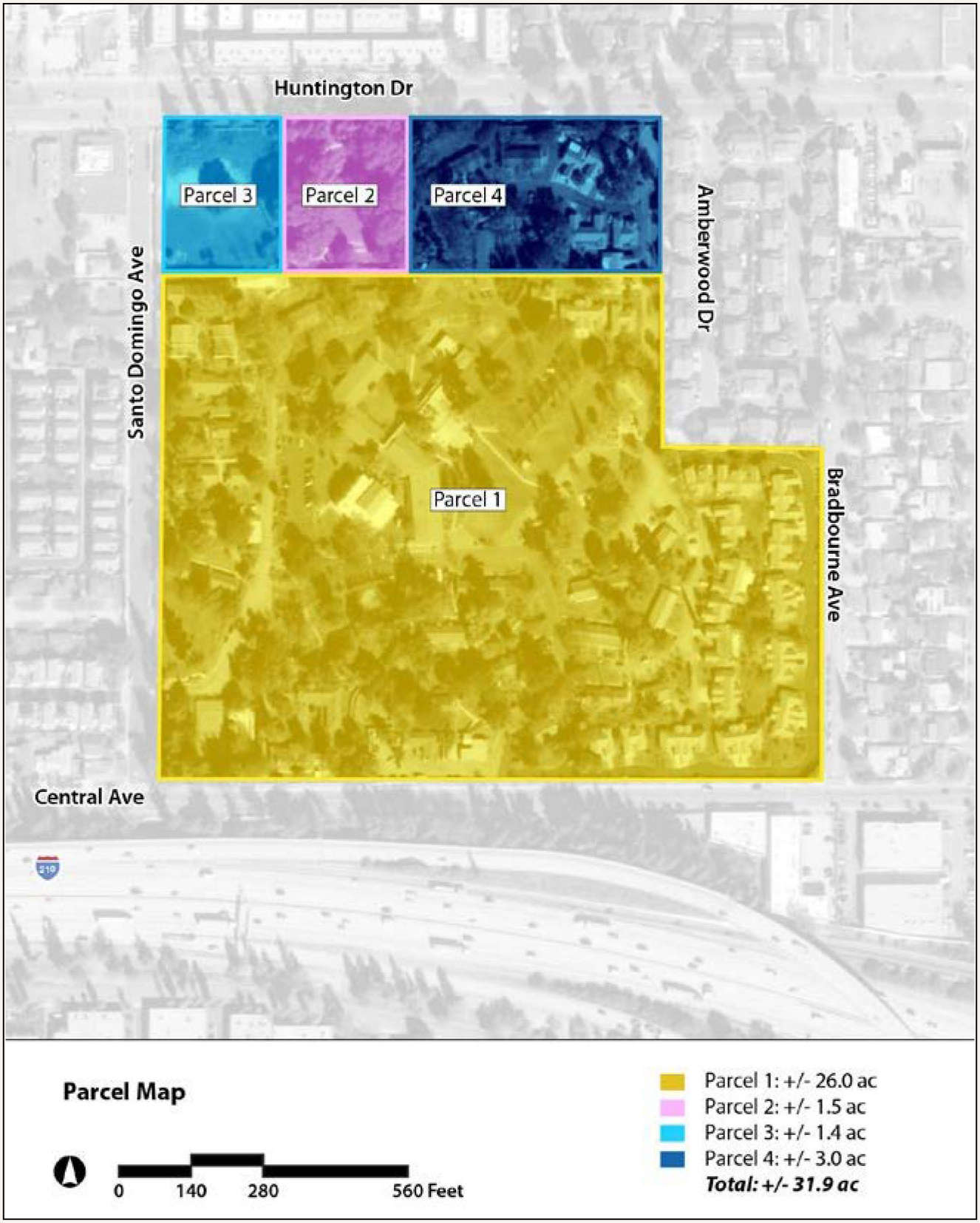


Exhibit 1-4: Existing Westminster Gardens LPC Campus Map illustrates the distribution of the established buildings (identifying each by building number or name), the general location of parking areas, and the private street system. Table 1-2: Westminster Gardens LPC Existing Building Inventory provides a corresponding list of the existing buildings as of 2024, by building number or name and indicates the use(s), square footage, and where applicable, the number of housing units/beds.

Westminster Gardens LPC offers a variety of levels of care, all on one campus, including:

- Independent Living: Westminster Gardens offers independent living in a wide range of sizes and floor plans, complete with cooking facilities and everyday amenities.
- Assisted Living: When activities of daily living become challenging, assisted living offers the extra help needed to continue living an engaged life connected to fellow residents, team members and the community at large.
- Memory Care: Westminster Gardens offers an uplifting, person-centered approach to dementia care that honors residents' individuality in a safe, homelike setting.

In 2024, Westminster Gardens LPC typically had a total of 67 full time employees onsite to provide services to the residents and manage and maintain the campus. Daily operations average an employee peak of 45 between the hours of 9:00 a.m. to 5:00 p.m. Overnight staffing currently consists of six employees.





Exhibit 1-4: WESTMINSTER GARDENS LPC ESTABLISHED BUILDINGS CAMPUS MAPS

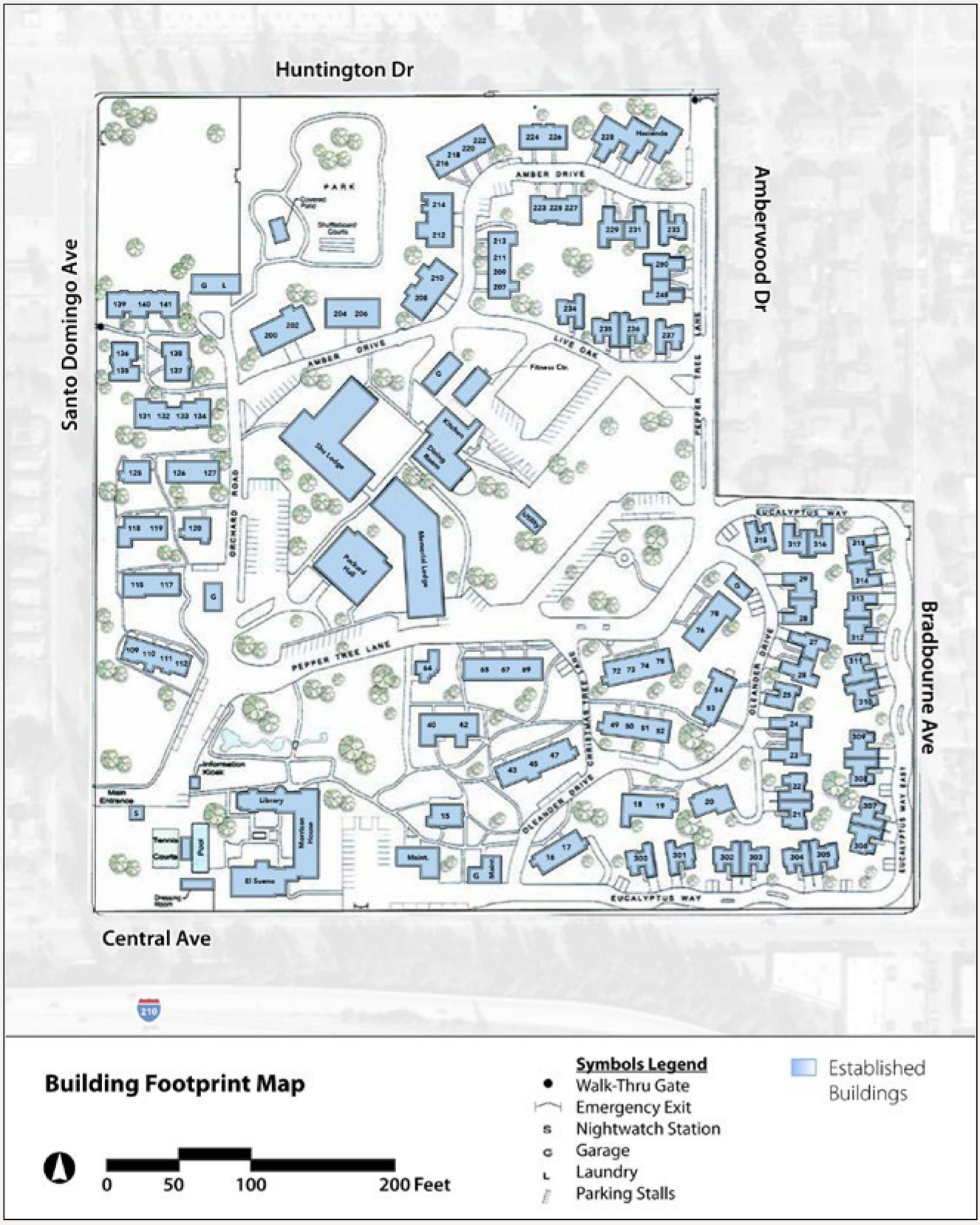


TABLE 1-2: WESTMINSTER GARDENS LPC ESTABLISHED BUILDING INVENTORY

Building Number or Name	Land Use	Unit Type	Number of Units or Beds	Square Footage
Morrison House	Office & LIbrary		-	5,650
Pool Changing Room	Resident Amenity		-	560
El Sueno	Resident Amenity		-	2,926
Dining Room	Resident Amenity		-	6,175
Fitness Center	Resident Amenity		-	979
Shu Lodge	Residential Care Facility	Assisted	16	10,646
Memorial Lodge	Residential Care Facility	Assisted	16	9,152
Packard Hall	Resident Amenity		-	6,532
Units 15-78	Residential - Senior Housing	Independent	26	23,203
Unit 64 (Cape Cod House)	Residential Amenity	Independent	-	950
Units 21-29	Residential - Senior Housing	Independent	9	11,868
Units 300-318	Residential - Senior Housing	Independent	19	25,160
Units 109-127	Residential - Senior Housing	Independent	12	10,957
Units 131-141	Residential - Senior Housing	Independent	11	10,408
Units 200-227	Residential - Senior Housing	Independent	21	18,968
Units 229-250	Residential - Senior Housing	Independent	9	12,889
Hacienda	Residential Care Facility	Memory Care	10	4,257
Ancillary Building	Utility and Maintenance		-	3,891
		TOTAL	**149**	**165,171**

1.5 General Plan and Zoning

1.5.1 General Plan Land Use Element

The Duarte General Plan Land Use Map (Diagram LU-1) designates the project site "Specific Plan". Table LU-2 (Approved Specific Plans) in the Land Use Element describes the Westminster Gardens Specific Plan as a senior community with a combined total capacity of 195 independent and assisted living units, developed at a density of 7.8 residents per acre. Table LU-2 also indicates that the Westminster Gardens Specific Plan is consistent with the "Medium Density Residential (MDR)" land use designation, which allows for denser multi-family dwellings, and mixed detached and attached residential developments, up to a maximum of 21 dwelling units per acre, including senior housing.

1.5.2 Housing Element

The City's 2021-2029 Housing Element identifies the Westminster Gardens Specific Plan area as an "Opportunity Site" to accommodate new residential multi-family units to meet the City's allotment of regional housing need. Housing Element Table H 4-4 (Housing Opportunity Sites) describes the Westminster Gardens Specific Plan area as Opportunity Site #6, providing a minimum total of 300 additional units. The Housing Element notes that the City will amend the Westminster Specific Plan to accommodate at least 300 additional units, at least half of which would be affordable to lower and moderate-income households.

1.5.3 Zoning Code and Map

The Zoning Map designates the Westminster Gardens Specific Plan area as Specific Plan #5. Duarte Development Code Section 19.22.010 describes the Specific Plan zone (SP zone) as a zone that provides for flexibility, innovative use of land resources and development, a variety of housing and other development types, and an effective and safe method of pedestrian and vehicular circulation.

1.6 Specific Plan Authority and Required Approvals

1.6.1 Specific Plan Authority

California Government Code (Title 7, Division 1, Chapter 3, Article 8, Sections 65450 through 65457) provides the authority for a city to adopt a Specific Plan by ordinance (as a regulatory plan) or resolution (as a policy-driven plan). This Specific Plan is both a regulatory and policy document and therefore must be adopted by ordinance. State law establishes a minimum set of requirements for Specific Plans, which include text and diagrams that specify all of the following in detail:

- The distribution, location, and extent of the uses of land, including potential open space, within the Specific Plan area

- The proposed distribution, location, extent and intensity of major components of public and private transportation, sewage, water, drainage, solid waste disposal, energy, and other essential facilities to be located within the Specific Plan area and which are needed to support the land uses described in the Specific Plan
- Standards and criteria by which development will proceed, and standards for the conservation, development, and utilization of natural resources, where applicable
- A program of implementation measures including regulations applicable to projects within the Specific Plan area and financing measures available to carry out the project
- A statement of the relationship of the Specific Plan to the General Plan

1.6.2 Required Approvals

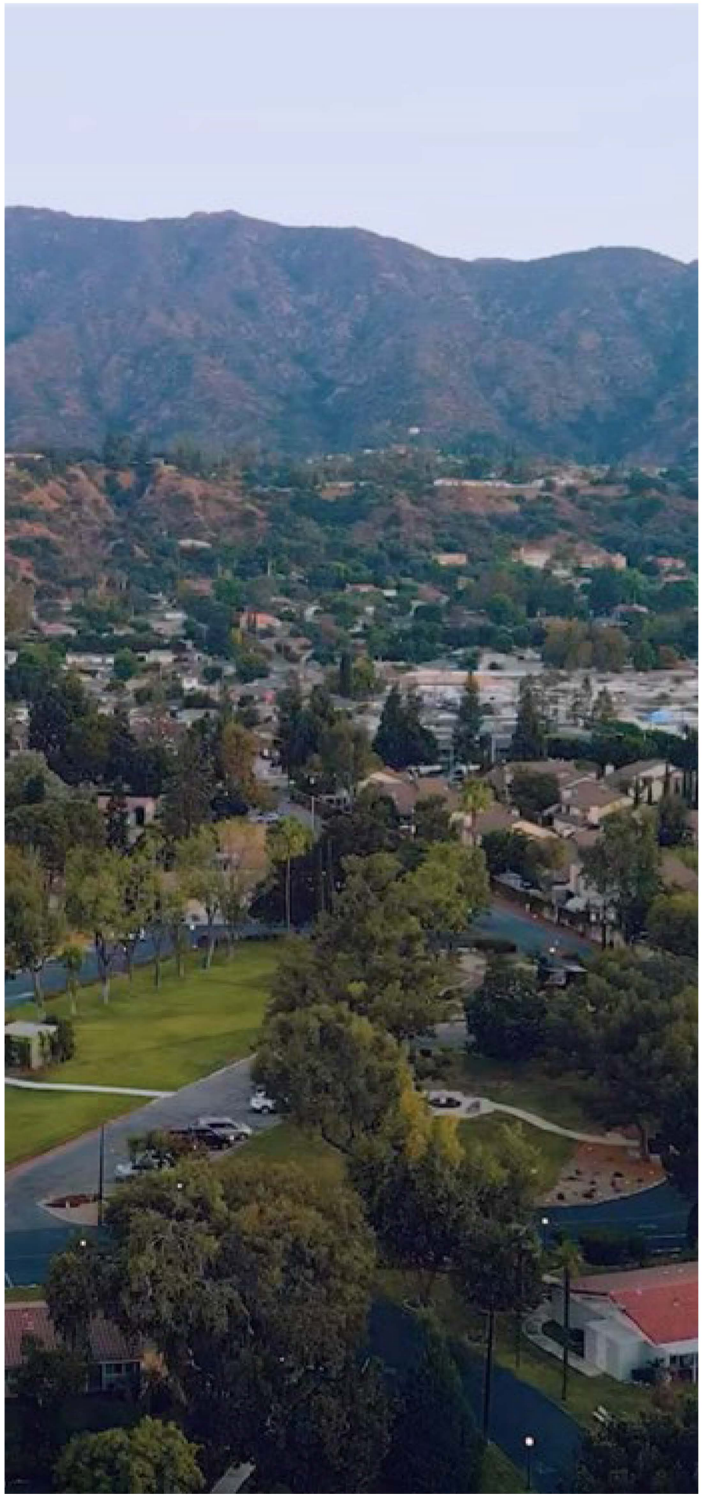
Implementation of the Westminster Gardens Specific Plan will require approvals by the Duarte City Council to certify the Final Environmental Impact Report and to adopt an ordinance approving the amended Westminster Gardens Specific Plan. Subsequent approvals will include site plan/design review and discretionary actions for any new development and redevelopment/expansion of existing improvements and subdivision mapping/entitlements, as needed, to create or merge individual lots within the Specific Plan boundaries.

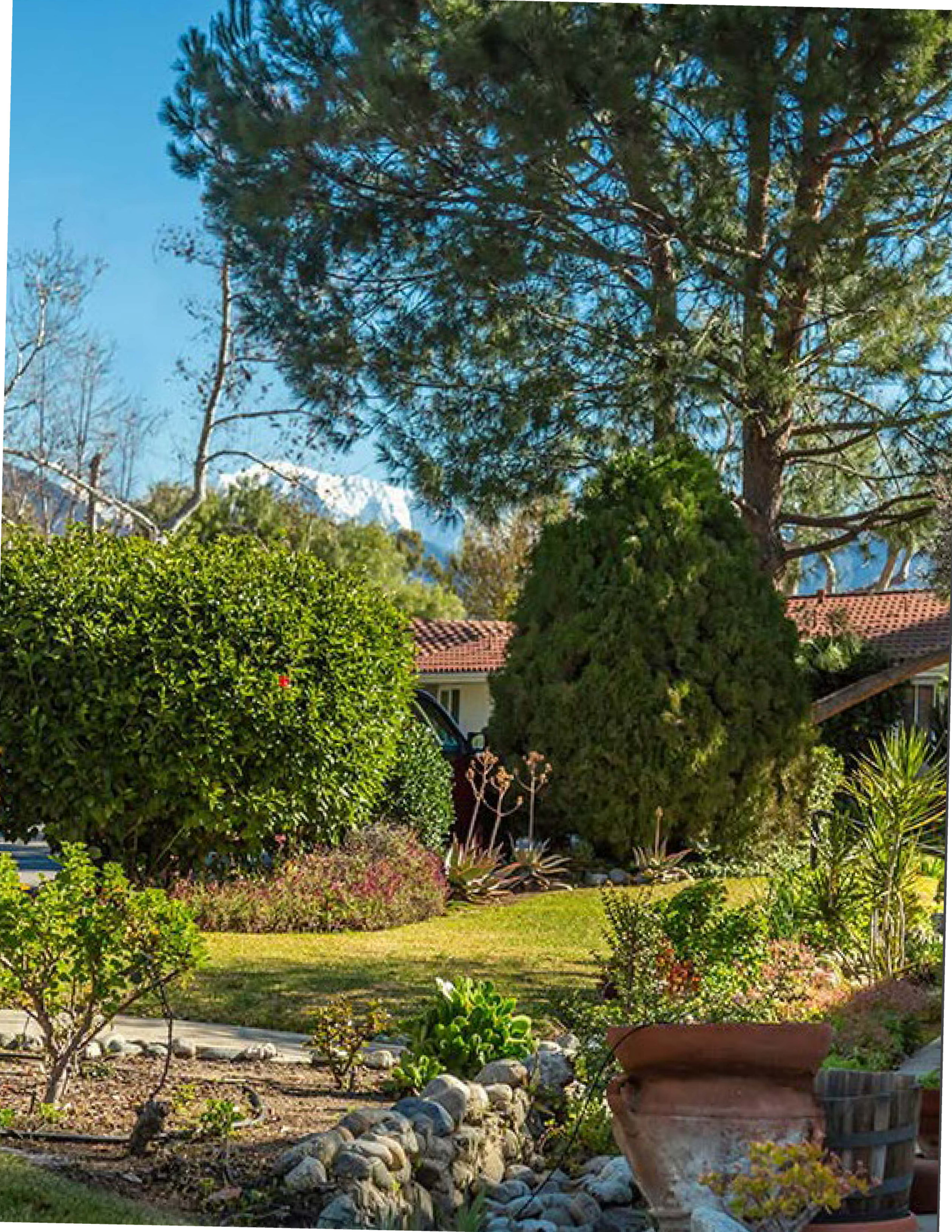
1.7 Specific Plan Organization

This Westminster Gardens Specific Plan contains the following chapters:

- **Chapter 1 – Introduction.** This chapter provides general information about the Specific Plan. Since the Specific Plan will be used by a variety of users such as property owners, City staff, business owners, residents, and elected and appointed officials, the intent of this chapter is to inform the reader by providing a brief description of area, setting, purpose, and function of the Specific Plan, providing context for the chapters that follow.
- **Chapter 2 – Development Plan.** Chapter 2 identifies the fundamental components of the Specific Plan: objectives that articulate the vision for development of the Specific Plan area and the maximum allowable growth (residential and nonresidential) beyond baseline conditions.
- **Chapter 3 – Development Regulations and Design Guidelines.** Chapter 3 provides development standards and design guidelines for proposed development in the Specific Plan area. These regulations contain development standards for building placement and form, fences and walls, open space, and parking. Regulations are further supported by the Design Guidelines embedded in this section. The Design Guidelines identify and establish visual themes that are aesthetically pleasing and will result a cohesive "sense of place" within the Specific Plan area.

- **Chapter 4 – Circulation and Infrastructure.** The Infrastructure and Services chapter addresses perimeter roads and internal circulation, as well as sewer, water, and storm drain systems to serve the Specific Plan area at full build-out.
- **Chapter 5 –Administration and Implementation.** This Chapter identifies the methods for Specific Plan build-out, including efficient entitlement processing standards, phasing, public right-of-way improvement requirements, maintenance responsibilities, and financing mechanisms.
- **Appendix.** The Appendix includes the General Plan consistency analysis, the Environmental Impact Report Mitigation, Monitoring, and Reporting Program, and a glossary of terms.





2

Development Plan

The Development Plan establishes the vision and framework for the adaptive redevelopment of the Westminster Gardens campus to support a cohesive, high-quality Life Plan Community that supports residents' evolving needs. This Chapter describes the overall development concept and outlines the anticipated phasing of development, providing a flexible approach to implementation that allows the community to evolve over time while maintaining a coordinated and unified development vision.

2.1 What Is a Life Plan Community (LPC)?

A Life Plan Community (LPC), formerly referred to as a Continuing Care Retirement Community (CCRC), reflects changes in terminology, marketing, and services within the senior care industry. These types of communities provide residential and assisted living housing options for adults age 60+ and feature a wide range of care, services, and activities/amenities all in one place, offering residents a sense of stability and familiarity as their abilities or health conditions change. As of 2026, the Westminster Gardens LPC campus is licensed for a capacity of 200 senior residents by the California Department of Social Services (CDSS), which oversees the Senior Care Licensing Programs for both CCRCs and Residential Care Facilities for the Elderly (RCFE). As additional capacity is constructed within the campus, the RCFE license will need to be updated.

2.2 Vision and Objectives

The amended Westminster Gardens Specific Plan promotes redevelopment of the existing Westminster Gardens LPC. The redevelopment vision is to create a community that addresses current and future needs and expectations of its senior residents, provides affordable senior housing options, and results in development of the one vacant parcel within the Specific Plan area with uses compatible with the Westminster Gardens LPC. The following objectives have been identified to guide the intent and future redevelopment within the Westminster Gardens Specific Plan area:

- Redevelop the Life Plan Community to provide a high-quality residential development containing an integrated mix of independent living, assisted living, and memory care units and skilled nursing that responds to growing demand and caters to existing and future needs of seniors.
- Create a self-sufficient community that provides services and amenities for facility residents and offers integrated mixed-use office and retail opportunities that welcome the entire Duarte community.
- Create affordable independent living units in support of the City's Regional Housing Needs Allocation (RHNA), providing additional housing options for low- and moderate-income senior residents.
- Expand housing opportunities within an existing community that remains compatible with and respectful to surrounding land uses.
- Provide additional site access and improve pedestrian connectivity within the community and to surrounding neighborhoods and districts.
- Implement an updated development plan, including specific use, development, and design standards consistent with the City's General Plan and with minimal deviation from the City's Development Code regulations for setbacks, height, parking, etc.

- Retain the historic Morrison House and associated grounds for administrative support functions and as a community hub.

2.3 Development Concept

2.3.1 Context

In evaluating the Westminster Gardens Specific Plan area for appropriate redevelopment opportunities, the following factors and desired elements were taken into consideration:

- Integration of 150 affordable senior housing units;
- Existing conditions both on-site and off-site related to drainage, circulation, land use, transit, and infrastructure;
- Integration of the redevelopment of the Westminster Gardens Specific Plan area with the surrounding residential communities;
- Improvement of the pedestrian system throughout the Westminster Gardens Specific Plan area;
- Phased redevelopment to minimize the disruption to existing residents of the Westminster Gardens LPC;
- Stakeholder input from community meetings and area residents;
- The future of the senior housing market and service needs; and
- General Plan and Development Code assumptions.

A community meeting held on April 30, 2024 provided information regarding the proposed Westminster Gardens Specific Plan amendment. Participants were asked to comment on the potential build-out scenario. Details of the development concept are provided in Section 2.3.2. Final site layout and building designs will be subject to approval of a final Master Plan of Development and the City's standard review processes for each redevelopment phase, as outlined in Chapter 5.

2.3.2 Development Concept

The amended Westminster Gardens Specific Plan establishes the general type, parameters, and character of development that will guide evolution of the Westminster Gardens LPC in a manner compatible with the surrounding area. Instead of prescribing a specific site plan for campus redevelopment, the development concept provides flexibility to respond to market conditions, prioritizes affordable senior housing development, and allows for a variety of development opportunities on the vacant parcel. A range of allowable land uses are permitted or conditionally permitted and provide for both residential and nonresidential uses, as detailed in Chapter 3.

Table 2-1: Growth Relative to Baseline Conditions identifies the maximum growth in both the residential and nonresidential components beyond baseline conditions within the Westminster Gardens Specific Plan area.

TABLE 2-1: GROWTH RELATIVE TO BASELINE CONDITIONS

Land Use	Residential (units/beds)	Residential (square feet)	Nonresidential (square feet)
Baseline (2024)			
Independent Living Unit (market-rate)	107	113,453	-
Independent Living Unit (affordable)	-	-	-
Assisted Living/Memory Care Unit	42	24,055	-
Resident Amenity	-	-	18,122
Utility and Maintenance	-	-	3,891
Office	-	-	5,650
Retail	-	-	0
Total	**149**	**137,508**	**27,663**
Proposed Build-out Assumptions			
Independent Living Unit (market-rate)	310	539,500	-
Independent Living Unit (affordable)	150	142,500	-
Assisted Living/Memory Care Unit	90	81,000	-
Resident Amenity	-	-	65,000
Utility and Maintenance	-	-	7,000
Office	-	-	25,000
Retail	-	-	15,000
Total	**550**	**763,000**	**112,000**
Net Difference Between Baseline Conditions and Specific Plan Build-out TOTALS	**+401 units**	**+625,492 sf**	**+84,337 sf**

This Specific Plan allows for additional assisted living, market-rate, and rent-restricted senior housing with adequate parking, open space, and on-site amenities to retain a high-quality living environment. Through multiple phases of redevelopment, the amended development plan allows for a substantial increase in capacity of overall units and redevelopment of the vacant parcel (Parcel 3) located at the intersection of Santo Domingo Avenue and Huntington Drive. The development plan also provides for a corresponding increase in square footage and areas devoted to administrative and on-site resident amenities, accompanied by improved vehicular and pedestrian access.

In Chapter 3, allowable uses, intensity and density of development, and specific development and design standards are defined for four land use categories within the Specific Plan area. Although the land use program could be implemented several ways at the site design level, certain elements and principles are required. The components of Chapter 3 include both required elements and encouraged conditions that accommodate a range of interpretive design solutions.

Redevelopment will yield several new buildings with associated parking areas. Resident amenities may be located within residential buildings or in stand-alone buildings throughout the campus, and will include spaces for dining, activities, health and wellness, education, social, recreational, and other senior-centric functions. Within Parcel 3, a variety of residential and nonresidential uses are allowed.

2.4 Phasing

This Specific Plan does not define any specific project phasing for redevelopment. Redevelopment is anticipated to occur gradually in multiple phases, with build-out assumed to be achieved by 2045. Thus, the plan area will gradually transition over time from existing development to the expanded facility envisioned. Each new phase of development will be provided with pedestrian circulation improvements and adequate parking per the ratios required by this Specific Plan. Regardless of the order of development, all phases will be subject to the overarching objectives of this Plan.

HumanGood is the applicant for the Westminster Gardens Specific Plan Amendment and the owner and operator of Westminster Gardens. It is the City's expectation that HumanGood will engage with Westminster Gardens residents throughout every development phase to ensure their voices are heard, they are informed of project impacts, and they have clear processes for discussing concerns.

All development phases will be subject to the terms of a Development Agreement approved by the City of Duarte, which is intended to include, but not be limited to: the number of residential units, assisted living beds, and/or square footage of buildings within the Westminster Gardens Specific Plan area, the creation of affordable housing linked to specific milestones, and on-site infrastructure and circulation improvements tied to each phase of development. More information on phasing is included in Chapter 5: Administration and Implementation.

This Plan provides flexibility to allow for the project site to develop over time with a focus on compatibility of uses, buildings, landscaping, and related improvements. Accordingly, during each phase of development, the following development objectives will be adhered to:

- Linkages and Open Space: Pedestrian connections and linkages that align and enhance connections to open space pockets and logical, functional walking paths.
- Context: Respect for surrounding neighborhoods and historic elements of the Westminster Gardens LPC campus.
- Streetscape Frontages: Safe, functional, and attractive streetscape frontages designed and built to engage with the street, especially along Huntington Drive.
- Design and Visibility: High-quality design, architectural interest in the built environment, construction material variety, and appropriate signage in campus redevelopment to create an impressionable experience.
- Adaptive and Creative Reuse: Adaptive reuse and remodeling of existing unique buildings within the Westminster Gardens LPC, with context for any historic resource or buffering.





3

Development Standards and Design Guidelines

Development standards and design guidelines implement the vision for a reimagined Westminster Gardens campus—one that will meet current and future needs of senior residents, provide new affordable senior housing options, and support development of the vacant northwestern parcel.

This chapter describes the type, location, and intensity of land uses allowed within the Specific Plan area. Allowed uses are regulated within four districts to support campus redevelopment. Development standards applicable to edge conditions, uses, and districts will shape building form. Architectural guidelines embrace local history while providing options for complementary development in the future. Combined, these standards and guidelines provide a tailored approach that reinforces the project vision while allowing for creativity and flexibility.

These regulations govern new construction, as well as alterations, additions, and changes of use within the Westminster Gardens Specific Plan area.

3.1 Applicability

Upon adoption by Ordinance, this Specific Plan will constitute the zoning for the Westminster Gardens Specific Plan area. Subsequent development plans or agreements, tract or parcel maps, site plans, or any other action requiring ministerial or discretionary approval must be consistent with the regulations contained in this chapter, and any applicable regulations of the Duarte Development Code (DDC). Where a provision contained in this chapter does not address a specific condition or situation that arises, the provisions set forth in the DDC will apply.

3.2 Land Use Districts

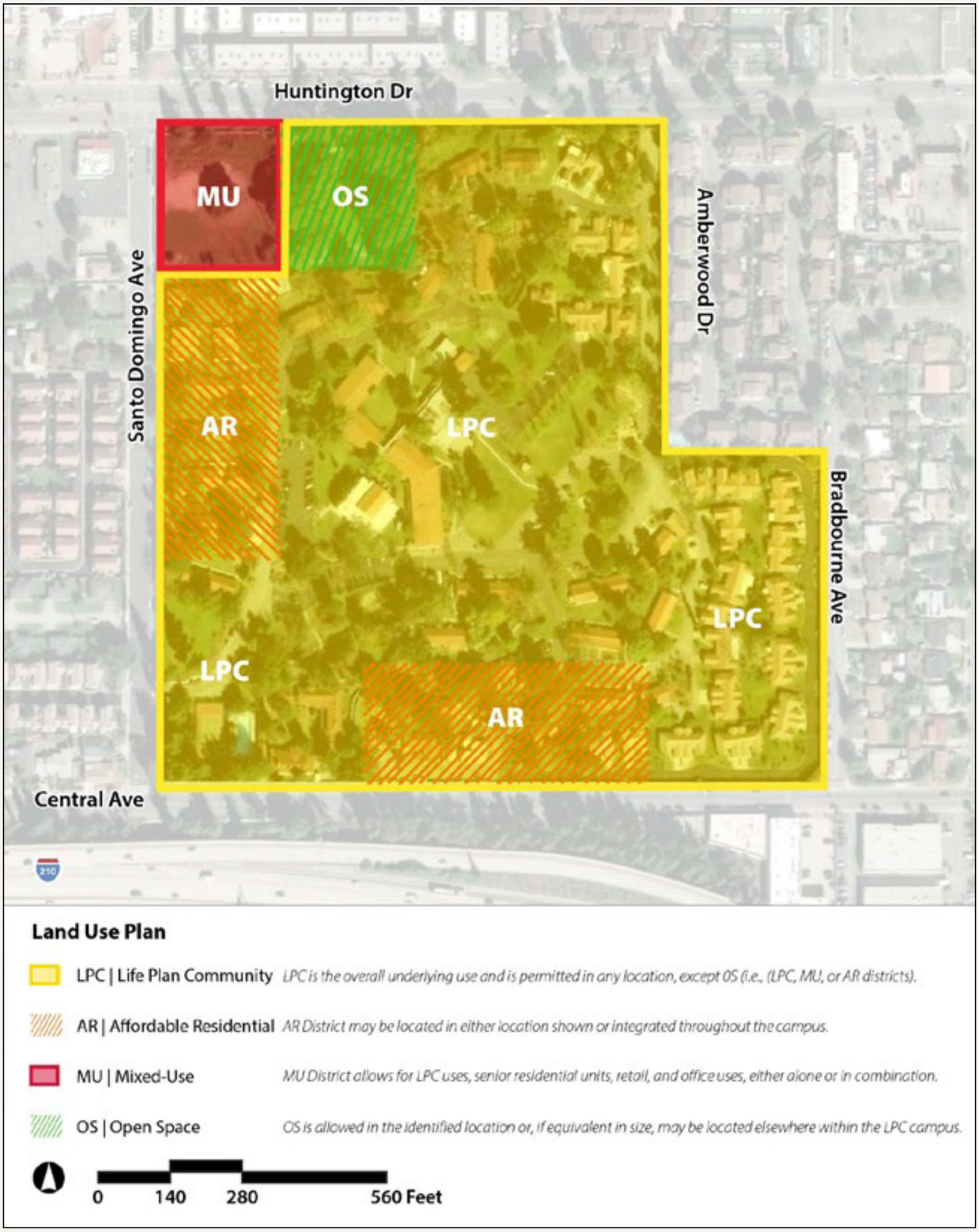
To identify specific areas for certain allowed uses and development standards, the Specific Plan establishes four land use districts (see **Exhibit 3-1: Westminster Gardens Land Use Plan)**.

- **LPC: Life Plan Community** – LPC is the underlying district for the entire Specific Plan area, except for the northwestern corner, which is designated as the Mixed-Use district. LPC uses include independent living, assisted living, skilled nursing, memory support, and related office uses, along with a variety of common facilities that provide amenities and supportive services for residents.
- **AR: Affordable Residential** – The AR district is intended to support development of affordable housing for seniors. While affordable senior independent and assisted living may occur throughout the campus, buildings in the AR district are intended to be entirely or a majority affordable units. The AR district may be applied either to the Santo Domingo Avenue or Central Avenue frontage, as identified in Exhibit 3-1 (Westminster Gardens Land Use Plan), providing flexibility in the location of affordable independent living units. Alternatively, or in conjunction with building-specific affordable senior housing, affordable senior independent living units may be integrated throughout the LPC campus rather than in a specific AR district.
- **MU: Mixed-Use –** The MU district, in the northwest area of the Specific Plan area, allows for LPC uses, independent senior living, and a variety of retail and office uses that serve daily needs of city residents.
- **OS: Open Space –** The OS district is designed to preserve and improve existing open spaces on the Westminster Gardens LPC campus. Alternatively, open space areas may be relocated in conjunction with redevelopment activity elsewhere within the campus, provided open space of equal or greater area and amenities are provided.

3.2.1 LAND USE DEFINITIONS

Land uses are defined in Appendix C (Glossary).

Exhibit 3-1: WESTMINSTER GARDENS LAND USE PLAN



3.2.2 ALLOWABLE USES BY DISTRICT

Uses expressly permitted within each district are identified in **Table 3-1 :Allowable Uses and Permit Type.** "P" indicates that the land use is permitted by right; "A" indicates that the land use is only allowed as an accessory use; "MUP" indicates that the land use is permitted upon issuance of a minor use permit; "CUP" indicates that the land use is permitted upon issuance of a conditional use permit; and a hyphen ("-") indicates that the us e is prohibited.

Uses listed as permitted or subject to an MUP or CUP are also subject to site plan/design review. Any land use not specifically identified in Table 3-1 is subject to the provisions of DDC Section 19.04.040 (Uses not classified).

TABLE 3-1: ALLOWABLE USES AND PERMIT TYPE

Land Use	Primary Land Use District				Notes and Specific Use Regulations
	LPC	AR	MU	OS	
RESIDENTIAL					
Assisted Living/Memory Care Unit(s)	P	A	-	-	
Continuing Care Retirement Community	P	A	P	-	
Senior Independent Living Unit(s) – Affordable	P	P	P	-	See Section 3.2.4 (Affordable Housing Requirement).
Senior Independent Living Unit(s) – Market Rate	P	A	P	-	
NON-RESIDENTIAL					
Life-Planned Community Nonresidential Uses					
LPC Administration Facilities	P	-	P	-	
LPC Resident Common Facilities	P	A	A	P	In OS, outdoor only. CUP required for onsite alcohol served at common facilities.
Eating and Drinking Establishments					
Alcohol Production with On Site Tasting (Winery/Brewery)	-	-	CUP	-	

TABLE 3-1: ALLOWABLE USES AND PERMIT TYPE					
Land Use	**Primary Land Use District**				**Notes and Specific Use Regulations**
	LPC	**AR**	**MU**	**OS**	
NON-RESIDENTIAL (CONTINUED)					
Bar, Lounges, Nightclubs, and Taverns	-	-	CUP	-	
Outdoor Dining	-	-	MUP	-	Refer to DDC Section 19.60.120.
Restaurant, Sit-down (without onsite alcohol)	-	-	P	-	Limited to building ground floor level.
Restaurant, Sit-down (with onsite alcohol)	-	-	MUP	-	Limited to building ground floor level.
Take-out Service	-	-	P	-	Limited to building ground floor level. No drive up/ through services allowed.
Education, Recreation, and Public Assembly					
Assembly/Meeting Facilities - Public or Private	A	-	CUP	-	
Cultural Institutions	-	-	P	-	
Health/Fitness Facilities Small - 2,000 Sq. ft. or less	A	-	P	-	
Health/Fitness Facilities Large - 2001 sq. ft. or greater	A	-	MUP	-	
Places of Religious Assembly	A	-	CUP	-	
Medical-Related and Social Services					
Adult Day Health Care	MUP	-	MUP	-	
Emergency Health Facility	A	-	CUP	-	
Medical-Related and Social Services (Continued)					

TABLE 3-1: ALLOWABLE USES AND PERMIT TYPE					
Land Use	**Primary Land Use District**				**Notes and Specific Use Regulations**
	LPC	**AR**	**MU**	**OS**	
Office - Medical and Dental	MUP	-	P	-	
Pharmacy	P	-	P	-	No drive up/through services allowed.
Residential Care Facility - Small and Large	P	-	A	-	
Skilled Nursing Facility	P	-	MUP		
Urgent Care Facility	MUP	-	CUP	-	
Mixed Use					
Mixed Use	A	-	P	-	
Retail					
Alcohol Sales (off-sale)	-	-	A	-	Refer to DDC Section 19.60.030. Off-sale of alcoholic beverages restricted to beer or wine only. Off-sale liquor is prohibited
Convenience Store					
Retail Store					
Alcohol Sales (off-sale)	-	-	A	-	Refer to DDC Section 19.60.030. Off-sale of alcoholic beverages restricted to beer or wine only. Off-sale liquor is prohibility.
Convenience Store	-	-	P	-	

TABLE 3-1: ALLOWABLE USES AND PERMIT TYPE					
Land Use	**Primary Land Use District**				**Notes and Specific Use Regulations**
	LPC	**AR**	**MU**	**OS**	
Retail Store	-	-	P	-	Limited to building ground floor level and no more than 15,000 square feet.
Office Uses					
Office - Administrative Business Professional, Corporate	P	P	P	-	
Service Uses					
Animal Grooming	-	-	MUP	-	Limited to building ground floor level.
Catering Services	-	-	MUP	-	
Financial Institutions and Related Services	-	-	P	-	
Personal Services Business - General	-	-	P	-	Limited to building ground floor level.
Personal Services Business - Restricted	-	-	CUP	-	
Postal Services	-	-	P	-	Limited to building ground floor level.
Printing and Duplicating Services	-	-	P	-	
Studio - Art, Dance, Martial Arts, Music	-	-	P	-	Limited to 2,000 square feet; greater than 2,000 square feet requires MUP approval.

3.2.3 TEMPORARY USES

On occasion, areas within the Westminster Gardens campus may be used for an event, activity, or use on a short-term basis. Such uses are considered temporary uses and are subject to the provisions of DDC Chapter 19.124 (Temporary Use Permits). Special events involving only staff, residents, and/or family members do not require a Special Event permit, while all events involving the public are as determined applicable by the Community Development Director.

3.2.4 AFFORDABLE HOUSING REQUIREMENT

3.2.4.A General Affordable Housing Requirements

As part of campus expansion, the applicant/property owner must enter into an affordable housing agreement with the City to develop a total of 150 units of affordable housing. Of these 150 units, a maximum of 75 units must be for moderate-income residents (earning up to 120 percent of the Los Angeles County average median income) and 75 units must be for low-income residents (earning up to 80 percent of the Los Angeles County average median income). The applicant/property owner will be required to enter into an affordable housing agreement with the City to guarantee affordability for a minimum of 55 years.

3.2.4.B Mixed-Use District Affordable Housing Requirement

A minimum of 20 percent of units within the Mixed-Use district must be reserved for moderate income residents.

3.2.4.C Life Plan Community District

Other than those units required by Section 3.2.4.B (Mixed-Use District Affordable Housing Requirement), affordable housing units may be provided within the existing life plan community, subject to the affordable housing agreement with the City.

3.2.4.D Affordable Residential District

The Affordable Housing overlay land use district may contain buildings that are 100 percent affordable or a mix of affordable and market-rate units. The applicant/property owner must provide all remaining required units that are not provided in the Mixed-Use district or the Life Plan Community district within the Affordable Residential land use district, except as otherwise allowed by Section 3.2.4.E (Off-Site Options).

3.2.4.E Off-Site Options

The applicant/property owner may, as a part of the affordable housing agreement with the City, provide some (or all) of the required affordable units (other than those required by Section 3.2.4.B [Mixed-Use District Affordable Housing]) off site.

3.3 General Development Standards

To create a vibrant, thriving, and special community, the development standards of this Specific Plan are largely "form based," with regulations that focus primarily on the physical form of development. By addressing relationships between building façades and the public realm, the form and mass of buildings in relation to one another, and the experience of the pedestrian at the ground floor through an integrated package of requirements for public realm and building design, the standards and guidelines will create a predictable and pleasant character for the Specific Plan area. Additional flexibility is available through the Substantial Conformance and Minor Modifications process outlined in Section 5.1.8.A.

3.3.1 DENSITY, INTENSITY, AND HEIGHT

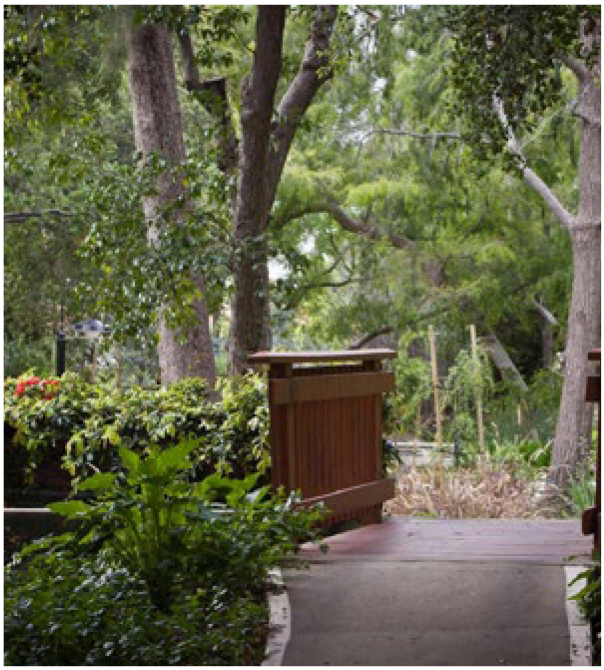
3.3.1.A Density and Intensity

As indicated in **Table 3-2: General Development Standards**, the Westminster Gardens Specific Plan allows for a mix of detached and attached senior residential development up to a maximum of 21 dwelling units per acre. This maximum is calculated in aggregate over the entire Specific Plan area. Density of individual buildings may exceed 21 dwelling units per acre, balanced with open space and lower density development throughout the site. **The total capacity of the Specific Plan area, equivalent to 21 dwelling units per acre, will not be exceeded.**

TABLE 3-2: GENERAL DEVELOPMENT STANDARDS

Development Feature	Primary Land Use District				Notes and Specific Use Regulations
	LPC	AR	MU	OS	
Density, Intensity and Height					
Residential Density – Maximum	Maximum 21 du/ac Minimum 7 du/ac			-	Density limit (not including any affordable housing using State-authorized density bonuses).
Nonresidential Floor Area Ratio (FAR) - Maximum	-	-	0.5	-	
Building Height - Mazimum	65 ft	65 ft	75 ft	15 ft	Additional height may be granted with a CUP subject to the DDC

Note: A hyphen "-" indicates that the standard does not apply.



3.3.1.B Height

Building height for each district is defined in Table 3-2 (General Development Standards). Building heights are designed to take into consideration the proposed intensity, type of development, and surrounding context. Height will be measured consistent with DDC Section 19.32.040 (Height measurement and exceptions). Uninhabited penthouses or roof structures for the housing of elevators, stairways, tanks, ventilating fans or similar equipment required to operate and maintain the building or architectural roof screening are allowed to exceed the maximum building height limit by a maximum of 10 feet. Architectural features that extend above the primary building mass, such as dormers, roof-top cupolas, roof deck trellises, and other special features, are allowed to exceed height limits by a maximum of 10 feet.

Building heights must also comply with applicable Fire Agency limitations and construction requirements relating to roadway widths.

3.3.2 BUILDING SETBACKS AND FRONTAGE REQUIREMENTS

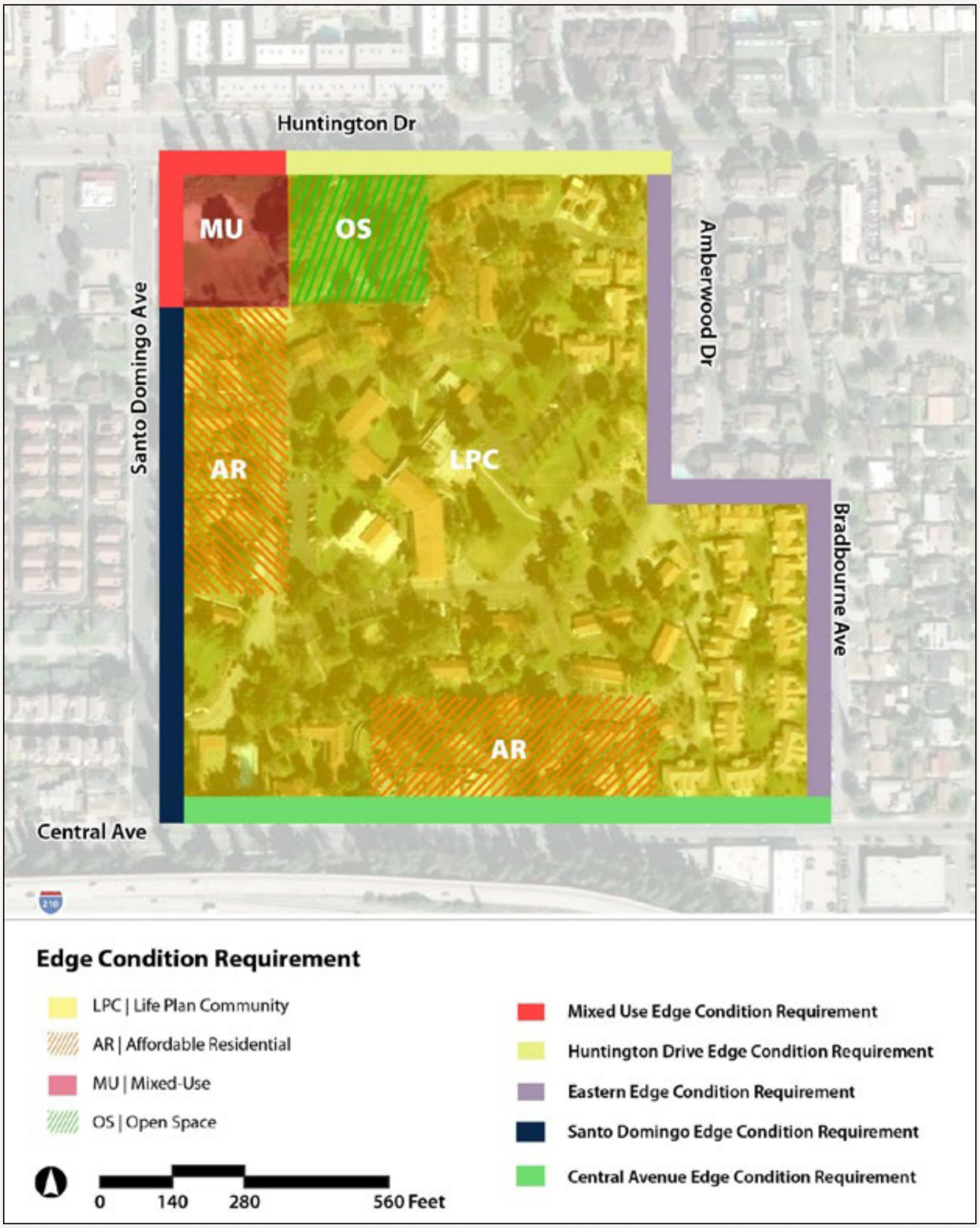
3.3.2.A Building Setbacks from the Property Line

Required building setbacks from the property line are designed to take into consideration the intensity of proposed land uses, proposed building mass and scale, and the surrounding context and edge conditions. As illustrated in **Exhibit 3-2: Edge Condition Requirements**, varying conditions along the perimeter edges require unique treatment. Standards for each perimeter edge are provided in Tables 3-3 through 3-8.

Minimum required setbacks are measured from the property line. Balconies, porches, and stoops may project up to five feet into the required minimum setback. Architectural elements such as chimneys, bay windows, etc. may project two feet into the required minimum setback.

Additional building design and site planning requirements are included in Section 3.4 (Design Standards and Guidelines).

Exhibit 3-2: EDGE CONDITION REGULATIONS



3.3.2.A Mixed-Use District Edge Condition Regulations

The Mixed-Use district, located at the corner of Santo Domingo Avenue and Huntington Drive, represents the transition between Duarte's Town Center Specific Plan and the Westminster Gardens LPC with significant visibility from Huntington Drive. To provide the ultimate flexibility while recognizing this important context, this Specific Plan allows for two different design concepts in the Mixed-Use district: 1) uses that continue the Town Center's vision in the form of mixed-use and pedestrian oriented development; and 2) a residentially oriented development, more closely associated with the Westminster Gardens LPC.



3.3.2.A.1: Stand-Alone Residential Development in the Mixed-Use District

Table 3-3: Mixed Use District Edge Condition Requirements: Stand-Alone Residential provides standards for stand-alone residential uses within the Mixed-Use district. Such residential uses may be incorporated into the larger LPC campus, or developed as a stand-alone senior housing or LPC development.



TABLE 3-3: MIXED-USE DISTRICT EDGE CONDITION REQUIREMENTS: STAND-ALONE RESIDENTIAL	
Development Regulation	**Standard**
1. Minimum Setback	Buildings must be set back: a. Minimum 30 feet from Huntington Drive property line b. Minimum 30 feet from Santo Domingo Avenue property line
2. Setback Design	The setback area must incorporate one of the following options: a. An open space plaza consistent with the following: • Fully visible from and publicly accessible from Huntington Drive; • Minimum dimension of 25 feet and minimum area of 1,000 contiguous square feet; • At least one direct pedestrian access between the public sidewalk and the plaza; and • Contain trees, landscaping, and pedestrian-scaled lighting. b. A monument sign consistent with Section 3.4.2.A (LPC Signs). In this case, a perimeter fence is allowed to be located within the setback.
3. Parking Location	Surface parking must be screened from view of Huntington Drive and Santo Domingo Avenue with buildings, decorative fencing/walls, and/or landscaping at least 4 feet in height.
4. Building Orientation	Unless surrounded by a perimeter fence, structures, including building entrances, must orient toward Huntington Drive and/or Santo Domingo Avenue, framing and facing the public realm.
5. Pedestrian Access	Unless surrounded by a perimeter fence, at least one direct pedestrian access must be provided between the public sidewalk and the primary buildign entry. The access may be on either Huntington Drive or Santo Domingo and must comply with Section 3.4.1.F (Building Entries).

TABLE 3-3: MIXED-USE DISTRICT EDGE CONDITION REQUIREMENTS: STAND-ALONE RESIDENTIAL	
Development Regulation	**Standard**
6. Corner Treatment	Unless surrounded by a perimeter fence, buildings located within 45 feet of the intersection of Huntington Drive and Santo Domingo must incorporate at least one of the following options: a. Windows and openings constituting a minimum of 20 percent more than transparency required by Section 3.4.1.D (Windows) b. A three-dimensional tower element extending between three and six feet in height above or below the height of the abutting adjacent façade c. Public art, installed within 45 feet of the intersection of Huntington Drive and Santo Domingo, that exceeds required public art fee[1]

3.3.2.A.2: Commercial and Mixed-Use Development in the Mixed-Use District

Mixed-use building concepts and fully commercial buildings are also allowed in the Mixed-Use district. **Table 3-4: Mixed-Use District Edge Condition Requirements: Commercial and Mixed Use** provides standards that apply to a commercial ground-floor, a mixed-use concept, or a stand-alone nonresidential concept.

TABLE 3-4: MIXED-USE DISTRICT EDGE CONDITION REQUIREMENTS: COMMERCIAL AND MIXED USE	
Development Regulation	**Standard**
1. Minimum Setback	Buildings must be set back: a. Minimum 10 feet from Huntington Drive b. Minimum 10 feet from Santo Domingo Avenue
2. Parking Location	Surface parking must be located behind buildings, screened from view of Huntington Drive. Parking structures must comply with minimum setback requirements.
3. Residential Uses Location	Residential uses are not permitted on the first floor within the first 30 feet of depth from any street-facing property line. Commercial uses located in this area must be open to the public (access cannot be limited to residents of the LPC).

1. Note: All development projects valued over $1,000,000 are subject to a public art fee equal to one quarter of one percent (0.25%) of the total building valuation.

TABLE 3-4: MIXED-USE DISTRICT EDGE CONDITION REQUIREMENTS: COMMERCIAL AND MIXED USE	
Development Regulation	**Standard**
4. Building Orientation	Structures, including primary entrances, must orient toward Huntington Drive, framing and facing the public realm. The façades facing Santo Domingo Avenue and Huntington Drive will not have service entrances or other features detrimental to an active pedestrian experience. Secondary building entry(ies) may be oriented towards Santo Domingo Avenue or parking lots.
5. Pedestrian Access	At least one direct pedestrian access must be provided between the public sidewalk and the primary building entry. The access must orient towards Huntington Drive and comply with Section 3.4.1.F (Building Entries).
6. Minimum Building Height	Buildings located within 45 feet of the intersection of Huntington Drive and Santo Domingo must be at least 3 stories in height.
7. Corner Treatment	Buildings located within 45 feet of the intersection of Huntington Drive and Santo Domingo must incorporate at least two of the following options: a. Open space with a minimum dimension of 20 feet and minimum area of 500 square feet to include one of the following: • A publicly accessible oepn space/plaza and/or • Space(s) used for outdoor seating for public dining b. Windows and openings constituting a minimum of 20 percent more than transparency required by Section 3.4.1.D (Windows) c. A three-dimensional tower element extending between three and six feet in height above the top of the adjacent building façades or a change in height of at least four feet above or below the height of the abutting adjacent façade d. Public art, installed within 45 feet of the intersection of Huntington Drive and Santo Domingo, that exceeds required public art fee[2]
8. First Floor Elevation	So that first-floor elevations contribute to the pedestrian experience at the public right-of-way interface, the first habitable floor must be located no more than two feet above or below the existing grade along the Huntington Drive property line if located 15 feet or less from Huntington Drive.
9. First Floor Ceiling Height	The minimum interior floor-to-ceiling height of nonresidential ground floor spaces must be at least 14 feet, measured from the top of the finished floor to the bottom of the ceiling joists.

Exhibit 3-3: Residential Development Illustrative



The above rendering is an artist's illustration depicting one of the architectural styles appropriate for this community.



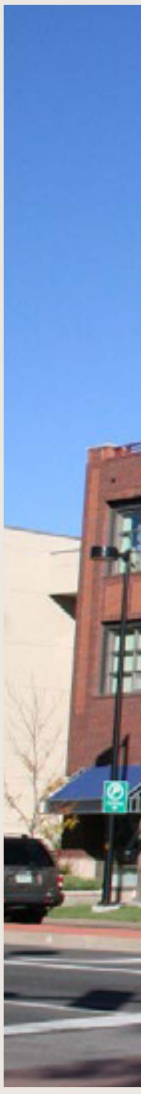
DESIGN ELEMENTS

1. Low-pitched barrel tiled roof
2. White body color with earth tone accents
3. Windows accentuated by darker panels
4. Arches highlight the corner entry and are rythmically repeated on each facade
5. Enhanced Landscape at corner creates a welcoming plaza space

human good BEACON DEVELOPMENT GROUP DAHLIN

Exhibit 3-4: Examples of Mixed-Use Concept Design







3.3.2.B: Huntington Drive Edge Condition Requirements (Outside Mixed-Use District)

The LPC property is most visible from the Huntington Drive corridor. Historically, Westminster Garden's mature trees and open space area have defined the view of the campus for Duarte residents and commuters along Huntington Drive. The open perimeter fencing along the open space area allows for visibility into the campus for approximately 250 feet. The rest of the campus is defined, from the exterior, by perimeter fencing, which is heavily landscaped along Huntington Drive. This Specific Plan allows for a variety of LPC uses to be located within the Huntington Drive Edge Condition area, including residential uses, open spaces, and various common amenities. It is anticipated (but not required) that buildings within this area will be oriented internally toward the campus. **Table 3-5: Huntington Drive Edge Condition Requirements** provides minimum standards for development within the Huntington Drive Edge Condition area.

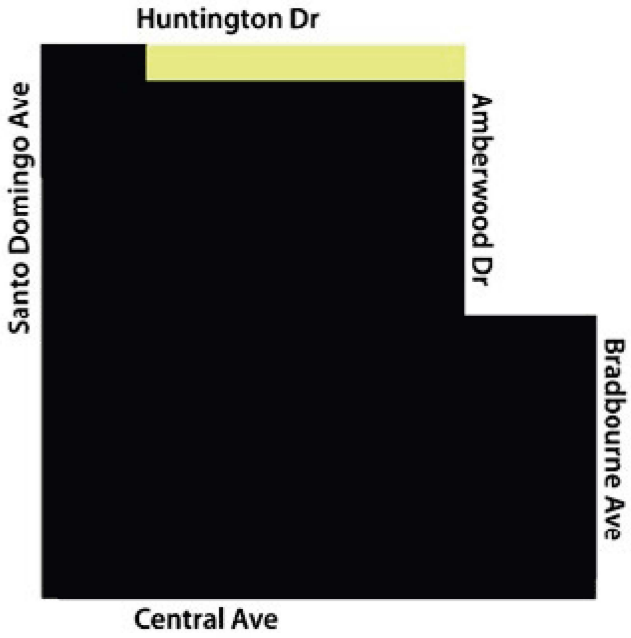


TABLE 3-5: HUNTINGTON DRIVE EDGE CONDITION REQUIREMENTS

Development Regulation	Residential or Assisted Living/Memory Care Use	LPC administration, LPC Resident Common Facilities, and Accessory Uses	Open Space
1. Minimum Setback (1-2 stories)	20 ft	15 ft	N/A
2. Parking Location	Surface parking is allowed within setback areas; however, parking must be screened from view of Huntington Drive with buildings, decorative fencing/ walls, and/or landscaping at least 4 feet in height. Parking structures must comply with minimum setback requirements.		No parking is allowed within the Open Space district.
3. Building Orientation	Structures and building entries may orient toward Huntington Drive or internally toward the LPC campus.		

3.3.2.C: Eastern Edge Condition Requirements

The eastern edge of the LPC campus is bordered by single-family residential uses along Amberwood Drive and Bradbourne Avenue. Amberwood Drive uses are directly adjacent to the campus, while those on Bradbourne Avenue are across the street. This portion of the campus is internally focused, without vehicle access from the public right-of-way. **Table 3-6: Eastern Edge Condition Requirements** describe minimum setback, parking location, and building location requirements.



TABLE 3-6: EASTERN EDGE CONDITION REQUIREMENTS

Development Regulation	LPC Residential or Assisted Living/Memory Care Use	LPC Administration, LPC Resident Common Facilities, and Accessory Uses
1. Minimum Setback (1-2 stories)	20 ft	15 ft
2. Minimum Setback (more than 3 stories)[1]	40 ft	40 ft
3. Parking Location	Surface parking is allowed within setback areas along the eastern edge; however, parking must be screened from view with buildings, decorative fencing/walls, and/or landscaping at least 4 feet in height. Parking structures must comply with minimum setback requirements.	
4. Building Orientation	Structures and building entries may orient in any direction.	

3.3.2.D: Central Avenue Edge Condition Requirements

The I-210 freeway represents the edge condition for this area of the Specific Plan, with Central Avenue separating the Specific Plan area from the freeway. Minimal foot traffic occurs along Central Avenue, and graffiti deterrence is a priority along perimeter walls. **Table 3-7: Central Avenue Edge Condition Requirements** describe minimum setback, parking location, and building location requirements.



TABLE 3-7: CENTRAL AVENUE EDGE CONDITION REQUIREMENTS

Development Regulation	LPC Residential or Assisted Living/ Memory Care Use	LPC Administration, LPC Resident Common Facilities, and Accessory Uses	Affordable Residential
1. Minimum Setback (1-2 stories)	10 ft	10 ft	10 ft
2. Parking Location	Surface parking is allowed within setback areas; however, parking must be screened from view of the street with buildings, decorative fencing/walls, and/ or landscaping at least 4 feet in height. Parking structures must comply with minimum setback requirements.		
3. Building Orientation	Structures and building entries may orient toward Central Avenue or internally toward the LPC campus.		All structures and the primary building entry will orient toward Central Avenue, framing and facing the public realm. At least one direct pedestrian access will be provided between the public sidewalk and the primary building entry.

3.3.2.E.: Santo Domingo Avenue Edge Condition Requirements

The entry to Westminster Gardens LPC campus is via Santo Domingo Avenue. Westerly neighbors include gated and non-gated single-family houses. **Table 3-8: Santo Domingo Avenue Edge Condition Requirements** describe minimum setback, parking location, and building location requirements.



TABLE 3-8: SANTO DOMINGO AVENUE EDGE CONDITION REQUIREMENTS

Development Regulation	LPC Residential or Assisted Living/ Memory Care Use	LPC Administration, LPC Resident Common Facilities, and Accessory Uses	Affordable Residential
1. Minimum Setback (1-2 stories)	20 ft	20 ft	20 ft
2. Parking Location	Surface parking is allowed within setback areas; however, parking must be screened from view from Santo Domingo Avenue with decorative fencing/walls and/or landscaping at least 4 feet in height. Parking structures must comply with minimum setback requirements.		Parking must be located behind buildings or fences, screened from view of Santo Domingo Avenue. Parking structures must comply with minimum setback requirements.
3. Building Orientation	Structures and building entries may orient toward Santo Domingo Avenue or internally toward the LPC campus.		All structures and the primary building entry will orient toward Santo Domingo Avenue, framing and facing the public realm. At least one direct pedestrian access will be provided between the public sidewalk and the primary building entry.

3.3.2.F Building Setbacks from Private Streets

Buildings must be set back a minimum of 10 feet from all private, internal campus circulation streets and drive lanes. Minimum required setbacks are measured from the back of sidewalk; if no sidewalk exists, minimum setback is from back of curb. Balconies, porches, and stoops may not project into the required minimum setback from private streets. Architectural elements such as chimneys, bay windows, etc. may project two feet into the required minimum setback from private streets.

3.3.3 BUILDING SEPARATION

Buildings within the Westminster Gardens campus will largely be oriented around private streets, walkways, and open spaces. Setbacks from private streets must comply with Section 3.3.2B and the California Building Code and Fire Department requirements. Building Separation standards **Table 3-9: Building Seperation Standards** apply to all buildings within the LPC campus.

TABLE 3-9: BUILDING SEPARATION STANDARDS

Minimum Building to Building Separation		Notes and Specific Use Regulations
Front to Front	25 ft	May be reduced to 15 ft if both buildings are 2 stories or less.
Front to Side	15 ft	
Side to Side	10 ft	
Side to Rear	10 ft	
Rear to Rear	10 ft	
Note: Single-story accessory structures, maintenance sheds, and similar structures may be located closer than the above standards but must remain compliant with Building Code. Additional separation requirements may be required from a historic resource.		

3.3.4 FENCES AND WALLS

When thoughtfully designed, walls and fences become integral parts of the overall site design, enhancing the aesthetic from the public realm rather than acting simply as a separate, functional barrier. Within the Specific Plan area, fences and walls will be used as an extension of the architecture and character of surrounding buildings. As part of the required Master Plan of Development, a wall and fencing plan must be prepared and approved by the City, consistent with Section 5.2.3.A.2 (Submittal Requirements).

3.3.4.A. Fence and Wall Height

Perimeter fences and walls (located adjacent to public streets and exterior property lines) must not exceed six feet in height. Perimeter fences and walls up to eight feet may be granted by the Community Development Director as part of the review process (see Section 5.1.8.A: Substantial Conformance and Minor Modifications).

Fences internal to the LPC intended to separate individual units may be up to six feet in height.

3.3.4.B. Fence and Wall Design

Perimeter fencing and walls may either be at least 50 percent transparent or, if using solid construction (e.g., concrete or cinder block), must be accompanied with adequate plant vegetation to fully cover the block wall at landscape maturity to deter graffiti. A planting area of appropriate size and shape must be provided from which vines, shrubs, and ground cover can be planted and nurtured to cover the wall. Alternatively, where adequate planting area is not available or feasible, non-sacrificial anti-graffiti coating may be allowed by the Community Development Director as part of the review process (see Section 5.1.8.A: Substantial Conformance and Minor Modifications).

Materials, finishes, and colors for perimeter fences and walls should be integrated with and complementary to the materials and design of the primary buildings. Fencing of the Open Space district, if located adjacent to Huntington Drive, must be at least 50 percent transparent, unless otherwise approved by the Master Plan of Development.

3.3.4.C. Fence and Wall Maintenance

Fences and walls must be maintained in good condition by the property owner, and any graffiti must be removed within five days. Adjacent planters and parkways must be maintained to the highest standards including timely trash removal.

3.3.5 OPEN SPACE

The open spaces and campus-like features are key to the Westminster Gardens Campus identity. To retain this look, open space must be provided for each new independent living unit (not including skilled nursing or memory care), as indicated in **Table 3-10: Open Space Standards**. Open space is also required for new residential uses located outside the LPC, consistent with Table 3-10.

TABLE 3-10: OPEN SPACE STANDARDS

Open Space Requirement	Primary Land Use District					Notes and Specific Use Regulations
	LPC	AR	MU: Stand Alone Residential	MU: Residential in Mixed Use	OS	
Minimum Private Open Space Per Residential Unit	100 sf	50 sf	100 sf	125 sf	-	5 ft minimum dimension in depth or width
Minimum Common Open Space Per Residential Unit	250 sf	-	250 sf	-	-	15 ft minimum dimension in depth or width

Minimum private open space requirements may alternatively be met through common and/or public open spaces, upon approval of a determination of Substantial Conformance and Minor Modification (Section 5.1.8.A). Common open space for residential units within the LPC may be met within the Open Space district, the gardens and recreation areas surrounding Morrison House, and new plazas, courtyards, or other similar campus open space areas. Open space provision is required concurrent with proposed residential development for each phase of development.

All required open space must be usable. Usable open space will be improved to support residents' passive and/or active use. The computation of such open space will include no obstructions other than devices and structures designed to enhance its usability, such as swimming pools, changing facilities, fountains, planters, benches, fitness equipment, and landscaping.

3.3.6 PARKING

3.3.6.A. Parking Standards

Unless otherwise specified in this section, uses within the Westminster Gardens Specific Plan area must comply with the off-street parking regulations of Chapter 19.38 of the Duarte Development Code, including parking space and drive aisle dimensions, lot design, landscaping, etc.

The parking regulations outlined in Table **3-11: Parking Regulations** are designed to allow flexibility for uses appropriate to an LPC environment. The scale of the project and mix of uses create opportunities for shared parking by multiple venues within individual land use districts. Due to the large campus and shared parking resources, total required parking may be calculated by land use district, rather than for individual buildings/uses. However, new development will be required to meet the standards of this section during each phase of development, including proximity of parking for certain uses.

In addition, based on the specific needs of the senior community, automobile dependence may be reduced through shared parking, shuttle services, and other community wide parking strategies. Appropriate Transportation Demand Management Strategies (TDM), such as shared parking, car share, community shuttles, transit passes, and bike parking may be utilized to reduce vehicular use.

See also Section 3.4.3 for parking area design guidelines.

TABLE 3-11: PARKING REGULATIONS

Use	Minimum Spaces Required
Assisted Living	0.4 spaces per bed
Memory Care	0.4 spaces per bed
Independent Living Unit in building with 5+ units	0.6 spaces per unit
Independent Living Unit in building with <5 units	
Studio and 1-bedroom units	1 space per unit, located adjacent to the unit
2-bedroom+ units	2 spaces per unit, with 1 located adjacent to the unit[1]
Nonresidential Uses	Per the DDC in the MU district[2]

1. Tandem parking is allowed for 2-bedroom+ units.

2. DDC parking ratios do not apply to nonresidential land uses strictly serving the LPC within the LPC district, including LPC Administration Facilities and LPC Resident Common Facilities. Employee parking is assumed within the ITE parking standard for the residential use.

3.3.6.B. Parking Modifications

3.3.6.B.1: Mixed-Use Parking Reductions

Mixed-use developments may reduce the required parking as follows:

- The first 1,000 square feet of gross commercial floor area in a mixed-use development is exempt from providing off-street parking.
- Guest spaces for residential uses may be fulfilled through required commercial parking (shared).

3.3.6.B.2: Other Parking Reductions

Any other requests for a reduction in minimum parking requirements beyond the mixed-use reduction may be considered by the Community Development Director through a determination of Substantial Conformance and Minor Modification (Section 5.1.8.A). A parking study completed by the City and paid for by the applicant/developer will be required for a Minor Modification.

3.3.6.C. Parking Location

The Circulation Plan promotes smooth traffic flow to and from designated guest and employee parking areas. Parking for independent senior living units will be located adjacent to, or directly accessible from, the unit or building and located within 300 feet of the applicable unit/building. Surface and/or structured parking areas should be located and oriented toward the interior of the site and, wherever feasible, placed behind buildings, to minimize the visibility of surface and structured parking areas from Huntington Drive, Santo Domingo Avenue, and Central Avenue, as indicated in Tables 3-3 through 3-7 (Edge Condition Requirements).

3.3.6.D. Affordable Housing Parking

Affordable housing often requires less parking than market-rate developments, with many residents being non-drivers, especially in senior housing communities. As such, the number of required parking spaces for the affordable residential units within the Specific Plan area may be reduced as determined by the Community Development Director to ensure the economic feasibility of the affordable housing component and/or consistent with any applicable State density bonus concession.

3.3.6.E. Electric Wheelchair/Mobility Scooter Parking

As an active LPC campus, Westminster Gardens provides a variety of community activities and programs for residents located in common facilities. Less mobile residents enjoy easy access to common buildings through electric wheelchairs and mobility scooters. To accommodate this need, adequate scooter parking will be provided in conjunction with all common facility buildings and spaces.



3.4 Design Standards And Guidelines

The overarching design goal is to provide a development framework that embraces the unique setting and character while guiding new buildings to be well designed; support enhanced, viable open spaces; and provide accessible linkages.

While most land area within the Specific Plan will serve the residents of the Westminster Gardens LPC campus, the Mixed-Use and Affordable Residential districts may or may not be integrated within the campus, and as such have different needs. The intent of this section is to provide guidance for design of the four primary land use districts and their related components.

This section includes both mandatory standards ("will" or "must") and interpretive design guidelines ("should"). The word "should" means that an action is required unless a determination is made that the intent of the guideline is satisfied by other means. Design guidelines are intended to guide new construction; adaptive reuse of existing buildings are not subject to these standards but should consider the intent and implement where feasible. There may be more than one way to meet a particular guideline, and exceptions may be granted by the Community Development Director as part of the review process (see Section 5.1.8.A: Substantial Conformance and Minor Modifications).

3.4.1 BUILDING DESIGN

The following standards and guidelines governing facade design, materials, entry design, and lighting apply to all buildings within the Specific Plan area unless otherwise specified.

3.4.1.A 360-Degree Architecture

Building design will incorporate a 360-degree design philosophy, understanding that all components of the built environment should be well designed, not just those visible from public areas. All buildings will be designed with structural and spatial variety by incorporating architectural projections and articulations to reduce long, continuous wall planes, and mixing the use of materials or colors. Significant elements such as materials and detailing used on the building elevation facing the public street will be extended to all elevations.

3.4.1.B Wall Plane Variation

Wall Plane Variation Options

All façades facing the public right-of-way or private streets will include variation that creates façade modulation of at least 25 percent of the façade plane area along the street. To achieve the 25 percent wall plane variation, projects will incorporate a minimum of two design solutions listed below and demonstrated in **Exhibit 3-6: Wall Plane Variation** and **Exhibit 3-7: Wall Plane Variation Calculation**.

- **Plaza or forecourt.** Provide a plaza or forecourt framing the entrance. The minimum dimensions of a plaza or forecourt will be at least 12 feet in depth by 20 percent in length, measured as a percentage of the building façade length.
- **Upper story stepback.** Provide an upper story (top-most or all stories above ground floor) front stepback a minimum of eight feet in depth by at least 15 percent in length of the primary street-facing building façade.
- **Balconies.** Provide balconies for at least 75 percent of the units along the façade, which may be recessed or projected.
- **General Massing Breaks.** Provide a general massing break (recessed or projected) at least every 40 feet with minimum dimensions of one foot in depth by three feet in length by eight feet in height.



Blank Wall Limit

The maximum length of any blank wall visible to adjacent properties or rights-of-way (meaning without a window, opening, or other massing break) will be limited to 20 feet in length, applicable to each story of any development.

EXHIBIT 3-6: WALL PLANE VARIATION

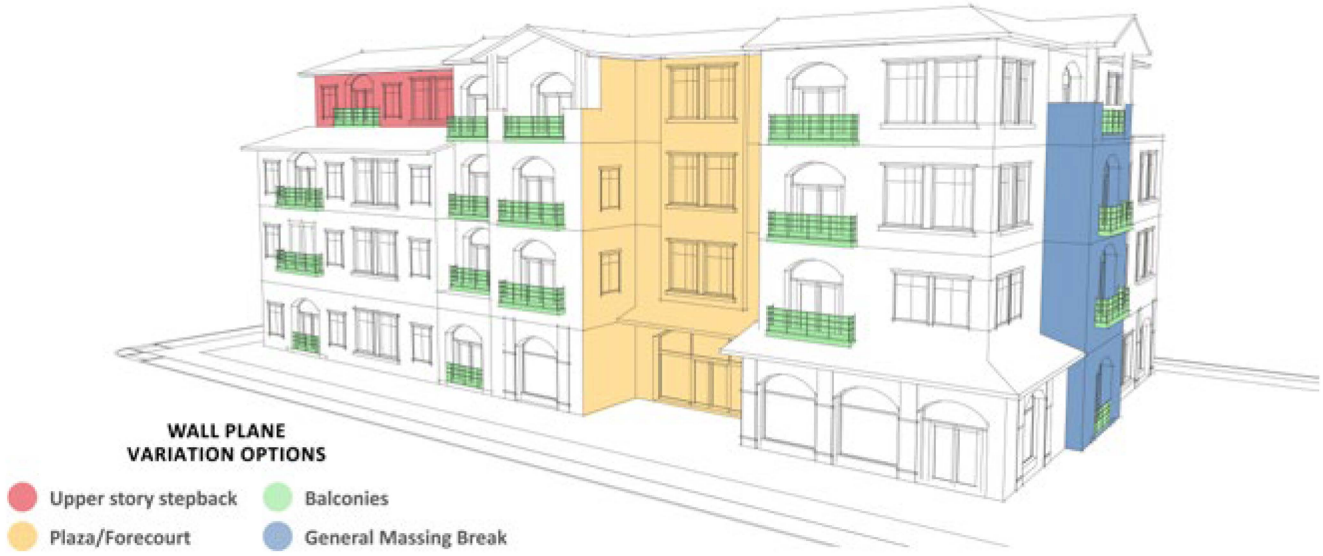
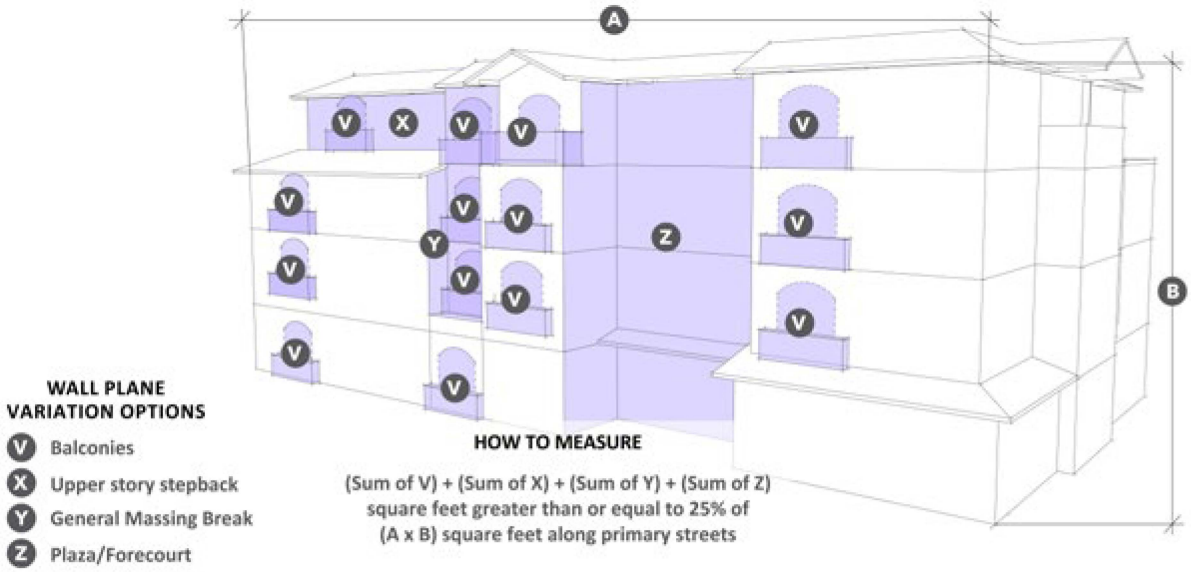


EXHIBIT 3-7: WALL PLAN VARIATION CALCULATION



3.4.1.C Materials and Finishes

Exterior building materials, colors, and high-quality finishes contribute to the visual impact of a building. The following material and finish standards are required:

- Finishes, materials, and fenestration will be used to provide depth and interest to the building façade and will reflect the appropriate architectural style, as described in Section 3.4.5 (Architectural Styles). Such measures may include the use of window trim, lintels, windowsills, molding, cornices, corbeled end beams, rafter tails, etc.
- A combination of at least three different primary building materials and three different primary building colors will be used on each building elevation.
- Changes in materials and colors will be returned to an inside corner or change in wall planes.
- Gutters, downspouts, and rainwater leader heads will be integrated into the roof/wall detailing.
- Exterior downspouts must be colored to match the surface to which they are attached or to complement such surface. Additionally, exterior downspouts should follow a general downward path penetrating through protrusions if needed, avoiding harsh bends and diversions. At the bottom of exterior downspouts, erosion control such as rip raps should be utilized to minimize damage to landscape areas.
- On all elevations, openings will be trimmed and articulated with an appropriate head, sill, and jamb detail. Colors will be used to accentuate trim, windows, and doors.
- Garage door color will be different from the surrounding walls to provide depth and contrast. The color of the door, however, may be the same as the trim surrounding the door.

3.4.1.D Windows

Windows should be appropriate to the building's architectural style and combined and arranged to establish clear and rhythmic patterns as appropriate for the building's architectural style and scale. Specific standards include:

3.4.1.D.1 Transparency: Residential Uses

Windows and openings of residential uses will constitute a minimum of 25 percent of all street-facing and common areas facing building façades. Windows and openings facing Huntington Drive will constitute a minimum of 30 percent of the street-facing building façade.

3.4.1.D.2 Transparency: Nonresidential Uses

- **MU District.** Ground floors with nonresidential uses that have walls facing public streets, private streets, or pedestrian plazas will have windows or openings for at least 50 percent of the ground floor commercial wall area. The ground floor commercial wall area is measured from the ground floor of the first story to the finished floor of the second story. Upper stories will have windows or openings for at least 25 percent of the upper story wall area.

- **LPC District.** LPC resident common facilities and LPC administrative facilities with walls facing public streets, private streets, or open spaces will have windows and openings equal to at least 30 percent of that wall area.
- **Recess.** At least 80 percent of windows (based on window square footage) will be inset by at least two inches from face of glass to face of trim (or to face of exterior wall if there is no trim). This requirement may be modified by the Community Development Director through a determination of Substantial Conformance and Minor Modification (Section 5.1.8.A) for creative alternative window approaches.
- **Location.** In residential units with narrow side yards, side elevation windows should be placed offset from those of the adjacent unit or use obscure glass as appropriate to provide for privacy.
- **Details.** Windows visible from a street, courtyard, or open space, including those on all façades of the buildings that front onto public or private streets or access ways, should have appropriately articulated header, jamb, and sill details consistent with the proposed architectural vocabulary.

3.4.1.E Ground Floor Height

The minimum floor-to-ceiling ground floor height will be 14 feet for commercial uses, 12 feet for offices, and 11 feet for residential uses. Floor-to-ceiling height is measured from the top of the finished floor to the bottom of the ceiling joists.

3.4.1.F Building Entries

Entryways are an important design feature in buildings, guiding guests to the interior and providing opportunities for architectural definition. Doorways should be clearly identified with change in material, change in plane, or with architectural elements such as a canopy.

3.4.1.F.1: Residential Entries

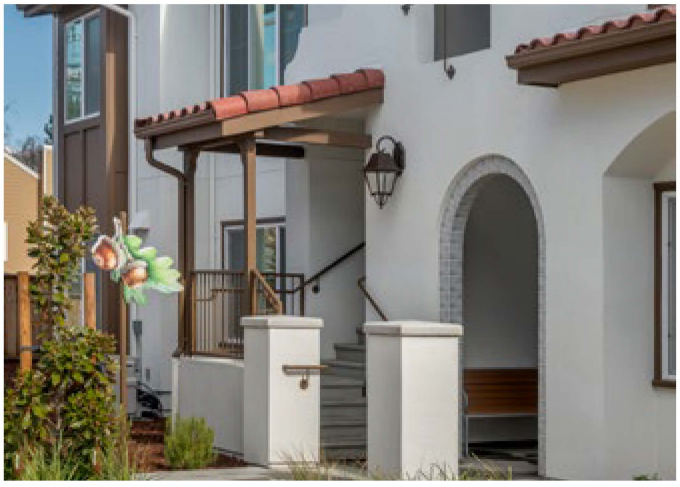
Buildings will have different kinds of entries: private entries to individual units (townhomes), private entries for only ground-level units on multi-unit buildings (apartment-type buildings), common entries for serving multiple units (apartment type buildings), and service entries. The following standards and guidelines will apply.

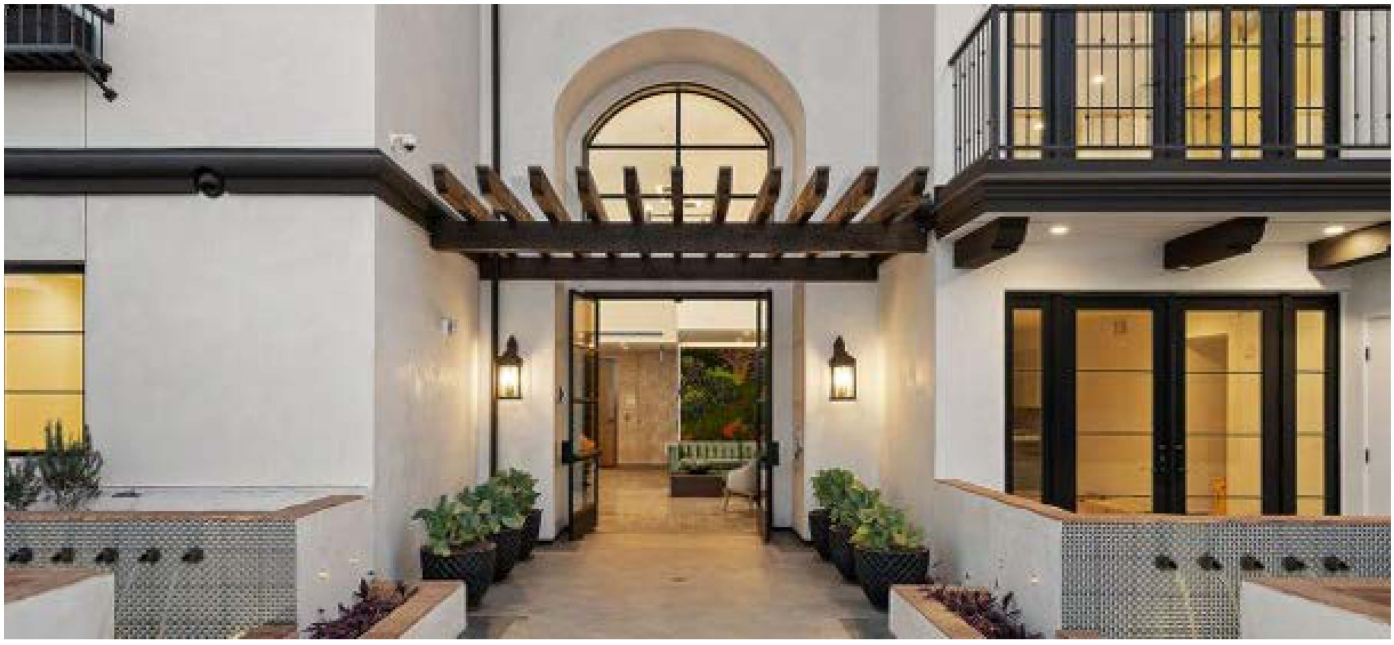
- **Scale.** Site and building entries will beclearly defined and in scale with the building.
- **Hierarchy of Entries.** For buildings with individual and common entries, a hierarchy in the scale and identity of the entries is desired. Common entries will be larger in scale and differentiated from individual street-level unit entries with special detailing, awnings, canopies, or multi-story forms.
- **Weather and Lighting.** Common entries to units will be protected from weather (either recessed or covered by an awning or porch structure/projecting element) and lighted.
- **Access and Visibility.** Entries will be accessed from a sidewalk or from a common walkway. Entrances to buildings or units should be plainly visible from the nearby parking areas.

- **Private Entries.** Ground-level private dwelling unit entries fronting a public street will incorporate a porch, a stoop, or a recessed entryway and lighting.

Photographs included in this section are illustrative and should not be construed as regulatory. Not every aspect of every photo is in perfect conformance with every regulation in this plan. Rather, the photos are intended to provide visual support and reference for the design guidelines.







3.4.1.F.2: Nonresidential Entries

Well-designed nonresidential entries—including doors, windows, wall composition, colors, and materials—will be incorporated to create a sense of entry at a pedestrian scale. The following standards and guidelines will apply.

- Mixed-use buildings will be sited and oriented so that the primary commercial building entry faces a sidewalk.
- Nonresidential entries in the Mixed-Use district will incorporate either a shopfront or arcade-style entry design, consistent with the applicable shopfront or arcade entryway requirements included in this section.
- Nonresidential entries to common facilities in the LPC district may incorporate either a shopfront or arcade-style entry design, consistent with the applicable shopfront or arcade entryway requirements included in this section, or a residential-style entry design of equivalent scale.

EXHIBIT 3-8: SHOPFRONT ENTRYWAY

TABLE 3-12: SHOPFRONT ENTRYWAY ELEMENTS

Shopfront Element	Minimum
A Width of storefront bay(s)	6 feet
B Height to bottom of awning/canopy (clear)	8 feet
C Height of bulkhead	2 feet

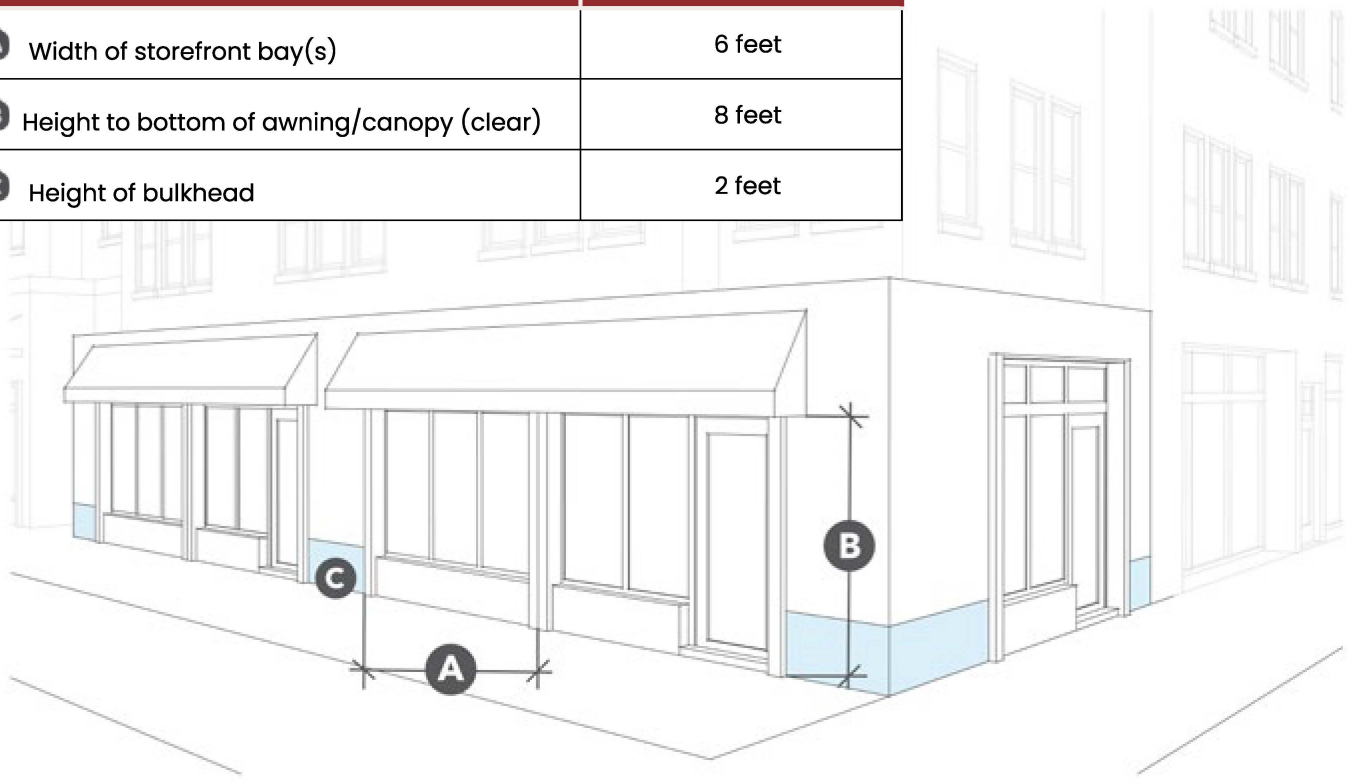
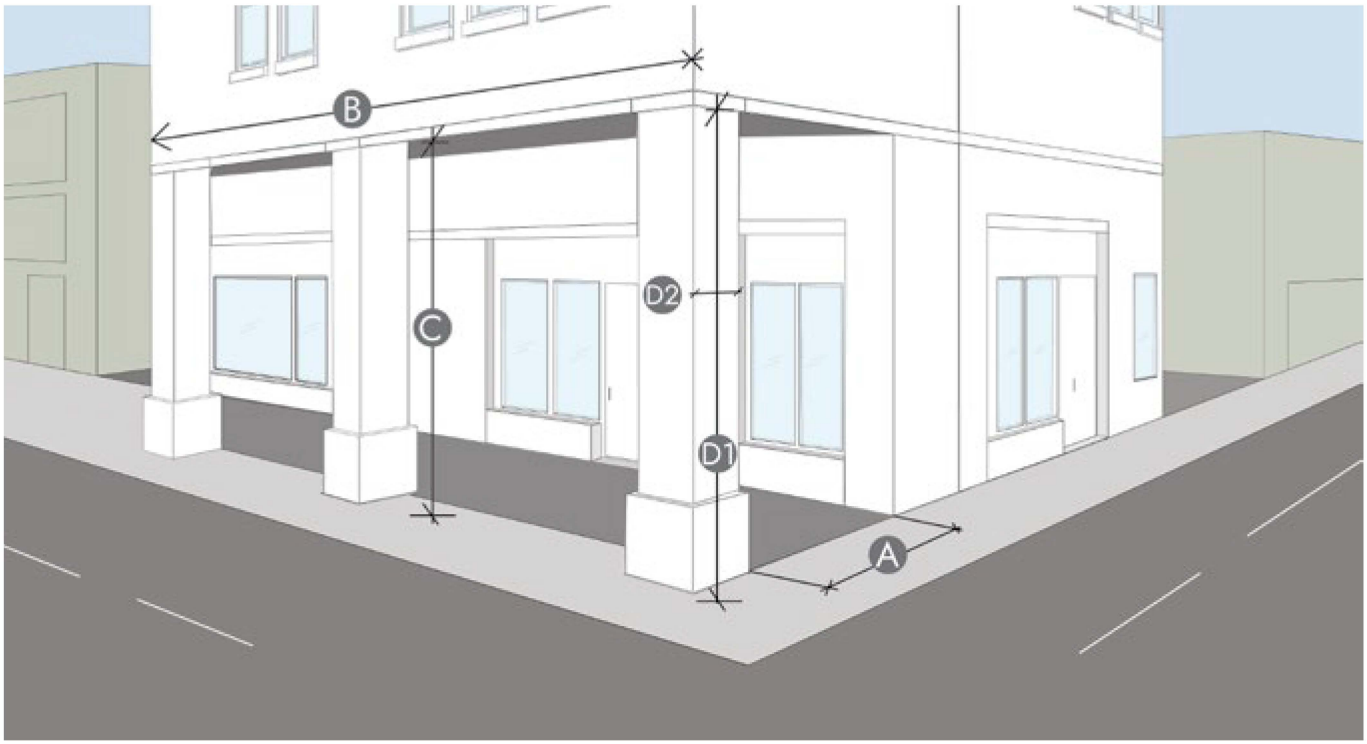


TABLE 3-13 ARCADE ENTRYWAY ELEMENTS

	Arcade Element	Minimum
A	Depth (façade to interior column face)	8 feet
B	Length along frontage (percent of nonresidential building façade width)	75%
C	Height (sidewalk to ceiling)	12 feet
D1	Column height	Column height (D1) will be between four and six times the column width (D2). Column spacing and colonnade detailing, including lighting, will be consistent with the style of the building to which it is attached.
D2	Column width	

EXHIBIT 3-9: ARCADE ENTRYWAY



3.4.1.G Building Lighting

A lighting plan (ground-mounted site and building lighting) submittal is required with site plan review, adhering to the following:

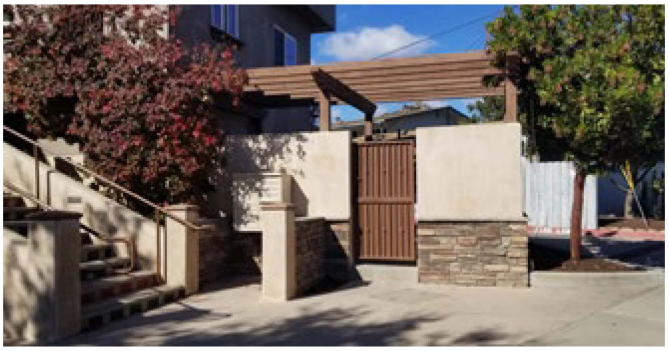
- All exterior building light fixtures will be architecturally compatible with the architectural style of the building.
- Apart from security and safety, lighting should also be used as a wayfinding technique to provide a delineated path from roads, walkways, and parking lots to entries.
- Lighting will be designed to minimize glare, using downward directing lighting fixtures with cut-off shields to minimize light pollution and protect views of the night sky.
- No lighting fixture will be installed on a building or wall to shine lighting onto a parking or other large area, to act in lieu of pole-mounted parking lot lighting.
- Lighting will not exceed 1.0 footcandle when measured at the property line.

3.4.1.H Trash and Recycling Facilities

Trash enclosures for individual units and/or common facilities should be sized to accommodate separate bins for recyclable trash and regular trash, as well as green/yard waste/food waste (as required by State and City codes).

All waste and recycling receptacles areas must be screened from view from any public street and all adjacent properties. Trash enclosures should be constructed of the same primary wall material and color as the most adjacent building within the development, or decorative masonry block, or similar solid materials that are architecturally compatible with the building architecture and integral to the overall project design. In compliance with Stormwater Runoff requirements, trash enclosures should be covered.

All trash and recycling facilities must be reviewed by the City's contract waste hauler and approved by the City prior to implementation.



3.4.2 SIGNS

Signs must comply with Development Code Chapter 19.42 (Signs), with exceptions as specified in this Section.

3.4.2.A. LPC Signs

A Comprehensive Sign Program is required for development to integrate all signs associated with the LPC. A Comprehensive Sign Program provides a means for the flexible application of sign regulations for projects that require multiple signs to maintain consistent standards and sign appearance throughout the project. Monument signs for the LPC must comply with the standards in **Table 3-14: LPC Monument Sign Standards**, unless otherwise modified

TABLE 3-14 LPC MONUMENT SIGN STANDARDS	
Sign Standard	**Requirement**
Maximum Height	6 ft
Maximum Sign Area	48 sf
Location and Number	Monument signs must be located in a landscaped planter at least 5 feet from any property line. One sign is allowed at the corner of Huntington Drive and Santo Domingo Avenue; and one is allowed at the primary LPC entrance on Santo Domingo Avenue.

by the Sign Program. In particular, monument signs must maintain strong architectural design consistent with the site, contain a variety of materials, avoid flat boxes/planes, and provide visual interest to the public.

3.4.2.B. Mixed-Use District Signs

3.4.2.B.1: Commercial Uses

Signs for commercial uses in the Mixed-Use District must comply with Development Code Section 19.42.130 Signs for the C-G zone, unless otherwise specified in this Specific Plan.

3.4.2.B.2: Residential and LPC Uses

Signs for residential uses within the Mixed-Use District and AR District are allowed one wall sign per street frontage, located below the roofline, equal to 12 square feet in area.

3.4.3 PARKING AREA DESIGN

Parking areas will be designed and located close to the users they serve, without being visually dominant. Parking design must comply with DDC Chapter 19.38 (Off-Street Parking Regulations and Design) unless otherwise modified by this Specific Plan, including but not limited to parking lot aisle widths, parking space size, parking lot design, and landscaping. Parking space dimensions will comply with DDC Section 19.38.100 (Parking space and drive aisle dimensions) for parking spaces located within parking lots and on private streets.

- Surface parking areas for residents and visitors will be designed as a series of smaller parking fields, rather than one or more large fields. Multiple smaller parking lots are preferred, as they minimize the expansive appearance of parking fields and provide better access between parking spaces and dwelling units.
- Parking areas will be designed and located such that the walk from the designated

parking to the dwellings is short and direct, for both residents and visitors, consistent with Section 3.3.6.C (Parking Location).

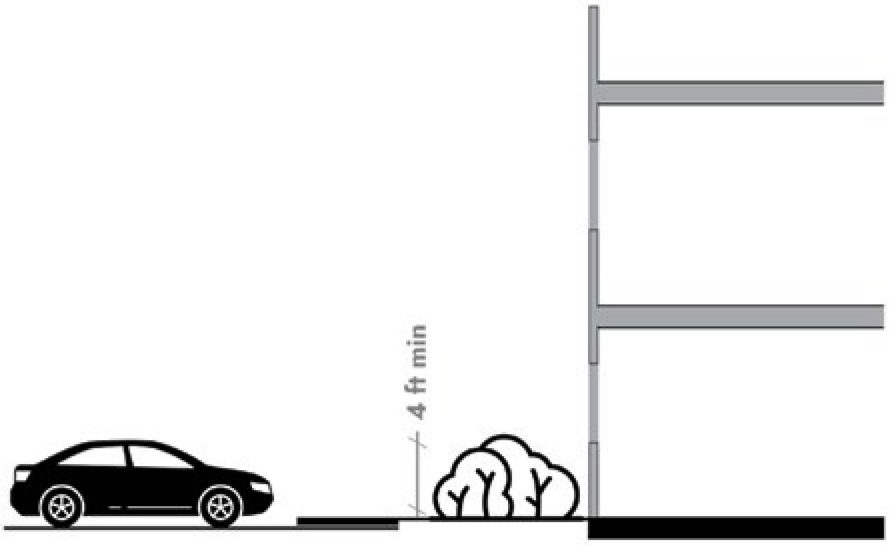
- Signage will identify resident and visitor parking spaces.
- Parking lot design, including dead-end drive aisles and hammerheads, will align with Fire Department requirements.
- Where common surface parking lots with parking spaces or drive aisles that directly front on to a ground-floor residential unit, a landscape buffer at least four feet tall will be provided to avoid headlights shining into the units (Exhibit 3-9).
- Use of pervious materials in parking areas is encouraged, consistent with the appropriate soils being present.
- Garages (individual or common) visible from public streets or open spaces will be screened using fences or landscape with a minimum height of three feet.
- Parking structures will be designed in keeping with the character of the primary buildings on or near the site. Parking structures should be architecturally similar with the surrounding buildings in use of materials and color. Ideally, parking structures should be wrapped with habitable uses. Variations in the horizontal and vertical planes of the façade should be provided to reduce parking structure mass. If not wrapped with habitable uses, public art, landscaping, or murals will be used to lessen the visual impact at the street level. Decorative screens and trellises or green screens are encouraged to provide façade variation and interest.
- Vehicle entries/driveways will be located to minimize pedestrian/vehicle conflicts.
- Surface parking will be lighted with lights mounted on poles with a maximum pole height of 20 feet. Lighting will not exceed 1.0 footcandle when measured from the property line.
- On the top level of parking structures, the bottom of any fixture will not exceed eight feet when measured from the top floor surface.

3.4.4 LANDSCAPING DESIGN

Landscape design will give character to open spaces and streetscapes and adhere to the following:

1. Required setback areas and all areas not covered by buildings, walkways, driveways, parking spaces, and service areas will be landscaped with climate-appropriate plantings and irrigated with an automatic irrigation system per City standards. Plant materials should favor native and climate-appropriate plants.
2. Landscaping must include a combination of trees, shrubs, ground cover, turf, and/or approved decorative landscape materials, as approved by the Community Development Director.
3. Landscaping should enhance the quality of the project by defining edges, framing and softening the appearance of buildings, defining site functions, screening parking and storage areas, and buffering neighboring properties.

EXHIBIT 3-9: PARKING LANDSCAPE BUFFER



4. Landscaping at the base of buildings will be provided to soften the transition between building and streets.
5. Landscaped areas should generally incorporate plantings utilizing a three-tiered system: a) trees, b) shrubs or vines, and c) groundcover. Landscaping should be in scale with the adjacent buildings and of size at maturity that provides shade, texture, and fullness.
6. Parking lot landscaping will comply with DDC Section 19.38.200 (Parking lot landscaping), including tree canopy and screening from rights-of-way.
7. Landscaping adjacent to all exposed perimeter walls facing the public right-of-way to deter graffiti is required consistent with Section 3.3.4.B (Fence and Wall Design).

Landscaping details are a required component of Site Plan/Design Review (DDC Chapter 19.122). Landscaping and irrigation systems will be maintained consistent with DDC Section 19.40.100 (Landscape and Irrigation Maintenance).

3.4.5 ARCHITECTURAL STYLES

Maintaining consistency in architectural styles will visually unify the Westminster Gardens LPC campus, establish an appropriate aesthetic for new buildings and redevelopment of existing buildings, and reinforce the character.

This section defines the appropriate architectural styles for the land use districts. Like the development standards and design guidelines, the architectural styles guidelines promote context-sensitive design. The styles build on the area's history within the Early California design experience with three historical styles well established on the campus and in the surrounding area: Spanish, California Ranch, and Craftsman. The Neo-Traditional Style provides an additional architectural option for development of new mixed-use and affordable housing, consistent with the adjacent Duarte Town Center Specific Plan vision. Regardless of architectural style, development should exhibit attention to detail, quality architecture and materials, and a pedestrian-friendly interface.









3.4.5.A Spanish Styles

Southern California has a rich history of traditional architecture influenced by Spanish settlers. This includes a family of related styles developed over time, often referred to as "Spanish." Early architectural styles were truer to traditional Spanish building forms and ornamentation. As time passed, however, shifts in construction techniques and availability of skilled craftsmen led to the development of spin-off styles, including Spanish Colonial, Mission Revival, and Santa Barbara. These spin-off styles are closely related and share many of the same characteristics since they originated from the same architectural vernacular. The Morrison House, a historic building located on the Westminster Gardens LPC campus, is an excellent example of Spanish Colonial architecture. Distinctive architectural features of Spanish architectural styles typically include the following:

TABLE 3-15: APPLICABLE BUILDING TYPE BY LAND USE DISTRICT: SPANISH STYLES

Building Type	Land Use District			
	LPC	AR	MU	OS
Mixed-Use (Nonresidential Ground Floor)	✓	-	✓	-
Senior Residential – High Density	✓	✓	✓	-
Senior Residential – Low Density	✓	-	-	-
Nonresidential (Commercial and/or LPC Resident Common Facilities)	✓	-	✓	✓
Note: LPC Resident Common Facilities in the OS district will consist only of outdoor-style amenities such as gazebos, amphitheaters, etc.				

SPANISH DESIGN COMPONENTS

Form

- A variety of heights, such as three- to five-story massing with one- to two-story elements
- Deep recessed arches
- Asymmetrical massing with vertical and horizontal breaks
- Varied plan forms

Roof

- Distinctive roof elements, such as elaborate chimneys and boosted tiles
- Low-pitch roofs or flat roofs with parapet
- Predominantly gabled side to side roofs with forward facing hip roof elements
- Unenclosed eave overhangs with elaborate exposed rafter tails
- Concrete "S" barrel tiles
- Overhangs with tight rakes and 12-inch eaves

Walls and Windows

- Smooth or sand stucco finishes (white or earth tones)
- Nine- and 12-pane windows with colonial accent rims
- Rectangular shape feature windows on front elevations with single or ganged curve top shapes
- Windows recessed (generally 4 inches) or boxed out as a wood projection

Color

- White and earth-toned with bright accent trim
- Wood-toned or dark brown trims

Details

- Ornate black wrought-iron accent details at walls, windows, light fixtures, railings, and gutters
- Wood-style entry doors
- Black wrought-iron balconies
- Exposed wood components highlighting balconies, doorways, and rafter tails
- Decorative tiles recessed in wall plane
- Covered loggias, arcades, and internal courtyards

Spanish: Mixed Use (Nonresidential Ground Floor)



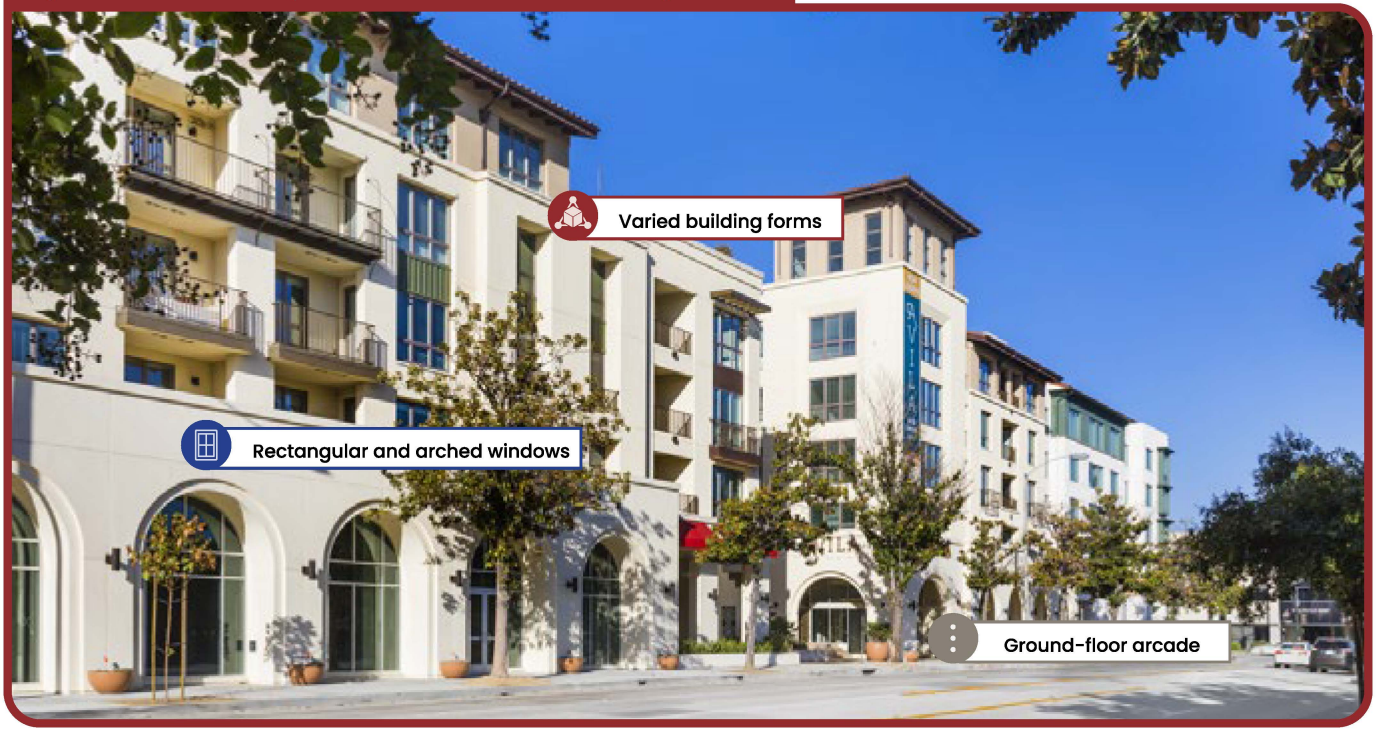
Spanish: Mixed Use (Nonresidential Ground Floor)



Spanish: Mixed Use (Nonresidential Ground Floor)



Spanish: Mixed Use (Nonresidential Ground Floor)



Spanish: Residential High-Density



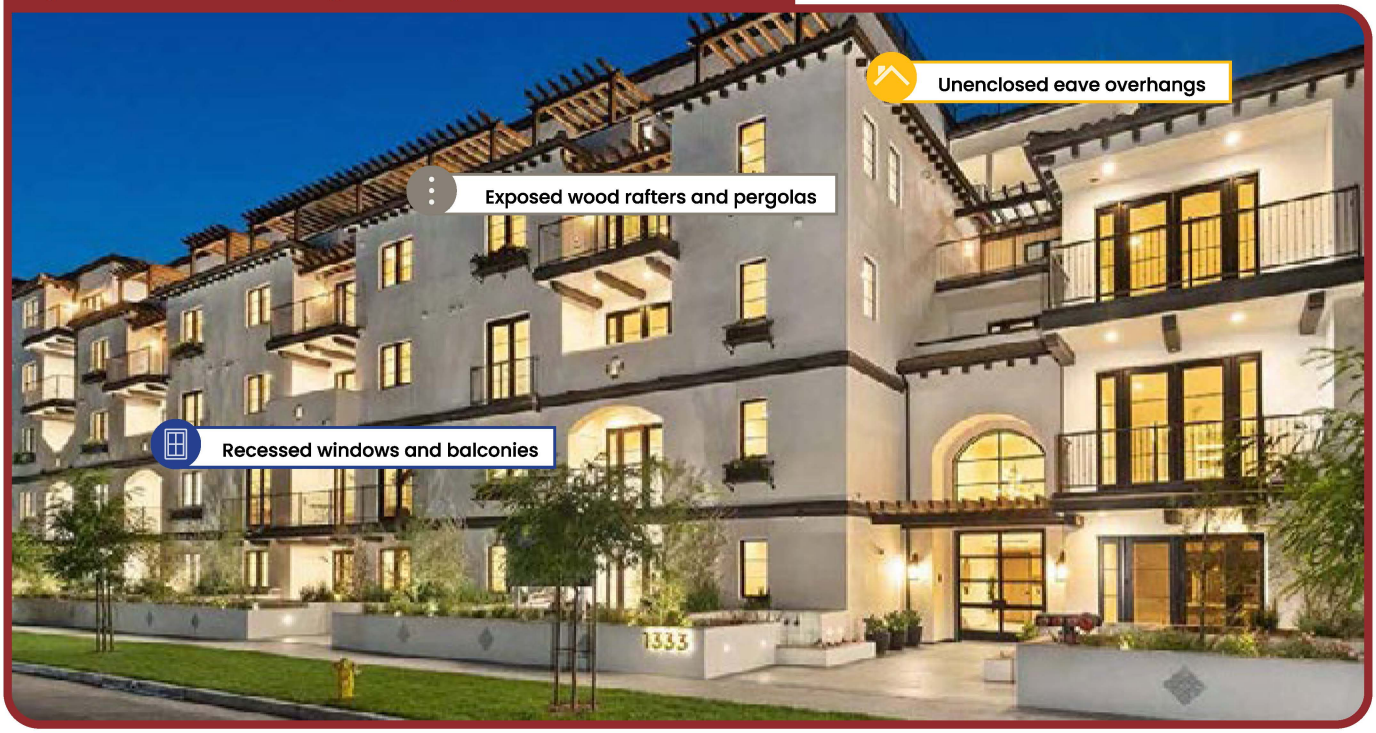
Spanish: Residential High-Density



Spanish: Residential High-Density



Spanish: Residential High-Density



Spanish: Residential Low-Density



Spanish: Residential Low-Density



Spanish: Residential Low-Density



Spanish: Residential Low-Density



Spanish: Nonresidential



Spanish: Nonresidential



3.4.5.B California Ranch Style

California Ranch architecture emerged in the 1920s and reached its peak from the 1940s to the 1970s. Heavily influenced by Spanish Colonial Revival architecture and early American ranch homes, it combined these elements with modernist ideals of openness and simplicity. The architectural style aimed to create contemporary homes based on regional forms, specifically those influenced by Spanish design. The California Ranch emphasizes seamless integration with the landscape, featuring homes that extend outward rather than upward. Known for its clean lines, strong connection to nature, and relaxed atmosphere, this architectural style remains a defining characteristic of suburban design in Southern California and beyond. Distinctive architectural features typically include:

TABLE 3-16: APPLICABLE BUILDING TYPE BY LAND USE DISTRICT: CALIFORNIA RANCH STYLE

Building Type	Land Use District			
	LPC	AR	MU	OS
Mixed-Use (Nonresidential Ground Floor)	-	-	-	-
Senior Residential – High Density	-	-	-	-
Senior Residential – Low Density	✓	-	-	-
Nonresidential (Commercial and/or LPC Resident Common Facilities)	✓	-	-	✓
Note: LPC Resident Common Facilities in the OS district will consist only of outdoor-style amenities such as gazebos, amphitheaters, etc.				

CALIFORNIA RANCH DESIGN COMPONENTS

Form

- Low, horizontal profile with no variation in height, one-story
- Long, close-to-the-ground profile
- Simple open layouts
- Asymmetrical rectangular, L-shaped, or U-shaped
- Emphasis on outdoor living spaces such as courtyards

Roof

- Deep overhanging eaves, providing shade
- Cross-gabled, side-gabled, or hip roof
- Tongue and groove roof decking

Walls and Windows

- Exterior natural stone, adobe brick covered with plaster, and board and batten wood siding
- Multi-paned accent windows
- Sliding glass doors opening onto patio area
- Front-facing facade windows with large glass area, often floor-to-ceiling, combined with non-functional shutters

Color

- Earth-tone colors (light or deep)
- Mixed materials of stucco and brick, wood, or stone

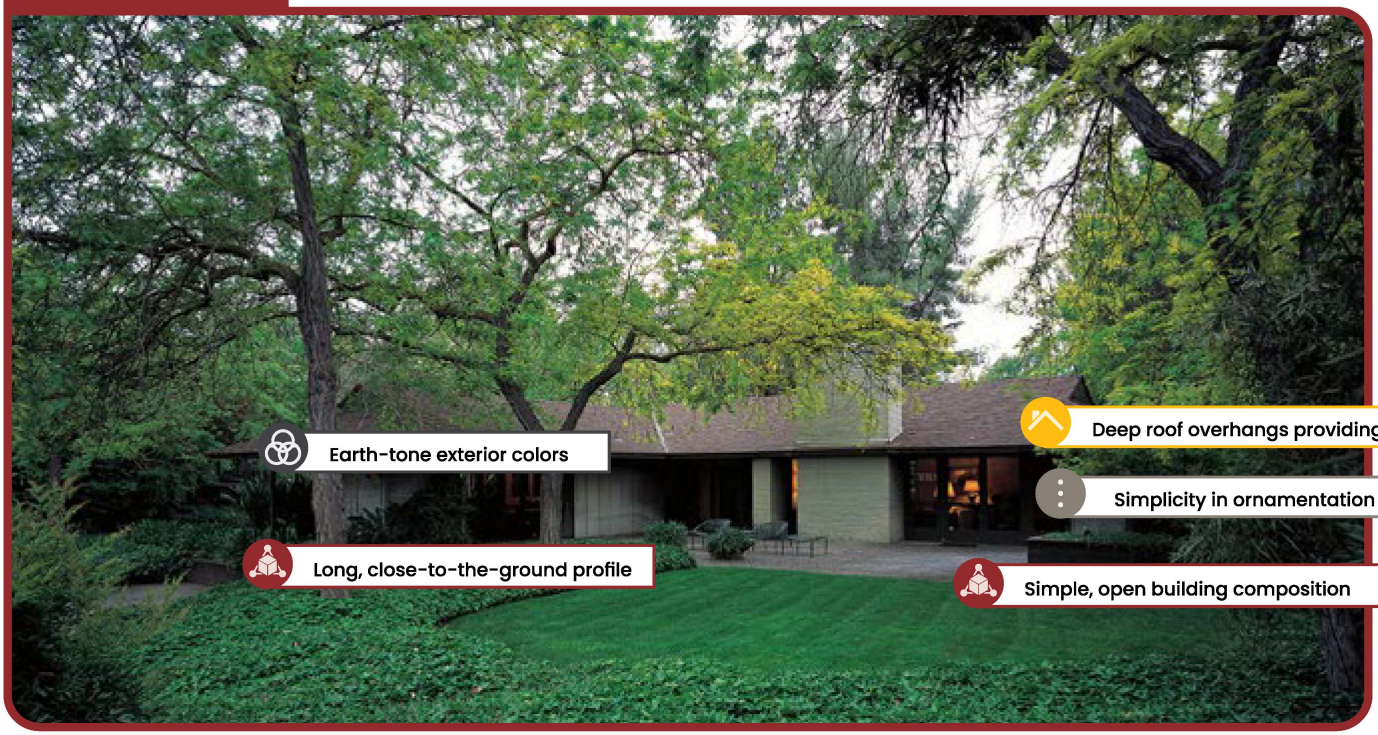
Details

- Extensive use of natural building materials such as wood, stone, and brick creating an earthy, organic feeling
- Intended to create an informal and casual living style
- Entryways associated with an interior courtyard or from a large porch
- Typically has an attached garage under same roof line
- Tapered or square columns that support overhangs
- Simplicity in ornamentation

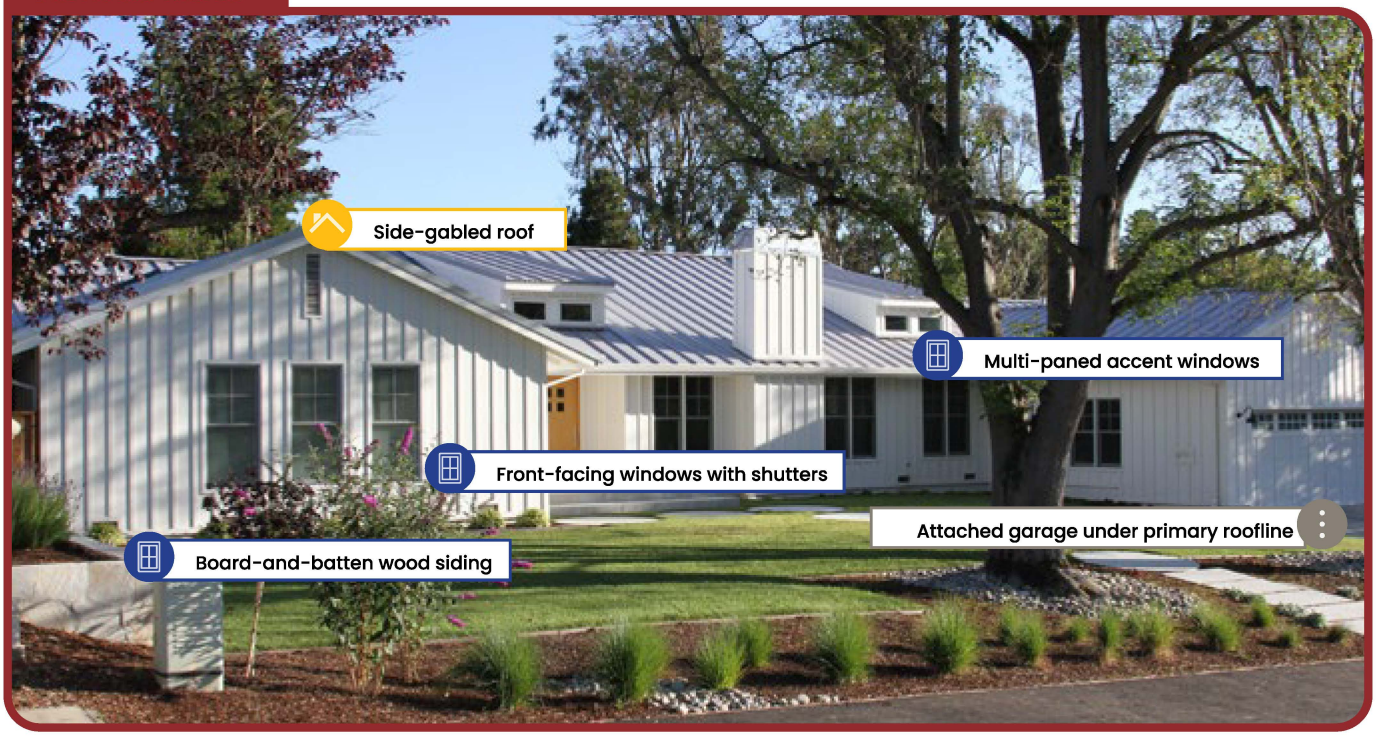
California Ranch



California Ranch



California Ranch



California Ranch



3.4.5.C Craftsman Styles

Southern California has a rich tradition of craftsman-style architecture, which emerged in the early 20th century. Influenced by the Arts and Crafts movement, the style is characterized by its emphasis on handcrafted details, the use of natural materials, and a strong connection to the surrounding environment. Over time, local builders and craftsmen adapted the style to suit Southern California's unique climate and lifestyle, incorporating features such as large windows to maximize light and airflow. Some of these architectural substyles include Craftsman Bungalow, Prairie, and California Craftsman. These three substyles share many characteristics since they originated from the same architectural vernacular. Distinctive architectural features of these styles typically include:

TABLE 3-17: APPLICABLE BUILDING TYPE BY LAND USE DISTRICT: CRAFTSMAN STYLE

Building Type	Land Use District			
	LPC	AR	MU	OS
Mixed-Use (Nonresidential Ground Floor)	-	-	-	-
Senior Residential – High Density	✓	✓	✓	-
Senior Residential – Low Density	✓	-	-	-
Nonresidential (Commercial and/or LPC Resident Common Facilities)	✓	-	✓	✓
Note: LPC Resident Common Facilities in the OS district will consist only of outdoor-style amenities such as gazebos, amphitheaters, etc.				

CRAFTSMAN DESIGN COMPONENTS

Form

- Cross gabled or gable fronted with rectangular-like massing under main roofs
- The forms are generally ground-hugging, with pronounced horizontal lines
- A variety of heights, such as three- to four-story massing with one-story elements
- Varied plan forms

Roof

- Low-pitched gabled roofs
- Unenclosed, wide eave overhangs with elaborate exposed rafter tails and ridge beams
- Decorative ridge beams and attic vents
- Overhangs at 16" to 24"
- Hip and gable roofs
- Wood/asphalt shingles (metal roofing for modern interpretation)

Walls and Windows

- Nature-inspired palette with browns and greens
- Plain wood shingle siding (horizontal)
- Stone or brick base
- Stucco, blended with siding or stone base
- Ribbon windows; three or more ganged and multi-paned
- Single-hung windows
- Mullions in upper half

Color

- Earth-tone colors (light or deep)
- Playful, dark accents

Details

- Use of natural materials, such as wood, brick, and stone
- Exposed wood details such as knee braces, rafter tails, and beams
- Entry porches with heavy square columns or posts in stone or brick piers
- Carved wood style entry doors with geometric patterns
- Arts and Crafts or Mission-style lighting fixtures
- Tapered or square columns

Craftsman: Nonresidential



Craftsman: Nonresidential



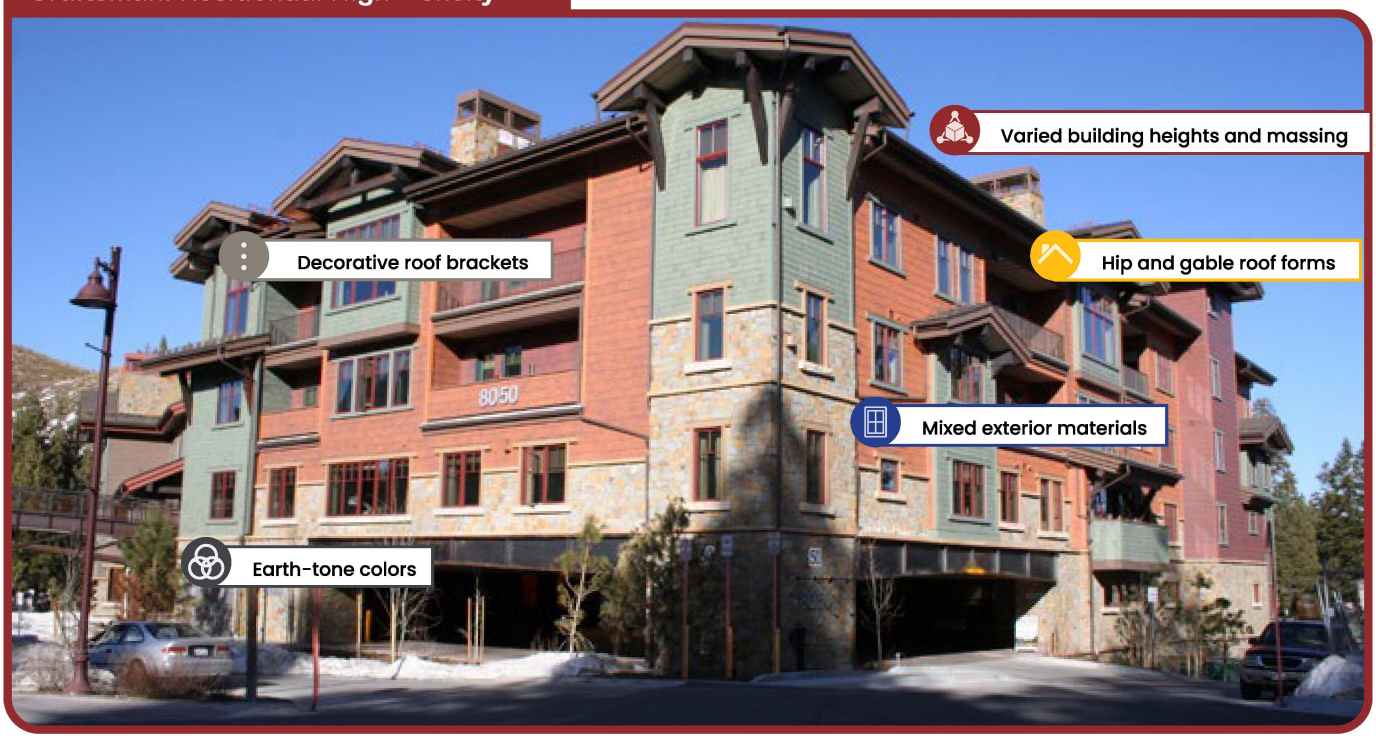
Craftsman: Residential High-Density



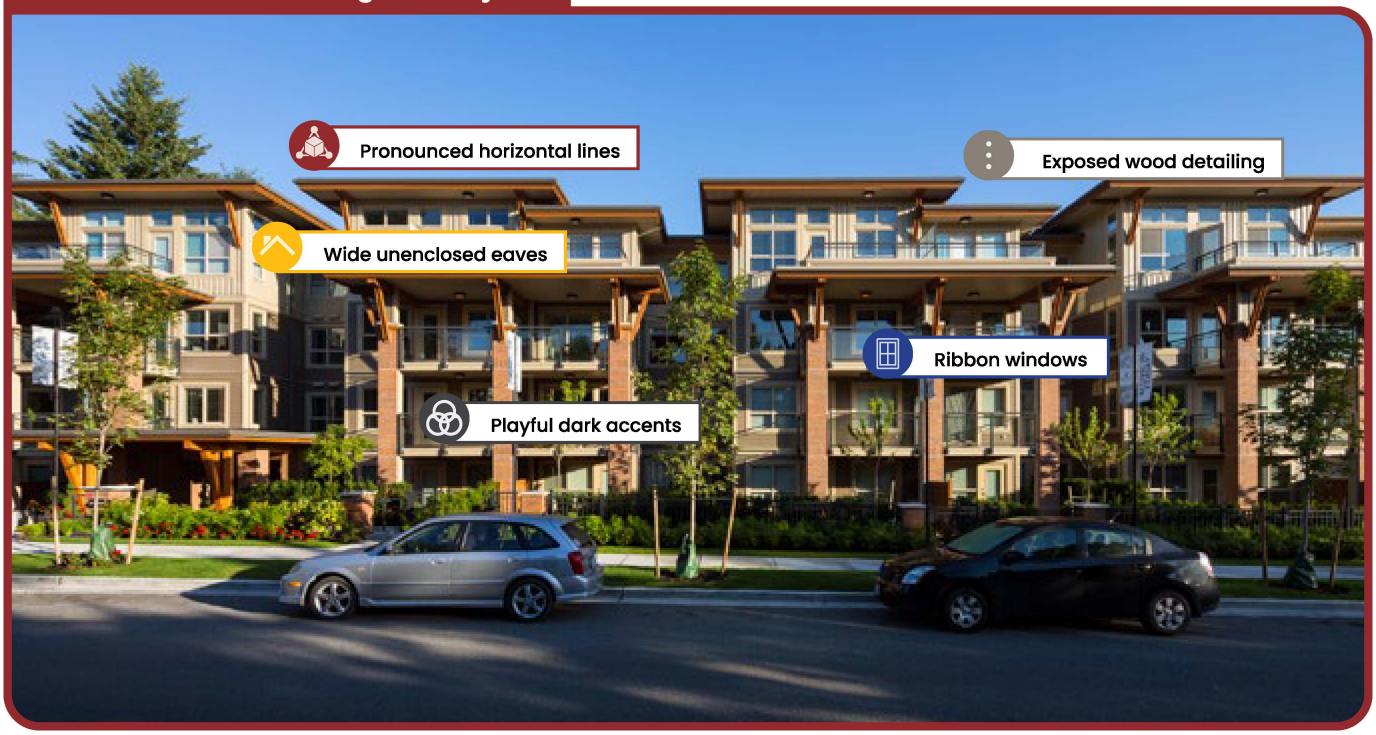
Craftsman: Residential High-Density



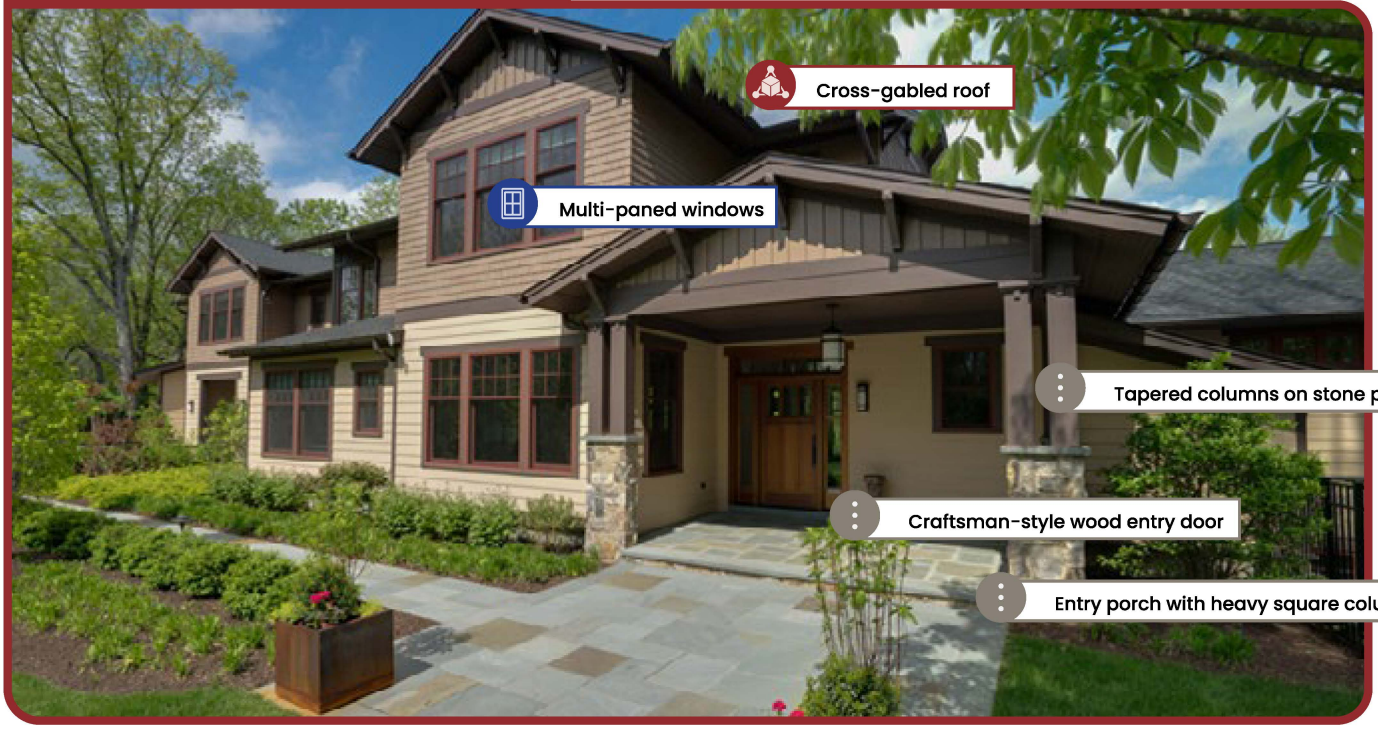
Craftsman: Residential High-Density



Craftsman: Residential High-Density



Craftsman: Residential Low-Density



Craftsman: Residential Low-Density



3.4.5.D Neo-Traditional Style

The Neo-Traditional style is derived from elements of buildings most commonly found in the eastern United States and constructed over the past two centuries. As with traditional architecture, much deference is paid to the materials and additional architectural features used in a building, including functionality, quality, and level of detail. These buildings provide a solid ground-floor presence, articulation, and high-quality materials.

Applied to commercial and mixed-use buildings, the Neo-Traditional building form can generally be described as two-part commercial block, characterized by a horizontal division in two distinct zones. The two-part division of the exterior zones typically reflects differences in its interior use. The street level indicates public spaces for commercial enterprises, while the upper section suggests more private spaces reserved for offices or residences.

Neo-Traditional residential structures are generally defined by their steeper pitched roofs, often with enclosed eaves; wood clapboard siding and trim, often combined with a plaster finish; and brick or stone columns and trim around doors and windows.

Elevations of Neo-traditional buildings generally include more formal elements, such as gables, dormers, or cornices at the roof, patterned arrangements of doors and windows, vertical proportions and details, and brick or masonry features, such as pilasters and trim at wall openings.

TABLE 3-18: APPLICABLE BUILDING TYPE BY LAND USE DISTRICT: NEO-TRADITIONAL STYLE

Building Type	Land Use District			
	LPC	AR	MU	OS
Mixed-Use (Nonresidential Ground Floor)	✓	-	✓	-
Senior Residential – High Density	✓	✓	✓	-
Senior Residential – Low Density	✓	-	-	-
Nonresidential (Commercial and/or LPC Resident Common Facilities)	✓	-	-	✓
Note: LPC Resident Common Facilities in the OS district will consist only of outdoor-style amenities such as gazebos, amphitheaters, etc.				

NEO-TRADITIONAL DESIGN COMPONENTS

Form

- A variety of heights, such as three- to five-story massing with one- to two- story elements
- Varied plan forms
- Asymmetrical massing with vertical and horizontal breaks
- Mixed-use buildings are characterized by a clear horizontal division between street level retail and upper floors through the use of awnings, change in material/texture, and/or other architectural features

Roof

- Roof pitches vary, generally 5:12 to 12:12
- Generally 16- to 24-inch overhangs
- Concrete roof tiles with a shingle look
- Front to back gable or hip roofs with intersecting hip or gable roofs

Walls

- Wall cladding materials of stone, ceramic tile, brick, or blended stucco
- Full-wrapped horizontal siding or brick facades
- Building base and building middle caps articulated with simple horizontal belt courses, an ornamented frieze, or a classical cornice. Building top caps are properly detailed and proportioned.
- For commercial and mixed-use buildings, the bulkhead (area between the sidewalk and any display windows) is clearly demarcated with a change in materials.

Windows

- Vertical window shapes, multi-paned at front elevations
- Storefront display windows with polished plate glass, often accented by a transom
- Simple and rectangular window shapes, which may have arched tops
- Sills and lintels on upper floor windows

Color

- Accent detailing trims
- Earth tone colors (light or deep), white, and/or grey

Details

- Simplified versions of Colonial cornice trim at gable ends
- Trim materials may include stone, ceramic tile, wrought iron, wood, or stucco
- Multiple trim materials may be used

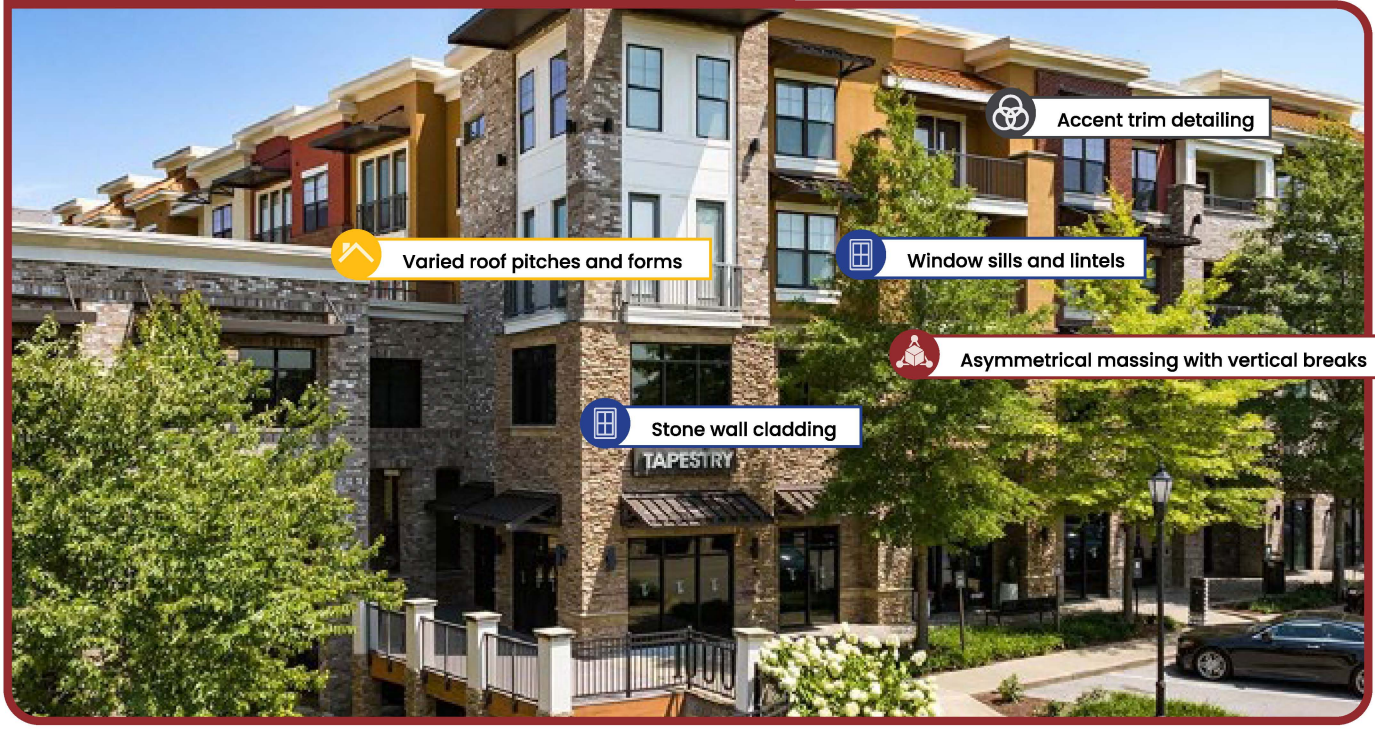
Neo-Traditional: Mixed Use (Nonresidential Ground Floor)



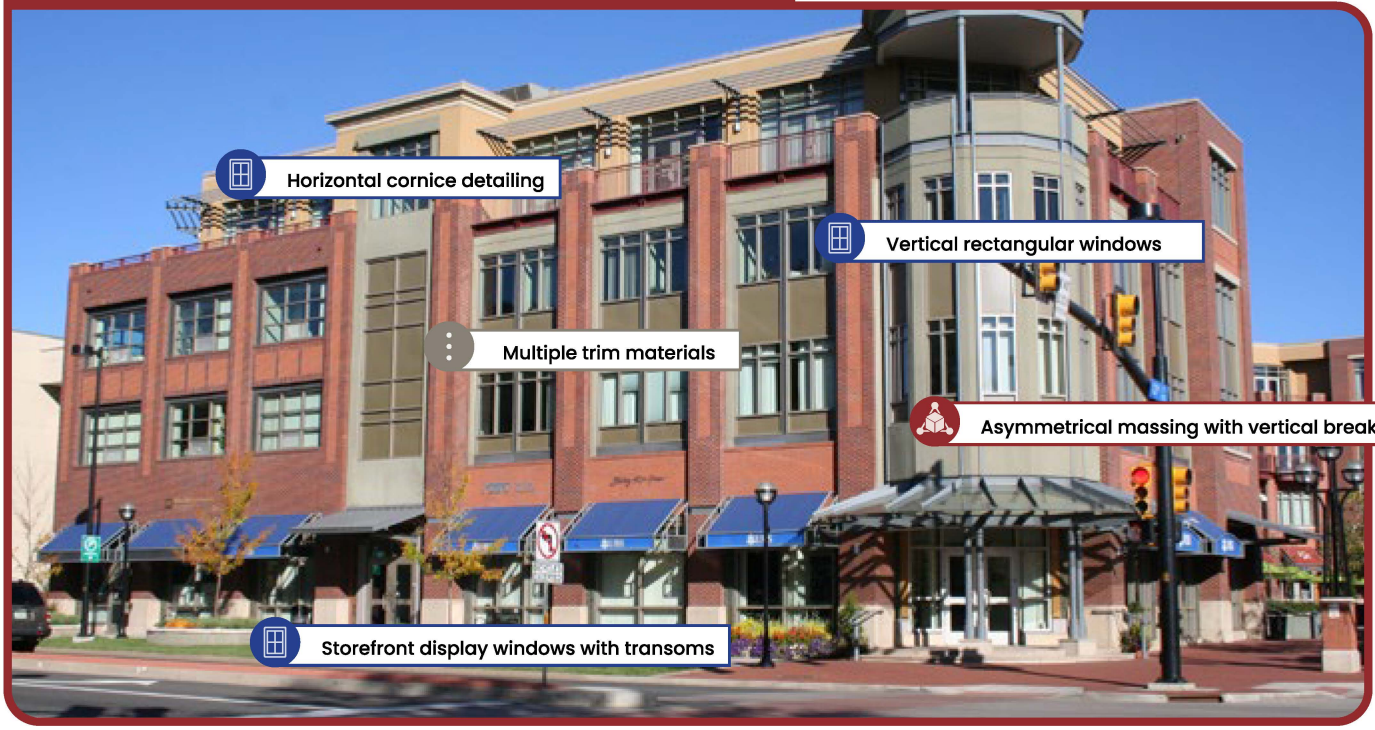
Neo-Traditional: Mixed Use (Nonresidential Ground Floor)



Neo-Traditional: Mixed Use (Nonresidential Ground Floor)



Neo-Traditional: Mixed Use (Nonresidential Ground Floor)



Neo-Traditional: Residential High-Density



Neo-Traditional: Residential High-Density



Neo-Traditional: Residential Low-Density



Neo-Traditional: Residential Low-Density



3.4.6 HISTORICAL RESOURCES AND ADJACENT DEVELOPMENT

Historic Resources Group prepared a Historical Resources Technical Report in February, 2024, for the Westminster Gardens Specific Plan amendment.[1] According to the report, the area originated as a private residential property, initially developed with the Morrison House in the 1930s. In 1935, the Morrisons constructed a Spanish Colonial Revival style building on the property known as "El Sueño" or "The Dream." In 1939, "El Sueño" was incorporated into a new residence constructed by the family, referred to as "La Casa Soñada," or "the dreamed-of home." The residence was designed by architect Robert Bennett, who was a distant cousin of the family. In 1950, a 27-acre portion of the Morrison Ranch was purchased by Frank Shu, who was born in China and attended Yih Wen Commercial School led by Missionary teachers. Shu donated the land, as well as $1 million, to the Presbyterian Missionary Board. The land and money were used to build a group of residences for retired Presbyterian missionaries. The former Morrison Ranch was subsequently converted for its new use, and it became known as Westminster Gardens.

In 2022, the Morrison House was found eligible for listing in the National Register of Historic Places (National Register) and the California Register of Historical Resources (California Register) at the local level of significance for its association with Wayland A. and Lucile P. Morrison and for its architectural merit. At that time, only the Morrison House itself was evaluated for individual eligibility; ancillary buildings and the greater Westminster Gardens site were not considered. The collection of remaining buildings and features associated with the Morrison Ranch include the Morrison House and six accessory structures: Unit 64/ Cape Cod Cottage, pool house, pool, Unit 15/ Cottage, pool shelter and maintenance building. The remaining buildings associated with Westminster Gardens, which were constructed in phases beginning the 1950s, are not individually or collectively considered historical resources.

Significant redevelopment of the Westminster Gardens LPC campus would involve demolition of

all existing buildings except for the Morrison House. The Morrison House will be kept intact and rehabilitated pursuant to the Secretary of the Interior's Standards. However, redevelopment may remove features associated with the Morrison Ranch. Therefore, prior to issuance of demolition permits to carry out redevelopment within areas containing any of the six accessory structures, the following will occur.

3.4.6.A Documentation

Prior to the issuance of demolition permits, a qualified historic preservation professional who meets the Secretary of the Interior's Professional Qualification Standards will be retained to document the existing conditions of the primary, secondary, and tertiary features of the Morrison Ranch, in accordance with Historic

1. Historic Resources Group, "Historical Resources Technical Report Westminster Gardens Specific Plan, Duarte CA". April 2025.

American Building Survey (HABS) guidelines and standards. Documentation will include historic narrative, existing drawings and plans, and high-resolution property photographs. The photographs will include overall views, exterior facades, details of specific elements, and spatial relationships of the remaining features of the Morrison Ranch. Copies of the archival photographic documentation should be retained on site and offered to the Southern California Information Center at California State University, Fullerton and the City of Duarte.





3.4.6.B Interpretive Program

An interpretive program highlighting the early development of Duarte, the contributions of the Morrison family, and the history of the Morrison Ranch will be developed. Such program will include historic photographs and/or other ephemeral materials. The program will also identify displays, plaques, or other appropriate interpretative design features to commemorate the locations of demolished historic resources as were identified in the Historical Resources Technical Report, dated February, 2024, prepared by the Historic Resources Group.

3.4.6.C Separation from Historic Resource

Additional separation between buildings or provisions for landscape buffer or other appropriate protective means will be subject to review and approval by the Community Development Director and based upon consultation with a qualified historic preservation professional who meets the Secretary of the Interior's Professional Qualification Standards.


Westminster Gardens
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4

Circulation and Infrastructure

Foundational to a high-quality living environment are well-designed, multi-modal circulation network and infrastructure systems that readily support growth needs. This Chapter defines the circulation and infrastructure improvements planned to accommodate the Development Plan outlined in Chapter 2.

4.1 Circulation Plan

A key aspect of the Westminster Garden campus will be an interconnected, accessible, people-oriented network throughout the campus, with ingress/egress from adjacent public streets designed to welcome residents and visitors. Existing circulation throughout the LPC campus will be improved, and new access for the affordable independent senior living units and the Mixed-Use district will be provided.

Parking requirements are addressed in Chapter 3 (Development Standards and Design Guidelines).

4.1.1 REGIONAL ACCESS

Regional access to the Specific Plan area is provided via the Foothill Freeway (I-210) and San Gabriel River Freeway (I-605). Access to/from I-605 is approximately 0.5 miles east via Huntington Drive ramps; access to/from I-210 is provided at the Buena Vista Street ramps, less than one mile to the southwest.

The Los Angeles County Metropolitan Transportation Authority (Metro) provides light rail service via the A Line Duarte/City of Hope Station at the intersection of Duarte Road and Highland Avenue, approximately 0.5 miles to the south. The Metro A Line connects Duarte to downtown Los Angeles and cities to the east.

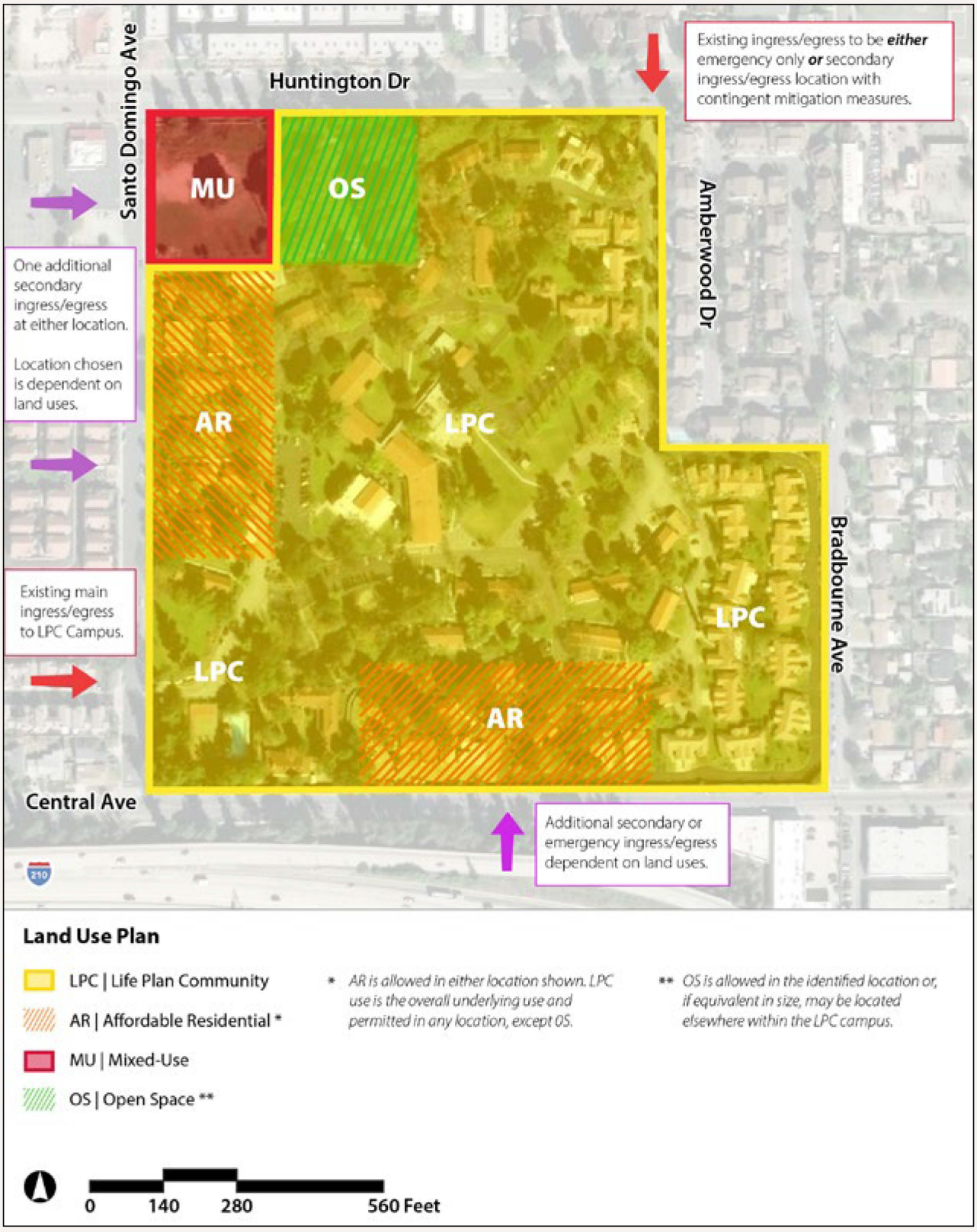
4.1.2 TRANSIT

In addition to the Metro A Line light rail service, Duarte is served by Foothill Transit for fixed-route bus services. Since 2019, the City has partnered with Foothill Transit to operate a local route, known as the Duarte eBus line (Route 861). This route connects with every other major light rail and bus transit route passing through Duarte, including those operated by Foothill Transit and Metro. This intercommunity public transit service links Duarte with surrounding cities and the region. The 861 line runs a route throughout most of Duarte, with stops along Highland Avenue, which is less than 0.25 miles from the campus boundary.

4.1.3 PERIMETER ROADS AND CAMPUS ACCESS

The ultimate locations of buildings within the campus are not defined in this Specific Plan. Thus, the conceptual circulation and access systems depicted in this Specific Plan respond to the existing Westminster Gardens LPC campus layout. **Exhibit 4-1: Campus Access** indicates existing ingress/egress and the allowed possible locations and types of additional ingress/egress for residents, guests, and employees, as well as emergency, delivery, and service vehicles. The actual locations of certain ingress/egress points will depend upon ultimate implementation of the flexible land use districts outlined in Chapter 3, but must comply with the intent of Exhibit 4-1 (Campus Access). The following sections describe allowed driveway locations providing ingress/egress to the Specific Plan area and required improvements. See Section 5.2.5.A (Sidewalks, Parkways, and Driveways) for implementation and phasing requirements.

EXHIBIT 4-1: CAMPUS ACCESS



4.1.3.A Santo Domingo Avenue

Santo Domingo Avenue is a two-way, north/south local street with one travel lane in each direction and sidewalks and parking on both sides of the street. Primary access to the Westminster Gardens LPC campus is via Santo Domingo Avenue at Orchard Road, an internal private street with gate-controlled entry. The main ingress/egress to the campus will remain on Santo Domingo Avenue in its current location.

A maximum of two driveways/access points are allowed on Santo Domingo Avenue between Huntington Drive and Central Avenue, including the main ingress/egress driveway. In addition to the existing primary ingress/egress, one additional secondary ingress/egress location is allowed on Santo Domingo Avenue; however, its actual location will be dictated by the location of the affordable senior independent living development. If the affordable senior independent living development is located along Santo Domingo Avenue, it will need to share ingress/egress with the Mixed-Use district so that only one additional access point is created.

There are two historic driveways/curb cuts located within 115 feet of the southeast corner of the Huntington Drive and Santo Domingo Avenue intersection. These driveways previously served uses that have since been demolished; the driveways are currently fenced and unused. The northernmost driveway will be removed. The existing southerly driveway may remain or be relocated; however, it must be located at least 100 feet from the intersection of Huntington Drive and Santo Domingo Avenue (as measured from the curb at the intersection to the northerly edge of the driveway/curb cut).

4.1.3.B Huntington Drive

Huntington Drive is a two-way, east/west principal arterial with four travel lanes, two in each direction, within a 100-foot right-of-way, inclusive of sidewalks, on-street parallel parking, and a planted center median. Huntington Drive is part of Historic Route 66 and a key transportation link to civic and commercial uses within Duarte and surrounding communities. Along the Specific Plan frontage, Huntington Drive does not have any westbound median breaks or left-turn pockets. An unsignalized left turn for westbound traffic is located at the intersection of Huntington Drive and Santo Domingo Avenue.

There is one existing emergency ingress/egress along Huntington Drive providing secured access to the LPC campus. This access point will continue to function only as emergency access, unless adequate mitigation is identified and implemented to allow for a secondary ingress/egress point for the LPC on Huntington Drive.

4.1.3.C Central Avenue and Bradbourne Avenue

Central Avenue and Bradbourne Avenue intersect at the southeast boundary of the Westminster Gardens LPC campus. Currently, neither street provides active site ingress/egress. Central Avenue (east/west) and Bradbourne Avenue (north/south) are two-

way collectors with two travel lanes, one in each direction, and space for on-street parking on both sides of the street. Central Avenue has sidewalks on both sides of the street. One driveway provides secondary access to/from the existing maintenance facilities on the southern portion of the campus; this gate is fenced and the access is unused. Bradbourne Avenue has no pedestrian improvements and is separated from uses on the campus by a block wall and an internal campus roadway, Oleander Drive.

No driveways/access points are allowed on Bradbourne Avenue. A maximum of one driveway/access point is allowed on Central Avenue. If the affordable senior independent living development is located on the south side of campus, rather than the west side or integrated throughout the campus (with access from Central Avenue rather than Santo Domingo Avenue), a new Central Avenue ingress/egress will provide primary access to the affordable senior independent living development. In this case, the existing maintenance driveway must be removed. If the affordable senior independent living development is located on the west side of campus with access from Santo Domingo, this existing maintenance access may remain as emergency and maintenance access only. A new driveway/access on Central Avenue is not intended to serve the larger LPC campus.

4.1.3.D Gated Entries

All entries to the LPC will be access controlled for residents' safety. Each entrance will be designed to allow for immediate access by emergency response and law enforcement personnel.

The existing gate location on Santo Domingo Avenue provides 45 feet of queuing distance to the back of sidewalk. No changes are required for this gate. The design and dimensions of any new gated entries must be approved by the City Engineer to ensure stacking distance is adequate to eliminate queuing onto public streets during peak hours of operation and will be no less than 45 feet, unless the Community Development Director finds that a Minor Modification is warranted (see Section 5.1.8.A: Substantial Conformance and Minor Modifications).

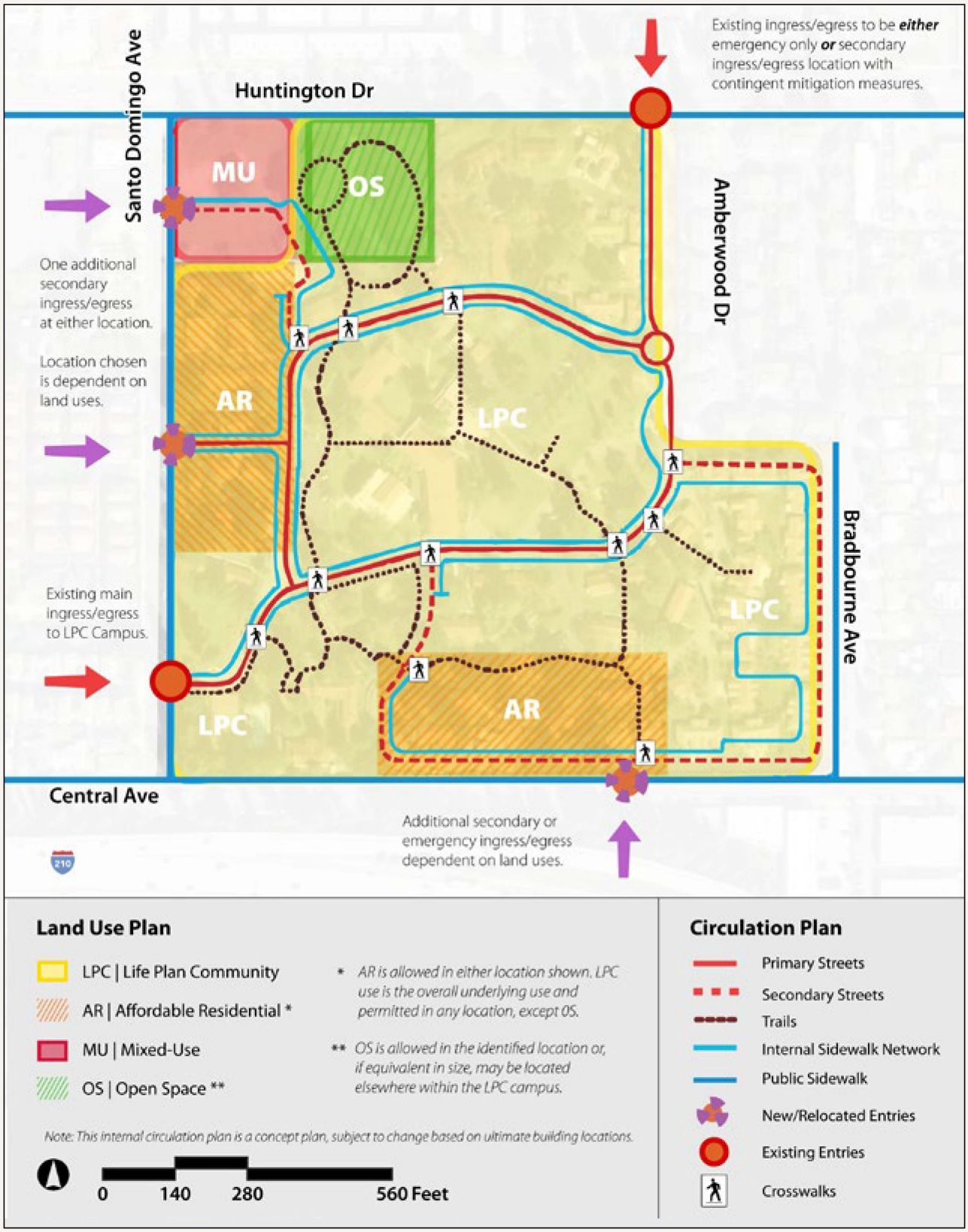
4.1.4 INTERNAL CIRCULATION

4.1.4.A Internal Circulation Plan

All roadways within the Westminster Gardens LPC campus are private streets. Flexibility is provided for reconfiguration of the existing internal circulation network based on ultimate building locations. **Exhibit 4-2: Internal Circulation Plan** provides a conceptual circulation plan. The key improvements are enhancements of and additions to the pedestrian-only internal trail system, with the intent to connect all campus uses to each other.

To ensure sufficient and convenient parking, access, and internal circulation for each phase of redevelopment, parking and circulation improvements will be provided at the same time as new buildings. Parking and circulation improvements will differ as each phase is implemented, depending on the scale of buildings and associated uses.

EXHIBIT 4-2: INTERNAL CIRCULATION PLAN



Internal roadways will be improved to comply with Specific Plan standards and guidelines before or as new development is built and phased in over time. The goal is to create a comprehensive circulation system that functions equally well for pedestrians, people on scooters or bicycles, automobiles, and shuttle-type golf carts. Roadways will be improved with enhanced pedestrian access and streetscape improvements, constructed in concert with construction of new buildings and parking areas.

Roadway configurations may vary within the campus based on the uses served and whether the road needs to accommodate delivery and service vehicles, parking, and pedestrian circulation. Internal streets must be designed to enhance circulation and satisfy all Fire Department requirements. Walkways may be incorporated as sidewalks in conjunction with roadways or be established independently as trails, as indicated in Section 4.1.6.B (Internal Campus Sidewalk and Trail Design). An Internal Vehicle Circulation Plan and an Internal Pedestrian Circulation Plan is required to be submitted in conjunction with the LPC Master Plan of Development (Section 5.2.3.A.2 [Submittal Requirements]).

4.1.4.B Minimum Roadway Widths

All new roadways and internal private streets will comply with the standards indicated in **Table 4-1: Minimum Roadway Widths** and demonstrated in Exhibits 4-3, 4-4, and 4-5 (Internal Roadway Configurations).

TABLE 4-1: MINIMUM ROADWAY WIDTHS

Configuration	Minimum Travel Lane Width	Minimum Roadway Width (Total Travel Lanes)	Minimum Parking Stall Width
No On Street Parking	11 FT	22 ft	N/A
Parallel Parking	12 FT	24 ft	9 ft
Perpendicular Parking	13 FT	26 ft	18 ft

Exhibit 4-3: INTERNAL ROADWAY - NO ON-STREET PARKING CONFIGURATION

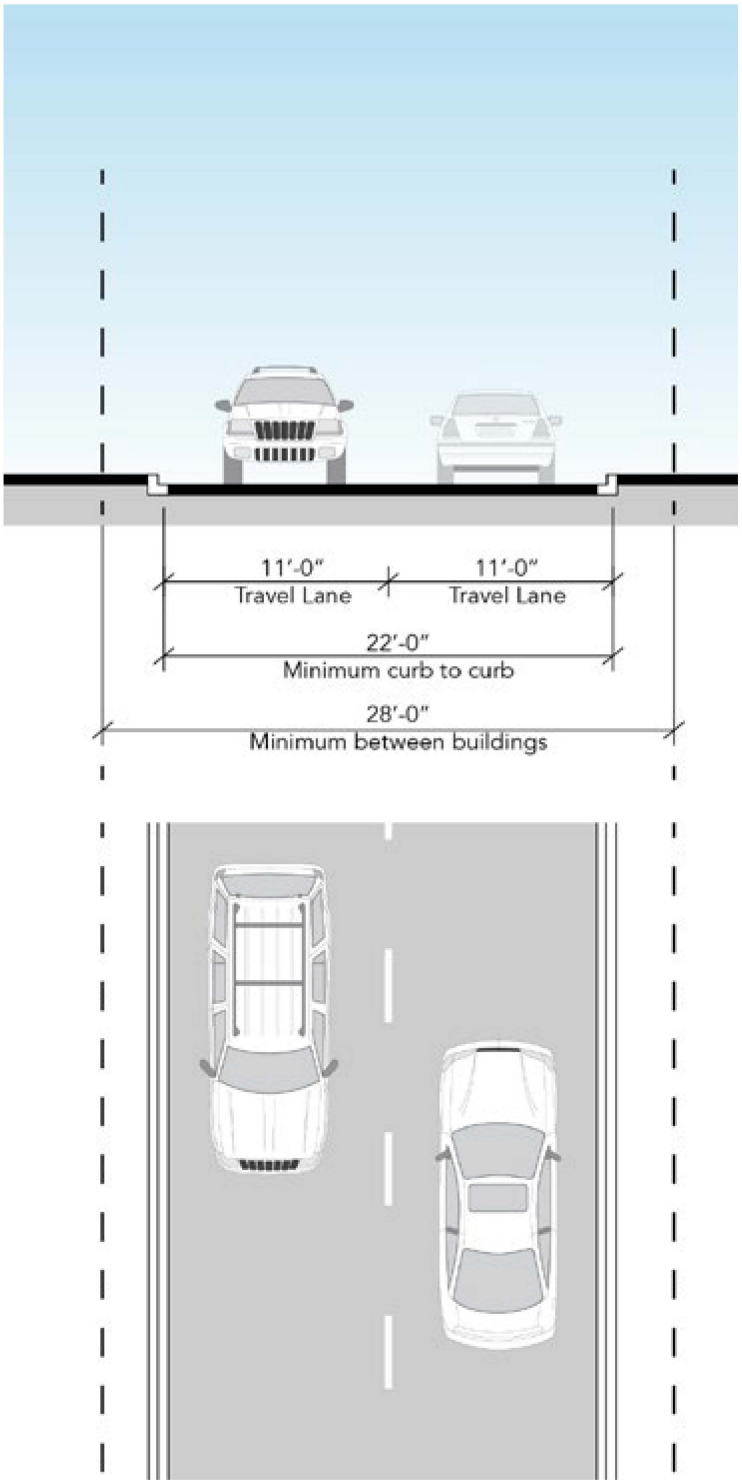
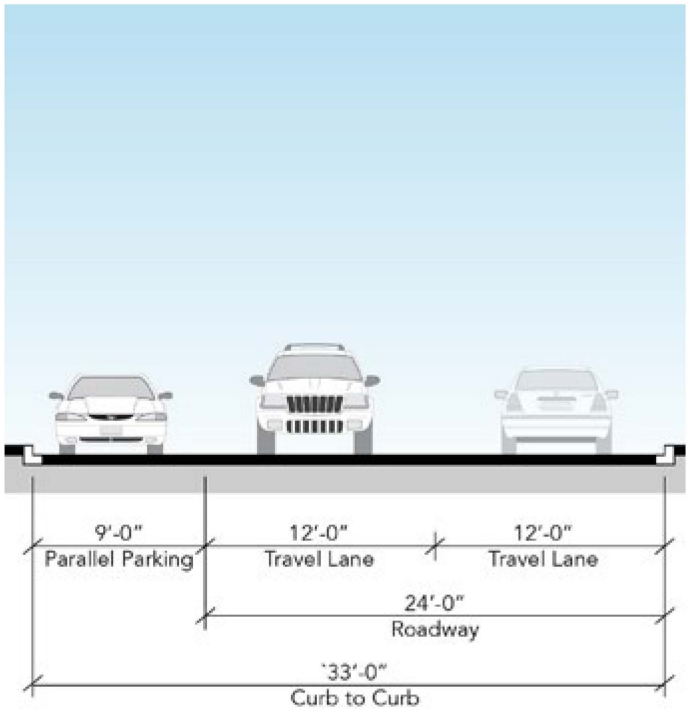
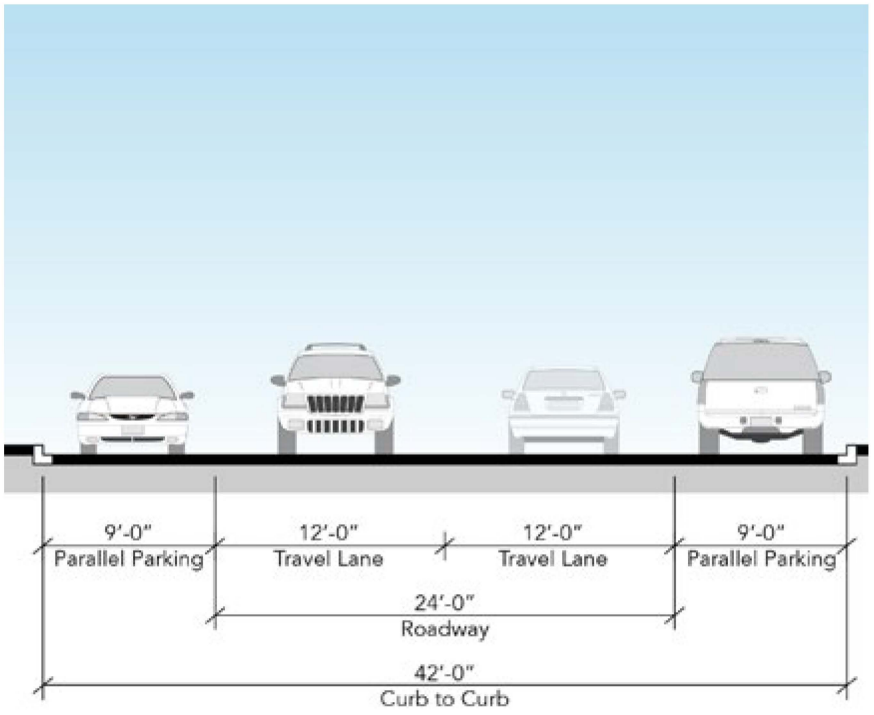
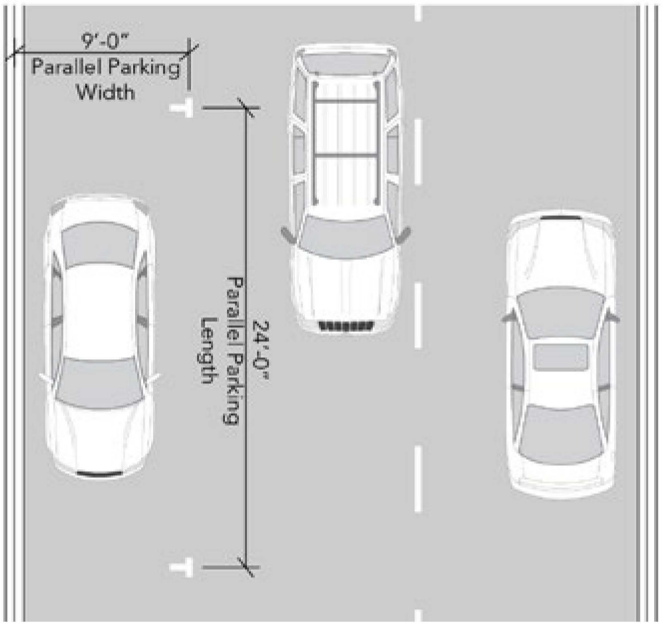


Exhibit 4-4: INTERNAL ROADWAY - PARALLEL PARKING CONFIGURATIONS







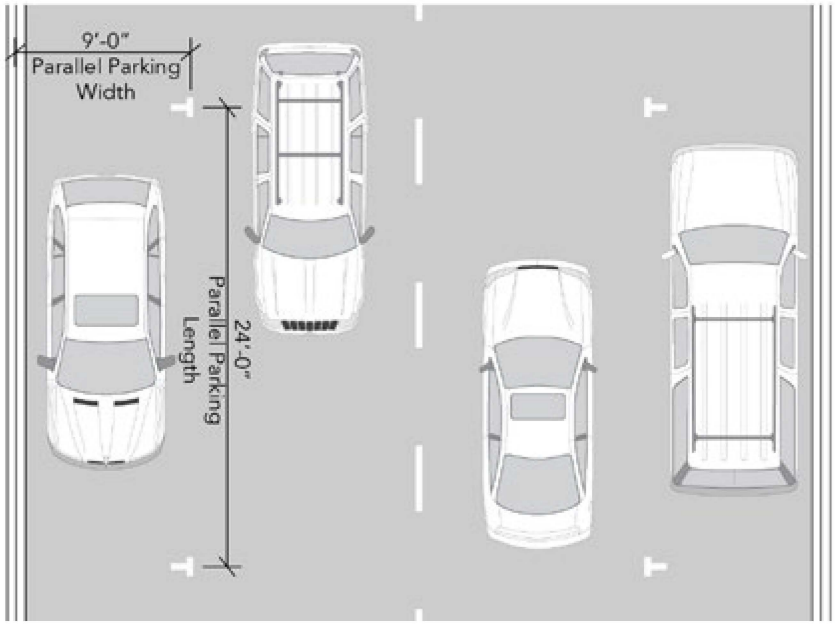
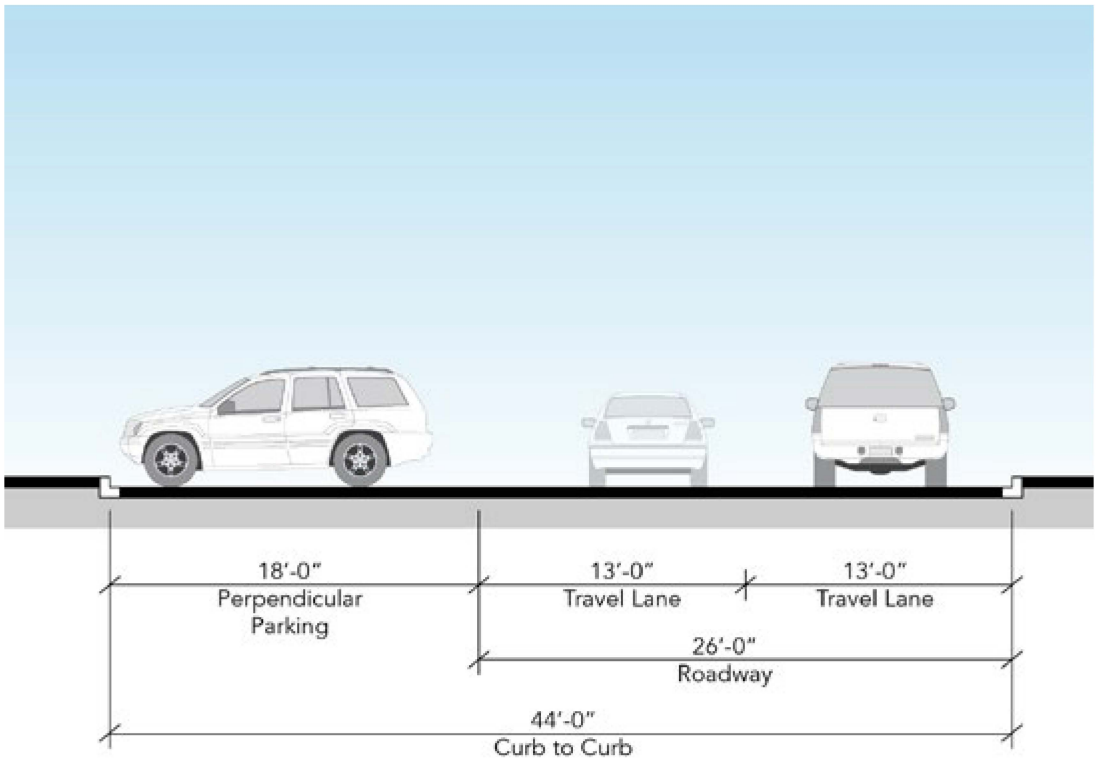


EXHIBIT 4-5: INTERNAL ROADWAY - PERPENDICULAR PARKING CONFIGURATIONS



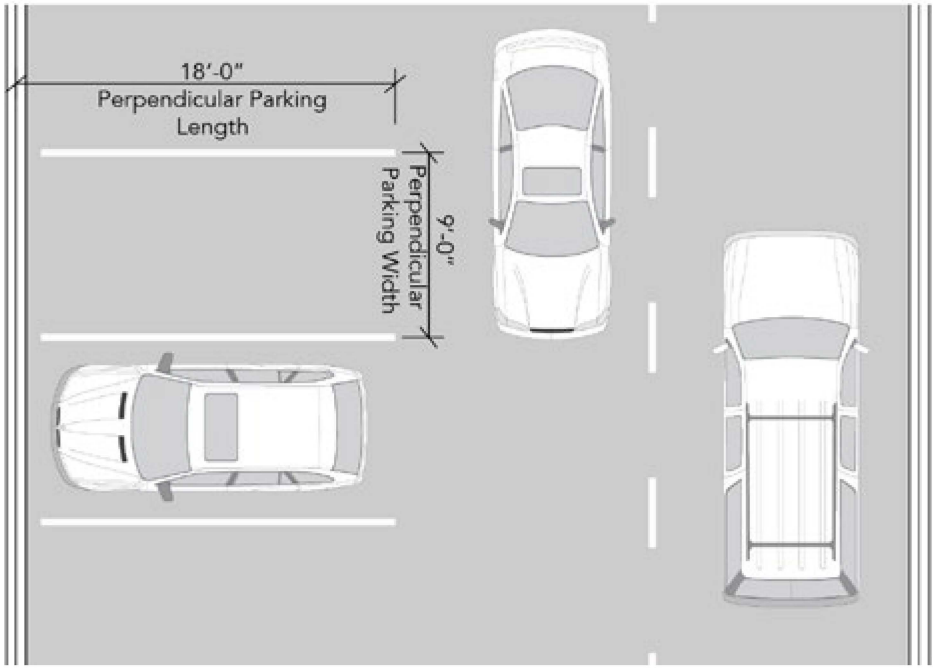
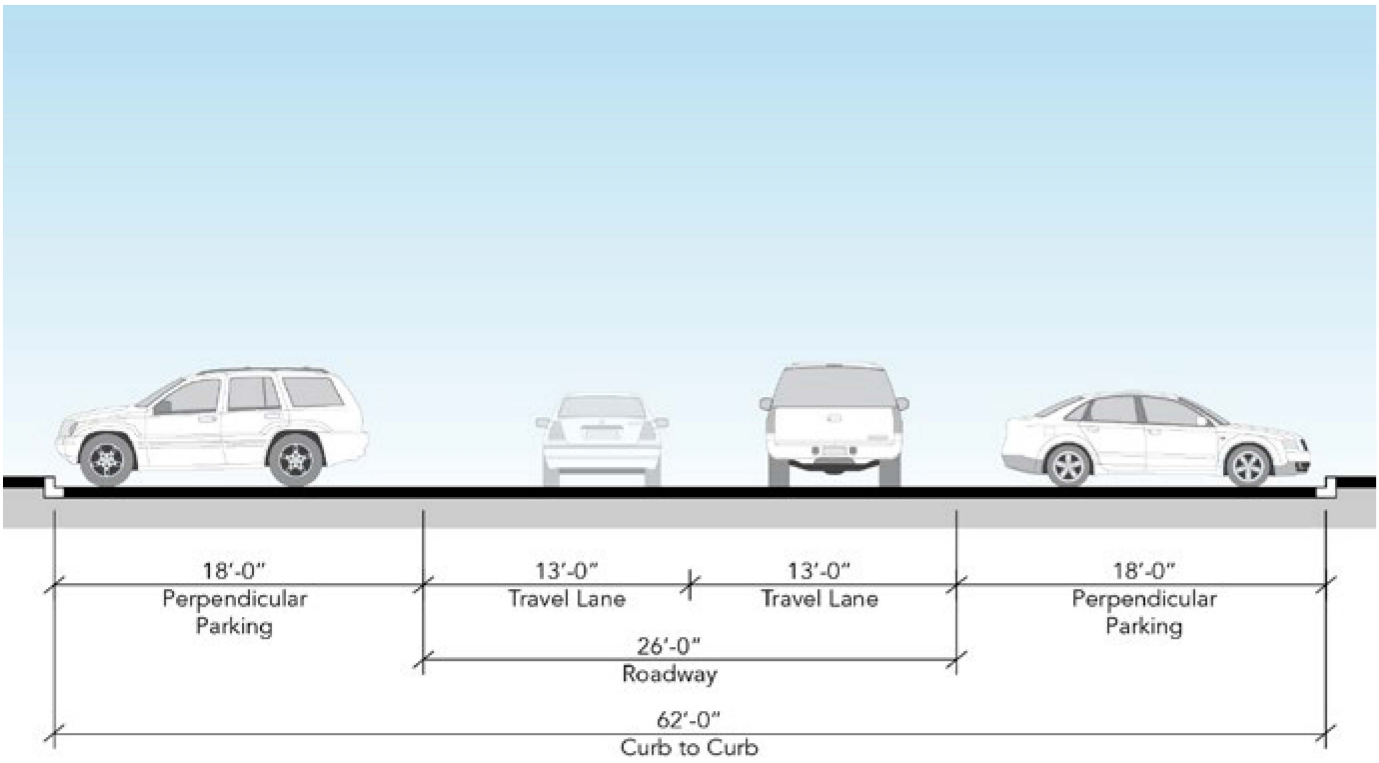
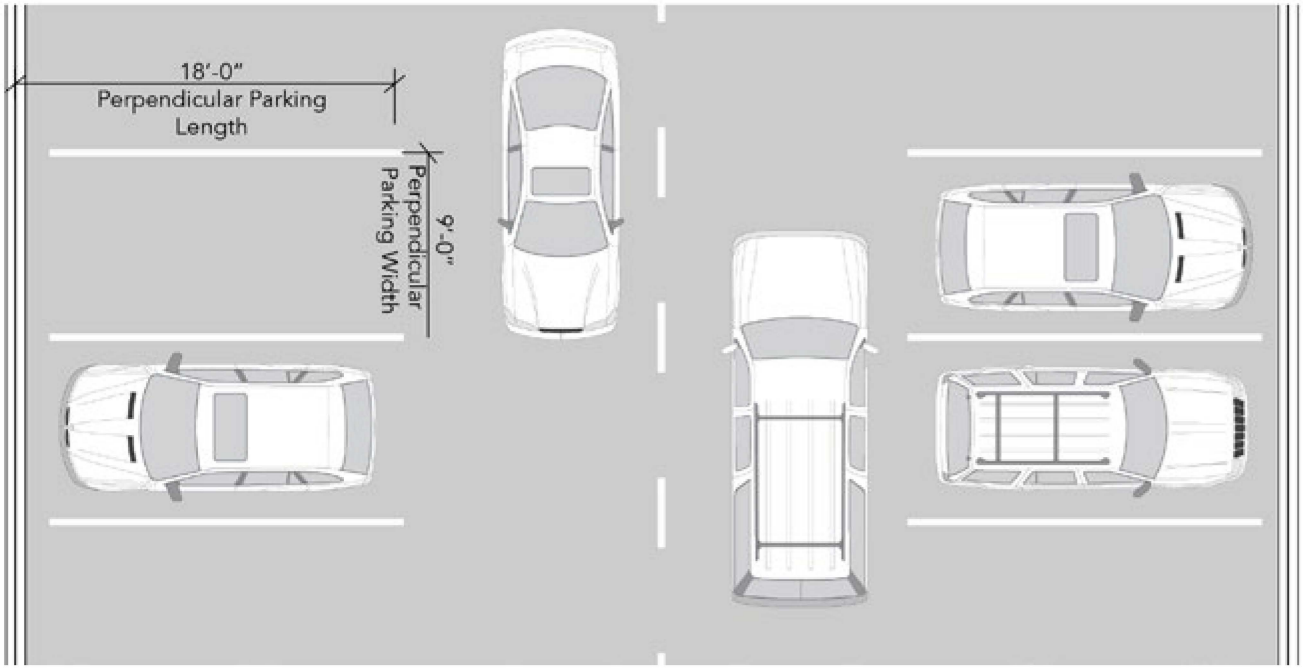


EXHIBIT 4-5: INTERNAL ROADWAY - PARALLEL PARKING CONFIGURATIONS





4.1.5 PEDESTRIAN CONNECTIVITY

Pedestrian circulation will be an integral part of the updated campus. All users (residents, employees, and visitors) will enjoy an easily accessible network that connects destinations within the campus and links to the public sidewalk network. Design guidelines are established for both public and private pedestrian walkways.

4.1.5.A Public Sidewalk and Streetscape Design

Public sidewalks and streetscapes will be installed consistent with the implementation schedule outlined in Section 5.2.5.A, **Table 5-1: Sidewalk and Driveway Improvements** and the following:

4.1.5.A.1 Huntington Drive

Sidewalks. Where necessary to repair or replace sidewalks or existing driveways fronting the campus due to onsite construction, color concrete sidewalks will be required per City standards for Huntington Drive (including curb ramps at all intersections). Sidewalks will meet City of Duarte Public Works standards, which include ADA-compliant accessibility.

Street Trees. The developer will retain, replace, and, where any tree wells have a missing street tree, install street trees pursuant to the City's adopted Street Tree Plan for Huntington Drive. Street trees are not required where old-growth trees exist adjacent to the sidewalk area within the property setback.

4.1.5.A.2. Santo Domingo Avenue

Driveways. As indicated in Figure 4-1 (Campus Access), no more than two driveways are allowed on Santo Domingo Avenue between Huntington Drive and Central Avenue; one at Orchard Road and one to serve new development. Existing unused driveway approaches on Santo Domingo Avenue must be removed.

Sidewalks. Where necessary to repair or replace sidewalks fronting the campus due to onsite construction, sidewalk improvements must consist of standard gray Portland cement concrete sidewalks (including curb ramps at all intersections) to meet City of Duarte Public Works standards, which include ADA-compliant accessibility. Sidewalk paving should incorporate recycled content to enhance sustainability.

The existing (2026) sidewalk and parkway configuration should be retained, with sidewalk located behind the curb for the portion of the block nearest to Huntington Drive.

Street Trees. The existing street trees on Santo Domingo will be retained. Where necessary due to onsite construction, the developer will protect, replace, and/or install street trees so that there is no decrease in the amount of street trees or canopy coverage for the street. Street trees will be of a species identified by the City, and any new street trees will be spaced appropriately (in parkway strips or in tree-wells) to emphasize and reinforce the spatial definition between buildings, the pedestrian environment, and the street.

4.1.5.A.3. Central Avenue

Sidewalks. Where necessary to repair or replace sidewalks fronting the campus due to onsite construction, sidewalk improvements must consist of standard gray Portland cement concrete sidewalks (including curb ramps at all intersections) to meet City of Duarte Public Works standards, which include ADA-compliant accessibility. Sidewalk paving should incorporate recycled content to enhance sustainability.

Existing Perimeter Wall. Portions of the existing perimeter wall are built within the public right-of-way. If/when the wall is reconstructed or modified, it must be rebuilt outside of the public right-of-way, on private property, with a 2-foot setback to allow for landscape planting. Any new wall or fence installed must comply with Section 3.3.4.B. (Fence and Wall Design).

4.1.5.A.4 Bradbourne Avenue

No sidewalk, right-of-way street trees, or landscape improvements are required on Bradbourne Avenue. No improvements are required to the wall on Bradbourne Avenue unless the existing wall is modified. Any new wall or fence installed must comply with Section 3.3.4.B. (Fence and Wall Design).

4.1.5.B Internal Campus Sidewalk and Trail Design

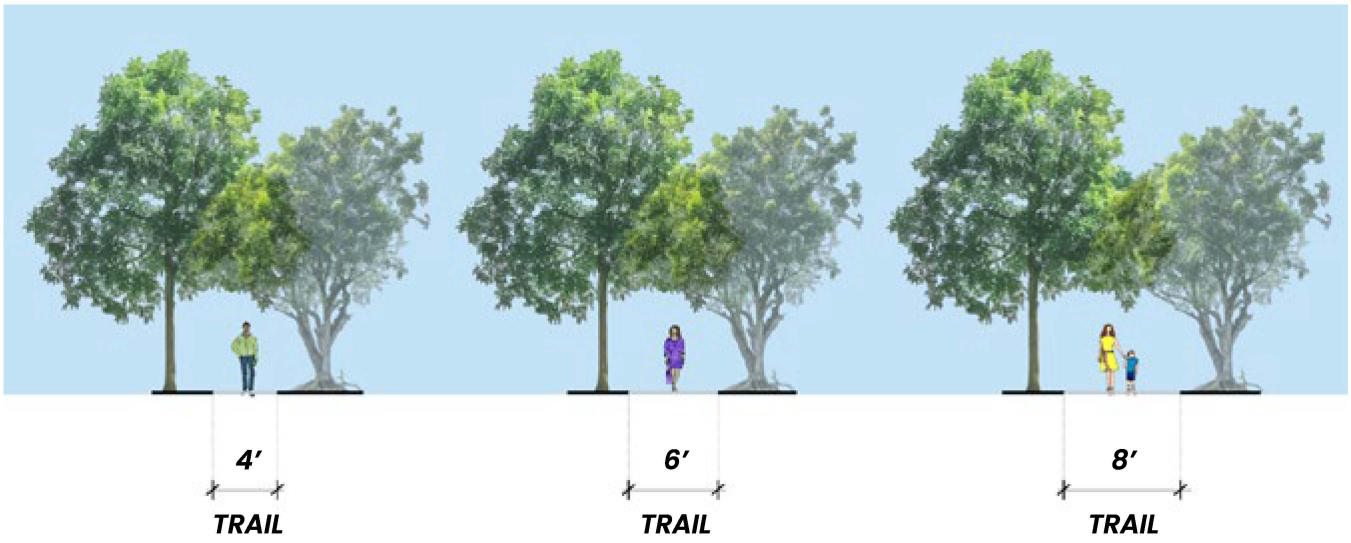
This Specific Plan strives to enhance the pedestrian experience throughout the Westminster Gardens LPC campus with a combination of landscape design elements, improved signage, lighting, and wayfinding, and the provision of safe, accessible, and well-marked pathways to all building entrances. This is to be achieved through connections between the main entrances and public streets and through internal pathways that provide pedestrian linkages between buildings and uses.

In addition to sidewalks adjacent to primary and secondary roadways, trails will be provided within the plan area where a pedestrian-only circulation element is required. A sampling of trail configuration options are illustrated in Exhibit 4-6 (Trails); however, trails may be designed to fit the circulation patterns and needs of a future conceptual site plan.

The pedestrian circulation system is intended to provide safe, accessible, and easy connections for residents, guests, and employees to and from public streets and parking areas, and between buildings. The following applies to all new pedestrian pathways within the Specific Plan area:

- **Pedestrian Connections.** Pedestrian trails will be installed between buildings, open spaces, and parking areas. All walkways and trails will be visually emphasized using landscaping, signage, lighting, and distinctive or contrasting paving in areas crossing vehicular traffic.
- **ADA Accessibility.** All new pedestrian pathways, including both sidewalks and trails, will be universally accessible for able bodied and disabled persons, and meet ADA standards.

EXHIBIT 4-6: TRAILS



- **Sidewalk and Trail Widths.** Sidewalks adjacent[1] to an internal circulation roadway will be a minimum of five feet in width. Trail widths will vary based on the location and anticipated use. Trails that are not adjacent to the internal street system must be four feet minimum, consistent with Exhibit 4-6 (Trails). Wider trails (e.g., eight-foot or six-foot width) will connect to community-serving uses such as the open space area, common. dining and recreation facilities, Morrison House, etc.
- **Golf Carts.** Signage will be installed prohibiting golf carts on trails.
- **Crosswalks.** Crosswalks will be provided at any intersection of a trail with an interior circulation roadway. When a sidewalk is provided on only one side of a roadway, appropriate crossings and connections will be made for safe roadway crossing.
- **Street Intersection.** At the intersection of two streets, the crosswalk will consist of contrasting pavement or high-visibility (zebra) crosswalks.
- **Trail Crossing.** Where a trail crosses any street, contrasting pavement or high-visibility (zebra) crosswalks will be used.



Zebra crosswalks, also referred to as continental crosswalks, alert mororists that they are approaching a pedestrian zone.

1 Adjacent means the sidewalk is either directly adjacent to the street or adjacent to a parkway that is adjacent to the street

- **T-Intersections.** At T-intersections, at least one crosswalk will be placed across the through street. Additional crosswalks are encouraged as appropriate.
- **Phases.** An Internal Pedestrian Circulation Plan will be required and implemented, consistent with Section 5.2.6 (Internal Circulation).

4.2 Infrastructure Plan

This section reports on the infrastructure serving Westminster Gardens and identifies infrastructure improvements needed to support Specific Plan buildout.

4.2.1 DOMESTIC WATER SERVICE

Water service is provided to the City of Duarte by California American Water (Cal-Am), which derives some its water supply from the San Gabriel groundwater basin. In 2025, a Water Supply Assessment was prepared to satisfy the requirements of California Water Code Section 10910 for the Westminster Gardens Specific Plan amendment. The Water Supply Assessment determined that the total projected water supplies available during average, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand for the project, in addition to Cal-Am's existing and planned future uses.

Twelve-inch water mains exist on both the north and south sides within Huntington Drive. A 16-inch water main runs within Bradbourne Avenue. Both Central Avenue and Santo Domingo Avenue have an eight-inch water main. The campus is served by one water line from Huntington Drive and two at the southeast corner of campus; one on Central Avenue and one on Bradbourne Avenue. Onsite existing water lines ranging in size from two to eight inches serve existing residential units and amenity buildings within the Westminster Gardens LPC campus. Proposed new buildings will be served by the three existing water service lines through a series of laterals ranging in diameter from six and 12 inches and new water service lines.

Private meters and backflow devices will be required for new domestic water service and/or separate fire lines. In 2025, fire hydrants serving the development included seven on-site and eight off-site hydrants on adjacent street frontages. As construction phases occur, the new site configuration is expected to conflict with all existing onsite fire hydrants, which will need to be relocated. A separate fire design will be prepared to determine whether sufficient fire flow can be provided by existing offsite and proposed relocated onsite hydrants. Additional hydrants and hydrant relocation will be dictated by the Los Angeles County Fire Department based on the final site layout for each phase. A fire flow availability report provided by Cal-Am indicates high flow availability. A more refined hydraulic analysis will be coordinated with Cal-Am for future design as individual phases are implemented.

4.2.2 SANITARY SEWER SERVICE

The Los Angeles Sanitation District has no trunk sewers within the Specific Plan area. All sewer mains surrounding the Specific Plan area are maintained by Los Angeles County Consolidated Sewer Maintenance District on behalf of City of Duarte and include the following:

Huntington Drive: A 1,300-foot-long, 15-inch sewer main within Huntington Drive flows east to west from the Amberwood Drive/Huntington Drive intersection to the main line along Santo Domingo Avenue. Six sewer manholes exist along this stretch.

Bradbourne Avenue: A 1,000-foot-long, eight-inch sewer main within Bradbourne Avenue flows north to south the Oakwood Lane/ Bradbourne Avenue intersection to the main line along Central Avenue. Two sewer manholes are provided.

Central Avenue: A 1,600-foot-long, 10-inch sewer main along Central Avenue flows east to west from Bradbourne Avenue to the main line along Santo Domingo Avenue, with six sewer manholes.

Santo Domingo Avenue: A 1,700-foot-long, 15-inch sewer main along Santo Domingo Avenue flows north to south from the start of the sewer main at Huntington Drive to the end of the main line along Central Avenue, with five sewer manholes.

Sewer connections to the main lines along Central Avenue and Santo Domingo Avenue serve the Specific Plan area. The onsite system consists of six-inch and eight-inch sewer lines, sanitary sewer cleanouts, and sewer manholes.

Sewage from the Specific Plan area could be transferred to any number of sewer pipelines that surround the site. **Exhibit 4-8: Sewer Infrastructure** shows a preliminary conceptual sewer plan, which would include one new connection on Santo Domingo Avenue and extensions of existing sewer lines. Refined sewer layouts will be required as part of site plan submittals for individual development phases. The City will review all new buildings within the campus on a phase-by-phase basis to determine if local sewer lines have sufficient capacity to accommodate effluent from new development. The City may charge new developments a fee to upgrade or extend local sewer lines, as needed, to accommodate increased demand. The Los Angeles County Department of Public Works also reviews new developments and assesses fees based on the maintenance of local sewer lines.

4.2.3 STORMWATER AND WATER QUALITY

A seven-foot-wide by three-foot-high rectangular concrete storm drain channel runs through the middle of the site, starting at the Huntington Drive and discharging into a 43-inch by 27-inch corrugated metal pipe in Central Avenue. This existing culvert carries an offsite tributary area of approximately 108 acres north of Huntington Drive. No drainage easements or facilities maintained by the City of Duarte, County of Los Angeles, or Caltrans cross the site.

EXHIBIT 4-7: WATER INFRASTRUCTURE



Note: Proposed water line locations are conceptual and assume a site configuration with affordable housing located off Santo Domingo, south of the mixed-use parcel. Variations to the locations of proposed water service would occur if an alternative site design is pursued.

Proposed Water Infrastructure Plan

0 140 280 560 Feet

Existing Water
Proposed Water
Proposed Fire Water
Property Line

EXHIBIT 4-8: SEWER INFRASTRUCTURE



Note: Proposed sewer line locations are conceptual and assume a site configuration with affordable housing located off Santo Domingo, south of the mixed-use parcel. Variations to the locations of proposed sewer service would occur if an alternative site design is pursued.

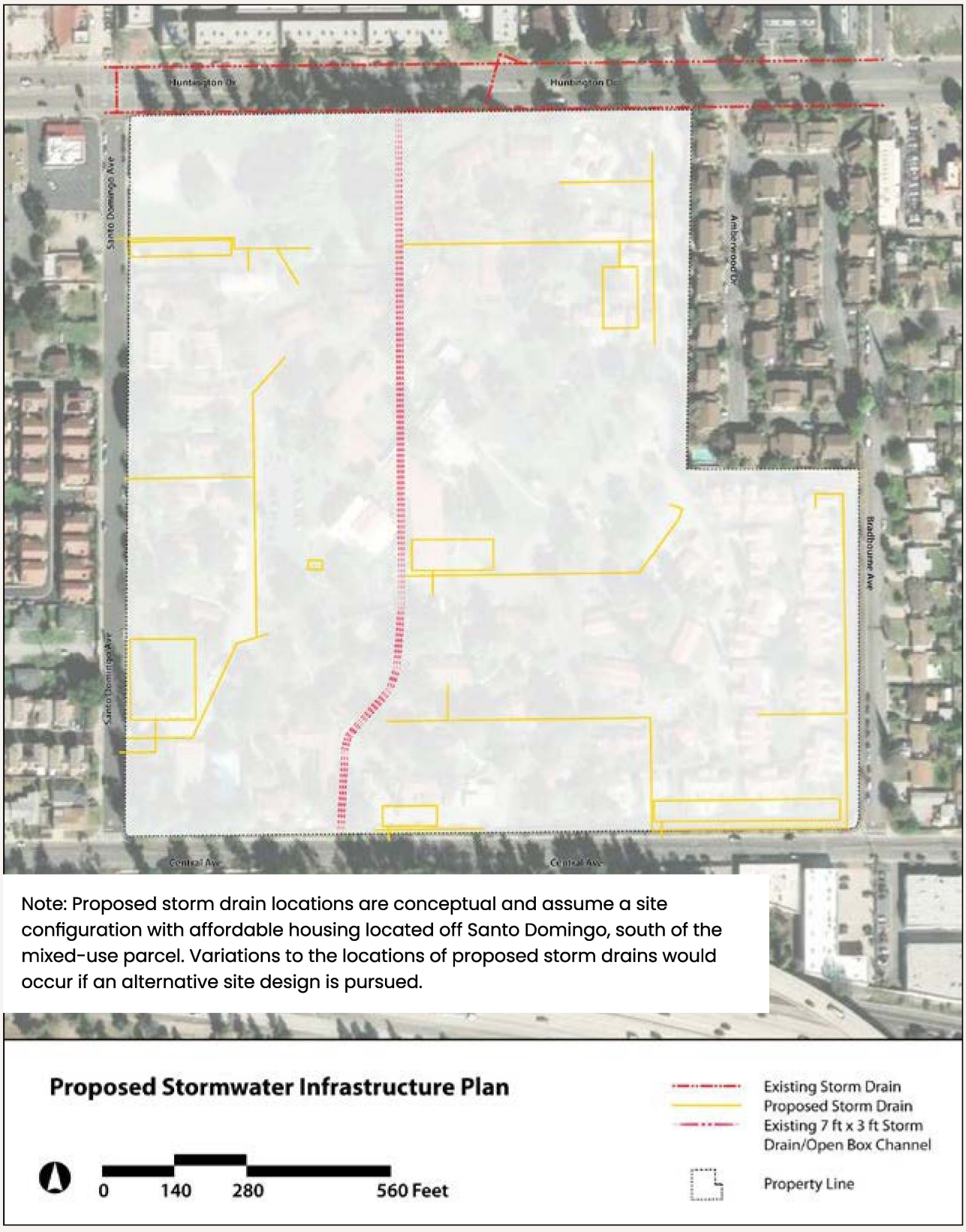
Proposed Sewer Infrastructure Plan

0 140 280 560 Feet

Existing Sewer
Proposed Sewer

Property Line

EXHIBIT 4-9: STORMWATER INFRASTRUCTURE



Note: Proposed storm drain locations are conceptual and assume a site configuration with affordable housing located off Santo Domingo, south of the mixed-use parcel. Variations to the locations of proposed storm drains would occur if an alternative site design is pursued.

Topographic, as-built, and County storm drain maps indicate that approximately 13 acres of on-site drainage sheet flows onto Santo Domingo Avenue and into a catchbasin on Central Avenue, which subsequently discharges into a trapezoidal concrete culvert that conveys flow to the Rio Hondo River. The remaining 19 acres discharge directly into the 43-inch by 27-inch Central Avenue pipe via the storm drain channel, which directly connects to the trapezoidal concrete channel on Central Avenue and into the Rio Hondo River. This trapezoidal concrete channel is maintained by City.

The City also maintains two reinforced concrete storm drain pipes in Huntington Drive along the campus's northern boundary, consisting of an 18-inch line and a 20- to 30-inch line, both at varying depths. A four-foot-wide by one-and-one-half-foot-high reinforced concrete box is located at the intersection of Huntington Drive and Santo Domingo Avenue. In-curb catch basins are located along Huntington Drive, Central Avenue, and Santo Domingo Avenue.

The project will have an estimated 500,000 square feet of landscaped area. To continue to manage stormwater flows effectively, site imperviousness will not exceed 70 percent. Hydrology analysis conducted for development phases will indicate whether stormwater quantities in the build-out condition will require any new drainage facilities to accommodate any changes in peak flows or overall volumes.

All projects within the Specific Plan area will comply with the City's urban runoff pollution control standards consistent with Municipal Code Chapter 6.15 (Stormwater and Urban Runoff Pollution Control). Typical pollutants include greases and oils from cars and pesticides used in landscaping. Runoff will be managed consistent with the City's Enhanced Watershed Management Program and low-impact development (LID) standards. Pollution control methods will focus on LID drainage designs such as retention/infiltration basins, trenches, and above ground and/or below ground bio-treatment systems.

Drainage and flood control structures and improvements will be subject to review and approval by the City's Department of Public Works, which requires that all storm facilities be designed in conformity with the standards established by Los Angeles County. Any proposed increases in discharge directly into County facilities, or proposed improvements of County-owned stormwater facilities, such as catch basins and drainage lines, require approval from the County Flood Control District to ensure compliance with the County's National Pollutant Discharge Elimination System (NPDES) permit requirements.

4.2.4 NATURAL GAS, ELECTRICITY, AND COMMUNICATION

Natural gas is provided to Duarte by the Southern California Gas Company. Electric power service is provided by Southern California Edison. Both purveyors provide natural gas and electricity to the site from existing facilities. Various communications providers provide service in the form of telephone and internet in Duarte, including Spectrum, Frontier, and AT&T.

Undergrounding of new and existing power and communication lines within the street right-of-way adjacent to the property will be required in association with major development activity, consistent with the implementation schedule outlined in Section 5.2.5.B, **Table 5-2: Utility Undergrounding Requirements**. All new buildings and structures will be required to provide underground electrical and telecommunication service laterals on the premises.

4.2.5 GRADING

The Westminster Gardens campus is relatively flat, without significant variation in topography. No natural slopes or landforms are present. Due to the flat nature of the area, grading associated with development activity will be minor, consisting of demolition of existing buildings and asphalt parking areas, precise grading for planned structures, and placement of foundations for new structures. It is not anticipated that any significant import or export of soil will be required for any development. Prior to issuance of a building permit for any proposed structure, site plan approval will be required, inclusive of a precise grading plan based on final architectural design.

4.2.6 PUBLIC SERVICES

Schools: The Westminster Gardens campus is within the Duarte Unified School District. Any required school fees will be paid at the time of building permits.

Fire: Fire protection and prevention services are provided in Duarte by the Los Angeles County Fire Department. Battalion 16 serves the cities of Duarte, Covina, Baldwin Park, and Azusa. The battalion operates out of eight fire stations located within this service area. Fire Station #44 is located at 1105 Highland Avenue, in Duarte, about 0.5 miles from the Westminster Gardens campus.

Law Enforcement: The Los Angeles County Sheriff's Department provides law enforcement services to Duarte. The Sheriff's Department has a satellite station in Duarte at 1042 East Huntington Drive, approximately 1.4 miles from the Westminster Gardens campus.

Library: The Duarte Library is operated by the Los Angeles County Public Library System. The Duarte Library is located at 1301 Buena Vista Street, a little over one mile from the Westminster Gardens campus.

Solid Waste: Residential and commercial solid waste disposal services are provided through a contract with a private waste hauler. The contract hauler provides all residential and commercial customers with containers for solid waste collection.



5

Administrative and Implementation

This Chapter establishes the administrative procedures and implementation framework necessary to guide the orderly development and long-term operation of the Westminster Gardens Specific Plan. It describes how the Specific Plan will be administered, including the review and approval processes for future development proposals and modifications to the Plan. This Chapter also identifies project phasing and implementation triggers to ensure that required infrastructure, improvements, and amenities are provided in coordination with development.

5.1 Administration

5.1.1 PURPOSE AND OVERVIEW

This Chapter identifies how the Westminster Gardens Specific Plan will be implemented.

5.1.2 APPLICABILITY

All development within the Specific Plan area will comply with the requirements and standards set forth in this Specific Plan and the accompanying CEQA documentation, Development Agreement, conditions of approval, and Mitigation Monitoring and Reporting Program.

In the event of any conflict between the Specific Plan standards and standards in the DDC, the regulations and standards in this Specific Plan will take precedence. Any area of site development, administration, review procedures, environmental review, landscaping requirements, or other regulations not expressly addressed in this Specific Plan will be subject to the provisions of the DDC, using the context and objectives of the Specific Plan as a guide. The terms used within the Specific Plan are the same as defined by the DDC, unless otherwise noted in Appendix C (Glossary). The Specific Plan regulations, development standards, and guidelines will apply in their entirety in the review of development proposals, site plans, and building permits.

5.1.3 ADOPTION

The Westminster Gardens Specific Plan and any amendments thereto will be approved in a manner consistent with applicable provisions of the DDC. The Westminster Gardens Specific Plan will be adopted by ordinance and will serve as the zoning ordinance for the entire Specific Plan area.

5.1.4 SEVERABILITY

In the event that any regulation, condition, program, portion, or policy of this Specific Plan or the application thereof to any person or circumstance is held to be invalid or unconstitutional by any court of competent jurisdiction, such portions will be deemed separate, distinct, and independent provisions and will not affect the validity of the remaining provisions of this Specific Plan or applications thereof which can be implemented without the invalid provision.

5.1.5 ENFORCEMENT

The Westminster Gardens Specific Plan implements General Plan policy applicable to the Specific Plan area. The City will enforce the provisions of the Specific Plan in the same manner that the City enforces the provisions of the General Plan, Municipal Code, and DDC.

5.1.6 INTERPRETATION

Any ambiguity concerning the content or application of the Westminster Gardens Specific Plan will be resolved in accordance with applicable interpretation provisions of DDC Chapter 19.04 (Interpretation of the Development Code). Such interpretations will consider the stated objectives and intent of the Specific Plan. Any interpretation made by the Community Development Director may be appealed to the Planning and Economic Development Commission.

5.1.7 APPEALS

An appeal of any determination, decision, or requirement of City staff, Community Development Director, or Planning and Economic Development Commission will be made in conformance with the procedures established by DDC Chapter 19.144 (Appeals).

5.1.8 SPECIFIC PLAN MODIFICATIONS AND AMENDMENTS

5.1.8.A Substantial Conformance and Minor Modifications

Final development plans for projects may include minor adjustments to development standards based on final design and engineering and the precise development plans of the project developer. The Community Development Director has the authority to identify and approve, on behalf of the City, Minor Modifications, as defined herein, which substantially conform to the approved Specific Plan. To approve a Minor Modification, the Community Development Director must make a finding of substantial conformance.

Minor Modifications that meet the substantial conformance determination may include, but are not limited to the following:

1. **Compliance with COA/Mitigation.** Modifications necessary to comply with final conditions of approval or mitigation measures, provided the modification does not change a mitigation measure without addressing any applicable CEQA requirements.
2. **COA/DA Provisions.** Minor deviation from a condition of approval for an approved conditional use permit or development agreement.
3. **Infrastructure.** Modification of any design that improves circulation, grading, drainage, or infrastructure.
4. **Mix of Residential Unit Types within the LPC.** The number of proposed independent living units and assisted living/memory care units within the LPC as indicated in Table 2-1 (Growth Relative to Baseline Conditions) may be modified, provided the total number of units identified at proposed build out will not be exceeded (i.e., if independent living units are increased, assisted living units must be decreased). Requirements related to providing affordable units consistent with Section 3.2.4 (Affordable Housing Requirement) will not be reduced.
5. **Mix of Nonresidential Square Footage.** Minor variations in square footage of nonresidential buildings and uses that may occur at the time of design, depending on the ultimate residential or nonresidential product or services identified for development within either the Mixed Use or LPC districts. The total amount of nonresidential square footage must not be exceeded, as indicated in Table 2-1 (Growth Relative to Baseline Conditions).

6. **Design.** Minor changes to architectural design standards, provided the overarching intent is satisfied, recognizing that the guidelines are intended to be conceptual in nature and flexible in implementation/interpretation.
7. **Setbacks.** Minor modifications to setbacks along Bradbourne Avenue, as indicated in Section 3.3.2.C (Eastern Edge Condition Requirements).
8. **Fences and Walls.** As indicated in Section 3.3.4 (Fences and Walls):
    - An additional two feet in height of walls and fences around the perimeter of the property.
    - Non-sacrificial anti-graffiti coating in lieu of landscaping on perimeter walls and fences.
9. **Parking Spaces.**
    - Adjustment in the number of required parking spaces by no more than ten percent or as otherwise determined by a parking study, as indicated in Section 3.3.6.B.2 (Other Parking Reductions).
    - Adjustment in the number of required parking spaces for affordable senior independent living units.
10. **Open Space.** Minimum private open space requirements alternatively met through common and/or public open spaces, as indicated in Section 3.3.5 (Open Space).
11. **Window Recess.** Modification to the requirement that at least 80 percent of windows will be inset by at least two inches, as indicated in Section 3.4.1.D (Windows).
12. **Gated Entry Minimum Depth.** Adjustment to the minimum driveway queuing depth associated with gated entry required by Section 4.1.3.D (Gated Entries), if substantiated by a traffic study reviewed and approved by the City Engineer.
13. **General Information.** Additional information added to the Specific Plans (including maps, graphics, or text) for clarification that does not change the intent of any exhibit or regulation, as well as correction of any clerical or grammatical errors.
14. **Other.** Modifications of a similar nature to those listed above, which are deemed minor by the Community Development Director, represent a deviation of no more than 10 percent from any numerical standard, and conform to the purpose and intent of this Specific Plan and the General Plan.

A property owner or authorized agent of the property owner may file a Minor Modification application with the Community Development Department to request a Minor Modification. The documentation of substantial conformance must be provided by the applicant, including text and/or maps that describe the nature of all proposed modifications. This submittal will undergo any necessary technical review by City Departments and the Community Development Director to provide for conformance with the Specific Plan, conditions of approval, and mitigation measures. Changes to mitigation measures require compliance with applicable CEQA provisions and may require additional analysis of any impacts pursuant to CEQA.

5.1.8.B Specific Plan Amendments

If a project applicant seeks a Specific Plan modification or adjustment that the Community Development Director deems to be a substantial modification, such modification will be considered an amendment. Such amendments are subject to the same provisions as required by State law and the DDC for Specific Plan adoption. A Specific Plan amendment requires public hearings, a recommendation by the Planning and Economic Development Commission, and approval and adoption by ordinance by the City Council. A Specific Plan amendment is required under the following circumstances:

1. Changes to the overall Specific Plan boundaries, including an expansion of the Specific Plan area.
2. A change in any other provision, purpose, or standard which, as determined by the Community Development Director, would significantly alter the basic intent, spirit, identity, or concepts of the adopted Specific Plan.
3. An increase in the overall development density, intensity, and/or height thresholds, except as otherwise allowed for affordable housing pursuant to DCC density bonus provisions.

5.2 Implementation

5.2.1 MITIGATION MONITORING AND REPORTING PROGRAM

The Westminster Gardens Specific Plan EIR includes a Mitigation Monitoring and Reporting Program that identifies implementing actions for development or redevelopment within the Specific Plan area. The Mitigation Monitoring and Reporting Program is a program of measures identified to mitigate or avoid significant effects on the environment. An approved Mitigation Monitoring and Reporting Program ensures that the Specific Plan complies with all applicable environmental mitigation and permit requirements. The final approved Mitigation Monitoring and Reporting Program is established upon EIR certification, remains on file with the City, and is included as Appendix B of this Specific Plan.

5.2.2 DEVELOPMENT AGREEMENT

The Westminster Gardens Specific Plan is both a regulatory and programmatic plan that necessitates a Development Agreement. A Development Agreement is a contract between the City and the developer implementing the Specific Plan, in compliance with State law and the DDC. A Development Agreement is intended to provide assurance to the developer that development or redevelopment within the Specific Plan area may proceed subject to the policies, rules, regulations, and conditions of approval applicable at the time of approval, regardless of any changes to City policies, rules,

and regulations after Specific Plan approval. In return, the City is provided assurance that the project would further important citywide goals and policies that have been officially recognized by the Council, and provide the City with significant, tangible benefits beyond those that may be required by the City through project conditions of approval. The Westminster Gardens Specific Plan Development Agreement will be adopted by ordinance at the same time the Specific Plan is adopted, and should include, but is not limited to, addressing the following: phasing, location and timing for development of the affordable units, infrastructure improvements, and right-of-way improvements.

5.2.3 DEVELOPMENT AND REDEVELOPMENT IMPLEMENTATION

5.2.3.A LPC Master Plan of Development

While this Specific Plan is designed to allow for great flexibility and immediate development of individual phases, the lack of a comprehensive fixed master plan (e.g., the exact location of affordable housing) introduces the risk of "planning into a corner" in which immediate construction can affect future build-out or cause infrastructural conflicts. For this reason, it is essential to balance phased development with strategic foresight, by establishing a clear trajectory for future development intent. The requirements of this Subsection are designed to ensure that immediate improvements remain harmonious with the projected long-term build-out of the campus.

5.2.3.A.1: When Required

The applicant is required to submit a Master Plan of Development that articulates the ultimate conceptual redevelopment plan for the LPC campus. The LPC Master Plan of Development submittal is only required in conjunction with redevelopment of the existing LPC buildings and facilities. The following redevelopment activities are exempt from this requirement and may be initiated in advance of Master Plan of Development submittal:

- Proposed development in the Mixed Use district;
- Proposed development of assisted living/ memory care facilities that do not involve demolition of existing independent living units;
- Proposed development of LPC Administration Facilities and/or LPC Resident Common Facilities that do not involve demolition of existing independent living units; and
- Proposed development of Affordable Senior Independent Living Unit(s) that do not involve demolition of existing independent living units.

While these actions do not require a Master Plan of Development, if an early phase development is proposed, prior to Master Plan of Development submittal, that will be an integrated part of the LPC campus (including any LPC Resident Common Facilities or Senior Independent Living Units), the submittal must delineate internal vehicle and pedestrian connections to the LPC.

5.2.3.A.2 Submittal Requirements

The Master Plan of Development must include all components required by this Subsection.

Conceptual Site Plan. The Master Plan of Development must depict proposed building locations, remaining consistent with the Development Concept articulated in Chapter 2, and a master wall and fencing plan applicable to the project boundaries. All buildings are subject to the development regulations and design standards of Chapter 3 of the Specific Plan, and perimeter walls/fences must comply with Section 3.3.4 (Fences and Walls).

Internal Vehicle Circulation Plan. The Master Plan of Development must include an internal campus-wide Vehicle Circulation Plan in compliance with Section 5.2.6 (Internal Circulation) that illustrates the future design intent for the campus's internal roadway network. This submittal must not only address the immediate development phase but also delineate how the applicant anticipates the circulation will evolve through future phases. This is intended to prevent the creation of unnecessary dead-end streets, suboptimal traffic patterns, or the placement of permanent infrastructure on sites later developed for other uses. Internal roadways must adhere to Specific Plan standards outlined in Section 4.1.4 (Internal Circulation).

Internal Pedestrian Circulation Plan. The Master Plan of Development must include an internal campus-wide Pedestrian Circulation Plan in compliance with Section 5.2.6 (Internal Circulation) and Section 4.1.5 (Pedestrian Connectivity). The Pedestrian Circulation Plan must address pedestrian circulation throughout the campus and ensure consistent access from residential units to common areas. The pedestrian system must meet all ADA requirements, be served with adequate lighting, and indicate locations of all pedestrian circulation paths and crosswalks. Pedestrian circulation may be associated with vehicle circulation through pedestrian access built into streetscape improvements and/or it may involve pedestrian pathways or trails independent of vehicular streets.

Low Impact Development (LID) and Stormwater Management Plan. The Master Plan of Development must include a plan for how project-specific stormwater solutions play into the larger role of stormwater management throughout campus and ensure LID features are not sited within footprints designated for future development. This plan must specify the estimated sizing, capacity, and geographical placement of engineered systems such as bioretention cells, detention basins, or filtration systems to ensure long-term functionality without encumbering future construction. In addition, the final stormwater plan must include a detailed plan of flow from the entire property, including information regarding the onsite drainage channel. See Section 4.2.3 (Stormwater and Water Quality).

Utilities and Sewage Plan. While not required for approval, it is strongly recommended that the applicant perform comprehensive capacity planning for all dry and wet utilities. Strategic placement of connections, "stub-outs," and main lines during early phases of development will help avoid the costly relocation of utilities

or the disruption of existing improvements during subsequent development. See Section 4.2.2 (Sanitary Sewer Service) and Section 4.2.4 (Natural Gas, Electricity, and Communication).

5.2.3.A.3 Review

The Master Plan of Development must be reviewed and approved by the Planning Commission for consistency with the intent and regulations of the Specific Plan. Adjustments to standards may occur if deemed consistent with the Specific Plan, subject to Section 5.1.8A (Substantial Conformance and Minor Modifications).

The Planning Commission may approve or conditionally approve the Master Plan of Development application only after first making all of the following findings:

- DDC Site Plan review findings, pursuant to Section 19.122.050 (Findings and Decision);
- The Master Plan of Development Conceptual Site Plan complies with all standards and guidelines of the Specific Plan, unless otherwise modified pursuant to Section 5.1.8A (Substantial Conformance and Minor Modifications);
- Appropriate on-site circulation and traffic control measures are incorporated into the development to ensure that pedestrian and vehicular facilities adequately serve resident needs throughout all phases of development, traffic safety issues are addressed, adequate emergency access is provided, and a safe, efficient, and interconnected circulation pattern is established that supports internal site circulation and connectivity to the larger street network;
- The Master Plan of Development demonstrates that stormwater runoff will be managed through a coordinated system of Low Impact Development (LID) and drainage facilities that are appropriately sized and located to protect public health and safety, maintain water quality, and preserve areas designated for future development; and
- The Development Project has been designed to comply with all applicable mitigation measures in the Mitigation Monitoring and Reporting Program.

5.2.3.A.4 Concurrent or Subsequent Processing

Related entitlements may be processed either subsequent to or concurrent with the conceptual master plan of development if the entitlements are consistent with the conceptual master plan.

5.2.3.B Other Entitlement Requirements

A mix of uses are permitted within the land use districts described in Exhibit 3-1: Westminster Gardens Land Use Plan and in Table 3-1: Allowable Uses and Permit Type, subject to discretionary review and approval that at a minimum requires Site Plan/Design Review consistent with DDC Chapter 19.122 (Site Plan and Design Review) and, where applicable, Minor Use Permit or Conditional Use Permit approval. Both early phase projects that predate the LPC Master Plan of Development submittal and later phases proposed in

conjunction or subsequent to the Master Plan of Development submittal are required to comply with DDC Chapter 19.122 (Site Plan and Design Review).

To ensure that development and/or redevelopment proposals are consistent with the Specific Plan, supporting documentation that demonstrates proof of compliance must be submitted along with the application for Site Plan Review, on forms/checklists provided by the Community Development Department. All permit submittals, review, and approvals will be subject to all provisions of the DDC, including any public noticing and approval/appeal authority.

At each phase of development:

- Prior to issuance of a building permit for any proposed structure, site plan approval will be required, inclusive of a final architectural design, landscape design, building locations, and precise grading plan.
- Site plans will be submitted to the Los Angeles County Fire Department to obtain a fire flow requirement based upon the tenant type, building size, and building type. The Fire Department will also determine the flow and time period requirements based upon building and tenant type.
- The City will review all new buildings proposed to determine if local sewer lines have sufficient capacity to accommodate effluent from new development and specific sewer improvements required to service new buildings. The Los Angeles County Department of Public Works also reviews new developments and assesses fees based on the maintenance of local sewer lines.

5.2.4 SUBDIVISION MAPS AND ACTIONS

All subdivision maps and actions for the parcels within the Specific Plan area must be filed and processed in accordance with the Subdivision Map Act and the DDC. Development within the Mixed Use and Affordable Residential districts may require subdivision actions that would require lot line adjustments or creation of new parcels with separate ownership/maintenance responsibilities from the Westminster Gardens LPC campus. Reciprocal access agreements would also be likely between the various parcels for any shared access to the public right-of-way or shared parking.

5.2.5 RIGHT-OF-WAY IMPROVEMENTS

5.2.5.A Sidewalks, Parkways, and Driveways

As project phases are implemented, modification to existing sidewalks, parkways, and driveways along Huntington Drive, Santo Domingo Avenue, and Central Avenue will be required consistent with **Table 5-1: Sidewalk and Driveway Requirements**.

5.2.5.B Utility Undergrounding

As project phases are implemented, utility undergrounding (including electric and communication lines) will be required consistent with **Table 5-2: Utility Undergrounding Requirements**.

TABLE 5-1: SIDEWALK AND DRIVEWAY REQUIREMENTS

Street	Implementation Requirements	Implementation Schedule
Huntington Drive	**Sidewalks:** Where necessary to repair or replace sidewalks fronting the campus or the emergency access driveway due to onsite construction, install color concrete sidewalks per Section 4.1.5.A.1. **Street Trees:** Retain, and where necessary due to onsite construction, replace, and/or install missing street trees pursuant to the City's adopted Street Tree Plan for Huntington Drive. See Section 4.1.5.A.1.	Sidewalk improvements required when Huntington Drive sidewalks and/or existing driveways are impacted by onsite construction.
Santo Domingo Avenue	**Driveways:** Remove existing unused driveway approach(es) on Santo Domingo per Section 4.1.5.A.2. **Sidewalks:** Where necessary to repair or replace sidewalks fronting the campus due to onsite construction, install standard gray Portland cement concrete sidewalks per section 4.1.5.A.2. **Street Trees:** Retain, and where necessary due to onsite construction, replace any street trees removed due to construction per Section 4.1.5.A.2.	Driveway improvements required if/when Mixed Use District parcel is developed. Sidewalk improvements required if/when Santo Domingo Avenue sidewalks are impacted by onsite construction. Street tree improvements required if/when Santo Domingo Avenue street trees are impacted by onsite construction.
Central Avenue	**Sidewalks:** Where necessary to repair or replace sidewalks fronting the campus due to onsite construction, install standard gray Portland cement concrete sidewalks per Section 4.1.5.A.3. **Existing Perimeter Wall:** Portions of the existing perimeter wall are built within the public right-of-way. If/when the wall is reconstructed or modified, it must be rebuilt outside of the public right-of-way, on private property, with a 2-foot setback to allow for landscape planting and consistent with Section 4.1.5.A.3. **Maintenance Driveway:** Existing maintenance driveway must be removed if/when Central Avenue driveway access is used for affordable housing; otherwise, it may remain as emergency access only.	Sidewalk improvements required if/when Central Avenue sidewalks are impacted by onsite construction. Exterior perimeter wall improvements required if/when the existing perimeter wall is reconstructed or modified. Maintenance driveway improvements required if/when Central Avenue driveway access is revised to provide access for affordable housing.
Bradbourne Avnue	No improvements required. Existing street trees will be retained.	N/A

TABLE 5-2: UTILITY UNDERGROUNDING REQUIREMENTS

Street	Implementation Requirement	Implementation Schedule
Huntington Drive	No improvements required.	N/A
Santo Domingo Avenue	All aerial utilities in the public right-of-way will be required to be undergrounded and related poles removed.	Utility undergrounding required if/when buildings that aerial utilities are serving are demolished.
Central Avenue	All aerial utilities in the public right-of-way will be required to be undergrounded and related poles removed.	
Bradbourne Avnue	No improvements required.	N/A

5.2.6 INTERNAL CIRCULATION

The Internal Pedestrian Circulation Plan (required as part of the Master Plan of Development [Section 5.2.3.A.2]) will address improvements to link new buildings to all portions of campus and indicate where pedestrian and accessibility upgrades are necessary within the existing system. During each phase of development, implementation of the Pedestrian Circulation Plan (required as part of the Master Plan of Development) must be completed in concert with development of roadways, buildings, and other construction projects to ensure immediate access to the pedestrian network once construction of each phase is completed.

5.2.7 ONSITE DRAINAGE CHANNEL

The onsite drainage channel must be maintained by the property owner to provide stormwater flow through the campus. Any alteration or change to the drainage channel is subject to the review and approval of the City.

5.2.8 AFFORDABLE HOUSING

Construction of Affordable Senior Independent Living Unit(s) will be a required component of project development. To accomplish full Specific Plan development capacity, the applicant must provide at least 75 low-income and 75 moderate-income senior housing units. Required phasing of the affordable housing units is described in Section 5.2.9 (Phasing).

5.2.9 PHASING

Implementation of the Specific Plan is expected to occur in two or more phases. During each phase, site plan and design review consistent with DDC Chapter 19.122 (Site Plan and Design Review), applications for applicable Minor Use Permits or Conditional Use Permits, plan check, issuance of construction permits, and actual construction of buildings, roads, and infrastructure, will require review by the City of Duarte, consistent with Section 5.2.3 (Development and Redevelopment Implementation).

5.2.9.A Initial Phase

During the first phase of development, construction will expand the existing LPC campus with new senior independent living units on the vacant parcel represented by the Mixed Use district. The exact number of units that will be constructed during this first phase is undefined; however, a minimum of 20 percent of the units constructed within the Mixed Use district must be reserved for moderate-income residents. See Section 3.2.4 (Affordable Housing Requirements).

5.2.9.B Future Phase(s)

Sequencing of future phases to result in ultimate buildout is undefined and may occur in multiple phases over 20 years or more. In any phasing scenario, the City will require the balance of required affordable units not included in the initial phase or provided in the existing LPC to be included in a development that is completed as a part of a future phase of the project, as determined by the affordable housing agreement.

5.2.9.C General Phasing Requirements

5.2.9.C.1 Comprehensive Development

In all phases, vehicular/pedestrian access, public facilities, and infrastructure must be constructed to adequately service the phase of development, and as needed for public health and safety, as determined by the City, and consistent with the Master Plan of Development.

5.2.9.C.2 Phasing Plan

For each phase, a precise project phasing plan must be submitted to the Community Development Director for review and a finding of consistency with the Development Agreement. Proposed revisions to approved phasing plans will be reviewed by the Community Development Director and may be approved administratively, provided the proposed revisions are consistent with the Specific Plan. Any revision to the phasing deemed consistent with the Specific Plan will not require a Specific Plan Amendment.

5.2.9.C.3 Notice

Each phase of development within the Westminster Gardens LPC campus that will impact existing residents, as determined by the Community Development Director, will require proof of compliance with notification, accommodation, and/or relocation provisions of State law regulating licensed Continuing Care Retirement Communities (CCRCs) and Residential Care Facility for the Elderly (RCFEs).

TABLE 5-3: MAINTENANCE RESPONSIBILITIES

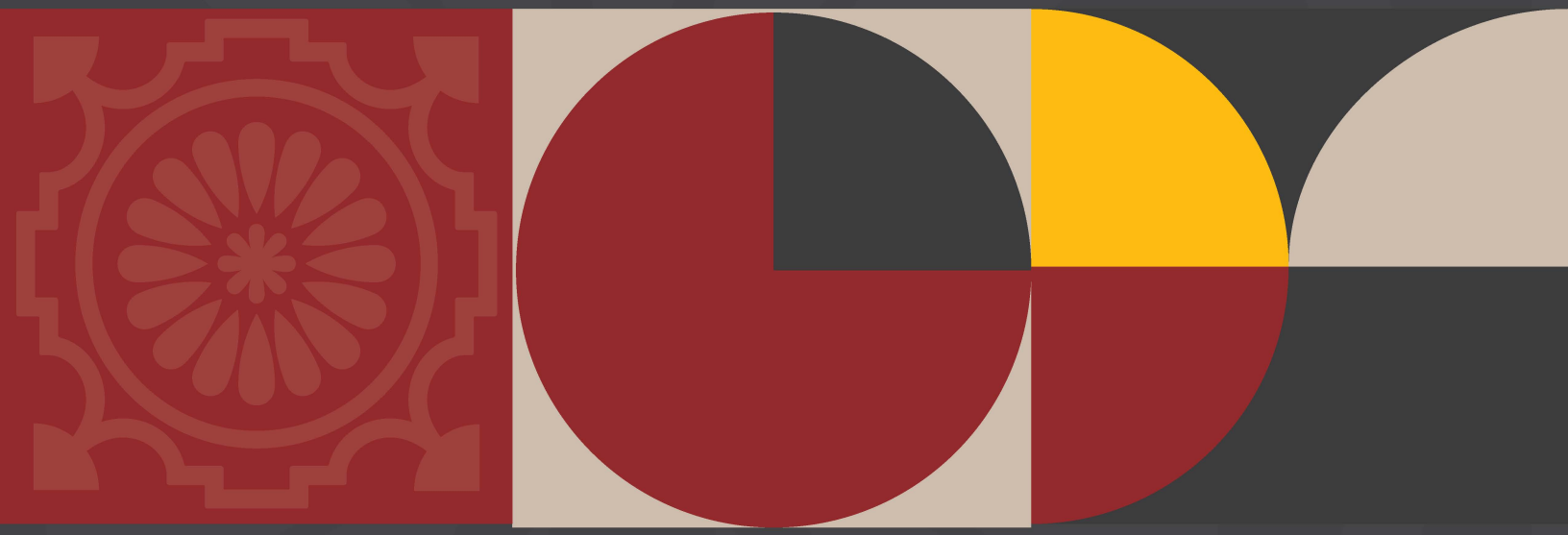
Area of Responsibility	City	Property Owner	Utility
Tree wells on Huntington Drive	◆		
Other Improvements (Private Property)			
Fences and walls		◆	
Driveways		◆	
Off-street parking area		◆	
Stormwater drainage/water quality control facilities behind the curb		◆	
Monument signage (on site)		◆	
Landscaping within setback/landscape buffer areas and open spaces within the Specific Plan area		◆	
Interior drainage channel		◆	
Dry utilities electricity, natural gas, communication systems		◆	◆

5.2.10 MAINTENANCE RESPONSIBILITIES

Final determination of maintenance responsibilities for public and private improvements constructed will be specified in the approved Development Agreement. However, it is anticipated that maintenance will be generally shared by the entities as outlined in Table 5-3 (Maintenance Responsibilities).

5.2.11 PROJECT FINANCING MEASURES

All Specific Plan phases will be privately funded, with the exception of affordable independent living units, which may be funded through a variety of sources. Affordable housing is often funded through a combination of federal, State, and local programs using a mix of funding sources. Key programs include the federal Low-Income Housing Tax Credit (LIHTC) program for development and financing, State grants and loans, and local housing trust funds, such as the San Gabriel Valley Housing Trust Fund.



City of Duarte
1600 Huntington Drive
Duarte, CA 91010

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Westminster Gardens Construction Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Westminster Gardens Construction
Construction Start Date	1/1/2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.80000
Precipitation (days)	22.4000
Location	34.13817979314946, -117.96313389953602
County	Los Angeles-South Coast
City	Duarte
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4902
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Retirement Community	550.000	Dwelling Unit	26.8034	835,000	0.00000	0.00000	1,010.00	—
General Office Building	25.0000	1000sqft	0.57392	25,000.0	0.00000	0.00000	—	—
Parking Lot	312.000	Space	2.80800	0.00000	0.00000	0.00000	—	—
City Park	1.50000	Acre	1.50000	0.00000	65,340.0	65,340.0	—	—
Strip Mall	15.0000	1000sqft	0.34435	15,000.0	0.00000	0.00000	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Construction	C-13	Use Low-VOC Paints for Construction

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	161.324	161.263	25.6491	38.5160	0.06093	1.04307	6.33239	7.37546	0.95962	1.75419	2.71381	—	9,827.78	9,827.78	0.41177	0.48926	22.1399	10,006.0

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Mit.	36.0805	36.0203	25.6491	38.5160	0.06093	1.04307	6.33239	7.37546	0.95962	1.75419	2.71381	—	9,827.78	9,827.78	0.41177	0.48926	22.1399	10,006.0
% Reduced	78%	78%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.70141	3.11266	28.0478	34.7913	0.06185	1.17173	7.89497	9.06671	1.07799	3.99357	5.07157	—	9,546.68	9,546.68	0.35109	0.72327	0.57404	9,699.41
Mit.	3.70141	3.11266	28.0478	34.7913	0.06185	1.17173	7.89497	9.06671	1.07799	3.99357	5.07157	—	9,546.68	9,546.68	0.35109	0.72327	0.57404	9,699.41
% Reduced	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	16.1117	16.0346	12.7823	24.6536	0.03235	0.42023	4.21339	4.63362	0.38751	1.12862	1.51612	—	6,791.91	6,791.91	0.18809	0.35043	6.23348	6,906.70
Mit.	4.10211	4.02495	12.7823	24.6536	0.03235	0.42023	4.21339	4.63362	0.38751	1.12862	1.51612	—	6,791.91	6,791.91	0.18809	0.35043	6.23348	6,906.70
% Reduced	75%	75%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.94039	2.92631	2.33278	4.49929	0.00590	0.07669	0.76894	0.84563	0.07072	0.20597	0.27669	—	1,124.48	1,124.48	0.03114	0.05802	1.03202	1,143.48
Mit.	0.74863	0.73455	2.33278	4.49929	0.00590	0.07669	0.76894	0.84563	0.07072	0.20597	0.27669	—	1,124.48	1,124.48	0.03114	0.05802	1.03202	1,143.48
% Reduced	75%	75%	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Threshold	—	75.0000	100.0000	550.000	150.000	—	—	150.000	—	—	55.0000	—	—	—	—	—	—	—
Unmit.	—	Yes	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	75.0000	100.0000	550.000	150.000	—	—	150.000	—	—	55.0000	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Mit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year

2.2.1. Total Construction Emissions by Year, Unmitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.58581	3.01645	25.6491	38.5160	0.06093	1.04307	6.33239	7.37546	0.95962	1.75419	2.71381	—	9,827.78	9,827.78	0.41177	0.48926	22.1399	10,006.0
2028	2.90663	2.43476	12.3702	36.9835	0.03810	0.31493	5.90254	6.21747	0.29091	1.40696	1.69788	—	9,684.30	9,684.30	0.22135	0.48782	20.1500	9,855.35
2029	161.324	161.263	11.7514	35.4050	0.03809	0.29034	5.90254	6.19288	0.26829	1.40696	1.67525	—	9,541.21	9,541.21	0.21988	0.48782	18.2583	9,710.34

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.70141	3.11266	28.0478	34.7913	0.06185	1.17173	7.89497	9.06671	1.07799	3.99357	5.07157	—	9,546.68	9,546.68	0.35109	0.72327	0.57404	9,699.41
2028	2.89473	2.42287	12.6515	33.5401	0.03810	0.31493	5.90254	6.21747	0.29091	1.40696	1.69788	—	9,408.70	9,408.70	0.23036	0.48927	0.52138	9,560.78
2029	2.63202	2.33204	12.0252	32.1145	0.03809	0.29034	5.90254	6.19288	0.26829	1.40696	1.67525	—	9,270.92	9,270.92	0.22889	0.48926	0.47349	9,422.92
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.23130	1.86041	12.7823	22.9181	0.03235	0.42023	4.21339	4.63362	0.38751	1.12862	1.51612	—	6,104.11	6,104.11	0.18809	0.28917	4.67938	6,199.66
2028	2.06791	1.72994	9.06377	24.6536	0.02729	0.22557	4.16774	4.39331	0.20837	0.99275	1.20112	—	6,791.91	6,791.91	0.16499	0.35043	6.23348	6,906.70
2029	16.1117	16.0346	3.22421	8.33868	0.00940	0.08438	1.32658	1.41096	0.07787	0.31551	0.39338	—	2,210.35	2,210.35	0.05531	0.10687	1.77158	2,245.35
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.40721	0.33953	2.33278	4.18256	0.00590	0.07669	0.76894	0.84563	0.07072	0.20597	0.27669	—	1,010.61	1,010.61	0.03114	0.04788	0.77473	1,026.43
2028	0.37739	0.31571	1.65414	4.49929	0.00498	0.04117	0.76061	0.80178	0.03803	0.18118	0.21920	—	1,124.48	1,124.48	0.02732	0.05802	1.03202	1,143.48
2029	2.94039	2.92631	0.58842	1.52181	0.00172	0.01540	0.24210	0.25750	0.01421	0.05758	0.07179	—	365.949	365.949	0.00916	0.01769	0.29331	371.744

2.2.2. Onsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	6.07097	7.11404	0.95962	1.69292	2.65254	—	6,598.08	6,598.08	0.26765	0.05353	0.00000	6,620.72
2028	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2029	161.016	160.995	8.58166	12.9012	0.02340	0.27564	0.00000	0.27564	0.25359	0.00000	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.63178	3.05170	27.9724	28.2794	0.06093	1.17173	7.66623	8.83797	1.07799	3.93995	5.01795	—	6,598.08	6,598.08	0.26765	0.05353	0.00000	6,620.72
2028	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
2029	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	0.00000	0.27564	0.25359	0.00000	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.39963	1.17392	10.5306	12.2424	0.02335	0.40905	1.45025	1.85930	0.37633	0.46726	0.84359	—	2,459.64	2,459.64	0.09977	0.01995	0.00000	2,468.09
2028	0.84861	0.71011	6.39243	9.26478	0.01676	0.21504	0.00000	0.21504	0.19784	0.00000	0.19784	—	1,717.16	1,717.16	0.06966	0.01393	0.00000	1,723.05
2029	15.7761	15.7227	2.47558	3.73391	0.00636	0.08133	0.00000	0.08133	0.07482	0.00000	0.07482	—	654.847	654.847	0.02656	0.00531	0.00000	657.094
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.25543	0.21424	1.92183	2.23423	0.00426	0.07465	0.26467	0.33932	0.06868	0.08528	0.15396	—	407.222	407.222	0.01652	0.00330	0.00000	408.620
2028	0.15487	0.12959	1.16662	1.69082	0.00306	0.03925	0.00000	0.03925	0.03611	0.00000	0.03611	—	284.296	284.296	0.01153	0.00231	0.00000	285.271
2029	2.87914	2.86940	0.45179	0.68144	0.00116	0.01484	0.00000	0.01484	0.01366	0.00000	0.01366	—	108.417	108.417	0.00440	0.00088	0.00000	108.789

2.2.3. Offsite Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.77589	1.51210	3.56149	25.5781	0.01470	0.01470	5.90254	5.91723	0.01470	1.40696	1.42166	—	7,430.70	7,430.70	0.31453	0.46982	22.1399	7,600.71

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
2028	1.72181	1.44333	3.44520	24.0483	0.01470	0.01470	5.90254	5.91723	0.01470	1.40696	1.42166	—	7,286.84	7,286.84	0.12410	0.46837	20.1500	7,449.67
2029	1.66774	1.38781	3.16976	22.5038	0.01470	0.01470	5.90254	5.91723	0.01470	1.40696	1.42166	—	7,144.38	7,144.38	0.12265	0.46837	18.2583	7,305.28
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.75498	1.48218	5.27969	21.8533	0.02932	0.05585	5.90254	5.91723	0.05585	1.40696	1.42166	—	7,149.60	7,149.60	0.21208	0.69547	0.57404	7,294.10
2028	1.70992	1.43144	3.72657	20.6048	0.01470	0.01470	5.90254	5.91723	0.01470	1.40696	1.42166	—	7,011.24	7,011.24	0.13311	0.46982	0.52138	7,155.09
2029	1.47866	1.36691	3.44355	19.2133	0.01470	0.01470	5.90254	5.91723	0.01470	1.40696	1.42166	—	6,874.09	6,874.09	0.13167	0.46982	0.47349	7,017.86
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.83167	0.68649	2.25177	10.6758	0.00900	0.01118	2.76314	2.77432	0.01118	0.66136	0.67253	—	3,644.47	3,644.47	0.08831	0.26921	4.67938	3,731.58
2028	1.21929	1.01983	2.67134	15.3889	0.01053	0.01053	4.16774	4.17827	0.01053	0.99275	1.00328	—	5,074.75	5,074.75	0.09534	0.33650	6.23348	5,183.65
2029	0.33564	0.31184	0.74864	4.60477	0.00305	0.00305	1.32658	1.32963	0.00305	0.31551	0.31856	—	1,555.51	1,555.51	0.02874	0.10156	1.77158	1,588.26
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.15178	0.12528	0.41095	1.94833	0.00164	0.00204	0.50427	0.50631	0.00204	0.12070	0.12274	—	603.383	603.383	0.01462	0.04457	0.77473	617.806
2028	0.22252	0.18612	0.48752	2.80847	0.00192	0.00192	0.76061	0.76253	0.00192	0.18118	0.18310	—	840.183	840.183	0.01578	0.05571	1.03202	858.212
2029	0.06125	0.05691	0.13663	0.84037	0.00056	0.00056	0.24210	0.24266	0.00056	0.05758	0.05814	—	257.532	257.532	0.00476	0.01681	0.29331	262.955

2.2.4. Total Construction Emissions by Year, Mitigated

Includes both onsite and offsite emissions.

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.58581	3.01645	25.6491	38.5160	0.06093	1.04307	6.33239	7.37546	0.95962	1.75419	2.71381	—	9,827.78	9,827.78	0.41177	0.48926	22.1399	10,006.0
2028	2.90663	2.43476	12.3702	36.9835	0.03810	0.31493	5.90254	6.21747	0.29091	1.40696	1.69788	—	9,684.30	9,684.30	0.22135	0.48782	20.1500	9,855.35
2029	36.0805	36.0203	11.7514	35.4050	0.03809	0.29034	5.90254	6.19288	0.26829	1.40696	1.67525	—	9,541.21	9,541.21	0.21988	0.48782	18.2583	9,710.34
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.70141	3.11266	28.0478	34.7913	0.06185	1.17173	7.89497	9.06671	1.07799	3.99357	5.07157	—	9,546.68	9,546.68	0.35109	0.72327	0.57404	9,699.41
2028	2.89473	2.42287	12.6515	33.5401	0.03810	0.31493	5.90254	6.21747	0.29091	1.40696	1.69788	—	9,408.70	9,408.70	0.23036	0.48927	0.52138	9,560.78
2029	2.63202	2.33204	12.0252	32.1145	0.03809	0.29034	5.90254	6.19288	0.26829	1.40696	1.67525	—	9,270.92	9,270.92	0.22889	0.48926	0.47349	9,422.92
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	2.23130	1.86041	12.7823	22.9181	0.03235	0.42023	4.21339	4.63362	0.38751	1.12862	1.51612	—	6,104.11	6,104.11	0.18809	0.28917	4.67938	6,199.66
2028	2.06791	1.72994	9.06377	24.6536	0.02729	0.22557	4.16774	4.39331	0.20837	0.99275	1.20112	—	6,791.91	6,791.91	0.16499	0.35043	6.23348	6,906.70
2029	4.10211	4.02495	3.22421	8.33868	0.00940	0.08438	1.32658	1.41096	0.07787	0.31551	0.39338	—	2,210.35	2,210.35	0.05531	0.10687	1.77158	2,245.35
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.40721	0.33953	2.33278	4.18256	0.00590	0.07669	0.76894	0.84563	0.07072	0.20597	0.27669	—	1,010.61	1,010.61	0.03114	0.04788	0.77473	1,026.43
2028	0.37739	0.31571	1.65414	4.49929	0.00498	0.04117	0.76061	0.80178	0.03803	0.18118	0.21920	—	1,124.48	1,124.48	0.02732	0.05802	1.03202	1,143.48
2029	0.74863	0.73455	0.58842	1.52181	0.00172	0.01540	0.24210	0.25750	0.01421	0.05758	0.07179	—	365.949	365.949	0.00916	0.01769	0.29331	371.744

2.2.5. Onsite Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	6.07097	7.11404	0.95962	1.69292	2.65254	—	6,598.08	6,598.08	0.26765	0.05353	0.00000	6,620.72
2028	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
2029	35.7732	35.7517	8.58166	12.9012	0.02340	0.27564	0.00000	0.27564	0.25359	0.00000	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	3.63178	3.05170	27.9724	28.2794	0.06093	1.17173	7.66623	8.83797	1.07799	3.93995	5.01795	—	6,598.08	6,598.08	0.26765	0.05353	0.00000	6,620.72
2028	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	0.00000	0.30024	0.27622	0.00000	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	0.00000	2,405.68
2029	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	0.00000	0.27564	0.25359	0.00000	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	0.00000	2,405.06
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.39963	1.17392	10.5306	12.2424	0.02335	0.40905	1.45025	1.85930	0.37633	0.46726	0.84359	—	2,459.64	2,459.64	0.09977	0.01995	0.00000	2,468.09
2028	0.84861	0.71011	6.39243	9.26478	0.01676	0.21504	0.00000	0.21504	0.19784	0.00000	0.19784	—	1,717.16	1,717.16	0.06966	0.01393	0.00000	1,723.05
2029	3.76647	3.71311	2.47558	3.73391	0.00636	0.08133	0.00000	0.08133	0.07482	0.00000	0.07482	—	654.847	654.847	0.02656	0.00531	0.00000	657.094
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.25543	0.21424	1.92183	2.23423	0.00426	0.07465	0.26467	0.33932	0.06868	0.08528	0.15396	—	407.222	407.222	0.01652	0.00330	0.00000	408.620
2028	0.15487	0.12959	1.16662	1.69082	0.00306	0.03925	0.00000	0.03925	0.03611	0.00000	0.03611	—	284.296	284.296	0.01153	0.00231	0.00000	285.271
2029	0.68738	0.67764	0.45179	0.68144	0.00116	0.01484	0.00000	0.01484	0.01366	0.00000	0.01366	—	108.417	108.417	0.00440	0.00088	0.00000	108.789

2.2.6. Offsite Construction Emissions by Year, Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.77589	1.51210	3.56149	25.5781	0.01470	0.01470	5.90254	5.91723	0.01470	1.40696	1.42166	—	7,430.70	7,430.70	0.31453	0.46982	22.1399	7,600.71
2028	1.72181	1.44333	3.44520	24.0483	0.01470	0.01470	5.90254	5.91723	0.01470	1.40696	1.42166	—	7,286.84	7,286.84	0.12410	0.46837	20.1500	7,449.67
2029	1.66774	1.38781	3.16976	22.5038	0.01470	0.01470	5.90254	5.91723	0.01470	1.40696	1.42166	—	7,144.38	7,144.38	0.12265	0.46837	18.2583	7,305.28
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	1.75498	1.48218	5.27969	21.8533	0.02932	0.05585	5.90254	5.91723	0.05585	1.40696	1.42166	—	7,149.60	7,149.60	0.21208	0.69547	0.57404	7,294.10
2028	1.70992	1.43144	3.72657	20.6048	0.01470	0.01470	5.90254	5.91723	0.01470	1.40696	1.42166	—	7,011.24	7,011.24	0.13311	0.46982	0.52138	7,155.09
2029	1.47866	1.36691	3.44355	19.2133	0.01470	0.01470	5.90254	5.91723	0.01470	1.40696	1.42166	—	6,874.09	6,874.09	0.13167	0.46982	0.47349	7,017.86
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.83167	0.68649	2.25177	10.6758	0.00900	0.01118	2.76314	2.77432	0.01118	0.66136	0.67253	—	3,644.47	3,644.47	0.08831	0.26921	4.67938	3,731.58
2028	1.21929	1.01983	2.67134	15.3889	0.01053	0.01053	4.16774	4.17827	0.01053	0.99275	1.00328	—	5,074.75	5,074.75	0.09534	0.33650	6.23348	5,183.65
2029	0.33564	0.31184	0.74864	4.60477	0.00305	0.00305	1.32658	1.32963	0.00305	0.31551	0.31856	—	1,555.51	1,555.51	0.02874	0.10156	1.77158	1,588.26
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2027	0.15178	0.12528	0.41095	1.94833	0.00164	0.00204	0.50427	0.50631	0.00204	0.12070	0.12274	—	603.383	603.383	0.01462	0.04457	0.77473	617.806
2028	0.22252	0.18612	0.48752	2.80847	0.00192	0.00192	0.76061	0.76253	0.00192	0.18118	0.18310	—	840.183	840.183	0.01578	0.05571	1.03202	858.212
2029	0.06125	0.05691	0.13663	0.84037	0.00056	0.00056	0.24210	0.24266	0.00056	0.05758	0.05814	—	257.532	257.532	0.00476	0.01681	0.29331	262.955

3. Construction Emissions Details

3.1. Demolition (2027)

3.1.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.63907	2.21478	19.9005	18.6307	0.03253	0.79594	—	0.79594	0.73226	—	0.73226	—	3,426.90	3,426.90	0.13901	0.02780	—	3,438.66
Demolition	—	—	—	—	—	—	3.42738	3.42738	—	0.51900	0.51900	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21691	0.18204	1.63566	1.53129	0.00267	0.06542	—	0.06542	0.06019	—	0.06019	—	281.663	281.663	0.01143	0.00229	—	282.629
Demolition	—	—	—	—	—	—	0.28170	0.28170	—	0.04266	0.04266	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.03959	0.03322	0.29851	0.27946	0.00049	0.01194	—	0.01194	0.01098	—	0.01098	—	46.6325	46.6325	0.00189	0.00038	—	46.7925
Demolition	—	—	—	—	—	—	0.05141	0.05141	—	0.00779	0.00779	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05969	0.05225	0.06465	0.76341	0.00000	0.00000	0.19606	0.19606	0.00000	0.04596	0.04596	—	188.985	188.985	0.00265	0.00711	0.01610	191.186
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.30438	0.06283	5.21503	2.00643	0.02932	0.05585	1.17420	1.23005	0.05585	0.32148	0.37733	—	4,224.43	4,224.43	0.20944	0.68836	0.23321	4,435.03
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00491	0.00429	0.00531	0.06594	0.00000	0.00000	0.01588	0.01588	0.00000	0.00372	0.00372	—	15.7622	15.7622	0.00022	0.00058	0.02200	15.9638
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.02536	0.00539	0.43345	0.16388	0.00241	0.00459	0.09545	0.10004	0.00459	0.02616	0.03075	—	347.125	347.125	0.01721	0.05646	0.31903	364.700
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Worker	0.00090	0.00078	0.00097	0.01203	0.00000	0.00000	0.00290	0.00290	0.00000	0.00068	0.00068	—	2.60961	2.60961	0.00004	0.00010	0.00364	2.64299
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00463	0.00098	0.07911	0.02991	0.00044	0.00084	0.01742	0.01826	0.00084	0.00477	0.00561	—	57.4704	57.4704	0.00285	0.00935	0.05282	60.3802

3.1.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.63907	2.21478	19.9005	18.6307	0.03253	0.79594	—	0.79594	0.73226	—	0.73226	—	3,426.90	3,426.90	0.13901	0.02780	—	3,438.66
Demolition	—	—	—	—	—	—	3.42738	3.42738	—	0.51900	0.51900	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21691	0.18204	1.63566	1.53129	0.00267	0.06542	—	0.06542	0.06019	—	0.06019	—	281.663	281.663	0.01143	0.00229	—	282.629
Demolition	—	—	—	—	—	—	0.28170	0.28170	—	0.04266	0.04266	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03959	0.03322	0.29851	0.27946	0.00049	0.01194	—	0.01194	0.01098	—	0.01098	—	46.6325	46.6325	0.00189	0.00038	—	46.7925
Demolition	—	—	—	—	—	—	0.05141	0.05141	—	0.00779	0.00779	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.1.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05969	0.05225	0.06465	0.76341	0.00000	0.00000	0.19606	0.19606	0.00000	0.04596	0.04596	—	188.985	188.985	0.00265	0.00711	0.01610	191.186
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.30438	0.06283	5.21503	2.00643	0.02932	0.05585	1.17420	1.23005	0.05585	0.32148	0.37733	—	4,224.43	4,224.43	0.20944	0.68836	0.23321	4,435.03
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00491	0.00429	0.00531	0.06594	0.00000	0.00000	0.01588	0.01588	0.00000	0.00372	0.00372	—	15.7622	15.7622	0.00022	0.00058	0.02200	15.9638
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Hauling	0.02536	0.00539	0.43345	0.16388	0.00241	0.00459	0.09545	0.10004	0.00459	0.02616	0.03075	—	347.125	347.125	0.01721	0.05646	0.31903	364.700
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00090	0.00078	0.00097	0.01203	0.00000	0.00000	0.00290	0.00290	0.00000	0.00068	0.00068	—	2.60961	2.60961	0.00004	0.00010	0.00364	2.64299
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00463	0.00098	0.07911	0.02991	0.00044	0.00084	0.01742	0.01826	0.00084	0.00477	0.00561	—	57.4704	57.4704	0.00285	0.00935	0.05282	60.3802

3.2. Site Preparation (2027)

3.2.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.63178	3.05170	27.9724	28.2794	0.04891	1.17173	—	1.17173	1.07799	—	1.07799	—	5,297.82	5,297.82	0.21490	0.04298	—	5,316.00
Dust From Material Movement	—	—	—	—	—	—	7.66623	7.66623	—	3.93995	3.93995	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19900	0.16722	1.53273	1.54955	0.00268	0.06420	—	0.06420	0.05907	—	0.05907	—	290.291	290.291	0.01178	0.00236	—	291.288
Dust From Material Movement	—	—	—	—	—	—	0.42007	0.42007	—	0.21589	0.21589	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03632	0.03052	0.27972	0.28279	0.00049	0.01172	—	0.01172	0.01078	—	0.01078	—	48.0611	48.0611	0.00195	0.00039	—	48.2260
Dust From Material Movement	—	—	—	—	—	—	0.07666	0.07666	—	0.03940	0.03940	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06964	0.06096	0.07543	0.89064	0.00000	0.00000	0.22874	0.22874	0.00000	0.05362	0.05362	—	220.483	220.483	0.00309	0.00829	0.01878	223.051
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00382	0.00334	0.00413	0.05129	0.00000	0.00000	0.01235	0.01235	0.00000	0.00289	0.00289	—	12.2595	12.2595	0.00017	0.00045	0.01711	12.4163
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00070	0.00061	0.00075	0.00936	0.00000	0.00000	0.00225	0.00225	0.00000	0.00053	0.00053	—	2.02970	2.02970	0.00003	0.00008	0.00283	2.05566
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	3.63178	3.05170	27.9724	28.2794	0.04891	1.17173	—	1.17173	1.07799	—	1.07799	—	5,297.82	5,297.82	0.21490	0.04298	—	5,316.00
Dust From Material Movement	—	—	—	—	—	—	7.66623	7.66623	—	3.93995	3.93995	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19900	0.16722	1.53273	1.54955	0.00268	0.06420	—	0.06420	0.05907	—	0.05907	—	290.291	290.291	0.01178	0.00236	—	291.288
Dust From Material Movement	—	—	—	—	—	—	0.42007	0.42007	—	0.21589	0.21589	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03632	0.03052	0.27972	0.28279	0.00049	0.01172	—	0.01172	0.01078	—	0.01078	—	48.0611	48.0611	0.00195	0.00039	—	48.2260
Dust From Material Movement	—	—	—	—	—	—	0.07666	0.07666	—	0.03940	0.03940	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.2.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06964	0.06096	0.07543	0.89064	0.00000	0.00000	0.22874	0.22874	0.00000	0.05362	0.05362	—	220.483	220.483	0.00309	0.00829	0.01878	223.051
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00382	0.00334	0.00413	0.05129	0.00000	0.00000	0.01235	0.01235	0.00000	0.00289	0.00289	—	12.2595	12.2595	0.00017	0.00045	0.01711	12.4163
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00070	0.00061	0.00075	0.00936	0.00000	0.00000	0.00225	0.00225	0.00000	0.00053	0.00053	—	2.02970	2.02970	0.00003	0.00008	0.00283	2.05566
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3. Grading (2027)

3.3.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	—	1.04307	0.95962	—	0.95962	—	6,598.08	6,598.08	0.26765	0.05353	—	6,620.72
Dust From Material Movement	—	—	—	—	—	—	6.07097	6.07097	—	1.69292	1.69292	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	—	1.04307	0.95962	—	0.95962	—	6,598.08	6,598.08	0.26765	0.05353	—	6,620.72
Dust From Material Movement	—	—	—	—	—	—	6.07097	6.07097	—	1.69292	1.69292	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43217	0.36314	3.15371	3.36349	0.00751	0.12860	—	0.12860	0.11831	—	0.11831	—	813.462	813.462	0.03300	0.00660	—	816.253
Dust From Material Movement	—	—	—	—	—	—	0.74848	0.74848	—	0.20872	0.20872	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07887	0.06627	0.57555	0.61384	0.00137	0.02347	—	0.02347	0.02159	—	0.02159	—	134.678	134.678	0.00546	0.00109	—	135.140
Dust From Material Movement	—	—	—	—	—	—	0.13660	0.13660	—	0.03809	0.03809	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Worker	0.08047	0.07099	0.06900	1.20130	0.00000	0.00000	0.26142	0.26142	0.00000	0.06128	0.06128	—	265.786	265.786	0.01124	0.00948	0.82819	269.721
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07959	0.06967	0.08620	1.01787	0.00000	0.00000	0.26142	0.26142	0.00000	0.06128	0.06128	—	251.980	251.980	0.00353	0.00948	0.02146	254.915
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00981	0.00859	0.01063	0.13188	0.00000	0.00000	0.03177	0.03177	0.00000	0.00744	0.00744	—	31.5244	31.5244	0.00043	0.00117	0.04401	31.9276
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00179	0.00157	0.00194	0.02407	0.00000	0.00000	0.00580	0.00580	0.00000	0.00136	0.00136	—	5.21923	5.21923	0.00007	0.00019	0.00729	5.28598
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	—	1.04307	0.95962	—	0.95962	—	6,598.08	6,598.08	0.26765	0.05353	—	6,620.72
Dust From Material Movement	—	—	—	—	—	—	6.07097	6.07097	—	1.69292	1.69292	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.50534	2.94546	25.5801	27.2816	0.06093	1.04307	—	1.04307	0.95962	—	0.95962	—	6,598.08	6,598.08	0.26765	0.05353	—	6,620.72
Dust From Material Movement	—	—	—	—	—	—	6.07097	6.07097	—	1.69292	1.69292	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43217	0.36314	3.15371	3.36349	0.00751	0.12860	—	0.12860	0.11831	—	0.11831	—	813.462	813.462	0.03300	0.00660	—	816.253

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Dust From Material Movement	—	—	—	—	—	—	0.74848	0.74848	—	0.20872	0.20872	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07887	0.06627	0.57555	0.61384	0.00137	0.02347	—	0.02347	0.02159	—	0.02159	—	134.678	134.678	0.00546	0.00109	—	135.140
Dust From Material Movement	—	—	—	—	—	—	0.13660	0.13660	—	0.03809	0.03809	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.3.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08047	0.07099	0.06900	1.20130	0.00000	0.00000	0.26142	0.26142	0.00000	0.06128	0.06128	—	265.786	265.786	0.01124	0.00948	0.82819	269.721
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07959	0.06967	0.08620	1.01787	0.00000	0.00000	0.26142	0.26142	0.00000	0.06128	0.06128	—	251.980	251.980	0.00353	0.00948	0.02146	254.915
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00981	0.00859	0.01063	0.13188	0.00000	0.00000	0.03177	0.03177	0.00000	0.00744	0.00744	—	31.5244	31.5244	0.00043	0.00117	0.04401	31.9276
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00179	0.00157	0.00194	0.02407	0.00000	0.00000	0.00580	0.00580	0.00000	0.00136	0.00136	—	5.21923	5.21923	0.00007	0.00019	0.00729	5.28598
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4. Building Construction (2027)

3.4.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55155	0.46153	4.20846	5.79802	0.01048	0.15083	—	0.15083	0.13877	—	0.13877	—	1,074.23	1,074.23	0.04358	0.00872	—	1,077.92
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10066	0.08423	0.76804	1.05814	0.00191	0.02753	—	0.02753	0.02532	—	0.02532	—	177.851	177.851	0.00721	0.00144	—	178.461
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.64478	1.45101	1.41046	24.5545	0.00000	0.00000	5.34340	5.34340	0.00000	1.25248	1.25248	—	5,432.67	5,432.67	0.22982	0.19377	16.9282	5,513.09
Vendor	0.13111	0.06109	2.15103	1.02350	0.01470	0.01470	0.55914	0.57383	0.01470	0.15448	0.16918	—	1,998.02	1,998.02	0.08472	0.27605	5.21164	2,087.62
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.62676	1.42397	1.76194	20.8053	0.00000	0.00000	5.34340	5.34340	0.00000	1.25248	1.25248	—	5,150.48	5,150.48	0.07210	0.19377	0.43870	5,210.46
Vendor	0.12823	0.05821	2.23719	1.04800	0.01470	0.01470	0.55914	0.57383	0.01470	0.15448	0.16918	—	1,999.12	1,999.12	0.08472	0.27605	0.13533	2,083.64
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.72902	0.63814	0.78960	9.79830	0.00000	0.00000	2.36015	2.36015	0.00000	0.55268	0.55268	—	2,342.19	2,342.19	0.03231	0.08684	3.26956	2,372.15
Vendor	0.05875	0.02673	1.00864	0.46448	0.00659	0.00659	0.24754	0.25412	0.00659	0.06847	0.07506	—	895.601	895.601	0.03796	0.12371	1.00768	934.423
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13305	0.11646	0.14410	1.78819	0.00000	0.00000	0.43073	0.43073	0.00000	0.10086	0.10086	—	387.777	387.777	0.00535	0.01438	0.54131	392.736
Vendor	0.01072	0.00488	0.18408	0.08477	0.00120	0.00120	0.04518	0.04638	0.00120	0.01250	0.01370	—	148.277	148.277	0.00629	0.02048	0.16683	154.704
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.23076	1.02988	9.39093	12.9379	0.02340	0.33657	—	0.33657	0.30965	—	0.30965	—	2,397.08	2,397.08	0.09724	0.01945	—	2,405.30
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.55155	0.46153	4.20846	5.79802	0.01048	0.15083	—	0.15083	0.13877	—	0.13877	—	1,074.23	1,074.23	0.04358	0.00872	—	1,077.92
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.10066	0.08423	0.76804	1.05814	0.00191	0.02753	—	0.02753	0.02532	—	0.02532	—	177.851	177.851	0.00721	0.00144	—	178.461
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.4.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.64478	1.45101	1.41046	24.5545	0.00000	0.00000	5.34340	5.34340	0.00000	1.25248	1.25248	—	5,432.67	5,432.67	0.22982	0.19377	16.9282	5,513.09
Vendor	0.13111	0.06109	2.15103	1.02350	0.01470	0.01470	0.55914	0.57383	0.01470	0.15448	0.16918	—	1,998.02	1,998.02	0.08472	0.27605	5.21164	2,087.62
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.62676	1.42397	1.76194	20.8053	0.00000	0.00000	5.34340	5.34340	0.00000	1.25248	1.25248	—	5,150.48	5,150.48	0.07210	0.19377	0.43870	5,210.46
Vendor	0.12823	0.05821	2.23719	1.04800	0.01470	0.01470	0.55914	0.57383	0.01470	0.15448	0.16918	—	1,999.12	1,999.12	0.08472	0.27605	0.13533	2,083.64
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.72902	0.63814	0.78960	9.79830	0.00000	0.00000	2.36015	2.36015	0.00000	0.55268	0.55268	—	2,342.19	2,342.19	0.03231	0.08684	3.26956	2,372.15
Vendor	0.05875	0.02673	1.00864	0.46448	0.00659	0.00659	0.24754	0.25412	0.00659	0.06847	0.07506	—	895.601	895.601	0.03796	0.12371	1.00768	934.423
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13305	0.11646	0.14410	1.78819	0.00000	0.00000	0.43073	0.43073	0.00000	0.10086	0.10086	—	387.777	387.777	0.00535	0.01438	0.54131	392.736
Vendor	0.01072	0.00488	0.18408	0.08477	0.00120	0.00120	0.04518	0.04638	0.00120	0.01250	0.01370	—	148.277	148.277	0.00629	0.02048	0.16683	154.704
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5. Building Construction (2028)

3.5.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.84861	0.71011	6.39243	9.26478	0.01676	0.21504	—	0.21504	0.19784	—	0.19784	—	1,717.16	1,717.16	0.06966	0.01393	—	1,723.05
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.15487	0.12959	1.16662	1.69082	0.00306	0.03925	—	0.03925	0.03611	—	0.03611	—	284.296	284.296	0.01153	0.00231	—	285.271
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.59071	1.39694	1.39243	23.0585	0.00000	0.00000	5.34340	5.34340	0.00000	1.25248	1.25248	—	5,335.43	5,335.43	0.05407	0.19377	15.2116	5,409.73
Vendor	0.13111	0.04639	2.05277	0.98979	0.01470	0.01470	0.55914	0.57383	0.01470	0.15448	0.16918	—	1,951.42	1,951.42	0.07002	0.27461	4.93845	2,039.94
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.58169	1.38792	1.58620	19.6067	0.00000	0.00000	5.34340	5.34340	0.00000	1.25248	1.25248	—	5,058.66	5,058.66	0.06309	0.19377	0.39340	5,118.37
Vendor	0.12823	0.04351	2.14037	0.99815	0.01470	0.01470	0.55914	0.57383	0.01470	0.15448	0.16918	—	1,952.58	1,952.58	0.07002	0.27605	0.12798	2,036.72
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.12642	0.98764	1.12965	14.6822	0.00000	0.00000	3.77212	3.77212	0.00000	0.88332	0.88332	—	3,676.71	3,676.71	0.04519	0.13879	4.71327	3,723.91
Vendor	0.09287	0.03220	1.54169	0.70666	0.01053	0.01053	0.39563	0.40615	0.01053	0.10943	0.11996	—	1,398.04	1,398.04	0.05015	0.19772	1.52021	1,459.73
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20557	0.18024	0.20616	2.67950	0.00000	0.00000	0.68841	0.68841	0.00000	0.16121	0.16121	—	608.722	608.722	0.00748	0.02298	0.78034	616.536
Vendor	0.01695	0.00588	0.28136	0.12897	0.00192	0.00192	0.07220	0.07412	0.00192	0.01997	0.02189	—	231.462	231.462	0.00830	0.03273	0.25169	241.676
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.18481	0.99143	8.92495	12.9352	0.02340	0.30024	—	0.30024	0.27622	—	0.27622	—	2,397.46	2,397.46	0.09725	0.01945	—	2,405.68
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	0.84861	0.71011	6.39243	9.26478	0.01676	0.21504	—	0.21504	0.19784	—	0.19784	—	1,717.16	1,717.16	0.06966	0.01393	—	1,723.05
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15487	0.12959	1.16662	1.69082	0.00306	0.03925	—	0.03925	0.03611	—	0.03611	—	284.296	284.296	0.01153	0.00231	—	285.271
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.5.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.59071	1.39694	1.39243	23.0585	0.00000	0.00000	5.34340	5.34340	0.00000	1.25248	1.25248	—	5,335.43	5,335.43	0.05407	0.19377	15.2116	5,409.73
Vendor	0.13111	0.04639	2.05277	0.98979	0.01470	0.01470	0.55914	0.57383	0.01470	0.15448	0.16918	—	1,951.42	1,951.42	0.07002	0.27461	4.93845	2,039.94
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.58169	1.38792	1.58620	19.6067	0.00000	0.00000	5.34340	5.34340	0.00000	1.25248	1.25248	—	5,058.66	5,058.66	0.06309	0.19377	0.39340	5,118.37
Vendor	0.12823	0.04351	2.14037	0.99815	0.01470	0.01470	0.55914	0.57383	0.01470	0.15448	0.16918	—	1,952.58	1,952.58	0.07002	0.27605	0.12798	2,036.72
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.12642	0.98764	1.12965	14.6822	0.00000	0.00000	3.77212	3.77212	0.00000	0.88332	0.88332	—	3,676.71	3,676.71	0.04519	0.13879	4.71327	3,723.91
Vendor	0.09287	0.03220	1.54169	0.70666	0.01053	0.01053	0.39563	0.40615	0.01053	0.10943	0.11996	—	1,398.04	1,398.04	0.05015	0.19772	1.52021	1,459.73
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20557	0.18024	0.20616	2.67950	0.00000	0.00000	0.68841	0.68841	0.00000	0.16121	0.16121	—	608.722	608.722	0.00748	0.02298	0.78034	616.536
Vendor	0.01695	0.00588	0.28136	0.12897	0.00192	0.00192	0.07220	0.07412	0.00192	0.01997	0.02189	—	231.462	231.462	0.00830	0.03273	0.25169	241.676
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6. Building Construction (2029)

3.6.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	—	0.27564	0.25359	—	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Off-Road Equipment	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	—	0.27564	0.25359	—	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23925	0.20020	1.78015	2.67619	0.00485	0.05718	—	0.05718	0.05260	—	0.05260	—	497.190	497.190	0.02017	0.00403	—	498.897
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04366	0.03654	0.32488	0.48840	0.00089	0.01044	—	0.01044	0.00960	—	0.00960	—	82.3155	82.3155	0.00334	0.00067	—	82.5980
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.53663	1.34286	1.21669	21.5624	0.00000	0.00000	5.34340	5.34340	0.00000	1.25248	1.25248	—	5,244.59	5,244.59	0.05407	0.19377	13.6141	5,317.30
Vendor	0.13111	0.04495	1.95307	0.94138	0.01470	0.01470	0.55914	0.57383	0.01470	0.15448	0.16918	—	1,899.78	1,899.78	0.06858	0.27461	4.64424	1,987.98
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.35187	1.32484	1.40144	18.2503	0.00000	0.00000	5.34340	5.34340	0.00000	1.25248	1.25248	—	4,973.10	4,973.10	0.06309	0.19377	0.35287	5,032.77
Vendor	0.12679	0.04207	2.04211	0.96299	0.01470	0.01470	0.55914	0.57383	0.01470	0.15448	0.16918	—	1,900.99	1,900.99	0.06858	0.27605	0.12062	1,985.09
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27856	0.27295	0.29071	3.97273	0.00000	0.00000	1.09247	1.09247	0.00000	0.25582	0.25582	—	1,046.78	1,046.78	0.01309	0.04019	1.22162	1,060.31
Vendor	0.02660	0.00903	0.42612	0.19737	0.00305	0.00305	0.11458	0.11763	0.00305	0.03169	0.03474	—	394.190	394.190	0.01423	0.05696	0.41630	411.937
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05084	0.04981	0.05305	0.72502	0.00000	0.00000	0.19938	0.19938	0.00000	0.04669	0.04669	—	173.307	173.307	0.00217	0.00665	0.20225	175.546
Vendor	0.00485	0.00165	0.07777	0.03602	0.00056	0.00056	0.02091	0.02147	0.00056	0.00578	0.00634	—	65.2627	65.2627	0.00236	0.00943	0.06892	68.2009
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	—	0.27564	0.25359	—	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.15336	0.96514	8.58166	12.9012	0.02340	0.27564	—	0.27564	0.25359	—	0.25359	—	2,396.83	2,396.83	0.09723	0.01945	—	2,405.06
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23925	0.20020	1.78015	2.67619	0.00485	0.05718	—	0.05718	0.05260	—	0.05260	—	497.190	497.190	0.02017	0.00403	—	498.897
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04366	0.03654	0.32488	0.48840	0.00089	0.01044	—	0.01044	0.00960	—	0.00960	—	82.3155	82.3155	0.00334	0.00067	—	82.5980
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.6.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.53663	1.34286	1.21669	21.5624	0.00000	0.00000	5.34340	5.34340	0.00000	1.25248	1.25248	—	5,244.59	5,244.59	0.05407	0.19377	13.6141	5,317.30
Vendor	0.13111	0.04495	1.95307	0.94138	0.01470	0.01470	0.55914	0.57383	0.01470	0.15448	0.16918	—	1,899.78	1,899.78	0.06858	0.27461	4.64424	1,987.98
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.35187	1.32484	1.40144	18.2503	0.00000	0.00000	5.34340	5.34340	0.00000	1.25248	1.25248	—	4,973.10	4,973.10	0.06309	0.19377	0.35287	5,032.77
Vendor	0.12679	0.04207	2.04211	0.96299	0.01470	0.01470	0.55914	0.57383	0.01470	0.15448	0.16918	—	1,900.99	1,900.99	0.06858	0.27605	0.12062	1,985.09
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.27856	0.27295	0.29071	3.97273	0.00000	0.00000	1.09247	1.09247	0.00000	0.25582	0.25582	—	1,046.78	1,046.78	0.01309	0.04019	1.22162	1,060.31
Vendor	0.02660	0.00903	0.42612	0.19737	0.00305	0.00305	0.11458	0.11763	0.00305	0.03169	0.03474	—	394.190	394.190	0.01423	0.05696	0.41630	411.937
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05084	0.04981	0.05305	0.72502	0.00000	0.00000	0.19938	0.19938	0.00000	0.04669	0.04669	—	173.307	173.307	0.00217	0.00665	0.20225	175.546
Vendor	0.00485	0.00165	0.07777	0.03602	0.00056	0.00056	0.02091	0.02147	0.00056	0.00578	0.00634	—	65.2627	65.2627	0.00236	0.00943	0.06892	68.2009
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7. Paving (2029)

3.7.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80047	0.67262	6.45817	9.91841	0.01395	0.23904	—	0.23904	0.21992	—	0.21992	—	1,510.63	1,510.63	0.06128	0.01226	—	1,515.81
Paving	0.21020	0.21020	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07676	0.06450	0.61928	0.95108	0.00134	0.02292	—	0.02292	0.02109	—	0.02109	—	144.854	144.854	0.00588	0.00118	—	145.352
Paving	0.02016	0.02016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01401	0.01177	0.11302	0.17357	0.00024	0.00418	—	0.00418	0.00385	—	0.00385	—	23.9823	23.9823	0.00097	0.00019	—	24.0646
Paving	0.00368	0.00368	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05638	0.04927	0.04464	0.79118	0.00000	0.00000	0.19606	0.19606	0.00000	0.04596	0.04596	—	192.439	192.439	0.00198	0.00711	0.49954	195.106
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00472	0.00463	0.00493	0.06738	0.00000	0.00000	0.01853	0.01853	0.00000	0.00434	0.00434	—	17.7553	17.7553	0.00022	0.00068	0.02072	17.9847
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00086	0.00084	0.00090	0.01230	0.00000	0.00000	0.00338	0.00338	0.00000	0.00079	0.00079	—	2.93959	2.93959	0.00004	0.00011	0.00343	2.97757
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.80047	0.67262	6.45817	9.91841	0.01395	0.23904	—	0.23904	0.21992	—	0.21992	—	1,510.63	1,510.63	0.06128	0.01226	—	1,515.81
Paving	0.21020	0.21020	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07676	0.06450	0.61928	0.95108	0.00134	0.02292	—	0.02292	0.02109	—	0.02109	—	144.854	144.854	0.00588	0.00118	—	145.352
Paving	0.02016	0.02016	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01401	0.01177	0.11302	0.17357	0.00024	0.00418	—	0.00418	0.00385	—	0.00385	—	23.9823	23.9823	0.00097	0.00019	—	24.0646
Paving	0.00368	0.00368	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.7.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05638	0.04927	0.04464	0.79118	0.00000	0.00000	0.19606	0.19606	0.00000	0.04596	0.04596	—	192.439	192.439	0.00198	0.00711	0.49954	195.106
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00472	0.00463	0.00493	0.06738	0.00000	0.00000	0.01853	0.01853	0.00000	0.00434	0.00434	—	17.7553	17.7553	0.00022	0.00068	0.02072	17.9847
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00086	0.00084	0.00090	0.01230	0.00000	0.00000	0.00338	0.00338	0.00000	0.00079	0.00079	—	2.93959	2.93959	0.00004	0.00011	0.00343	2.97757
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8. Architectural Coating (2029)

3.8.1. Onsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12385	0.10236	0.79416	1.11216	0.00173	0.01284	—	0.01284	0.01181	—	0.01181	—	133.510	133.510	0.00542	0.00108	—	133.968
Architectural Coatings	160.893	160.893	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01188	0.00981	0.07615	0.10665	0.00017	0.00123	—	0.00123	0.00113	—	0.00113	—	12.8023	12.8023	0.00052	0.00010	—	12.8462
Architectural Coatings	15.4281	15.4281	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00217	0.00179	0.01390	0.01946	0.00003	0.00022	—	0.00022	0.00021	—	0.00021	—	2.11957	2.11957	0.00009	0.00002	—	2.12684
Architectural Coatings	2.81562	2.81562	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8.2. Offsite - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30733	0.26857	0.24334	4.31248	0.00000	0.00000	1.06868	1.06868	0.00000	0.25050	0.25050	—	1,048.92	1,048.92	0.01081	0.03875	2.72282	1,063.46
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02575	0.02523	0.02688	0.36729	0.00000	0.00000	0.10100	0.10100	0.00000	0.02365	0.02365	—	96.7780	96.7780	0.00121	0.00372	0.11294	98.0286
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00470	0.00461	0.00491	0.06703	0.00000	0.00000	0.01843	0.01843	0.00000	0.00432	0.00432	—	16.0227	16.0227	0.00020	0.00062	0.01870	16.2298
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8.3. Onsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12385	0.10236	0.79416	1.11216	0.00173	0.01284	—	0.01284	0.01181	—	0.01181	—	133.510	133.510	0.00542	0.00108	—	133.968
Architectural Coatings	35.6494	35.6494	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01188	0.00981	0.07615	0.10665	0.00017	0.00123	—	0.00123	0.00113	—	0.00113	—	12.8023	12.8023	0.00052	0.00010	—	12.8462
Architectural Coatings	3.41843	3.41843	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.00217	0.00179	0.01390	0.01946	0.00003	0.00022	—	0.00022	0.00021	—	0.00021	—	2.11957	2.11957	0.00009	0.00002	—	2.12684

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Architectural Coatings	0.62386	0.62386	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

3.8.4. Offsite - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30733	0.26857	0.24334	4.31248	0.00000	0.00000	1.06868	1.06868	0.00000	0.25050	0.25050	—	1,048.92	1,048.92	0.01081	0.03875	2.72282	1,063.46
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02575	0.02523	0.02688	0.36729	0.00000	0.00000	0.10100	0.10100	0.00000	0.02365	0.02365	—	96.7780	96.7780	0.00121	0.00372	0.11294	98.0286
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.00470	0.00461	0.00491	0.06703	0.00000	0.00000	0.01843	0.01843	0.00000	0.00432	0.00432	—	16.0227	16.0227	0.00020	0.00062	0.01870	16.2298
Vendor	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Hauling	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2027	2/12/2027	5.00000	30.0000	—
Site Preparation	Site Preparation	2/13/2027	3/13/2027	5.00000	20.0000	—
Grading	Grading	3/14/2027	5/16/2027	5.00000	45.0000	—
Building Construction	Building Construction	5/17/2027	4/16/2029	5.00000	500.000	—
Paving	Paving	4/17/2029	6/5/2029	5.00000	35.0000	—
Architectural Coating	Architectural Coating	6/6/2029	7/25/2029	5.00000	35.0000	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.000000	8.00000	33.0000	0.73000
Demolition	Excavators	Diesel	Average	3.00000	8.00000	36.0000	0.38000
Demolition	Rubber Tired Dozers	Diesel	Average	2.00000	8.00000	367.000	0.40000
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Site Preparation	Tractors/Loaders/ Backhoes	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Grading	Excavators	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Scrapers	Diesel	Average	2.00000	8.00000	423.000	0.48000
Grading	Tractors/Loaders/ Backhoes	Diesel	Average	2.00000	8.00000	84.0000	0.37000
Building Construction	Cranes	Diesel	Average	1.000000	7.00000	367.000	0.29000
Building Construction	Forklifts	Diesel	Average	3.00000	8.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Tractors/Loaders/ Backhoes	Diesel	Average	3.00000	7.00000	84.0000	0.37000
Building Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Paving	Pavers	Diesel	Average	2.00000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	2.00000	8.00000	89.0000	0.36000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Paving	Rollers	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.000000	8.00000	33.0000	0.73000
Demolition	Excavators	Diesel	Average	3.00000	8.00000	36.0000	0.38000
Demolition	Rubber Tired Dozers	Diesel	Average	2.00000	8.00000	367.000	0.40000
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00000	8.00000	367.000	0.40000
Site Preparation	Tractors/Loaders/ Backhoes	Diesel	Average	4.00000	8.00000	84.0000	0.37000
Grading	Excavators	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Grading	Graders	Diesel	Average	1.000000	8.00000	148.000	0.41000
Grading	Rubber Tired Dozers	Diesel	Average	1.000000	8.00000	367.000	0.40000
Grading	Scrapers	Diesel	Average	2.00000	8.00000	423.000	0.48000
Grading	Tractors/Loaders/ Backhoes	Diesel	Average	2.00000	8.00000	84.0000	0.37000
Building Construction	Cranes	Diesel	Average	1.000000	7.00000	367.000	0.29000
Building Construction	Forklifts	Diesel	Average	3.00000	8.00000	82.0000	0.20000
Building Construction	Generator Sets	Diesel	Average	1.000000	8.00000	14.0000	0.74000
Building Construction	Tractors/Loaders/ Backhoes	Diesel	Average	3.00000	7.00000	84.0000	0.37000

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Building Construction	Welders	Diesel	Average	1.000000	8.00000	46.0000	0.45000
Paving	Pavers	Diesel	Average	2.00000	8.00000	81.0000	0.42000
Paving	Paving Equipment	Diesel	Average	2.00000	8.00000	89.0000	0.36000
Paving	Rollers	Diesel	Average	2.00000	8.00000	36.0000	0.38000
Architectural Coating	Air Compressors	Diesel	Average	1.000000	6.00000	37.0000	0.48000

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	15.0000	18.5000	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2000	HHDT,MHDT
Demolition	Hauling	63.3333	20.0000	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	17.5000	18.5000	LDA,LDT1,LDT2
Site Preparation	Vendor	—	10.2000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	20.0000	18.5000	LDA,LDT1,LDT2
Grading	Vendor	—	10.2000	HHDT,MHDT
Grading	Hauling	0.00000	20.0000	HHDT

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	408.800	18.5000	LDA,LDT1,LDT2
Building Construction	Vendor	65.3510	10.2000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15.0000	18.5000	LDA,LDT1,LDT2
Paving	Vendor	—	10.2000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	81.7600	18.5000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	Worker	15.0000	18.5000	LDA,LDT1,LDT2
Demolition	Vendor	—	10.2000	HHDT,MHDT
Demolition	Hauling	63.3333	20.0000	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	Worker	17.5000	18.5000	LDA,LDT1,LDT2

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Vendor	—	10.2000	HHDT,MHDT
Site Preparation	Hauling	0.00000	20.0000	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	20.0000	18.5000	LDA,LDT1,LDT2
Grading	Vendor	—	10.2000	HHDT,MHDT
Grading	Hauling	0.00000	20.0000	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	408.800	18.5000	LDA,LDT1,LDT2
Building Construction	Vendor	65.3510	10.2000	HHDT,MHDT
Building Construction	Hauling	0.00000	20.0000	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	Worker	15.0000	18.5000	LDA,LDT1,LDT2
Paving	Vendor	—	10.2000	HHDT,MHDT
Paving	Hauling	0.00000	20.0000	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	81.7600	18.5000	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2000	HHDT,MHDT
Architectural Coating	Hauling	0.00000	20.0000	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	1,690,875	563,625	60,000.0	20,000.0	7,338.99

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00000	0.00000	0.00000	165,171	0.00000
Site Preparation	0.00000	0.00000	30.0000	0.00000	0.00000
Grading	0.00000	0.00000	135.000	0.00000	0.00000
Paving	0.00000	0.00000	0.00000	0.00000	2.80800

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Retirement Community	—	0%
Paving	General Office Building	0.00000	0%
Paving	Parking Lot	2.80800	100%
Paving	City Park	0.00000	0%
Paving	Strip Mall	0.00000	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2027	0.00000	531.983	0.03300	0.00400
2028	0.00000	531.983	0.03300	0.00400
2029	0.00000	531.983	0.03300	0.00400

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.1.2. Mitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

5.18.2.2. Mitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.9000	annual days of extreme heat

Climate Hazard	Result for Project Location	Unit
Extreme Precipitation	8.95000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	28.5100	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.6994
AQ-PM	63.0865
AQ-DPM	77.4611
Drinking Water	17.3598
Lead Risk Housing	56.2697
Pesticides	0.00000
Toxic Releases	70.0425
Traffic	80.8125
Effect Indicators	—
CleanUp Sites	7.70810
Groundwater	35.6633
Haz Waste Facilities/Generators	70.4831
Impaired Water Bodies	0.00000
Solid Waste	87.8121
Sensitive Population	—
Asthma	51.5703
Cardio-vascular	34.2597
Low Birth Weights	72.3249
Socioeconomic Factor Indicators	—

Indicator	Result for Project Census Tract
Education	53.1258
Housing	49.7212
Linguistic	68.1554
Poverty	37.6382
Unemployment	72.5273

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	46.10547928
Employed	60.23354292
Median HI	48.90286154
Education	—
Bachelor's or higher	66.39291672
High school enrollment	100
Preschool enrollment	63.13358142
Transportation	—
Auto Access	29.34684974
Active commuting	43.51340947
Social	—

Indicator	Result for Project Census Tract
2-parent households	53.17592711
Voting	45.15590915
Neighborhood	—
Alcohol availability	17.24624663
Park access	81.35506224
Retail density	12.88335686
Supermarket access	75.5806493
Tree canopy	68.74117798
Housing	—
Homeownership	48.67188503
Housing habitability	23.14897985
Low-inc homeowner severe housing cost burden	25.98485821
Low-inc renter severe housing cost burden	15.42409855
Uncrowded housing	37.31553959
Health Outcomes	—
Insured adults	40.47221866
Arthritis	0.0
Asthma ER Admissions	34.7
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0

Indicator	Result for Project Census Tract
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	49.7
Cognitively Disabled	39.7
Physically Disabled	45.1
Heart Attack ER Admissions	39.1
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	11.0
SLR Inundation Area	0.0
Children	59.5

Indicator	Result for Project Census Tract
Elderly	26.8
English Speaking	48.7
Foreign-born	68.8
Outdoor Workers	62.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	45.1
Traffic Density	89.6
Traffic Access	23.0
Other Indices	—
Hardship	58.4
Other Decision Support	—
2016 Voting	41.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	68.0000
Healthy Places Index Score for Project Location (b)	51.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Land uses updated with information from the project applicant. Residential amenity building space modeled within the retirement community subtype. Parking modeled based on provided number of spaces and parking requirements using defaults for acreage.
Operations: Vehicle Data	Trip rate adjusted based on existing daily trips in the LLG traffic study prepared for this Specific Plan.
Operations: Hearths	Wood fireplaced removed and added to gas fireplaces and wood stoves removed per SCAQMD Rule 445.

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	110.000	26.8034
Building Area	sq. ft	583,000	835,000
Landscape Area	sq. ft	—	0.00000
Special Landscape Area	sq. ft	—	0.00000
Population	people	1,628.00	1,010.00

Westminster Gardens Existing Conditions 2026 Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Westminster Gardens Existing Conditions 2026
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.80000
Precipitation (days)	22.4000
Location	34.13817979314946, -117.96313389953602
County	Los Angeles-South Coast
City	Duarte
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4902
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Retirement Community	149.000	Dwelling Unit	26.3683	159,521	0.00000	0.00000	256.000	—
General Office Building	5.65000	1000sqft	0.12971	5,650.00	0.00000	0.00000	—	—
Parking Lot	278.000	Space	2.50200	0.00000	0.00000	0.00000	—	—
City Park	1.50000	Acre	1.50000	0.00000	65,340.0	65,340.0	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.22436	6.71243	5.04426	35.3473	0.08514	0.27740	6.20253	6.47993	0.27347	1.57548	1.84895	141.450	11,243.0	11,384.4	14.6253	0.27994	25.2646	11,858.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.36761	5.90090	5.16330	23.7957	0.08190	0.27284	6.20253	6.47537	0.27004	1.57548	1.84552	141.450	10,930.5	11,072.0	14.6294	0.29156	2.64164	11,527.2

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.68728	6.31070	3.18323	29.6715	0.06971	0.10856	6.11363	6.22219	0.10499	1.55325	1.65824	141.450	8,396.25	8,537.70	14.5797	0.28823	12.0679	9,000.15
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.22043	1.15170	0.58094	5.41505	0.01272	0.01981	1.11574	1.13555	0.01916	0.28347	0.30263	23.4187	1,390.09	1,413.51	2.41384	0.04772	1.99798	1,490.08

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.17705	1.87813	2.08589	25.4140	0.06642	0.04059	6.20253	6.24312	0.03779	1.57548	1.61327	—	6,792.73	6,792.73	0.25379	0.23324	23.2251	6,891.80
Area	4.97130	4.79630	2.30648	9.63996	0.01457	0.18429	—	0.18429	0.18316	—	0.18316	0.00000	2,845.10	2,845.10	0.05411	0.00551	—	2,848.09
Energy	0.07601	0.03801	0.65189	0.29334	0.00415	0.05252	—	0.05252	0.05252	—	0.05252	—	1,552.56	1,552.56	0.14237	0.00996	—	1,559.09
Water	—	—	—	—	—	—	—	—	—	—	—	12.5667	52.5923	65.1590	1.29358	0.03122	—	106.803
Waste	—	—	—	—	—	—	—	—	—	—	—	128.884	0.00000	128.884	12.8815	0.00000	—	450.920
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.03945	2.03945
Total	7.22436	6.71243	5.04426	35.3473	0.08514	0.27740	6.20253	6.47993	0.27347	1.57548	1.84895	141.450	11,243.0	11,384.4	14.6253	0.27994	25.2646	11,858.8
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.15490	1.85626	2.28859	22.5565	0.06356	0.04061	6.20253	6.24314	0.03781	1.57548	1.61329	—	6,503.86	6,503.86	0.25883	0.24506	0.60219	6,583.96

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Area	4.13669	4.00663	2.22282	0.94588	0.01419	0.17972	—	0.17972	0.17972	—	0.17972	0.00000	2,821.49	2,821.49	0.05313	0.00531	—	2,824.40
Energy	0.07601	0.03801	0.65189	0.29334	0.00415	0.05252	—	0.05252	0.05252	—	0.05252	—	1,552.56	1,552.56	0.14237	0.00996	—	1,559.09
Water	—	—	—	—	—	—	—	—	—	—	—	12.5667	52.5923	65.1590	1.29358	0.03122	—	106.803
Waste	—	—	—	—	—	—	—	—	—	—	—	128.884	0.00000	128.884	12.8815	0.00000	—	450.920
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.03945	2.03945
Total	6.36761	5.90090	5.16330	23.7957	0.08190	0.27284	6.20253	6.47537	0.27004	1.57548	1.84552	141.450	10,930.5	11,072.0	14.6294	0.29156	2.64164	11,527.2
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.14523	1.84634	2.32179	23.3586	0.06433	0.04060	6.11363	6.15423	0.03780	1.55325	1.59105	—	6,581.67	6,581.67	0.25800	0.24654	10.0284	6,671.61
Area	4.46604	4.42635	0.20955	6.01963	0.00123	0.01544	—	0.01544	0.01467	—	0.01467	0.00000	209.425	209.425	0.00431	0.00050	—	209.682
Energy	0.07601	0.03801	0.65189	0.29334	0.00415	0.05252	—	0.05252	0.05252	—	0.05252	—	1,552.56	1,552.56	0.14237	0.00996	—	1,559.09
Water	—	—	—	—	—	—	—	—	—	—	—	12.5667	52.5923	65.1590	1.29358	0.03122	—	106.803
Waste	—	—	—	—	—	—	—	—	—	—	—	128.884	0.00000	128.884	12.8815	0.00000	—	450.920
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.03945	2.03945
Total	6.68728	6.31070	3.18323	29.6715	0.06971	0.10856	6.11363	6.22219	0.10499	1.55325	1.65824	141.450	8,396.25	8,537.70	14.5797	0.28823	12.0679	9,000.15
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.39150	0.33696	0.42373	4.26294	0.01174	0.00741	1.11574	1.12315	0.00690	0.28347	0.29037	—	1,089.67	1,089.67	0.04272	0.04082	1.66032	1,104.56
Area	0.81505	0.80781	0.03824	1.09858	0.00023	0.00282	—	0.00282	0.00268	—	0.00268	0.00000	34.6727	34.6727	0.00071	0.00008	—	34.7152
Energy	0.01387	0.00694	0.11897	0.05353	0.00076	0.00958	—	0.00958	0.00958	—	0.00958	—	257.045	257.045	0.02357	0.00165	—	258.126
Water	—	—	—	—	—	—	—	—	—	—	—	2.08055	8.70726	10.7878	0.21417	0.00517	—	17.6825
Waste	—	—	—	—	—	—	—	—	—	—	—	21.3382	0.00000	21.3382	2.13267	0.00000	—	74.6550
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33765	0.33765

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	1.22043	1.15170	0.58094	5.41505	0.01272	0.01981	1.11574	1.13555	0.01916	0.28347	0.30263	23.4187	1,390.09	1,413.51	2.41384	0.04772	1.99798	1,490.08

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	2.17705	1.87813	2.08589	25.4140	0.06642	0.04059	6.20253	6.24312	0.03779	1.57548	1.61327	—	6,792.73	6,792.73	0.25379	0.23324	23.2251	6,891.80
General Office Building	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	2.17705	1.87813	2.08589	25.4140	0.06642	0.04059	6.20253	6.24312	0.03779	1.57548	1.61327	—	6,792.73	6,792.73	0.25379	0.23324	23.2251	6,891.80
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Retirement Community	2.15490	1.85626	2.28859	22.5565	0.06356	0.04061	6.20253	6.24314	0.03781	1.57548	1.61329	—	6,503.86	6,503.86	0.25883	0.24506	0.60219	6,583.96
General Office Building	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	2.15490	1.85626	2.28859	22.5565	0.06356	0.04061	6.20253	6.24314	0.03781	1.57548	1.61329	—	6,503.86	6,503.86	0.25883	0.24506	0.60219	6,583.96
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	0.39150	0.33696	0.42373	4.26294	0.01174	0.00741	1.11574	1.12315	0.00690	0.28347	0.29037	—	1,089.67	1,089.67	0.04272	0.04082	1.66032	1,104.56
General Office Building	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	0.39150	0.33696	0.42373	4.26294	0.01174	0.00741	1.11574	1.12315	0.00690	0.28347	0.29037	—	1,089.67	1,089.67	0.04272	0.04082	1.66032	1,104.56

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	541.983	541.983	0.05166	0.00626	—	545.141
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	95.4976	95.4976	0.00910	0.00110	—	96.0540
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	90.5542	90.5542	0.00863	0.00105	—	91.0818
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	728.035	728.035	0.06940	0.00841	—	732.277
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	541.983	541.983	0.05166	0.00626	—	545.141
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	95.4976	95.4976	0.00910	0.00110	—	96.0540
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	90.5542	90.5542	0.00863	0.00105	—	91.0818
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	728.035	728.035	0.06940	0.00841	—	732.277

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	89.7315	89.7315	0.00855	0.00104	—	90.2543
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	15.8107	15.8107	0.00151	0.00018	—	15.9028
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	14.9923	14.9923	0.00143	0.00017	—	15.0796
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	120.535	120.535	0.01149	0.00139	—	121.237

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	0.07178	0.03589	0.61342	0.26103	0.00392	0.04960	—	0.04960	0.04960	—	0.04960	—	778.634	778.634	0.06891	0.00147	—	780.793
General Office Building	0.00423	0.00212	0.03847	0.03231	0.00023	0.00292	—	0.00292	0.00292	—	0.00292	—	45.8959	45.8959	0.00406	0.00009	—	46.0232
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.07601	0.03801	0.65189	0.29334	0.00415	0.05252	—	0.05252	0.05252	—	0.05252	—	824.530	824.530	0.07297	0.00155	—	826.817
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	0.07178	0.03589	0.61342	0.26103	0.00392	0.04960	—	0.04960	0.04960	—	0.04960	—	778.634	778.634	0.06891	0.00147	—	780.793
General Office Building	0.00423	0.00212	0.03847	0.03231	0.00023	0.00292	—	0.00292	0.00292	—	0.00292	—	45.8959	45.8959	0.00406	0.00009	—	46.0232
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.07601	0.03801	0.65189	0.29334	0.00415	0.05252	—	0.05252	0.05252	—	0.05252	—	824.530	824.530	0.07297	0.00155	—	826.817
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	0.01310	0.00655	0.11195	0.04764	0.00071	0.00905	—	0.00905	0.00905	—	0.00905	—	128.912	128.912	0.01141	0.00024	—	129.269
General Office Building	0.00077	0.00039	0.00702	0.00590	0.00004	0.00053	—	0.00053	0.00053	—	0.00053	—	7.59859	7.59859	0.00067	0.00001	—	7.61967
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	0.01387	0.00694	0.11897	0.05353	0.00076	0.00958	—	0.00958	0.00958	—	0.00958	—	136.510	136.510	0.01208	0.00026	—	136.889

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.26012	0.13006	2.22282	0.94588	0.01419	0.17972	—	0.17972	0.17972	—	0.17972	0.00000	2,821.49	2,821.49	0.05313	0.00531	—	2,824.40
Consumer Products	3.58037	3.58037	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.29621	0.29621	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.83461	0.78967	0.08366	8.69408	0.00038	0.00457	—	0.00457	0.00344	—	0.00344	—	23.6119	23.6119	0.00099	0.00020	—	23.6950
Total	4.97130	4.79630	2.30648	9.63996	0.01457	0.18429	—	0.18429	0.18316	—	0.18316	0.00000	2,845.10	2,845.10	0.05411	0.00551	—	2,848.09
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.26012	0.13006	2.22282	0.94588	0.01419	0.17972	—	0.17972	0.17972	—	0.17972	0.00000	2,821.49	2,821.49	0.05313	0.00531	—	2,824.40

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Consumer Products	3.58037	3.58037	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.29621	0.29621	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.13669	4.00663	2.22282	0.94588	0.01419	0.17972	—	0.17972	0.17972	—	0.17972	0.00000	2,821.49	2,821.49	0.05313	0.00531	—	2,824.40
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00325	0.00163	0.02779	0.01182	0.00018	0.00225	—	0.00225	0.00225	—	0.00225	0.00000	31.9952	31.9952	0.00060	0.00006	—	32.0282
Consumer Products	0.65342	0.65342	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.05406	0.05406	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10433	0.09871	0.01046	1.08676	0.00005	0.00057	—	0.00057	0.00043	—	0.00043	—	2.67755	2.67755	0.00011	0.00002	—	2.68697
Total	0.81505	0.80781	0.03824	1.09858	0.00023	0.00282	—	0.00282	0.00268	—	0.00268	0.00000	34.6727	34.6727	0.00071	0.00008	—	34.7152

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	10.6424	35.8588	46.5012	1.09467	0.02634	—	81.7180
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.92428	6.48372	8.40799	0.19793	0.00476	—	14.7756
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	10.2498	10.2498	0.00098	0.00012	—	10.3095
Total	—	—	—	—	—	—	—	—	—	—	—	12.5667	52.5923	65.1590	1.29358	0.03122	—	106.803
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	10.6424	35.8588	46.5012	1.09467	0.02634	—	81.7180
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.92428	6.48372	8.40799	0.19793	0.00476	—	14.7756
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	10.2498	10.2498	0.00098	0.00012	—	10.3095
Total	—	—	—	—	—	—	—	—	—	—	—	12.5667	52.5923	65.1590	1.29358	0.03122	—	106.803
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	1.76197	5.93683	7.69880	0.18124	0.00436	—	13.5293
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.31859	1.07345	1.39204	0.03277	0.00079	—	2.44627
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	1.69697	1.69697	0.00016	0.00002	—	1.70686
Total	—	—	—	—	—	—	—	—	—	—	—	2.08055	8.70726	10.7878	0.21417	0.00517	—	17.6825

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	125.982	0.00000	125.982	12.5915	0.00000	—	440.769
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.83185	0.00000	2.83185	0.28303	0.00000	—	9.90769

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06952	0.00000	0.06952	0.00695	0.00000	—	0.24324
Total	—	—	—	—	—	—	—	—	—	—	—	128.884	0.00000	128.884	12.8815	0.00000	—	450.920
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	125.982	0.00000	125.982	12.5915	0.00000	—	440.769
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.83185	0.00000	2.83185	0.28303	0.00000	—	9.90769
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06952	0.00000	0.06952	0.00695	0.00000	—	0.24324
Total	—	—	—	—	—	—	—	—	—	—	—	128.884	0.00000	128.884	12.8815	0.00000	—	450.920
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	20.8578	0.00000	20.8578	2.08466	0.00000	—	72.9744
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.46885	0.00000	0.46885	0.04686	0.00000	—	1.64033
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01151	0.00000	0.01151	0.00115	0.00000	—	0.04027
Total	—	—	—	—	—	—	—	—	—	—	—	21.3382	0.00000	21.3382	2.13267	0.00000	—	74.6550

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.02571	2.02571
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01374	0.01374
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.03945	2.03945
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.02571	2.02571

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01374	0.01374
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.03945	2.03945
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33538	0.33538
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00227	0.00227
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33765	0.33765

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Retirement Community	456.000	456.000	456.000	166,440	8,746.84	8,746.84	8,746.84	3,192,597
General Office Building	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Retirement Community	Wood Fireplaces	0	0
Retirement Community	Gas Fireplaces	134	134
Retirement Community	Propane Fireplaces	0	0
Retirement Community	Electric Fireplaces	0	0
Retirement Community	No Fireplaces	15	15
Retirement Community	Conventional Wood Stoves	0	0
Retirement Community	Catalytic Wood Stoves	7	7
Retirement Community	Non-Catalytic Wood Stoves	7	7
Retirement Community	Pellet Wood Stoves	0	0
General Office Building	Wood Fireplaces	0	0
General Office Building	Gas Fireplaces	0	0
General Office Building	Propane Fireplaces	0	0
General Office Building	Electric Fireplaces	0	0
General Office Building	No Fireplaces	0	0
General Office Building	Conventional Wood Stoves	0	0
General Office Building	Catalytic Wood Stoves	0	0
General Office Building	Non-Catalytic Wood Stoves	0	0
General Office Building	Pellet Wood Stoves	0	0
Parking Lot	Wood Fireplaces	0	0
Parking Lot	Gas Fireplaces	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Parking Lot	Propane Fireplaces	0	0
Parking Lot	Electric Fireplaces	0	0
Parking Lot	No Fireplaces	0	0
Parking Lot	Conventional Wood Stoves	0	0
Parking Lot	Catalytic Wood Stoves	0	0
Parking Lot	Non-Catalytic Wood Stoves	0	0
Parking Lot	Pellet Wood Stoves	0	0
City Park	Wood Fireplaces	0	0
City Park	Gas Fireplaces	0	0
City Park	Propane Fireplaces	0	0
City Park	Electric Fireplaces	0	0
City Park	No Fireplaces	0	0
City Park	Conventional Wood Stoves	0	0
City Park	Catalytic Wood Stoves	0	0
City Park	Non-Catalytic Wood Stoves	0	0
City Park	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
323,030	107,677	8,475.00	2,825.00	6,539.23

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	250.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Retirement Community	571,422	346.196	0.0330	0.0040	2,429,546
General Office Building	100,685	346.196	0.0330	0.0040	143,208
Parking Lot	95,472.7	346.196	0.0330	0.0040	0.00000
City Park	0.00000	346.196	0.0330	0.0040	0.00000

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Retirement Community	5,553,796	0.00000
General Office Building	1,004,196	0.00000
Parking Lot	0.00000	0.00000
City Park	0.00000	2,036,370

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Retirement Community	233.760	0.00000
General Office Building	5.25450	0.00000
Parking Lot	0.00000	0.00000
City Park	0.12900	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Retirement Community	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Retirement Community	Household refrigerators and/or freezers	R-134a	1,430.00	0.22222	0.60000	0.00000	1.000000
General Office Building	Household refrigerators and/or freezers	R-134a	1,430.00	0.01679	0.60000	0.00000	1.000000
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
City Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.9000	annual days of extreme heat
Extreme Precipitation	8.95000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	28.5100	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

Indicator	Result for Project Census Tract
AQ-Ozone	88.6994
AQ-PM	63.0865
AQ-DPM	77.4611
Drinking Water	17.3598
Lead Risk Housing	56.2697
Pesticides	0.00000
Toxic Releases	70.0425
Traffic	80.8125
Effect Indicators	—
CleanUp Sites	7.70810
Groundwater	35.6633
Haz Waste Facilities/Generators	70.4831
Impaired Water Bodies	0.00000
Solid Waste	87.8121
Sensitive Population	—
Asthma	51.5703
Cardio-vascular	34.2597
Low Birth Weights	72.3249
Socioeconomic Factor Indicators	—
Education	53.1258
Housing	49.7212

Indicator	Result for Project Census Tract
Linguistic	68.1554
Poverty	37.6382
Unemployment	72.5273

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	46.10547928
Employed	60.23354292
Median HI	48.90286154
Education	—
Bachelor's or higher	66.39291672
High school enrollment	100
Preschool enrollment	63.13358142
Transportation	—
Auto Access	29.34684974
Active commuting	43.51340947
Social	—
2-parent households	53.17592711
Voting	45.15590915

Indicator	Result for Project Census Tract
Neighborhood	—
Alcohol availability	17.24624663
Park access	81.35506224
Retail density	12.88335686
Supermarket access	75.5806493
Tree canopy	68.74117798
Housing	—
Homeownership	48.67188503
Housing habitability	23.14897985
Low-inc homeowner severe housing cost burden	25.98485821
Low-inc renter severe housing cost burden	15.42409855
Uncrowded housing	37.31553959
Health Outcomes	—
Insured adults	40.47221866
Arthritis	0.0
Asthma ER Admissions	34.7
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0

Indicator	Result for Project Census Tract
Diagnosed Diabetes	0.0
Life Expectancy at Birth	49.7
Cognitively Disabled	39.7
Physically Disabled	45.1
Heart Attack ER Admissions	39.1
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	11.0
SLR Inundation Area	0.0
Children	59.5
Elderly	26.8
English Speaking	48.7

Indicator	Result for Project Census Tract
Foreign-born	68.8
Outdoor Workers	62.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	45.1
Traffic Density	89.6
Traffic Access	23.0
Other Indices	—
Hardship	58.4
Other Decision Support	—
2016 Voting	41.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	68.0000
Healthy Places Index Score for Project Location (b)	51.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Land uses updated with information from the project applicant. Residential amenity building space modeled within the retirement community subtype. Parking modeled based on provided number of spaces using defaults for acreage. Vacant parcel not modeled under existing conditions.
Operations: Vehicle Data	Trip rate adjusted based on existing daily trips in the LLG traffic study prepared for this Specific Plan.
Operations: Hearths	Wood fireplaced removed and added to gas fireplaces and wood stoves removed per SCAQMD Rule 445.

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	29.8000	26.3683
Building Area	sq. ft	157,940	159,521

Model Parameter	Units	Default Value	New Value
Landscape Area	sq. ft	—	0.00000
Special Landscape Area	sq. ft	—	0.00000
Population	people	441.000	256.000

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
Retirement Community	Weekday Trip Rate	size/day	2.40000	3.06040
Retirement Community	Saturday Trip Rate	size/day	2.03000	3.06040
Retirement Community	Sunday Trip Rate	size/day	1.95000	3.06040
Retirement Community	Res H-W Trip Length	miles	19.5081	29.2324
Retirement Community	Res H-S Trip Length	miles	8.04768	12.0592
Retirement Community	Res H-O Trip Length	miles	9.30927	13.9497
General Office Building	Weekday Trip Rate	size/day	9.74000	0.00000
General Office Building	Saturday Trip Rate	size/day	2.21000	0.00000
General Office Building	Sunday Trip Rate	size/day	0.70000	0.00000
City Park	Weekday Trip Rate	size/day	0.78000	0.00000
City Park	Saturday Trip Rate	size/day	1.96000	0.00000
City Park	Sunday Trip Rate	size/day	2.19000	0.00000

8.5.2. Area Sources

8.5.2.1. Hearths

Land Use	Model Parameter	Units	Default Value	New Value
Retirement Community	Wood Fireplaces	—	7	0
Retirement Community	Gas Fireplaces	—	127	134
Retirement Community	Wood Mass	lb/year	1,019	0
Retirement Community	Wood Mass	lb/year	1,000	0

Westminster Gardens 2045 No Project Conditions Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Westminster Gardens 2045 No Project Conditions
Operational Year	2045
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.80000
Precipitation (days)	22.4000
Location	34.13808536857616, -117.9625569408565
County	Los Angeles-South Coast
City	Duarte
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4902
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Retirement Community	149.000	Dwelling Unit	26.3683	159,521	0.00000	0.00000	256.000	—
General Office Building	5.65000	1000sqft	0.12971	5,650.00	0.00000	0.00000	—	—
Parking Lot	278.000	Space	2.50200	0.00000	0.00000	0.00000	—	—
City Park	1.50000	Acre	1.50000	0.00000	65,340.0	65,340.0	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.49905	6.10560	4.04182	27.6089	0.07340	0.25682	6.20551	6.46234	0.25449	1.57634	1.83083	141.450	9,827.67	9,969.12	14.5214	0.21958	3.51557	10,401.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.67029	5.32340	4.06247	16.9146	0.07070	0.25261	6.20551	6.45813	0.25131	1.57634	1.82764	141.450	9,569.80	9,711.25	14.5215	0.22715	2.07773	10,144.1

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.98061	5.72389	2.05988	22.5554	0.05837	0.08809	6.11661	6.20470	0.08608	1.55411	1.64019	141.450	7,020.75	7,162.20	14.4726	0.22328	2.67683	7,593.23
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.09146	1.04461	0.37593	4.11636	0.01065	0.01608	1.11628	1.13236	0.01571	0.28363	0.29934	23.4187	1,162.36	1,185.78	2.39610	0.03697	0.44318	1,257.15

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.46725	1.28636	1.08700	17.6280	0.05468	0.02037	6.20551	6.22588	0.01906	1.57634	1.59540	—	5,569.99	5,569.99	0.14991	0.17288	1.47611	5,626.74
Area	4.95578	4.78123	2.30293	9.68759	0.01457	0.18393	—	0.18393	0.18291	—	0.18291	0.00000	2,845.10	2,845.10	0.05411	0.00551	—	2,848.09
Energy	0.07601	0.03801	0.65189	0.29334	0.00415	0.05252	—	0.05252	0.05252	—	0.05252	—	1,372.96	1,372.96	0.14237	0.00996	—	1,379.48
Water	—	—	—	—	—	—	—	—	—	—	—	12.5667	39.6176	52.1842	1.29358	0.03122	—	93.8284
Waste	—	—	—	—	—	—	—	—	—	—	—	128.884	0.00000	128.884	12.8815	0.00000	—	450.920
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.03945	2.03945
Total	6.49905	6.10560	4.04182	27.6089	0.07340	0.25682	6.20551	6.46234	0.25449	1.57634	1.83083	141.450	9,827.67	9,969.12	14.5214	0.21958	3.51557	10,401.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.45758	1.27876	1.18776	15.6754	0.05237	0.02038	6.20551	6.22589	0.01907	1.57634	1.59541	—	5,335.74	5,335.74	0.15101	0.18065	0.03828	5,393.38

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Area	4.13669	4.00663	2.22282	0.94588	0.01419	0.17972	—	0.17972	0.17972	—	0.17972	0.00000	2,821.49	2,821.49	0.05313	0.00531	—	2,824.40
Energy	0.07601	0.03801	0.65189	0.29334	0.00415	0.05252	—	0.05252	0.05252	—	0.05252	—	1,372.96	1,372.96	0.14237	0.00996	—	1,379.48
Water	—	—	—	—	—	—	—	—	—	—	—	12.5667	39.6176	52.1842	1.29358	0.03122	—	93.8284
Waste	—	—	—	—	—	—	—	—	—	—	—	128.884	0.00000	128.884	12.8815	0.00000	—	450.920
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.03945	2.03945
Total	5.67029	5.32340	4.06247	16.9146	0.07070	0.25261	6.20551	6.45813	0.25131	1.57634	1.82764	141.450	9,569.80	9,711.25	14.5215	0.22715	2.07773	10,144.1
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.44919	1.26986	1.20088	16.2098	0.05299	0.02037	6.11661	6.13699	0.01907	1.55411	1.57318	—	5,398.75	5,398.75	0.15088	0.18159	0.63738	5,457.27
Area	4.45541	4.41603	0.20711	6.05226	0.00123	0.01520	—	0.01520	0.01450	—	0.01450	0.00000	209.425	209.425	0.00431	0.00050	—	209.682
Energy	0.07601	0.03801	0.65189	0.29334	0.00415	0.05252	—	0.05252	0.05252	—	0.05252	—	1,372.96	1,372.96	0.14237	0.00996	—	1,379.48
Water	—	—	—	—	—	—	—	—	—	—	—	12.5667	39.6176	52.1842	1.29358	0.03122	—	93.8284
Waste	—	—	—	—	—	—	—	—	—	—	—	128.884	0.00000	128.884	12.8815	0.00000	—	450.920
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.03945	2.03945
Total	5.98061	5.72389	2.05988	22.5554	0.05837	0.08809	6.11661	6.20470	0.08608	1.55411	1.64019	141.450	7,020.75	7,162.20	14.4726	0.22328	2.67683	7,593.23
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.26448	0.23175	0.21916	2.95829	0.00967	0.00372	1.11628	1.12000	0.00348	0.28363	0.28710	—	893.824	893.824	0.02498	0.03006	0.10553	903.514
Area	0.81311	0.80593	0.03780	1.10454	0.00023	0.00277	—	0.00277	0.00265	—	0.00265	0.00000	34.6727	34.6727	0.00071	0.00008	—	34.7152
Energy	0.01387	0.00694	0.11897	0.05353	0.00076	0.00958	—	0.00958	0.00958	—	0.00958	—	227.308	227.308	0.02357	0.00165	—	228.389
Water	—	—	—	—	—	—	—	—	—	—	—	2.08055	6.55914	8.63970	0.21417	0.00517	—	15.5344
Waste	—	—	—	—	—	—	—	—	—	—	—	21.3382	0.00000	21.3382	2.13267	0.00000	—	74.6550
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33765	0.33765

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	1.09146	1.04461	0.37593	4.11636	0.01065	0.01608	1.11628	1.13236	0.01571	0.28363	0.29934	23.4187	1,162.36	1,185.78	2.39610	0.03697	0.44318	1,257.15

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	1.46725	1.28636	1.08700	17.6280	0.05468	0.02037	6.20551	6.22588	0.01906	1.57634	1.59540	—	5,569.99	5,569.99	0.14991	0.17288	1.47611	5,626.74
General Office Building	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	1.46725	1.28636	1.08700	17.6280	0.05468	0.02037	6.20551	6.22588	0.01906	1.57634	1.59540	—	5,569.99	5,569.99	0.14991	0.17288	1.47611	5,626.74
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Retirement Community	1.45758	1.27876	1.18776	15.6754	0.05237	0.02038	6.20551	6.22589	0.01907	1.57634	1.59541	—	5,335.74	5,335.74	0.15101	0.18065	0.03828	5,393.38
General Office Building	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	1.45758	1.27876	1.18776	15.6754	0.05237	0.02038	6.20551	6.22589	0.01907	1.57634	1.59541	—	5,335.74	5,335.74	0.15101	0.18065	0.03828	5,393.38
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	0.26448	0.23175	0.21916	2.95829	0.00967	0.00372	1.11628	1.12000	0.00348	0.28363	0.28710	—	893.824	893.824	0.02498	0.03006	0.10553	903.514
General Office Building	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	0.26448	0.23175	0.21916	2.95829	0.00967	0.00372	1.11628	1.12000	0.00348	0.28363	0.28710	—	893.824	893.824	0.02498	0.03006	0.10553	903.514

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	408.274	408.274	0.05166	0.00626	—	411.432
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	71.9379	71.9379	0.00910	0.00110	—	72.4943
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	68.2141	68.2141	0.00863	0.00105	—	68.7417
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	548.426	548.426	0.06940	0.00841	—	552.668
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	408.274	408.274	0.05166	0.00626	—	411.432
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	71.9379	71.9379	0.00910	0.00110	—	72.4943
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	68.2141	68.2141	0.00863	0.00105	—	68.7417
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	548.426	548.426	0.06940	0.00841	—	552.668

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	67.5944	67.5944	0.00855	0.00104	—	68.1172
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	11.9101	11.9101	0.00151	0.00018	—	12.0023
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	11.2936	11.2936	0.00143	0.00017	—	11.3810
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	90.7982	90.7982	0.01149	0.00139	—	91.5004

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	0.07178	0.03589	0.61342	0.26103	0.00392	0.04960	—	0.04960	0.04960	—	0.04960	—	778.634	778.634	0.06891	0.00147	—	780.793
General Office Building	0.00423	0.00212	0.03847	0.03231	0.00023	0.00292	—	0.00292	0.00292	—	0.00292	—	45.8959	45.8959	0.00406	0.00009	—	46.0232
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.07601	0.03801	0.65189	0.29334	0.00415	0.05252	—	0.05252	0.05252	—	0.05252	—	824.530	824.530	0.07297	0.00155	—	826.817
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	0.07178	0.03589	0.61342	0.26103	0.00392	0.04960	—	0.04960	0.04960	—	0.04960	—	778.634	778.634	0.06891	0.00147	—	780.793
General Office Building	0.00423	0.00212	0.03847	0.03231	0.00023	0.00292	—	0.00292	0.00292	—	0.00292	—	45.8959	45.8959	0.00406	0.00009	—	46.0232
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.07601	0.03801	0.65189	0.29334	0.00415	0.05252	—	0.05252	0.05252	—	0.05252	—	824.530	824.530	0.07297	0.00155	—	826.817
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	0.01310	0.00655	0.11195	0.04764	0.00071	0.00905	—	0.00905	0.00905	—	0.00905	—	128.912	128.912	0.01141	0.00024	—	129.269
General Office Building	0.00077	0.00039	0.00702	0.00590	0.00004	0.00053	—	0.00053	0.00053	—	0.00053	—	7.59859	7.59859	0.00067	0.00001	—	7.61967
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	0.01387	0.00694	0.11897	0.05353	0.00076	0.00958	—	0.00958	0.00958	—	0.00958	—	136.510	136.510	0.01208	0.00026	—	136.889

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.26012	0.13006	2.22282	0.94588	0.01419	0.17972	—	0.17972	0.17972	—	0.17972	0.00000	2,821.49	2,821.49	0.05313	0.00531	—	2,824.40
Consumer Products	3.58037	3.58037	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.29621	0.29621	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.81909	0.77460	0.08010	8.74171	0.00038	0.00421	—	0.00421	0.00319	—	0.00319	—	23.6119	23.6119	0.00099	0.00020	—	23.6950
Total	4.95578	4.78123	2.30293	9.68759	0.01457	0.18393	—	0.18393	0.18291	—	0.18291	0.00000	2,845.10	2,845.10	0.05411	0.00551	—	2,848.09
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.26012	0.13006	2.22282	0.94588	0.01419	0.17972	—	0.17972	0.17972	—	0.17972	0.00000	2,821.49	2,821.49	0.05313	0.00531	—	2,824.40

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Consumer Products	3.58037	3.58037	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.29621	0.29621	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.13669	4.00663	2.22282	0.94588	0.01419	0.17972	—	0.17972	0.17972	—	0.17972	0.00000	2,821.49	2,821.49	0.05313	0.00531	—	2,824.40
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00325	0.00163	0.02779	0.01182	0.00018	0.00225	—	0.00225	0.00225	—	0.00225	0.00000	31.9952	31.9952	0.00060	0.00006	—	32.0282
Consumer Products	0.65342	0.65342	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.05406	0.05406	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10239	0.09682	0.01001	1.09271	0.00005	0.00053	—	0.00053	0.00040	—	0.00040	—	2.67755	2.67755	0.00011	0.00002	—	2.68697
Total	0.81311	0.80593	0.03780	1.10454	0.00023	0.00277	—	0.00277	0.00265	—	0.00265	0.00000	34.6727	34.6727	0.00071	0.00008	—	34.7152

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	10.6424	27.0123	37.6547	1.09467	0.02634	—	72.8714
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.92428	4.88416	6.80843	0.19793	0.00476	—	13.1761
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	7.72115	7.72115	0.00098	0.00012	—	7.78086
Total	—	—	—	—	—	—	—	—	—	—	—	12.5667	39.6176	52.1842	1.29358	0.03122	—	93.8284
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	10.6424	27.0123	37.6547	1.09467	0.02634	—	72.8714
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.92428	4.88416	6.80843	0.19793	0.00476	—	13.1761
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	7.72115	7.72115	0.00098	0.00012	—	7.78086
Total	—	—	—	—	—	—	—	—	—	—	—	12.5667	39.6176	52.1842	1.29358	0.03122	—	93.8284
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	1.76197	4.47219	6.23416	0.18124	0.00436	—	12.0647
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.31859	0.80863	1.12721	0.03277	0.00079	—	2.18145
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	1.27832	1.27832	0.00016	0.00002	—	1.28821
Total	—	—	—	—	—	—	—	—	—	—	—	2.08055	6.55914	8.63970	0.21417	0.00517	—	15.5344

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	125.982	0.00000	125.982	12.5915	0.00000	—	440.769
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.83185	0.00000	2.83185	0.28303	0.00000	—	9.90769

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06952	0.00000	0.06952	0.00695	0.00000	—	0.24324
Total	—	—	—	—	—	—	—	—	—	—	—	128.884	0.00000	128.884	12.8815	0.00000	—	450.920
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	125.982	0.00000	125.982	12.5915	0.00000	—	440.769
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.83185	0.00000	2.83185	0.28303	0.00000	—	9.90769
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06952	0.00000	0.06952	0.00695	0.00000	—	0.24324
Total	—	—	—	—	—	—	—	—	—	—	—	128.884	0.00000	128.884	12.8815	0.00000	—	450.920
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	20.8578	0.00000	20.8578	2.08466	0.00000	—	72.9744
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.46885	0.00000	0.46885	0.04686	0.00000	—	1.64033
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01151	0.00000	0.01151	0.00115	0.00000	—	0.04027
Total	—	—	—	—	—	—	—	—	—	—	—	21.3382	0.00000	21.3382	2.13267	0.00000	—	74.6550

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.02571	2.02571
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01374	0.01374
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.03945	2.03945
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.02571	2.02571

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01374	0.01374
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.03945	2.03945
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33538	0.33538
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00227	0.00227
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33765	0.33765

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Retirement Community	456.000	456.000	456.000	166,440	8,746.84	8,746.84	8,746.84	3,192,597
General Office Building	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Retirement Community	Wood Fireplaces	0	0
Retirement Community	Gas Fireplaces	134	134
Retirement Community	Propane Fireplaces	0	0
Retirement Community	Electric Fireplaces	0	0
Retirement Community	No Fireplaces	15	15
Retirement Community	Conventional Wood Stoves	0	0
Retirement Community	Catalytic Wood Stoves	0	0
Retirement Community	Non-Catalytic Wood Stoves	0	0
Retirement Community	Pellet Wood Stoves	0	0
General Office Building	Wood Fireplaces	0	0
General Office Building	Gas Fireplaces	0	0
General Office Building	Propane Fireplaces	0	0
General Office Building	Electric Fireplaces	0	0
General Office Building	No Fireplaces	0	0
General Office Building	Conventional Wood Stoves	0	0
General Office Building	Catalytic Wood Stoves	0	0
General Office Building	Non-Catalytic Wood Stoves	0	0
General Office Building	Pellet Wood Stoves	0	0
Parking Lot	Wood Fireplaces	0	0
Parking Lot	Gas Fireplaces	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Parking Lot	Propane Fireplaces	0	0
Parking Lot	Electric Fireplaces	0	0
Parking Lot	No Fireplaces	0	0
Parking Lot	Conventional Wood Stoves	0	0
Parking Lot	Catalytic Wood Stoves	0	0
Parking Lot	Non-Catalytic Wood Stoves	0	0
Parking Lot	Pellet Wood Stoves	0	0
City Park	Wood Fireplaces	0	0
City Park	Gas Fireplaces	0	0
City Park	Propane Fireplaces	0	0
City Park	Electric Fireplaces	0	0
City Park	No Fireplaces	0	0
City Park	Conventional Wood Stoves	0	0
City Park	Catalytic Wood Stoves	0	0
City Park	Non-Catalytic Wood Stoves	0	0
City Park	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
323,030	107,677	8,475.00	2,825.00	6,539.23

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	250.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Retirement Community	571,422	260.788	0.0330	0.0040	2,429,546
General Office Building	100,685	260.788	0.0330	0.0040	143,208
Parking Lot	95,472.7	260.788	0.0330	0.0040	0.00000
City Park	0.00000	260.788	0.0330	0.0040	0.00000

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Retirement Community	5,553,796	0.00000
General Office Building	1,004,196	0.00000
Parking Lot	0.00000	0.00000
City Park	0.00000	2,036,370

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Retirement Community	233.760	0.00000
General Office Building	5.25450	0.00000
Parking Lot	0.00000	0.00000
City Park	0.12900	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Retirement Community	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Retirement Community	Household refrigerators and/or freezers	R-134a	1,430.00	0.22222	0.60000	0.00000	1.000000
General Office Building	Household refrigerators and/or freezers	R-134a	1,430.00	0.01679	0.60000	0.00000	1.000000
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
City Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.9000	annual days of extreme heat
Extreme Precipitation	8.95000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	28.5100	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—

Indicator	Result for Project Census Tract
AQ-Ozone	88.6994
AQ-PM	63.0865
AQ-DPM	77.4611
Drinking Water	17.3598
Lead Risk Housing	56.2697
Pesticides	0.00000
Toxic Releases	70.0425
Traffic	80.8125
Effect Indicators	—
CleanUp Sites	7.70810
Groundwater	35.6633
Haz Waste Facilities/Generators	70.4831
Impaired Water Bodies	0.00000
Solid Waste	87.8121
Sensitive Population	—
Asthma	51.5703
Cardio-vascular	34.2597
Low Birth Weights	72.3249
Socioeconomic Factor Indicators	—
Education	53.1258
Housing	49.7212

Indicator	Result for Project Census Tract
Linguistic	68.1554
Poverty	37.6382
Unemployment	72.5273

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	46.10547928
Employed	60.23354292
Median HI	48.90286154
Education	—
Bachelor's or higher	66.39291672
High school enrollment	100
Preschool enrollment	63.13358142
Transportation	—
Auto Access	29.34684974
Active commuting	43.51340947
Social	—
2-parent households	53.17592711
Voting	45.15590915

Indicator	Result for Project Census Tract
Neighborhood	—
Alcohol availability	17.24624663
Park access	81.35506224
Retail density	12.88335686
Supermarket access	75.5806493
Tree canopy	68.74117798
Housing	—
Homeownership	48.67188503
Housing habitability	23.14897985
Low-inc homeowner severe housing cost burden	25.98485821
Low-inc renter severe housing cost burden	15.42409855
Uncrowded housing	37.31553959
Health Outcomes	—
Insured adults	40.47221866
Arthritis	0.0
Asthma ER Admissions	34.7
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0

Indicator	Result for Project Census Tract
Diagnosed Diabetes	0.0
Life Expectancy at Birth	49.7
Cognitively Disabled	39.7
Physically Disabled	45.1
Heart Attack ER Admissions	39.1
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	11.0
SLR Inundation Area	0.0
Children	59.5
Elderly	26.8
English Speaking	48.7

Indicator	Result for Project Census Tract
Foreign-born	68.8
Outdoor Workers	62.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	45.1
Traffic Density	89.6
Traffic Access	23.0
Other Indices	—
Hardship	58.4
Other Decision Support	—
2016 Voting	41.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	68.0000
Healthy Places Index Score for Project Location (b)	51.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Land uses updated with information from the project applicant. Residential amenity building space modeled within the retirement community subtype. Parking modeled based on provided number of spaces using defaults for acreage. Vacant parcel not modeled under no project conditions.
Operations: Vehicle Data	Trip rate adjusted based on existing daily trips and trip length adjusted based on vmt/capita in the LLG traffic study prepared for this Specific Plan.
Operations: Hearths	Wood fireplaced removed and added to gas fireplaces and wood stoves removed per SCAQMD Rule 445.

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	29.8000	26.3683
Building Area	sq. ft	157,940	159,521

Model Parameter	Units	Default Value	New Value
Landscape Area	sq. ft	—	0.00000
Special Landscape Area	sq. ft	—	0.00000
Population	people	441.000	256.000

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
Retirement Community	Weekday Trip Rate	size/day	2.40000	3.06040
Retirement Community	Saturday Trip Rate	size/day	2.03000	3.06040
Retirement Community	Sunday Trip Rate	size/day	1.95000	3.06040
Retirement Community	Res H-W Trip Length	miles	19.5081	29.2324
Retirement Community	Res H-S Trip Length	miles	8.04768	12.0592
Retirement Community	Res H-O Trip Length	miles	9.30927	13.9497
General Office Building	Weekday Trip Rate	size/day	9.74000	0.00000
General Office Building	Saturday Trip Rate	size/day	2.21000	0.00000
General Office Building	Sunday Trip Rate	size/day	0.70000	0.00000
City Park	Weekday Trip Rate	size/day	0.78000	0.00000
City Park	Saturday Trip Rate	size/day	1.96000	0.00000
City Park	Sunday Trip Rate	size/day	2.19000	0.00000

8.5.2. Area Sources

8.5.2.1. Hearths

Land Use	Model Parameter	Units	Default Value	New Value
Retirement Community	Wood Fireplaces	—	7	0
Retirement Community	Gas Fireplaces	—	127	134
Retirement Community	Wood Mass	lb/year	1,019	0
Retirement Community	Catalytic Wood Stoves	—	7	0
Retirement Community	Non-Catalytic Wood Stoves	—	7	0
Retirement Community	Days/Year	—	25	0
Retirement Community	Wood Mass	lb/year	1,000	0

Westminster Gardens 2045 Project Conditions Detailed Report

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1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Westminster Gardens 2045 Project Conditions
Operational Year	2045
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	1.80000
Precipitation (days)	22.4000
Location	34.13817979314946, -117.96313389953602
County	Los Angeles-South Coast
City	Duarte
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	4902
EDFZ	7
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas
App Version	2022.1.1.45

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Retirement Community	550.000	Dwelling Unit	26.6737	835,000	0.00000	0.00000	1,010.00	—
General Office Building	25.0000	1000sqft	0.57392	25,000.0	0.00000	0.00000	—	—
Strip Mall	15.0000	1000sqft	0.34435	15,000.0	0.00000	0.00000	—	—
Parking Lot	312.000	Space	2.80800	0.00000	0.00000	0.00000	—	—
City Park	1.50000	Acre	1.50000	0.00000	65,340.0	65,340.0	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.3. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	32.9631	31.2649	16.5760	125.284	0.33491	0.97858	30.0130	30.9916	0.96802	7.62396	8.59198	568.055	42,800.0	43,368.0	58.4258	1.05248	17.8969	45,160.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Unmit.	29.7528	28.2379	16.7907	83.1656	0.32226	0.96158	30.0130	30.9746	0.95515	7.62396	8.57911	568.055	41,577.6	42,145.6	58.4329	1.09132	10.9428	43,942.6
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.9723	29.7826	9.40336	105.087	0.27745	0.35482	29.5830	29.9378	0.34556	7.51647	7.86203	568.055	32,235.2	32,803.3	58.2511	1.07753	13.8403	34,594.5
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.65245	5.43533	1.71611	19.1783	0.05063	0.06475	5.39890	5.46366	0.06306	1.37176	1.43482	94.0480	5,336.91	5,430.95	9.64413	0.17840	2.29143	5,727.51

2.4. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.22955	7.33062	5.60348	87.5625	0.26542	0.09982	30.0130	30.1128	0.09340	7.62396	7.71736	—	27,039.1	27,039.1	0.77539	0.87177	7.13923	27,325.4
Area	24.4472	23.7911	8.51387	36.5948	0.05387	0.68092	—	0.68092	0.67678	—	0.67678	0.00000	10,513.2	10,513.2	0.20004	0.02038	—	10,524.3
Energy	0.28635	0.14317	2.45864	1.12677	0.01562	0.19784	—	0.19784	0.19784	—	0.19784	—	5,113.19	5,113.19	0.52887	0.03663	—	5,137.33
Water	—	—	—	—	—	—	—	—	—	—	—	49.9276	134.446	184.374	5.13651	0.12370	—	349.649
Waste	—	—	—	—	—	—	—	—	—	—	—	518.128	0.00000	518.128	51.7850	0.00000	—	1,812.75
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.7577	10.7577
Total	32.9631	31.2649	16.5760	125.284	0.33491	0.97858	30.0130	30.9916	0.96802	7.62396	8.59198	568.055	42,800.0	43,368.0	58.4258	1.05248	17.8969	45,160.2
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Mobile	8.19100	7.29977	6.12086	78.5447	0.25423	0.09985	30.0130	30.1128	0.09343	7.62396	7.71739	—	25,907.3	25,907.3	0.78627	0.91136	0.18514	26,198.7
Area	21.2754	20.7950	8.21118	3.49412	0.05241	0.66388	—	0.66388	0.66388	—	0.66388	0.00000	10,422.7	10,422.7	0.19626	0.01963	—	10,433.4
Energy	0.28635	0.14317	2.45864	1.12677	0.01562	0.19784	—	0.19784	0.19784	—	0.19784	—	5,113.19	5,113.19	0.52887	0.03663	—	5,137.33
Water	—	—	—	—	—	—	—	—	—	—	—	49.9276	134.446	184.374	5.13651	0.12370	—	349.649
Waste	—	—	—	—	—	—	—	—	—	—	—	518.128	0.00000	518.128	51.7850	0.00000	—	1,812.75
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.7577	10.7577
Total	29.7528	28.2379	16.7907	83.1656	0.32226	0.96158	30.0130	30.9746	0.95515	7.62396	8.57911	568.055	41,577.6	42,145.6	58.4329	1.09132	10.9428	43,942.6
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	8.13317	7.23987	6.17499	81.0489	0.25724	0.09983	29.5830	29.6829	0.09341	7.51647	7.60988	—	26,211.6	26,211.6	0.78463	0.91533	3.08268	26,507.1
Area	22.5528	22.3996	0.76973	22.9110	0.00459	0.05714	—	0.05714	0.05431	—	0.05431	0.00000	775.923	775.923	0.01604	0.00186	—	776.879
Energy	0.28635	0.14317	2.45864	1.12677	0.01562	0.19784	—	0.19784	0.19784	—	0.19784	—	5,113.19	5,113.19	0.52887	0.03663	—	5,137.33
Water	—	—	—	—	—	—	—	—	—	—	—	49.9276	134.446	184.374	5.13651	0.12370	—	349.649
Waste	—	—	—	—	—	—	—	—	—	—	—	518.128	0.00000	518.128	51.7850	0.00000	—	1,812.75
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.7577	10.7577
Total	30.9723	29.7826	9.40336	105.087	0.27745	0.35482	29.5830	29.9378	0.34556	7.51647	7.86203	568.055	32,235.2	32,803.3	58.2511	1.07753	13.8403	34,594.5
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.48430	1.32128	1.12694	14.7914	0.04695	0.01822	5.39890	5.41712	0.01705	1.37176	1.38880	—	4,339.64	4,339.64	0.12991	0.15154	0.51037	4,388.55
Area	4.11589	4.08793	0.14048	4.18126	0.00084	0.01043	—	0.01043	0.00991	—	0.00991	0.00000	128.463	128.463	0.00265	0.00031	—	128.621
Energy	0.05226	0.02613	0.44870	0.20564	0.00285	0.03611	—	0.03611	0.03611	—	0.03611	—	846.547	846.547	0.08756	0.00607	—	850.543
Water	—	—	—	—	—	—	—	—	—	—	—	8.26608	22.2591	30.5252	0.85041	0.02048	—	57.8884
Waste	—	—	—	—	—	—	—	—	—	—	—	85.7820	0.00000	85.7820	8.57360	0.00000	—	300.122

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.78105	1.78105
Total	5.65245	5.43533	1.71611	19.1783	0.05063	0.06475	5.39890	5.46366	0.06306	1.37176	1.43482	94.0480	5,336.91	5,430.95	9.64413	0.17840	2.29143	5,727.51

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	5.66671	5.03878	3.89663	61.1691	0.18596	0.06985	21.0373	21.1071	0.06536	5.34393	5.40929	—	18,943.8	18,943.8	0.53898	0.60786	5.00416	19,143.4
General Office Building	0.28044	0.25079	0.18677	2.88812	0.00870	0.00328	0.98218	0.98546	0.00307	0.24949	0.25256	—	885.835	885.835	0.02587	0.02888	0.23363	895.321
Strip Mall	2.28239	2.04106	1.52008	23.5053	0.07077	0.02669	7.99355	8.02024	0.02497	2.03054	2.05551	—	7,209.47	7,209.47	0.21054	0.23503	1.90144	7,286.67
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	8.22955	7.33062	5.60348	87.5625	0.26542	0.09982	30.0130	30.1128	0.09340	7.62396	7.71736	—	27,039.1	27,039.1	0.77539	0.87177	7.13923	27,325.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	5.63895	5.01662	4.25658	54.8099	0.17812	0.06987	21.0373	21.1071	0.06538	5.34393	5.40931	—	18,150.4	18,150.4	0.54611	0.63543	0.12977	18,353.5
General Office Building	0.27926	0.24984	0.20400	2.59719	0.00833	0.00328	0.98218	0.98546	0.00307	0.24949	0.25256	—	848.808	848.808	0.02628	0.03019	0.00606	858.469
Strip Mall	2.27278	2.03331	1.66028	21.1375	0.06779	0.02670	7.99355	8.02025	0.02498	2.03054	2.05552	—	6,908.12	6,908.12	0.21388	0.24574	0.04931	6,986.75
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	8.19100	7.29977	6.12086	78.5447	0.25423	0.09985	30.0130	30.1128	0.09343	7.62396	7.71739	—	25,907.3	25,907.3	0.78627	0.91136	0.18514	26,198.7
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	1.02199	0.90815	0.78390	10.3245	0.03289	0.01275	3.78430	3.79705	0.01193	0.96152	0.97345	—	3,040.32	3,040.32	0.09024	0.10567	0.35774	3,074.43
General Office Building	0.05059	0.04521	0.03754	0.48880	0.00154	0.00060	0.17668	0.17728	0.00056	0.04489	0.04545	—	142.178	142.178	0.00434	0.00502	0.01670	143.799
Strip Mall	0.41172	0.36792	0.30550	3.97815	0.01252	0.00487	1.43792	1.44280	0.00456	0.36535	0.36991	—	1,157.13	1,157.13	0.03533	0.04085	0.13593	1,170.33
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Total	1.48430	1.32128	1.12694	14.7914	0.04695	0.01822	5.39890	5.41712	0.01705	1.37176	1.38880	—	4,339.64	4,339.64	0.12991	0.15154	0.51037	4,388.55

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	1,507.05	1,507.05	0.19070	0.02312	—	1,518.71
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	318.309	318.309	0.04028	0.00488	—	320.771
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	105.259	105.259	0.01332	0.00161	—	106.073
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	76.5568	76.5568	0.00969	0.00117	—	77.1489
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,007.18	2,007.18	0.25399	0.03079	—	2,022.70

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	1,507.05	1,507.05	0.19070	0.02312	—	1,518.71
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	318.309	318.309	0.04028	0.00488	—	320.771
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	105.259	105.259	0.01332	0.00161	—	106.073
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	76.5568	76.5568	0.00969	0.00117	—	77.1489
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,007.18	2,007.18	0.25399	0.03079	—	2,022.70
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	249.510	249.510	0.03157	0.00383	—	251.439
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	52.6998	52.6998	0.00667	0.00081	—	53.1074
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	17.4268	17.4268	0.00221	0.00027	—	17.5616
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	12.6749	12.6749	0.00160	0.00019	—	12.7729
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	—	0.00000

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	—	—	—	—	—	—	—	—	—	—	—	—	332.311	332.311	0.04205	0.00510	—	334.881

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	0.26497	0.13249	2.26431	0.96354	0.01445	0.18307	—	0.18307	0.18307	—	0.18307	—	2,874.15	2,874.15	0.25436	0.00541	—	2,882.12
General Office Building	0.01872	0.00936	0.17020	0.14297	0.00102	0.01294	—	0.01294	0.01294	—	0.01294	—	203.079	203.079	0.01797	0.00038	—	203.643
Strip Mall	0.00265	0.00133	0.02412	0.02026	0.00014	0.00183	—	0.00183	0.00183	—	0.00183	—	28.7809	28.7809	0.00255	0.00005	—	28.8607
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.28635	0.14317	2.45864	1.12677	0.01562	0.19784	—	0.19784	0.19784	—	0.19784	—	3,106.01	3,106.01	0.27488	0.00585	—	3,114.63
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	0.26497	0.13249	2.26431	0.96354	0.01445	0.18307	—	0.18307	0.18307	—	0.18307	—	2,874.15	2,874.15	0.25436	0.00541	—	2,882.12

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
General Office Building	0.01872	0.00936	0.17020	0.14297	0.00102	0.01294	—	0.01294	0.01294	—	0.01294	—	203.079	203.079	0.01797	0.00038	—	203.643
Strip Mall	0.00265	0.00133	0.02412	0.02026	0.00014	0.00183	—	0.00183	0.00183	—	0.00183	—	28.7809	28.7809	0.00255	0.00005	—	28.8607
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.28635	0.14317	2.45864	1.12677	0.01562	0.19784	—	0.19784	0.19784	—	0.19784	—	3,106.01	3,106.01	0.27488	0.00585	—	3,114.63
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	0.04836	0.02418	0.41324	0.17585	0.00264	0.03341	—	0.03341	0.03341	—	0.03341	—	475.849	475.849	0.04211	0.00090	—	477.168
General Office Building	0.00342	0.00171	0.03106	0.02609	0.00019	0.00236	—	0.00236	0.00236	—	0.00236	—	33.6221	33.6221	0.00298	0.00006	—	33.7153
Strip Mall	0.00048	0.00024	0.00440	0.00370	0.00003	0.00033	—	0.00033	0.00033	—	0.00033	—	4.76501	4.76501	0.00042	0.00001	—	4.77823
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000	0.00000	—	0.00000	—	0.00000	0.00000	0.00000	0.00000	—	0.00000
Total	0.05226	0.02613	0.44870	0.20564	0.00285	0.03611	—	0.03611	0.03611	—	0.03611	—	514.236	514.236	0.04551	0.00097	—	515.662

4.3. Area Emissions by Source

4.3.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.96088	0.48044	8.21118	3.49412	0.05241	0.66388	—	0.66388	0.66388	—	0.66388	0.00000	10,422.7	10,422.7	0.19626	0.01963	—	10,433.4
Consumer Products	18.7718	18.7718	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.54281	1.54281	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	3.17176	2.99612	0.30270	33.1007	0.00146	0.01704	—	0.01704	0.01290	—	0.01290	—	90.5819	90.5819	0.00379	0.00075	—	90.9011
Total	24.4472	23.7911	8.51387	36.5948	0.05387	0.68092	—	0.68092	0.67678	—	0.67678	0.00000	10,513.2	10,513.2	0.20004	0.02038	—	10,524.3
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.96088	0.48044	8.21118	3.49412	0.05241	0.66388	—	0.66388	0.66388	—	0.66388	0.00000	10,422.7	10,422.7	0.19626	0.01963	—	10,433.4
Consumer Products	18.7718	18.7718	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	1.54281	1.54281	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	21.2754	20.7950	8.21118	3.49412	0.05241	0.66388	—	0.66388	0.66388	—	0.66388	0.00000	10,422.7	10,422.7	0.19626	0.01963	—	10,433.4
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.01201	0.00601	0.10264	0.04368	0.00066	0.00830	—	0.00830	0.00830	—	0.00830	0.00000	118.191	118.191	0.00223	0.00022	—	118.313

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Consumer Products	3.42585	3.42585	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.28156	0.28156	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.39647	0.37451	0.03784	4.13759	0.00018	0.00213	—	0.00213	0.00161	—	0.00161	—	10.2718	10.2718	0.00043	0.00009	—	10.3080
Total	4.11589	4.08793	0.14048	4.18126	0.00084	0.01043	—	0.01043	0.00991	—	0.00991	0.00000	128.463	128.463	0.00265	0.00031	—	128.621

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	39.2840	99.7098	138.994	4.04074	0.09724	—	268.989
General Office Building	—	—	—	—	—	—	—	—	—	—	—	8.51449	21.6113	30.1258	0.87580	0.02108	—	58.3012
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.12911	5.40406	7.53316	0.21900	0.00527	—	14.5786

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	7.72115	7.72115	0.00098	0.00012	—	7.78086
Total	—	—	—	—	—	—	—	—	—	—	—	49.9276	134.446	184.374	5.13651	0.12370	—	349.649
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	39.2840	99.7098	138.994	4.04074	0.09724	—	268.989
General Office Building	—	—	—	—	—	—	—	—	—	—	—	8.51449	21.6113	30.1258	0.87580	0.02108	—	58.3012
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.12911	5.40406	7.53316	0.21900	0.00527	—	14.5786
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	7.72115	7.72115	0.00098	0.00012	—	7.78086
Total	—	—	—	—	—	—	—	—	—	—	—	49.9276	134.446	184.374	5.13651	0.12370	—	349.649
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	6.50391	16.5081	23.0120	0.66899	0.01610	—	44.5341
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.40967	3.57800	4.98767	0.14500	0.00349	—	9.65243

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.35250	0.89470	1.24720	0.03626	0.00087	—	2.41365
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00000	1.27832	1.27832	0.00016	0.00002	—	1.28821
Total	—	—	—	—	—	—	—	—	—	—	—	8.26608	22.2591	30.5252	0.85041	0.02048	—	57.8884

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	497.040	0.00000	497.040	49.6773	0.00000	—	1,738.97
General Office Building	—	—	—	—	—	—	—	—	—	—	—	12.5303	0.00000	12.5303	1.25236	0.00000	—	43.8394
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	8.48829	0.00000	8.48829	0.84837	0.00000	—	29.6976
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06952	0.00000	0.06952	0.00695	0.00000	—	0.24324
Total	—	—	—	—	—	—	—	—	—	—	—	518.128	0.00000	518.128	51.7850	0.00000	—	1,812.75
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	497.040	0.00000	497.040	49.6773	0.00000	—	1,738.97
General Office Building	—	—	—	—	—	—	—	—	—	—	—	12.5303	0.00000	12.5303	1.25236	0.00000	—	43.8394
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	8.48829	0.00000	8.48829	0.84837	0.00000	—	29.6976
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06952	0.00000	0.06952	0.00695	0.00000	—	0.24324
Total	—	—	—	—	—	—	—	—	—	—	—	518.128	0.00000	518.128	51.7850	0.00000	—	1,812.75
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	82.2906	0.00000	82.2906	8.22465	0.00000	—	287.907
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.07454	0.00000	2.07454	0.20734	0.00000	—	7.25811
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.40533	0.00000	1.40533	0.14046	0.00000	—	4.91678

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000	0.00000	0.00000	0.00000	—	0.00000
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01151	0.00000	0.01151	0.00115	0.00000	—	0.04027
Total	—	—	—	—	—	—	—	—	—	—	—	85.7820	0.00000	85.7820	8.57360	0.00000	—	300.122

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.6034	10.6034
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06080	0.06080
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09342	0.09342
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.7577	10.7577

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.6034	10.6034
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.06080	0.06080
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.09342	0.09342
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.7577	10.7577
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Retirement Community	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.75552	1.75552
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01007	0.01007
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01547	0.01547
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00000	0.00000
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.78105	1.78105

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Retirement Community	1,960.00	1,960.00	1,960.00	715,400	29,652.6	29,652.6	29,652.6	10,823,199
General Office Building	101.000	101.000	101.000	36,865.0	1,384.40	1,384.40	1,384.40	505,307
Strip Mall	822.000	822.000	822.000	300,030	11,267.1	11,267.1	11,267.1	4,112,502
Parking Lot	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
City Park	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Retirement Community	Wood Fireplaces	0	0
Retirement Community	Gas Fireplaces	495	495
Retirement Community	Propane Fireplaces	0	0
Retirement Community	Electric Fireplaces	0	0
Retirement Community	No Fireplaces	55	55
Retirement Community	Conventional Wood Stoves	0	0
Retirement Community	Catalytic Wood Stoves	0	0
Retirement Community	Non-Catalytic Wood Stoves	0	0
Retirement Community	Pellet Wood Stoves	0	0
General Office Building	Wood Fireplaces	0	0
General Office Building	Gas Fireplaces	0	0
General Office Building	Propane Fireplaces	0	0
General Office Building	Electric Fireplaces	0	0
General Office Building	No Fireplaces	0	0
General Office Building	Conventional Wood Stoves	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
General Office Building	Catalytic Wood Stoves	0	0
General Office Building	Non-Catalytic Wood Stoves	0	0
General Office Building	Pellet Wood Stoves	0	0
Strip Mall	Wood Fireplaces	0	0
Strip Mall	Gas Fireplaces	0	0
Strip Mall	Propane Fireplaces	0	0
Strip Mall	Electric Fireplaces	0	0
Strip Mall	No Fireplaces	0	0
Strip Mall	Conventional Wood Stoves	0	0
Strip Mall	Catalytic Wood Stoves	0	0
Strip Mall	Non-Catalytic Wood Stoves	0	0
Strip Mall	Pellet Wood Stoves	0	0
Parking Lot	Wood Fireplaces	0	0
Parking Lot	Gas Fireplaces	0	0
Parking Lot	Propane Fireplaces	0	0
Parking Lot	Electric Fireplaces	0	0
Parking Lot	No Fireplaces	0	0
Parking Lot	Conventional Wood Stoves	0	0
Parking Lot	Catalytic Wood Stoves	0	0
Parking Lot	Non-Catalytic Wood Stoves	0	0
Parking Lot	Pellet Wood Stoves	0	0

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
City Park	Wood Fireplaces	0	0
City Park	Gas Fireplaces	0	0
City Park	Propane Fireplaces	0	0
City Park	Electric Fireplaces	0	0
City Park	No Fireplaces	0	0
City Park	Conventional Wood Stoves	0	0
City Park	Catalytic Wood Stoves	0	0
City Park	Non-Catalytic Wood Stoves	0	0
City Park	Pellet Wood Stoves	0	0

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
1,690,875	563,625	60,000.0	20,000.0	7,338.99

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00000
Summer Days	day/yr	250.000

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Retirement Community	2,109,275	260.788	0.0330	0.0040	8,968,122
General Office Building	445,507	260.788	0.0330	0.0040	633,662
Strip Mall	147,320	260.788	0.0330	0.0040	89,804.2
Parking Lot	107,149	260.788	0.0330	0.0040	0.00000
City Park	0.00000	260.788	0.0330	0.0040	0.00000

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Retirement Community	20,500,590	0.00000
General Office Building	4,443,344	0.00000
Strip Mall	1,111,088	0.00000
Parking Lot	0.00000	0.00000
City Park	0.00000	2,036,370

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Retirement Community	922.256	0.00000
General Office Building	23.2500	0.00000
Strip Mall	15.7500	0.00000
Parking Lot	0.00000	0.00000
City Park	0.12900	0.00000

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Retirement Community	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088.00	0.00225	2.50000	2.50000	10.00000
Retirement Community	Household refrigerators and/or freezers	R-134a	1,430.00	0.22222	0.60000	0.00000	1.000000
General Office Building	Household refrigerators and/or freezers	R-134a	1,430.00	0.01679	0.60000	0.00000	1.000000
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922.00	0.00040	7.50000	7.50000	20.0000
City Park	Other commercial A/C and heat pumps	R-410A	2,088.00	0.00180	4.00000	4.00000	18.0000
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430.00	0.03750	1.000000	0.00000	1.000000

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	25.9000	annual days of extreme heat
Extreme Precipitation	8.95000	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	28.5100	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures

from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters

Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	3	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.6994
AQ-PM	63.0865
AQ-DPM	77.4611
Drinking Water	17.3598
Lead Risk Housing	56.2697
Pesticides	0.00000
Toxic Releases	70.0425
Traffic	80.8125
Effect Indicators	—
CleanUp Sites	7.70810
Groundwater	35.6633
Haz Waste Facilities/Generators	70.4831
Impaired Water Bodies	0.00000
Solid Waste	87.8121
Sensitive Population	—
Asthma	51.5703
Cardio-vascular	34.2597
Low Birth Weights	72.3249
Socioeconomic Factor Indicators	—
Education	53.1258

Indicator	Result for Project Census Tract
Housing	49.7212
Linguistic	68.1554
Poverty	37.6382
Unemployment	72.5273

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	46.10547928
Employed	60.23354292
Median HI	48.90286154
Education	—
Bachelor's or higher	66.39291672
High school enrollment	100
Preschool enrollment	63.13358142
Transportation	—
Auto Access	29.34684974
Active commuting	43.51340947
Social	—
2-parent households	53.17592711

Indicator	Result for Project Census Tract
Voting	45.15590915
Neighborhood	—
Alcohol availability	17.24624663
Park access	81.35506224
Retail density	12.88335686
Supermarket access	75.5806493
Tree canopy	68.74117798
Housing	—
Homeownership	48.67188503
Housing habitability	23.14897985
Low-inc homeowner severe housing cost burden	25.98485821
Low-inc renter severe housing cost burden	15.42409855
Uncrowded housing	37.31553959
Health Outcomes	—
Insured adults	40.47221866
Arthritis	0.0
Asthma ER Admissions	34.7
High Blood Pressure	0.0
Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0

Indicator	Result for Project Census Tract
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	49.7
Cognitively Disabled	39.7
Physically Disabled	45.1
Heart Attack ER Admissions	39.1
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	11.0
SLR Inundation Area	0.0
Children	59.5
Elderly	26.8

Indicator	Result for Project Census Tract
English Speaking	48.7
Foreign-born	68.8
Outdoor Workers	62.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	45.1
Traffic Density	89.6
Traffic Access	23.0
Other Indices	—
Hardship	58.4
Other Decision Support	—
2016 Voting	41.6

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	68.0000
Healthy Places Index Score for Project Location (b)	51.0000
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

8.1. Justifications

Screen	Justification
Land Use	Land uses updated with information from the project applicant. Retirement community includes dwelling units from independent living, assisted living, and memory care units. Residential amenity building space modeled within the retirement community subtype. Parking modeled based on required number of spaces and uses defaults for acreage.
Operations: Vehicle Data	Trip rate adjusted and trip length for retirement community uses increased based on project daily trips and vmt/capita in the LLG traffic study prepared for this Specific Plan.
Operations: Hearths	Wood fireplaces removed and added to gas fireplaces and wood stoves removed per SCAQMD rule 445.

8.3. Land Use

Model Parameter	Units	Default Value	New Value
Lot Area	acre	110.000	26.6737
Building Area	sq. ft	583,000	835,000

Model Parameter	Units	Default Value	New Value
Landscape Area	sq. ft	—	0.00000
Special Landscape Area	sq. ft	—	0.00000
Population	people	1,628.00	1,010.00

8.5. Operations

8.5.1. Mobile Sources

8.5.1.1. Vehicle Data

Land Use	Model Parameter	Units	Default Value	New Value
Retirement Community	Weekday Trip Rate	size/day	2.40000	3.56364
Retirement Community	Saturday Trip Rate	size/day	2.03000	3.56364
Retirement Community	Sunday Trip Rate	size/day	1.95000	3.56364
Retirement Community	Res H-W Trip Length	miles	19.5081	23.0560
Retirement Community	Res H-S Trip Length	miles	8.04768	9.51130
Retirement Community	Res H-O Trip Length	miles	9.30927	11.0023
General Office Building	Weekday Trip Rate	size/day	9.74000	4.04000
General Office Building	Saturday Trip Rate	size/day	2.21000	4.04000
General Office Building	Sunday Trip Rate	size/day	0.70000	4.04000
Strip Mall	Weekday Trip Rate	size/day	44.3200	54.8000
Strip Mall	Saturday Trip Rate	size/day	42.0400	54.8000
Strip Mall	Sunday Trip Rate	size/day	20.4300	54.8000

Land Use	Model Parameter	Units	Default Value	New Value
City Park	Weekday Trip Rate	size/day	0.78000	0.00000
City Park	Saturday Trip Rate	size/day	1.96000	0.00000
City Park	Sunday Trip Rate	size/day	2.19000	0.00000

8.5.2. Area Sources

8.5.2.1. Hearths

Land Use	Model Parameter	Units	Default Value	New Value
Retirement Community	Wood Fireplaces	—	28	0
Retirement Community	Gas Fireplaces	—	468	495
Retirement Community	Catalytic Wood Stoves	—	28	0
Retirement Community	Non-Catalytic Wood Stoves	—	28	0
Retirement Community	Days/Year	—	25	0
Retirement Community	Wood Mass	lb/year	1,000	0

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Westminster Gardens Specific Plan
City of Duarte, California

Appendix C: Energy Consumption Information
Prepared by: MIG, Inc.

Appendix Contents

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Sheet 2 EMFAC2025 LA County Fuel Efficiency Estimates for 2026 and 2045
Sheet 3 EMFAC2025 Emission Inventory Data (2026)
Sheet 4 EMFAC2025 Emission Inventory Data (2045)

Westminster Gardens Specific Plan
City of Duarte, California
Appendix C: Energy Consumption Information

Sheet 1: Energy Consumption Comparison Tables

Table 1: Estimated Operational Change in Vehicle Fuel Consumption (2026 vs. 2045)					
Metric	**VMT and Vehicle Fuel Consumption**				
	2026	**2045 NP**		**2045 Project**	
		Metric	**Change**	**Metric**	**Change**
Total VMT (miles/yr)	3,192,597	92596.60016890	*0*	15,441,009	*12,248,412*
Total Gasoline VMT	*2,692,832*	*1,797,008*	*-895,824*	*8,691,238*	*5,998,406*
Total Diesel VMT	*176,294*	*292,872*	*116,578*	*1,416,476*	*1,240,183*
Total Electric VMT	*284,752*	*1,062,229*	*777,477*	*5,137,477*	*4,852,725*
Total Fuel Cell VMT	*38,719*	*40,487*	*1,769*	*195,818*	*157,099*
Gasoline Fuel Efficiency (miles/gal)	21.89	24.65	2.75	24.65	2.75
Diesel Fuel Efficiency (miles/gal)	9.10	10.32	1.22	10.32	1.22
Electric Fuel Efficiency (mile/kWh)	2.57	2.37	-0.21	2.37	-0.21
Hydrogen Fuel Efficiency (mile/kg)	0.05	0.05	0.00	0.05	0.00
Total Gasoline Consumption (Gallons/yr	**122,998**	**72,913**	**-50,085**	**352,644**	**229,646**
Total Diesel Consumption (Gallons/yr)	**19,366**	**28,369**	**9,003**	**137,205**	**117,839**
Total Petrol Consumption (Gallons/yr)	**142,364**	**101,282**	**-41,082**	**489,849**	**347,485**
Total Electricity Consumption (kWh/yr)	**110,605**	**449,121**	**338,516**	**2,172,175**	**2,061,570**
Total Hydrogen Consumption (kg/yr)	**835,517**	**873,680**	**38,163**	**4,225,558**	**3,390,041**
Service Population (SP)	323	323	0	1,179	856
Consumption Efficiency					
Gasoline Efficiency (gal / SP)	381	226	-155.06	299	-81.69
Diesel Efficiency (gal / SP)	60	88	27.87	116	56.42
Total Petroleum Efficiency (gal/SP)	441	314	-127	415	-25
Electricity Efficiency (kWh / SP)	342	1390	1,048.04	1842	1,499.96
Hydrogen Efficiency (kg /SP)	2587	2705	118.15	3584	997.28

Table 2: Estimated Operational Change in Electricty Consumption (2026 vs. 2045)					
Metric	**Electricity Consumed (MWh/yr)**				
	2026	**2045 NP**		**2045 Project**	
		Metric	**Change**	**Metric**	**Change**
Building Electricity (MWh/yr)	768	0	-768	2,809	2,042
Service Population (SP)	323	323	0	1,179	856
Electricitiy Consumption (MWh/yr/SP)	2.38	0.00	-2.38	2.38	0.01

Table 3: Estimated Operational Change in Natural Gas Consumption (2026 vs. 2045)					
Metric	**Natural Gas Consumed (MMBtu/yr)**				
	2026	**2045 NP**		**2045 Project**	
		Metric	**Change**	**Metric**	**Change**
Total Natural Gas Consumption (MMI	2,573	0	-2,573	9,692	7,119
Service Population (SP)	323	323	0	1,179	856
Electricitiy Consumption (MMBTU/yr/	7.97	0.00	-7.97	8.22	0.25

Westminster Gardens Specific Plan
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Appendix C: Energy Consumption Information

Sheet 2: Average Fuel Efficiency - Los Angeles (SC) Sub-Area

EMFAC2025 Los Angeles (SC) Sub-Area Fuel Efficiency Estimates for 2026 and 2045

Table 1: 2026 Los Angeles County Average Vehicle Fuel Efficiency (Gasoline)

Vehicle Class	Population	Vehicle Miles Travelled Per Day	Gallons Per Day	Miles Per Gallon
HHDT	85.84	4,046.70	1,030.72	3.93
LDA	3,106,628.37	89,781,362.47	3,465,809.67	25.90
LDT1	282,888.30	8,035,904.66	374,164.99	21.48
LDT2	1,660,595.77	56,569,198.35	2,582,669.43	21.90
LHDT1	115,818.12	3,885,776.44	282,923.75	13.73
LHDT2	22,369.44	837,974.92	65,737.94	12.75
MCY	147,185.65	881,925.54	22,960.99	38.41
MDV	960,494.42	32,781,324.23	1,835,158.33	17.86
MH	17,272.37	161,038.37	33,307.41	4.83
MHDT	18,454.61	868,545.05	163,118.14	5.32
OBUS	3,598.43	107,134.76	21,368.37	5.01
SBUS	1,515.95	58,236.18	6,269.17	9.29
UBUS	401.05	24,243.83	6,477.58	3.74
TOTAL	6,337,308.32	193,996,711.49	8,860,996.50	21.89

Table 2: 2026 Los Angeles County Average Vehicle Fuel Efficiency (Diesel)

Vehicle Class	Population	Vehicle Miles Travelled Per Day	Gallons Per Day	Miles Per Gallon
HHDT	43,166.22	5,635,385.49	896,826.55	6.28
LDA	6,241.25	146,250.65	4,346.80	33.65
LDT1	117.97	2,602.51	125.20	20.79
LDT2	2,703.52	92,706.60	3,307.14	28.03
LHDT1	46,075.94	1,646,116.37	79,771.88	20.64
LHDT2	39,609.47	1,823,720.23	99,543.12	18.32
MCY	0.00	0.00	0.00	0.00
MDV	23,829.25	978,126.40	41,717.81	23.45
MH	6,209.89	59,826.16	6,016.64	9.94
MHDT	60,382.95	2,186,752.30	245,981.25	8.89
OBUS	1,799.91	105,496.80	14,264.88	7.40
SBUS	1,150.64	22,216.10	3,042.65	7.30
UBUS	17.13	1,329.27	215.72	6.16
TOTAL	231,304.15	12,700,528.87	1,395,159.63	9.10

Table 3: 2026 Los Angeles County Average Vehicle Fuel Efficiency (Electricity)

Vehicle Class	Population	Vehicle Miles Travelled Per Day	Energy Consumption (kWh/Day)	Miles Per kWh
HHDT	477.15	47,414.86	83,888.29	0.57
LDA	451,633.16	14,636,770.85	4,994,278.30	2.93
LDT1	25,038.61	938,960.74	364,194.83	2.58
LDT2	108,206.58	2,725,266.30	1,305,003.97	2.09
LHDT1	856.81	47,356.84	26,498.74	1.79
LHDT2	918.36	53,156.89	29,744.18	1.79
MCY	0.00	0.00	0.00	0.00
MDV	55,008.97	1,987,098.47	1,047,352.86	1.90
MH	0.00	0.00	0.00	0.00
MHDT	595.35	39,779.81	49,445.03	0.80
OBUS	192.33	13,143.52	16,453.10	0.80
SBUS	63.72	2,113.92	2,905.10	0.73
UBUS	282.40	23,040.46	48,440.57	0.48
TOTAL	643,273.44	20,514,102.67	7,968,204.98	2.57

Table 3: 2026 Los Angeles County Average Vehicle Fuel Efficiency (Fuel Cell)

Vehicle Class	Population	Vehicle Miles Travelled Per Day	Hydrogen Consumption (kg/Day)	Miles Per kg
HHDT	64,930.25	35,302.17	4,305,115.77	0.01
LDA	5,189.46	171,366.47	2,623,090.04	0.07
LDT1	948.82	33,819.89	517,677.84	0.07
LDT2	4,763.08	173,522.83	2,656,097.21	0.07
LHDT1	1,034.18	37,109.68	1,445,242.56	0.03
LHDT2	1,069.62	39,217.24	1,527,321.81	0.03
MCY	0.00	0.00	0.00	0.00
MDV	60,195.19	2,174,156.43	33,279,602.51	0.07
MH	0.00	0.00	0.00	0.00
MHDT	1,173.69	68,679.25	5,990,788.27	0.01
OBUS	108.19	5,895.11	520,777.96	0.01
SBUS	120.98	4,310.89	429,186.27	0.01
UBUS	531.02	46,004.15	6,897,348.10	0.01
TOTAL	140,064.47	2,789,384.13	60,192,248.35	0.05

Table 5: 2045 Los Angeles County Average Vehicle Fuel Efficiency (Gasoline)				
Vehicle Class	**Population**	**Vehicle Miles Travelled Per Day**	**Gallons Per Day**	**Miles Per Gallon**
HHDT	35.51	694.51	170.37	4.08
LDA	1,963,036.36	44,827,958.08	1,524,883.22	29.40
LDT1	162,186.20	3,655,015.47	147,028.85	24.86
LDT2	1,797,852.53	47,652,595.93	1,905,305.33	25.01
LHDT1	110,416.15	3,479,676.70	204,991.18	16.97
LHDT2	29,684.31	983,151.68	64,343.47	15.28
MCY	195,025.84	1,014,891.87	26,027.04	38.99
MDV	769,092.59	21,657,631.42	1,056,886.60	20.49
MH	19,496.93	170,484.62	35,225.20	4.84
MHDT	10,530.17	310,212.78	52,201.87	5.94
OBUS	1,112.85	13,519.08	2,516.78	5.37
SBUS	1,078.71	38,802.16	3,742.58	10.37
UBUS	11.09	342.23	21.52	15.90
TOTAL	5,059,559.25	123,804,976.53	5,023,344.02	24.65

Table 6: 2045 Los Angeles County Average Vehicle Fuel Efficiency (Diesel)				
Vehicle Class	**Population**	**Vehicle Miles Travelled Per Day**	**Gallons Per Day**	**Miles Per Gallon**
HHDT	64,930.25	9,302,177.77	1,269,265.48	7.33
LDA	329.84	5,963.82	156.52	38.10
LDT1	0.36	7.65	0.46	16.50
LDT2	2,312.36	74,048.47	2,284.20	32.42
LHDT1	63,325.98	2,053,718.79	91,083.01	22.55
LHDT2	105,621.02	3,618,522.30	185,732.18	19.48
MCY	0.00	0.00	0.00	0.00
MDV	51,681.67	1,703,682.12	66,903.21	25.46
MH	7,643.90	66,445.81	6,686.47	9.94
MHDT	90,359.22	3,231,921.44	316,355.63	10.22
OBUS	1,767.73	108,672.66	14,532.01	7.48
SBUS	505.16	12,264.69	1,452.83	8.44
UBUS	0.00	0.00	0.00	0.00
TOTAL	388,477.49	20,177,425.52	1,954,452.01	10.32

Table 4: 2045 Los Angeles County Average Vehicle Fuel Efficiency (Electricity)				
Vehicle Class	**Population**	**Vehicle Miles Travelled Per Day**	**Energy Consumption (kWh/Day)**	**Miles Per kWh**
HHDT	2,388.06	164,863.05	293,013.64	0.56
LDA	1,327,823.45	39,781,980.65	13,578,353.88	2.93
LDT1	120,710.46	3,737,542.91	1,444,051.54	2.59
LDT2	514,087.00	14,280,644.92	6,639,037.08	2.15
LHDT1	9,796.95	343,816.64	193,051.09	1.78
LHDT2	10,150.75	364,018.31	204,394.22	1.78
MCY	0.00	0.00	0.00	0.00
MDV	400,378.61	13,380,424.63	6,822,808.85	1.96
MH	0.00	0.00	0.00	0.00
MHDT	10,685.52	617,571.84	770,472.69	0.80
OBUS	1,073.41	57,112.04	71,450.59	0.80
SBUS	1,147.04	40,336.74	55,433.63	0.73
UBUS	4,779.18	414,037.39	870,138.31	0.48
TOTAL	2,403,020.44	73,182,349.10	30,942,205.53	2.37

Table 6: 2045 Los Angeles County Average Vehicle Fuel Efficiency (Fuel Cell)				
Vehicle Class	**Population**	**Vehicle Miles Travelled Per Day**	**Hydrogen Consumption (kg/Day)**	**Miles Per Gallon**
HHDT	396.66	35,302.17	4,305,115.77	0.01
LDA	5,189.46	171,366.47	2,623,090.04	0.07
LDT1	948.82	33,819.89	517,677.84	0.07
LDT2	4,763.08	173,522.83	2,656,097.21	0.07
LHDT1	1,034.18	37,109.68	1,445,242.56	0.03
LHDT2	1,069.62	39,217.24	1,527,321.81	0.03
MCY	0.00	0.00	0.00	0.00
MDV	60,195.19	2,174,156.43	33,279,602.51	0.07
MH	0.00	0.00	0.00	0.00
MHDT	1,173.69	68,679.25	5,990,788.27	0.01
OBUS	108.19	5,895.11	520,777.96	0.01
SBUS	120.98	4,310.89	429,186.27	0.01
UBUS	531.02	46,004.15	6,897,348.10	0.01
TOTAL	75,530.87	2,789,384.13	60,192,248.35	0.05

Westminster Gardens Specific Plan
City of Duarte, California
Appendix C: Energy Consumption Information

Sheet 3: Raw EMFAC Output - Los Angeles (SC) Sub-Area 2026

Source: EMFAC2025 (v2.1.0) Emissions Inventory
Region Type: Sub-Area
Region: Los Angeles (SC)
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for Combustion VMT and Electric VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Gasoline and Diesel Fuel Consumption, 1000 diesel equivalent gallons/day for Natural Gas Fuel Consumption, kWh/day for Energy Consumption, kg/day f

Region	Calendar Y	Vehicle C	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Cor	Hydrogen (	NOx_RUNI	NOx_IDLEX	NOx_STRE	NOx_TOTE	PM2.5_RU	PM2.5_IDLEX	PM2.5_STREX	PM2.5_TOTEX	PM2.5_PM
Los Angele	2026	HHDT	Aggregate	Aggregate	Gasoline	85.84487598	4046.703	4046.703	0	1717.584	0	0	0.034759	0	0.000629	0.035388	7.74E-06	0	2.35E-06	1.01E-05	2.23E-05
Los Angele	2026	HHDT	Aggregate	Aggregate	Diesel	43166.2196	5635385	5635385	0	712925	0	0	6.62723	1.80571239	1.771931	10.20487	0.084527	0.001044448	0	0.085571147	0.05491
Los Angele	2026	HHDT	Aggregate	Aggregate	Electricity	477.1547593	47414.86	0	47414.86	5330.531	83888.29	0	0	0	0	0	0	0	0	0	0.00047
Los Angele	2026	HHDT	Aggregate	Aggregate	Natural Gas	4726.781048	365382.5	365382.5	0	36077.09	0	0	0.286798	0.05629217	0	0.34309	0.000519	0.000135711	0	0.000654946	0.003625
Los Angele	2026	HHDT	Aggregate	Aggregate	Fuel Cell Electric Ve	11.02775257	1334.67	0	1334.67	161.8647	0	162.7237	0	0	0	0	0	0	0	0	1.32E-05
Los Angele	2026	LDA	Aggregate	Aggregate	Gasoline	2936460.224	86723722	86723722	0	12839242	0	0	6.175012	0	2.59849	8.773502	0.265263	0	0.028067507	0.293330956	0.191193
Los Angele	2026	LDA	Aggregate	Aggregate	Diesel	6241.250656	146250.6	146250.6	0	24401.74	0	0	0.072324	0	0	0.072324	0.010693	0	0	0.010692626	0.000322
Los Angele	2026	LDA	Aggregate	Aggregate	Electricity	281465.004	10908486	0	10908486	1380216	3625763	0	0	0	0	0	0	0	0	0	0.027656
Los Angele	2026	LDA	Aggregate	Aggregate	Plug-in Hybrid	170168.1513	6785925	3057640	3728285	645954.6	1368515	0	0.025297	0	0.066341	0.091639	0.007214	0	0.001153947	0.008368021	0.017204
Los Angele	2026	LDA	Aggregate	Aggregate	Fuel Cell Electric Ve	374.00382	17219.12	0	17219.12	1913.73	0	263.5715	0	0	0	0	0	0	0	0	4.37E-05
Los Angele	2026	LDT1	Aggregate	Aggregate	Gasoline	272982.7292	7809301	7809301	0	1106898	0	0	2.322917	0	0.485823	2.80874	0.035033	0	0.003805223	0.03883805	0.017217
Los Angele	2026	LDT1	Aggregate	Aggregate	Diesel	117.9734873	2602.513	2602.513	0	317.8184	0	0	0.004419	0	0	0.004419	0.000852	0	0	0.000852384	5.74E-06
Los Angele	2026	LDT1	Aggregate	Aggregate	Electricity	15133.04293	697779.1	0	697779.1	75101.5	260821.3	0	0	0	0	0	0	0	0	0	0.001769
Los Angele	2026	LDT1	Aggregate	Aggregate	Plug-in Hybrid	9905.566092	467784.8	226603.2	241181.6	40340.24	103373.6	0	0.001875	0	0.004464	0.006339	0.000433	0	5.70E-05	0.000490297	0.001186
Los Angele	2026	LDT2	Aggregate	Aggregate	Gasoline	1560648.872	54295985	54295985	0	7511761	0	0	4.896654	0	2.087958	6.984612	0.14893	0	0.015109692	0.164039475	0.119702
Los Angele	2026	LDT2	Aggregate	Aggregate	Diesel	2703.518811	92706.6	92706.6	0	13159.03	0	0	0.008048	0	0	0.008048	0.001001	0	0	0.001001345	0.000204
Los Angele	2026	LDT2	Aggregate	Aggregate	Electricity	8259.684786	376058.4	0	376058.4	43687.23	156137.7	0	0	0	0	0	0	0	0	0	0.000953
Los Angele	2026	LDT2	Aggregate	Aggregate	Plug-in Hybrid	99946.89798	4622422	2273214	2349208	425641.1	1148866	0	0.018808	0	0.04765	0.066457	0.00447	0	0.000620626	0.005091023	0.011719
Los Angele	2026	LHDT1	Aggregate	Aggregate	Gasoline	115818.1215	3885776	3885776	0	1662872	0	0	0.785312	0.00434306	1.051753	1.841408	0.004879	0	0.000513909	0.005392858	0.008567
Los Angele	2026	LHDT1	Aggregate	Aggregate	Diesel	46075.94409	1646116	1646116	0	558535.8	0	0	2.321766	0.09405046	0	2.415817	0.038185	0.001318559	0	0.039503941	0.005444
Los Angele	2026	LHDT1	Aggregate	Aggregate	Electricity	856.8109666	47356.84	0	47356.84	11311.02	26498.74	0	0	0	0	0	0	0	0	0	0.000104
Los Angele	2026	LHDT2	Aggregate	Aggregate	Gasoline	22369.44283	837974.9	837974.9	0	365037.7	0	0	0.147999	0.00086209	0.231557	0.380418	0.000983	0	9.17E-05	0.00107469	0.001847
Los Angele	2026	LHDT2	Aggregate	Aggregate	Diesel	39609.4707	1823720	1823720	0	545727.6	0	0	1.026252	0.06142657	0	1.087679	0.024518	0.001272938	0	0.025791045	0.006031
Los Angele	2026	LHDT2	Aggregate	Aggregate	Electricity	918.3643385	53156.89	0	53156.89	13779.45	29744.18	0	0	0	0	0	0	0	0	0	0.000117
Los Angele	2026	MCY	Aggregate	Aggregate	Gasoline	147185.6482	881925.5	881925.5	0	282207.8	0	0	0.509436	0	0.034558	0.543994	0.002638	0	0.001030077	0.003667725	0.000972
Los Angele	2026	MDV	Aggregate	Aggregate	Gasoline	936532.5778	32241999	32241999	0	4275682	0	0	4.822908	0	1.690598	6.513506	0.090206	0	0.009130571	0.099336443	0.071081
Los Angele	2026	MDV	Aggregate	Aggregate	Diesel	23829.25464	978126.4	978126.4	0	116599.8	0	0	0.043457	0	0	0.043457	0.003814	0	0	0.003813583	0.002156
Los Angele	2026	MDV	Aggregate	Aggregate	Electricity	31047.12476	1447378	0	1447378	158270.3	717569.8	0	0	0	0	0	0	0	0	0	0.00367
Los Angele	2026	MDV	Aggregate	Aggregate	Plug-in Hybrid	23961.84506	1079046	539324.9	539720.8	99139.09	329783.1	0	0.004462	0	0.011016	0.015478	0.001148	0	0.000159041	0.001307287	0.002736
Los Angele	2026	MH	Aggregate	Aggregate	Gasoline	17272.37138	161038.4	161038.4	0	1835.917	0	0	0.078743	0	0.000823	0.079566	0.00026	0	8.34E-07	0.000261302	0.000533
Los Angele	2026	MH	Aggregate	Aggregate	Diesel	6209.890914	59826.16	59826.16	0	659.7984	0	0	0.201577	0	0	0.201577	0.004417	0	0	0.004416934	0.000264
Los Angele	2026	MHDT	Aggregate	Aggregate	Gasoline	18454.6084	868545	868545	0	369239.8	0	0	0.334443	0.00181686	0.171518	0.507778	0.000965	0	0.000205289	0.00116984	0.002872
Los Angele	2026	MHDT	Aggregate	Aggregate	Diesel	60382.94783	2186752	2186752	0	752977.8	0	0	1.423408	0.52417071	1.070945	3.018524	0.010997	0.000420729	0	0.011418123	0.007231
Los Angele	2026	MHDT	Aggregate	Aggregate	Electricity	595.3450195	39779.81	0	39779.81	8687.796	49445.03	0	0	0	0	0	0	0	0	0	0.000132
Los Angele	2026	MHDT	Aggregate	Aggregate	Natural Gas	566.3628051	23596.85	23596.85	0	5378.689	0	0	0.00284	0.00404597	0	0.006886	2.29E-05	1.07E-05	0	3.35E-05	7.80E-05
Los Angele	2026	MHDT	Aggregate	Aggregate	Fuel Cell Electric Ve	1.439498772	123.8574	0	123.8574	14.93387	0	10.81185	0	0	0	0	0	0	0	0	4.10E-07
Los Angele	2026	OBUS	Aggregate	Aggregate	Gasoline	3598.427887	107134.8	107134.8	0	32038.82	0	0	0.057747	0.00011456	0.013655	0.071516	9.44E-05	0	9.71E-06	0.000104144	0.000354
Los Angele	2026	OBUS	Aggregate	Aggregate	Diesel	1799.906232	105496.8	105496.8	0	20972.6	0	0	0.187799	0.01558864	0.03522	0.238608	0.002602	1.81E-05	0	0.002620622	0.000349
Los Angele	2026	OBUS	Aggregate	Aggregate	Electricity	192.3271878	13143.52	0	13143.52	1711.738	16453.1	0	0	0	0	0	0	0	0	0	4.35E-05
Los Angele	2026	OBUS	Aggregate	Aggregate	Natural Gas	452.0268551	23309.53	23309.53	0	4023.039	0	0	0	0.00076751	0	0.000768	0	1.91E-06	0	1.91E-06	7.71E-05
Los Angele	2026	OBUS	Aggregate	Aggregate	Fuel Cell Electric Ve	0.395290766	9.757475	0	9.757475	3.518088	0	0.86113	0	0	0	0	0	0	0	0	3.23E-08
Los Angele	2026	SBUS	Aggregate	Aggregate	Gasoline	1515.94775	58236.18	58236.18	0	6063.791	0	0	0.024862	0.00154388	0.004501	0.030906	8.60E-05	0	4.16E-06	9.02E-05	0.000128
Los Angele	2026	SBUS	Aggregate	Aggregate	Diesel	1150.643735	22216.1	22216.1	0	16661.32	0	0	0.179831	0.03808469	0.005382	0.223298	0.00058	2.33E-05	0	0.000603007	7.35E-05
Los Angele	2026	SBUS	Aggregate	Aggregate	Electricity	63.71903267	2113.92	0	2113.92	701.033	2905.1	0	0	0	0	0	0	0	0	0	6.10E-06
Los Angele	2026	SBUS	Aggregate	Aggregate	Natural Gas	1474.088405	36187.69	36187.69	0	21344.8	0	0	0.0196	0.0085351	0	0.028135	0.000164	1.92E-05	0	0.000183581	0.00012
Los Angele	2026	UBUS	Aggregate	Aggregate	Gasoline	401.0487095	24243.83	24243.83	0	1604.195	0	0	0.006268	0	0.001655	0.007923	5.37E-05	0	1.76E-06	5.54E-05	7.99E-05
Los Angele	2026	UBUS	Aggregate	Aggregate	Diesel	17.12539432	1329.269	1329.269	0	68.50158	0	0	0.001028	0	0	0.001028	7.86E-06	0	0	7.86E-06	1.18E-05
Los Angele	2026	UBUS	Aggregate	Aggregate	Electricity	282.400917	23040.46	0	23040.46	1129.604	48440.57	0	0	0	0	0	0	0	0	0	0.000207
Los Angele	2026	UBUS	Aggregate	Aggregate	Natural Gas	3858.236227	345206.1	345206.1	0	15432.94	0	0	0.200454	0	0	0.200454	0.000162	0	0	0.000161749	0.003103

for Hydrogen Consumption

PM2.5_PM	PM2.5_TO	PM10_RUI	PM10_IDLI	PM10_STR	PM10_TOT	PM10_PM	PM10_PM	PM10_TOT	CO2_RUNE	CO2_IDLE	CO2_STRE	CO2_TOTE	CH4_RUNE	CH4_IDLE	CH4_STRE	CH4_TOTE	N2O_RUNI	N2O_IDLE	N2O_STRE	N2O_TOTE	ROG_RUNI	ROG_IDLE	ROG_STRE	ROG_TOTE
0.000153	0.000185	8.41E-06	0	2.55E-06	1.10E-05	8.92E-05	0.000437	0.000537	9.647687	0	0.1058	9.753486	0.000752	0	2.18E-08	0.000752	0.000991	0	2.14E-05	0.001012	0.004128	0	9.25E-08	0.004128
0.175022	0.315504	0.088349	0.001092	0	0.08944	0.21964	0.500064	0.809144	9365.366	670.6994	0	10036.07	0.003563	0.013936	0	0.017499	2.449139	0	0	2.449139	0.076717	0.300039	0	0.376757
0.000757	0.001227	0	0	0	0	0.001881	0.002161	0.004043	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.01894	0.02322	0.000565	0.000148	0	0.000712	0.0145	0.054115	0.069327	455.6161	45.17571	0	500.7918	1.058707	0.202414	0	1.261121	0.152745	0	0	0.152745	0.008261	0.001929	0	0.01019
2.16E-05	3.49E-05	0	0	0	0	5.30E-05	6.17E-05	0.000115	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.252963	0.737487	0.287933	0	0.030497	0.31843	0.764772	0.722753	1.805955	30699.03	0	979.8182	31678.84	0.684877	0	0.686182	1.37106	0.598691	0	0.242349	0.84104	3.225681	0	3.923049	7.14873
0.000441	0.011456	0.011176	0	0	0.011176	0.00129	0.001259	0.013725	48.64343	0	0	48.64343	0.000785	0	0	0.000785	0.007666	0	0	0.007666	0.016906	0	0	0.016906
0.010675	0.038332	0	0	0	0	0.110626	0.0305	0.141126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.008118	0.03369	0.007846	0	0.001255	0.009101	0.068818	0.023193	0.101112	1073.274	0	44.06858	1117.343	0.005499	0	0.019483	0.024983	0.006681	0	0.014746	0.021427	0.0139	0	0.097501	0.111402
1.68E-05	6.04E-05	0	0	0	0	0.000175	4.79E-05	0.000222	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.029823	0.085877	0.038057	0	0.004136	0.042193	0.068866	0.085208	0.196267	3348.989	0	108.9996	3457.988	0.148727	0	0.115056	0.263783	0.150798	0	0.034529	0.185327	0.678301	0	0.744369	1.42267
1.11E-05	0.000869	0.000891	0	0	0.000891	2.30E-05	3.17E-05	0.000946	1.401048	0	0	1.401048	5.11E-05	0	0	5.11E-05	0.000221	0	0	0.000221	0.001101	0	0	0.001101
0.000681	0.00245	0	0	0	0	0.007076	0.001947	0.009023	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.000561	0.002237	0.000471	0	6.20E-05	0.000533	0.004744	0.001602	0.006879	79.58208	0	3.069675	82.65176	0.000408	0	0.001284	0.001691	0.000495	0	0.000817	0.001312	0.00103	0	0.006471	0.007501
0.192739	0.476481	0.161871	0	0.016428	0.178298	0.478809	0.550684	1.207791	22913.32	0	693.2935	23606.61	0.377998	0	0.434141	0.81214	0.427106	0	0.16391	0.591016	1.46722	0	2.519949	3.987169
0.000333	0.001539	0.001047	0	0	0.001047	0.000818	0.000952	0.002816	37.00898	0	0	37.00898	0.000174	0	0	0.000174	0.005833	0	0	0.005833	0.00375	0	0	0.00375
0.000367	0.001321	0	0	0	0	0.003814	0.001049	0.004863	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005548	0.022359	0.004862	0	0.000675	0.005537	0.046877	0.015852	0.068266	798.2297	0	34.38408	832.6138	0.004089	0	0.013662	0.017751	0.004967	0	0.009547	0.014514	0.010334	0	0.068933	0.079267
0.116935	0.130895	0.005306	0	0.000559	0.005865	0.034267	0.3341	0.374232	2617.646	14.4348	45.16407	2677.245	0.029441	0.006578	0.062712	0.098731	0.06056	0.000236	0.073363	0.134159	0.127543	0.049767	0.325785	0.503095
0.049537	0.094484	0.039912	0.001378	0	0.04129	0.021774	0.141534	0.204598	886.4238	6.274771	0	892.6986	0.00727	0.00025	0	0.00752	0.139705	0	0	0.139705	0.156524	0.005372	0	0.161896
0.000713	0.000817	0	0	0	0	0.000418	0.002036	0.002453	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.02942	0.032342	0.001069	0	9.97E-05	0.001169	0.00739	0.084058	0.092616	608.7999	3.590943	9.672689	622.0635	0.005147	0.001319	0.014747	0.021213	0.012603	4.80E-05	0.016318	0.028969	0.020372	0.009883	0.077079	0.107334
0.064028	0.09585	0.025627	0.00133	0	0.026957	0.024124	0.182938	0.234019	1104.783	9.1685	0	1113.951	0.005979	0.000244	0	0.006222	0.174119	0	0	0.174119	0.128717	0.005249	0	0.133966
0.000933	0.00105	0	0	0	0	0.000469	0.002666	0.003135	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.004083	0.008723	0.002825	0	0.001099	0.003924	0.003889	0.011666	0.019478	203.8511	0	13.42373	217.2748	0.191815	0	0.051562	0.243377	0.037124	0	0.003741	0.040865	1.227894	0	0.346456	1.57435
0.11742	0.287838	0.09806	0	0.009928	0.107988	0.284326	0.335486	0.7278	16679.22	0	487.231	17166.45	0.326007	0	0.329748	0.655755	0.35947	0	0.114604	0.474074	1.316765	0	2.068008	3.384773
0.003316	0.009286	0.003986	0	0	0.003986	0.008626	0.009475	0.022087	466.8491	0	0	466.8491	0.000704	0	0	0.000704	0.073578	0	0	0.073578	0.015153	0	0	0.015153
0.001413	0.005082	0	0	0	0	0.014678	0.004036	0.018714	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.001298	0.005341	0.001249	0	0.000173	0.001422	0.010943	0.003708	0.016073	189.3419	0	9.903837	199.2457	0.00097	0	0.003165	0.004135	0.001178	0	0.002345	0.003523	0.002452	0	0.015958	0.01841
0.002707	0.0035	0.000283	0	9.07E-07	0.000284	0.00213	0.007733	0.010147	315.1175	0	0.063124	315.1806	0.002704	0	5.82E-05	0.002762	0.004671	0	6.46E-05	0.004736	0.012238	0	0.000296	0.012534
0.000999	0.00568	0.004617	0	0	0.004617	0.001055	0.002855	0.008526	67.33009	0	0	67.33009	0.000182	0	0	0.000182	0.020751	0	0	0.020751	0.003913	0	0	0.003913
0.014598	0.01864	0.001049	0	0.000223	0.001272	0.011489	0.041707	0.054469	1514.606	10.78116	18.16362	1543.551	0.010588	0.002536	0.018221	0.031345	0.02026	8.54E-05	0.013352	0.033697	0.045945	0.020414	0.099027	0.165386
0.036837	0.055487	0.011495	0.00044	0	0.011934	0.028926	0.105249	0.146109	2611.827	140.8612	0	2752.688	0.001091	0.000586	0	0.001677	0.942465	0	0	0.942465	0.023488	0.012623	0	0.036111
0.000335	0.000466	0	0	0	0	0.000526	0.000956	0.001482	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.000396	0.000508	2.49E-05	1.16E-05	0	3.65E-05	0.000312	0.001132	0.001481	21.12022	3.107327	0	24.22755	0.021848	0.020007	0	0.041855	0.010033	0	0	0.010033	0.000201	0.000157	0	0.000358
1.04E-06	1.45E-06	0	0	0	0	1.64E-06	2.98E-06	4.62E-06	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.001823	0.002281	0.000103	0	1.06E-05	0.000113	0.001417	0.005207	0.006738	200.4198	0.673088	1.111281	202.2041	0.001551	0.00017	0.001268	0.002988	0.003115	5.93E-06	0.001088	0.004209	0.006819	0.001313	0.006706	0.014838
0.002501	0.005471	0.00272	1.90E-05	0	0.002739	0.001395	0.007147	0.011281	154.7743	4.858912	0	159.6332	0.000424	7.89E-05	0	0.000503	0.042671	0	0	0.042671	0.009135	0.001699	0	0.010834
0.000112	0.000155	0	0	0	0	0.000174	0.000319	0.000493	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.000397	0.000476	0	2.08E-06	0	2.08E-06	0.000308	0.001133	0.001443	0	0.581866	0	0.581866	0	0.004055	0	0.004055	0	0	0	0	0	3.04E-05	0	3.04E-05
8.30E-08	1.15E-07	0	0	0	0	1.29E-07	2.37E-07	3.66E-07	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.001053	0.001271	9.36E-05	0	4.52E-06	9.81E-05	0.000514	0.003007	0.003619	54.81511	4.15253	0.356115	59.32376	0.001026	0.002291	0.000418	0.003735	0.001545	7.98E-05	0.000301	0.001925	0.005021	0.017716	0.002499	0.025236
0.000402	0.001078	0.000606	2.44E-05	0	0.00063	0.000294	0.001147	0.002071	31.10822	2.940983	0	34.0492	0.00016	9.54E-06	0	0.00017	0.004498	0	0	0.004498	0.003453	0.000205	0	0.003658
1.91E-05	2.52E-05	0	0	0	0	2.44E-05	5.46E-05	7.90E-05	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.000654	0.000957	0.000179	2.08E-05	0	0.0002	0.000479	0.001869	0.002547	66.29726	6.508756	0	72.80602	0.384145	0.0498	0	0.433945	0.015102	0	0	0.015102	0.002669	0.000349	0	0.003018
0.001027	0.001162	5.84E-05	0	1.91E-06	6.03E-05	0.000319	0.002934	0.003313	61.084	0	0.211939	61.29594	0.000188	0	0.000165	0.000353	0.000585	0	0.000103	0.000688	0.000581	0	0.000981	0.001562
5.64E-05	7.61E-05	8.21E-06	0	0	8.21E-06	4.71E-05	0.000161	0.000217	2.414061	0	0	2.414061	6.31E-06	0	0	6.31E-06	0.000586	0	0	0.000586	0.000136	0	0	0.000136
0.000489	0.000696	0	0	0	0	0.000827	0.001397	0.002224	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.014628	0.017893	0.000169	0	0	0.000169	0.012414	0.041794	0.054376	915.1199	0	0	915.1199	1.648649	0	0	1.648649	0.15221	0	0	0.15221	0.01623	0	0	0.01623

ROG_DIUR	ROG_HOTS	ROG_RUNI	ROG_TOTA	TOG_RUNI	TOG_IDLE	TOG_STRE	TOG_TOTE	TOG_DIUR	TOG_HOTS	TOG_RUNI	TOG_TOTA	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	SOx_RUNE	SOx_IDLEX	SOx_STREX	SOx_TOTE	NH3_RUNEX	Fuel Consumption
0.000694	0.000191	0.00165	0.006662	0.006023	0	1.01E-07	0.006023	0.000694	0.000191	0.00165	0.008557	0.202201	0	0.009531	0.211731	4.14E-05	0	4.54E-07	4.19E-05	0.00019951	1.030721
0	0	0	0.376757	0.087337	0.341572	0	0.428909	0	0	0	0.428909	0.410056	4.394166	0	4.804222	0.030755	0.002202	0	0.032957	1.34722106	896.8266
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0.01019	0.590058	0.1378	0	0.727858	0	0	0	0.727858	3.07146	0.405363	0	3.476823	0	0	0	0	0.34765094	59.8369
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.87865	3.018559	3.716917	20.76286	4.189855	0	4.294588	8.484443	6.87865	3.018559	3.716917	22.09857	250.6601	0	43.99211	294.6522	0.131798	0	0.004207	0.136004	2.89384241	3347.732
0	0	0	0.016906	0.019246	0	0	0.019246	0	0	0	0.019246	0.155461	0	0	0.155461	0.00016	0	0	0.00016	0.00049976	4.346795
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.07159	0.025814	0.022147	0.230953	0.020283	0	0.106752	0.127035	0.07159	0.025814	0.022147	0.246586	1.833805	0	0.824573	2.658378	0.004608	0	0.000189	0.004797	0.10916599	118.0777
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.205692	0.40579	0.793866	3.828018	0.949049	0	0.814939	1.763987	1.205692	0.40579	0.793866	4.169335	36.66862	0	7.641577	44.3102	0.014378	0	0.000468	0.014846	0.29798316	365.4306
0	0	0	0.001101	0.001254	0	0	0.001254	0	0	0	0.001254	0.006002	0	0	0.006002	4.60E-06	0	0	4.60E-06	8.89E-06	0.125198
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.003086	0.001089	0.000995	0.012671	0.001503	0	0.007085	0.008588	0.003086	0.001089	0.000995	0.013758	0.136132	0	0.054889	0.191021	0.000342	0	1.32E-05	0.000355	0.00824298	8.734408
2.913492	0.942501	1.986777	9.82994	2.046274	0	2.758898	4.805172	2.913492	0.942501	1.986777	10.64794	153.2245	0	26.58772	179.8122	0.098372	0	0.002976	0.101348	1.88361538	2494.681
0	0	0	0.00375	0.004269	0	0	0.004269	0	0	0	0.004269	0.03614	0	0	0.03614	0.000122	0	0	0.000122	0.00031679	3.307136
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.031876	0.011023	0.010814	0.13298	0.01508	0	0.075473	0.090553	0.031876	0.011023	0.010814	0.144265	1.365005	0	0.584983	1.949988	0.003427	0	0.000148	0.003575	0.08268494	87.9883
0.384196	0.092241	0.505127	1.48466	0.18611	0.07262	0.356694	0.615424	0.384196	0.092241	0.505127	1.596988	5.86764	0.462307	4.332997	10.66294	0.011238	6.20E-05	0.000194	0.011494	0.1924749	282.9238
0	0	0	0.161896	0.178192	0.006116	0	0.184308	0	0	0	0.184308	0.647102	0.044528	0	0.691631	0.002913	2.06E-05	0	0.002933	0.33178212	79.77188
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.063203	0.015121	0.094196	0.279854	0.029727	0.014421	0.084392	0.12854	0.063203	0.015121	0.094196	0.30106	1.299245	0.101639	1.041757	2.442642	0.002614	1.54E-05	4.15E-05	0.002671	0.04154435	65.73794
0	0	0	0.133966	0.146535	0.005976	0	0.152511	0	0	0	0.152511	0.260096	0.043507	0	0.303603	0.00363	3.01E-05	0	0.00366	0.41589583	99.54312
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.625894	1.171278	1.156076	4.527598	1.500626	0	0.376811	1.877437	0.625894	1.171278	1.156076	4.830685	11.73283	0	2.232228	13.96505	0.000875	0	5.76E-05	0.000933	0.00870959	22.96099
2.100181	0.596648	1.459121	7.540723	1.879011	0	2.264155	4.143166	2.100181	0.596648	1.459121	8.299116	104.8447	0	17.34601	122.1907	0.071608	0	0.002092	0.073699	1.1226042	1814.103
0	0	0	0.015153	0.01725	0	0	0.01725	0	0	0	0.01725	0.33816	0	0	0.33816	0.001534	0	0	0.001534	0.00334242	41.71781
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.008283	0.002837	0.002795	0.032325	0.003578	0	0.017472	0.021049	0.008283	0.002837	0.002795	0.034965	0.323631	0	0.135382	0.459012	0.000813	0	4.25E-05	0.000855	0.01961862	21.05573
0.080842	0.021053	0.000526	0.114955	0.017857	0	0.000324	0.018181	0.080842	0.021053	0.000526	0.120603	0.360415	0	0.006633	0.367048	0.001353	0	2.71E-07	0.001353	0.00795102	33.30741
0	0	0	0.003913	0.004455	0	0	0.004455	0	0	0	0.004455	0.015546	0	0	0.015546	0.000221	0	0	0.000221	0.01145074	6.016642
0.05975	0.014046	0.115261	0.354443	0.067043	0.029788	0.108422	0.205253	0.05975	0.014046	0.115261	0.39431	1.186638	0.292241	2.093432	3.572312	0.006503	4.63E-05	7.80E-05	0.006627	0.0430645	163.1181
0	0	0	0.036111	0.026739	0.014371	0	0.04111	0	0	0	0.04111	0.127352	0.478514	0	0.605866	0.008577	0.000463	0	0.009039	0.5184789	245.9813
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0.000358	0.01433	0.011233	0	0.025563	0	0	0	0.025563	0.061091	0.020227	0	0.081317	0	0	0	0	0.02757173	2.894819
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.015479	0.003498	0.007233	0.041048	0.00995	0.001916	0.007342	0.019208	0.015479	0.003498	0.007233	0.045419	0.172084	0.010168	0.135481	0.317732	0.00086	2.89E-06	4.77E-06	0.000868	0.00531227	21.36837
0	0	0	0.010834	0.0104	0.001934	0	0.012334	0	0	0	0.012334	0.032027	0.026185	0	0.058212	0.000508	1.60E-05	0	0.000524	0.02351047	14.26488
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	3.04E-05	0	0.002173	0	0.002173	0	0	0	0.002173	0	0.003586	0	0.003586	0	0	0	0	0.02723601	0.069524
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.00334	0.000816	0.002297	0.031689	0.007327	0.025851	0.002736	0.035914	0.00334	0.000816	0.002297	0.042367	0.098622	0.13703	0.056959	0.292611	0.000235	1.78E-05	1.53E-06	0.000255	0.00288306	6.26917
0	0	0	0.003658	0.003931	0.000234	0	0.004165	0	0	0	0.004165	0.008432	0.004114	0	0.012546	0.000102	9.66E-06	0	0.000112	0.00249075	3.042649
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0.003018	0.190669	0.024928	0	0.215597	0	0	0	0.215597	0.645549	0.035304	0	0.680853	0	0	0	0	0.04228349	8.699197
0.000198	6.06E-05	0.000172	0.001993	0.000848	0	0.001074	0.001922	0.000198	6.06E-05	0.000172	0.002353	0.009109	0	0.017061	0.02617	0.000605	0	2.10E-06	0.000607	0.00120259	6.477584
0	0	0	0.000136	0.000155	0	0	0.000155	0	0	0	0.000155	0.000173	0	0	0.000173	2.29E-05	0	0	2.29E-05	0.00032236	0.215721
0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0.01623	1.145674	0	0	1.145674	0	0	0	1.145674	15.37173	0	0	15.37173	0	0	0	0	0.36910877	109.3427

Westminster Gardens Specific Plan
City of Duarte, California
Appendix C: Energy Consumption Information

Sheet 4: Raw EMFAC Output - Los Angeles (SC) Sub-Area 2045

Source: EMFAC2025 (v2.1.0) Emissions Inventory
Region Type: Sub-Area
Region: Los Angeles (SC)
Calendar Year: 2045
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/day for Combustion VMT and Electric VMT, trips/day for Trips, tons/day for Emissions, 1000 gallons/day for Gasoline and Diesel Fuel Consumption, 1000 diesel equivalent gallons/day for Natural Gas Fuel Consumption, kWh/day for Energy Consumption, kg/day for Hydrogen Consumption

Region	Calendar Y	Vehicle Ca	Model Yea	Speed	Fuel	Population	Total VMT	CVMT	EVMT	Trips	Energy Consum	Hydrogen	NOx_RUNI	NOx_IDLE	NOx_STRE	NOx_TOTE	PM2.5_RU	PM2.5_IDL	PM2.5_STI	PM2.5_TO	PM2.5_PV	PM2.5_PV	PM2.5_TO	PM10_RUI	PM10_IDL	PM10_STR
Los Angele	2045	HHDT	Aggregate	Aggregate	Gasoline	35.5137	694.5124	694.5124	0	710.558	0	0	0.003168	0	1.03E-05	0.003178	5.28E-07	0	2.12E-07	7.41E-07	3.83E-06	2.55E-05	3.01E-05	5.74E-07	0	2.31E-07
Los Angele	2045	HHDT	Aggregate	Aggregate	Diesel	64930.25	9302178	9302178	0	1149776	0	0	4.236345	0.802021	1.080853	6.119218	0.120159	0.00117	0	0.12133	0.090834	0.308599	0.520762	0.125592	0.001223	0
Los Angele	2045	HHDT	Aggregate	Aggregate	Electricity	2388.063	164863	0	164863.047	19024.99	293013.6376	0	0	0	0	0	0	0	0	0	0.001635	0.002884	0.004519	0	0	0
Los Angele	2045	HHDT	Aggregate	Aggregate	Natural Ga	4348.631	392455.1	392455.1	0	40217.98	0	0	0.15599	0.048275	0	0.204265	0.000646	0.000183	0	0.00083	0.003893	0.019697	0.02442	0.000703	0.000199	0
Los Angele	2045	HHDT	Aggregate	Aggregate	Fuel Cell El	396.6577	35302.17	0	35302.1697	4259.316	0	4305.116	0	0	0	0	0	0	0	0	0.00035	0.000609	0.000959	0	0	0
Los Angele	2045	LDA	Aggregate	Aggregate	Gasoline	1530052	41775385	41775385	0	6815193	0	0	0.945539	0	0.395318	1.340858	0.05615	0	0.006566	0.062716	0.092099	0.121843	0.276658	0.061008	0	0.007137
Los Angele	2045	LDA	Aggregate	Aggregate	Diesel	329.8374	5963.817	5963.817	0	1179.636	0	0	0.001492	0	0	0.001492	7.86E-05	0	0	7.86E-05	1.31E-05	1.82E-05	0.00011	8.22E-05	0	0
Los Angele	2045	LDA	Aggregate	Aggregate	Electricity	894839.3	29528590	0	29528589.9	4428940	9814714.959	0	0	0	0	0	0	0	0	0	0.074864	0.028973	0.103837	0	0	0
Los Angele	2045	LDA	Aggregate	Aggregate	Plug-in Hyl	432984.2	13305963	3052573	10253390.7	1107645	3763638.924	0	0.025256	0	0.053857	0.079113	0.003521	0	0.000941	0.004462	0.033735	0.015632	0.053829	0.00383	0	0.001023
Los Angele	2045	LDA	Aggregate	Aggregate	Fuel Cell El	5189.461	171366.5	0	171366.473	25726.06	0	2623.09	0	0	0	0	0	0	0	0	0.000434	0.000168	0.000603	0	0	0
Los Angele	2045	LDT1	Aggregate	Aggregate	Gasoline	124690.1	3312511	3312511	0	532890	0	0	0.134025	0	0.057454	0.191479	0.005847	0	0.000677	0.006524	0.007303	0.012638	0.026466	0.006354	0	0.000736
Los Angele	2045	LDT1	Aggregate	Aggregate	Diesel	0.360451	7.653894	7.653894	0	1.033222	0	0	1.40E-05	0	0	1.40E-05	5.25E-07	0	0	5.25E-07	1.69E-08	3.26E-08	5.75E-07	5.49E-07	0	0
Los Angele	2045	LDT1	Aggregate	Aggregate	Electricity	83214.41	2880202	0	2880201.86	421540.5	1076584.021	0	0	0	0	0	0	0	0	0	0.007302	0.00283	0.010133	0	0	0
Los Angele	2045	LDT1	Aggregate	Aggregate	Plug-in Hyl	37496.06	1199845	342504	857341.047	104226	367467.5239	0	0.002834	0	0.006352	0.009186	0.000402	0	9.17E-05	0.000494	0.003042	0.001421	0.004957	0.000437	0	9.97E-05
Los Angele	2045	LDT1	Aggregate	Aggregate	Fuel Cell El	948.8189	33819.89	0	33819.8934	4870.62	0	517.6778	0	0	0	0	0	0	0	0	8.57E-05	3.32E-05	0.000119	0	0	0
Los Angele	2045	LDT2	Aggregate	Aggregate	Gasoline	1412571	44059510	44059510	0	6499926	0	0	0.964427	0	0.480047	1.444474	0.054607	0	0.005882	0.060489	0.097135	0.15929	0.316914	0.059379	0	0.006397
Los Angele	2045	LDT2	Aggregate	Aggregate	Diesel	2312.359	74048.47	74048.47	0	10796.89	0	0	0.003289	0	0	0.003289	0.000379	0	0	0.000379	0.000163	0.000266	0.000808	0.000396	0	0
Los Angele	2045	LDT2	Aggregate	Aggregate	Electricity	128805.1	4669381	0	4669381.48	634707	1938705.326	0	0	0	0	0	0	0	0	0	0.011838	0.004581	0.016419	0	0	0
Los Angele	2045	LDT2	Aggregate	Aggregate	Plug-in Hyl	385281.9	13204349	3593086	9611263.44	1012671	4700331.758	0	0.029728	0	0.05368	0.083408	0.004055	0	0.000847	0.004902	0.033477	0.015577	0.053957	0.00441	0	0.000922
Los Angele	2045	LDT2	Aggregate	Aggregate	Fuel Cell El	4763.076	173522.8	0	173522.831	23535.06	0	2656.097	0	0	0	0	0	0	0	0	0.00044	0.00017	0.00061	0	0	0
Los Angele	2045	LHDT1	Aggregate	Aggregate	Gasoline	110416.1	3479677	3479677	0	1633691	0	0	0.225046	0.002976	0.622092	0.850113	0.003743	0	0.000176	0.003919	0.007671	0.104714	0.116305	0.004071	0	0.000192
Los Angele	2045	LHDT1	Aggregate	Aggregate	Diesel	63325.98	2053719	2053719	0	791067.6	0	0	0.550098	0.082485	0	0.632583	0.025313	0.001826	0	0.02714	0.006792	0.061803	0.095734	0.026458	0.001909	0
Los Angele	2045	LHDT1	Aggregate	Aggregate	Electricity	9796.951	343816.6	0	343816.636	133279.2	193051.0931	0	0	0	0	0	0	0	0	0	0.000758	0.005173	0.005931	0	0	0
Los Angele	2045	LHDT1	Aggregate	Aggregate	Fuel Cell El	1034.182	37109.68	0	37109.6831	14069.18	0	1445.243	0	0	0	0	0	0	0	0	8.18E-05	0.000558	0.00064	0	0	0
Los Angele	2045	LHDT2	Aggregate	Aggregate	Gasoline	29684.31	983151.7	983151.7	0	432273.4	0	0	0.082653	0.000647	0.201491	0.284791	0.001062	0	4.43E-05	0.001106	0.002167	0.034517	0.03779	0.001155	0	4.82E-05
Los Angele	2045	LHDT2	Aggregate	Aggregate	Diesel	105621	3618522	3618522	0	1298603	0	0	0.666866	0.09202	0	0.758886	0.045533	0.003005	0	0.048539	0.011966	0.127041	0.187546	0.047592	0.003141	0
Los Angele	2045	LHDT2	Aggregate	Aggregate	Electricity	10150.75	364018.3	0	364018.313	135914	204394.2204	0	0	0	0	0	0	0	0	0	0.000803	0.00639	0.007193	0	0	0
Los Angele	2045	LHDT2	Aggregate	Aggregate	Fuel Cell El	1069.616	39217.24	0	39217.2426	14321.67	0	1527.322	0	0	0	0	0	0	0	0	8.65E-05	0.000688	0.000775	0	0	0
Los Angele	2045	MCY	Aggregate	Aggregate	Gasoline	195025.8	1014892	1014892	0	363996.6	0	0	0.536413	0	0.023763	0.560176	0.003275	0	0.001383	0.004658	0.001119	0.004699	0.010475	0.003513	0	0.001483
Los Angele	2045	MDV	Aggregate	Aggregate	Gasoline	699870.1	21011790	21011790	0	3071588	0	0	0.756671	0	0.318919	1.075591	0.028528	0	0.003033	0.031561	0.046323	0.079184	0.157068	0.031021	0	0.003298
Los Angele	2045	MDV	Aggregate	Aggregate	Diesel	51681.67	1703682	1703682	0	239692.4	0	0	0.023804	0	0	0.023804	0.001686	0	0	0.001686	0.003756	0.006185	0.011627	0.001762	0	0
Los Angele	2045	MDV	Aggregate	Aggregate	Electricity	331156.1	11739124	0	11739124.2	1585277	5819932.635	0	0	0	0	0	0	0	0	0	0.029762	0.011535	0.041298	0	0	0
Los Angele	2045	MDV	Aggregate	Aggregate	Plug-in Hyl	69222.53	2287142	645841.2	1641300.48	187241.3	1002876.21	0	0.005343	0	0.010799	0.016142	0.000768	0	0.000166	0.000933	0.005799	0.002708	0.00944	0.000835	0	0.00018
Los Angele	2045	MDV	Aggregate	Aggregate	Fuel Cell El	60195.19	2174156	0	2174156.43	290604	0	33279.6	0	0	0	0	0	0	0	0	0.005512	0.002135	0.007647	0	0	0
Los Angele	2045	MH	Aggregate	Aggregate	Gasoline	19496.93	170484.6	170484.6	0	2158.489	0	0	0.032357	0	0.00082	0.033177	0.000194	0	8.18E-07	0.000194	0.000564	0.002859	0.003618	0.000211	0	8.90E-07
Los Angele	2045	MH	Aggregate	Aggregate	Diesel	7643.898	66445.81	66445.81	0	845.9112	0	0	0.140838	0	0	0.140838	0.001335	0	0	0.001335	0.000293	0.001108	0.002735	0.001395	0	0
Los Angele	2045	MHDT	Aggregate	Aggregate	Gasoline	10530.17	310212.8	310212.8	0	210687.7	0	0	0.034355	0.000802	0.078817	0.113974	0.000348	0	0.000101	0.000449	0.001026	0.005203	0.006678	0.000379	0	0.000109
Los Angele	2045	MHDT	Aggregate	Aggregate	Diesel	90359.22	3231921	3231921	0	1152183	0	0	0.31428	0.206372	0.528386	1.049038	0.009281	0.000203	0	0.009484	0.010688	0.054322	0.074494	0.0097	0.000213	0
Los Angele	2045	MHDT	Aggregate	Aggregate	Electricity	10685.52	617571.8	0	617571.842	196458.9	770472.6869	0	0	0	0	0	0	0	0	0	0.002042	0.005178	0.00722	0	0	0
Los Angele	2045	MHDT	Aggregate	Aggregate	Natural Ga	834.2593	32292.51	32292.51	0	10359.01	0	0	0.001905	0.004825	0	0.00673	4.31E-05	1.81E-05	0	6.12E-05	0.000107	0.000543	0.000711	4.69E-05	1.97E-05	0
Los Angele	2045	MHDT	Aggregate	Aggregate	Fuel Cell El	1173.685	68679.25	0	68679.2493	21544.27	0	5990.788	0	0	0	0	0	0	0	0	0.000227	0.000576	0.000803	0	0	0
Los Angele	2045	OBUS	Aggregate	Aggregate	Gasoline	1112.849	13519.08	13519.08	0	9908.315	0	0	0.004233	3.35E-05	0.004014	0.008281	1.28E-05	0	2.40E-06	1.53E-05	4.47E-05	0.00023	0.00029	1.40E-05	0	2.61E-06
Los Angele	2045	OBUS	Aggregate	Aggregate	Diesel	1767.728	108672.7	108672.7	0	23162.16	0	0	0.077546	0.006649	0.019591	0.103787	0.001088	8.41E-06	0	0.001097	0.000359	0.003063	0.004519	0.001137	8.79E-06	0
Los Angele	2045	OBUS	Aggregate	Aggregate	Electricity	1073.414	57112.04	0	57112.0351	9554.384	71450.59169	0	0	0	0	0	0	0	0	0	0.000189	0.000486	0.000675	0	0	0
Los Angele	2045	OBUS	Aggregate	Aggregate	Natural Ga	438.1445	18324.45	18324.45	0	3899.486	0	0	0	0.000728	0	0.000728	0	2.23E-06	0	2.23E-06	6.06E-05	0.000312	0.000375	0	2.43E-06	0
Los Angele	2045	OBUS	Aggregate	Aggregate	Fuel Cell El	108.1859	5895.114	0	5895.11396	962.9641	0	520.778	0	0	0	0	0	0	0	0	1.95E-05	5.01E-05	6.96E-05	0	0	0
Los Angele	2045	SBUS	Aggregate	Aggregate	Gasoline	1078.714	38802.16	38802.16	0	4314.854	0	0	0.005273	0.000854	0.002417	0.008544	6.20E-05	0	3.54E-06	6.56E-05	8.55E-05	0.000701	0.000852	6.75E-05	0	3.85E-06
Los Angele	2045	SBUS	Aggregate	Aggregate	Diesel	505.165	12264.69	12264.69	0	7314.789	0	0	0.002712	0.001641	0.002933	0.007286	3.15E-05	9.08E-07	0	3.24E-05	4.06E-05	0.000222	0.000295	3.30E-05	9.49E-07	0
Los Angele	2045	SBUS	Aggregate	Aggregate	Electricity	1147.039	40336.74	0	40336.736	5522.311	55433.63192	0	0	0	0	0	0	0	0	0	9.14E-05	0.000365	0.000456	0	0	0
Los Angele	2045	SBUS	Aggregate	Aggregate	Natural Ga	1406.057	33993.7	33993.7	0	20359.7	0	0	0.009096	0.007876	0	0.016972	0.000154	2.46E-05	0	0.000179	0.000112	0.000614	0.000906	0.000168	2.68E-05	0
Los Angele	2045	SBUS	Aggregate	Aggregate	Fuel Cell El	120.9795	4310.893	0	4310.89307	544.4584	0	429.1863	0	0	0	0	0	0	0	0	9.69E-06	3.90E-05	4.86E-05	0	0	0
Los Angele	2045	UBUS	Aggregate	Aggregate	Gasoline	11.09202	342.2261	342.2261	0	44.36807	0	0	2.47E-05	0	1.79E-05	4.26E-05	3.71E-07	0	6.54E-09	3.77E-07	7.54E-07	1.20E-05	1.31E-05	4.03E-07	0	7.11E-09
Los Angele	2045	UBUS	Aggregate	Aggregate	Electricity	4779.181	414037.4	0	414037.385	19116.72	870138.3061	0	0	0	0	0	0	0	0	0	0.003693	0.008786	0.012479	0	0	0
Los Angele	2045	UBUS	Aggregate	Aggregate	Natural Ga	49.80624	3606.596	3606.596	0	199.2249	0	0	0.00047	0	0	0.00047	3.18E-05	0	0	3.18E-05	1.19E-05	0.000127	0.00017	3.32E-05	0	0
Los Angele	2045	UBUS	Aggregate	Aggregate	Fuel Cell El	531.0201	46004.15	0	46004.1539	2124.08	0	6897.348	0	0	0	0	0	0	0	0	0.00041	0.000976	0.001387	0	0	0

PM10_TO	PM10_PM	PM10_PM	PM10_TO	CO2_RUNI	CO2_IDLE	CO2_STRE	CO2_TOTE	CH4_RUNI	CH4_IDLE	CH4_STRE	CH4_TOTE	N2O_RUNI	N2O_IDLE	N2O_STRE	N2O_TOTE	ROG_RUNI	ROG_IDLE	ROG_STRE	ROG_TOTE	ROG_DIUR	ROG_HOT	ROG_RUNI	ROG_TOT/	TOG_RUNI	TOG_IDLE	TOG_STRE	TOG_TOTE
8.05E-07	1.53E-05	7.30E-05	8.91E-05	1.572434	0	0.039695	1.612129	9.37E-05	0	1.66E-09	9.37E-05	0.000123	0	4.58E-07	0.000124	0.00047	0	6.93E-09	0.00047	0.000236	3.90E-05	0.000416	0.001161	0.000686	0	7.59E-09	0.000686
0.126816	0.363337	0.88171	1.371863	13236.99	966.9048	0	14203.9	0.004707	0.023255	0	0.027962	4.101412	0	0	4.101412	0.101347	0.500669	0	0.602017	0	0	0	0.602017	0.115376	0.569974	0	0.68535
0	0.006538	0.00824	0.014779	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.000902	0.015574	0.056278	0.072754	404.2014	44.32973	0	448.5311	0.294254	0.114662	0	0.408916	0.173025	0	0	0.173025	0.004147	0.001631	0	0.005778	0	0	0	0.005778	0.296207	0.116477	0	0.412684
0	0.0014	0.00174	0.00314	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.068145	0.368396	0.348123	0.784664	12854.26	0	437.333	13291.59	0.125713	0	0.134806	0.260519	0.143687	0	0.05372	0.197408	0.471408	0	0.64711	1.118518	3.154018	0.807395	1.670145	6.750077	0.632438	0	0.708424	1.340862
8.22E-05	5.26E-05	5.20E-05	0.000187	1.751599	0	0	1.751599	1.14E-05	0	0	1.14E-05	0.000276	0	0	0.000276	0.000245	0	0	0.000245	0	0	0	0.000245	0.000279	0	0	0.000279
0	0.299457	0.08278	0.382237	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.004853	0.134939	0.044664	0.184456	1070.643	0	67.39957	1138.043	0.00549	0	0.020866	0.026356	0.00667	0	0.015573	0.022242	0.013877	0	0.095863	0.109741	0.345405	0.071097	0.088564	0.614808	0.02025	0	0.104958	0.125208
0	0.001738	0.00048	0.002218	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.007091	0.029211	0.03611	0.072412	1222.406	0	41.37986	1263.786	0.013982	0	0.015532	0.029514	0.016309	0	0.006121	0.022431	0.051858	0	0.080885	0.132743	0.414575	0.09016	0.252883	0.890362	0.07129	0	0.088553	0.159842
5.49E-07	6.75E-08	9.32E-08	7.10E-07	0.00519	0	0	0.00519	4.17E-08	0	0	4.17E-08	8.18E-07	0	0	8.18E-07	8.99E-07	0	0	8.99E-07	0	0	0	8.99E-07	1.02E-06	0	0	1.02E-06
0	0.029209	0.008087	0.037295	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.000537	0.012168	0.004059	0.016764	120.111	0	7.40452	127.5156	0.000616	0	0.002232	0.002848	0.000748	0	0.001582	0.002331	0.001557	0	0.01055	0.012107	0.036543	0.006749	0.012519	0.067918	0.002272	0	0.011551	0.013823
0	0.000343	9.49E-05	0.000438	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.065776	0.388538	0.455114	0.909428	16190.74	0	503.2163	16693.95	0.134134	0	0.178316	0.31245	0.162385	0	0.061201	0.223586	0.396544	0	0.876492	1.273036	2.065487	0.405599	1.421455	5.165577	0.568413	0	0.959634	1.528047
0.000396	0.000653	0.000759	0.001808	25.56165	0	0	25.56165	0.000113	0	0	0.000113	0.004029	0	0	0.004029	0.002441	0	0	0.002441	0	0	0	0.002441	0.002779	0	0	0.002779
0	0.047353	0.013087	0.060441	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.005332	0.133909	0.044506	0.183746	1260.402	0	75.12692	1335.529	0.006462	0	0.020007	0.026469	0.007851	0	0.016262	0.024113	0.016335	0	0.092932	0.109266	0.285871	0.05975	0.08579	0.540677	0.023835	0	0.101748	0.125584
0	0.00176	0.000486	0.002246	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.004263	0.030685	0.299184	0.334132	1890.064	12.48729	37.23441	1939.786	0.007757	0.004745	0.054024	0.066526	0.031519	0.000181	0.051374	0.083074	0.020198	0.034175	0.272646	0.32702	0.24152	0.036192	0.323558	0.92829	0.029473	0.049868	0.298514	0.377855
0.028367	0.027166	0.176579	0.232112	1011.66	7.617517	0	1019.277	0.003443	0.000353	0	0.003796	0.159442	0	0	0.159442	0.074124	0.007609	0	0.081733	0	0	0	0.081733	0.084385	0.008662	0	0.093047
0	0.003032	0.014781	0.017813	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0.000327	0.001595	0.001923	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.001203	0.00867	0.09862	0.108493	595.0757	3.762338	10.02993	608.868	0.002852	0.001058	0.018306	0.022217	0.010824	4.16E-05	0.015866	0.026732	0.007731	0.007428	0.095995	0.111154	0.057146	0.008416	0.07614	0.252856	0.011281	0.010839	0.105103	0.127223
0.050733	0.047865	0.362975	0.461573	2058.624	19.83857	0	2078.463	0.00934	0.00058	0	0.00992	0.324449	0	0	0.324449	0.201084	0.012491	0	0.213574	0	0	0	0.213574	0.22892	0.01422	0	0.24314
0	0.00321	0.018257	0.021467	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0.000346	0.001967	0.002313	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.004996	0.004475	0.013425	0.022895	232.4938	0	13.79426	246.2881	0.199474	0	0.051979	0.251453	0.040686	0	0.003256	0.043942	1.21276	0	0.329685	1.542446	0.663327	1.545196	1.487956	5.238925	1.519386	0	0.359093	1.878479
0.034319	0.185292	0.22624	0.445852	9464.562	0	292.9394	9757.501	0.081293	0	0.098396	0.17969	0.096618	0	0.033893	0.130512	0.261426	0	0.513956	0.775382	1.339598	0.240628	0.919806	3.275414	0.3765	0	0.56271	0.93921
0.001762	0.015024	0.017672	0.034458	748.6899	0	0	748.6899	0.000859	0	0	0.000859	0.117997	0	0	0.117997	0.018498	0	0	0.018498	0	0	0	0.018498	0.021058	0	0	0.021058
0	0.11905	0.032958	0.152008	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.001015	0.023195	0.007738	0.031947	226.5034	0	17.07825	243.5816	0.001162	0	0.003882	0.005044	0.001411	0	0.003164	0.004575	0.002936	0	0.018223	0.021159	0.065029	0.012211	0.021955	0.120355	0.004284	0	0.019952	0.024236
0	0.022049	0.006101	0.02815	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.000212	0.002255	0.008169	0.010636	333.2574	0	0.070827	333.3283	0.000594	0	5.57E-05	0.00065	0.003138	0	6.60E-05	0.003204	0.001621	0	0.000271	0.001892	0.041989	0.006253	0.000262	0.050396	0.002366	0	0.000296	0.002662
0.001395	0.001172	0.003165	0.005732	74.82589	0	0	74.82589	0.000127	0	0	0.000127	0.028795	0	0	0.028795	0.002726	0	0	0.002726	0	0	0	0.002726	0.003104	0	0	0.003104
0.000488	0.004103	0.014865	0.019457	479.5671	5.543322	8.864319	493.9747	0.001382	0.001463	0.008794	0.011639	0.003482	4.01E-05	0.0065	0.010022	0.004463	0.011798	0.04575	0.062011	0.041764	0.005601	0.077519	0.186895	0.006512	0.017215	0.050091	0.073818
0.009913	0.042751	0.155207	0.207871	3365.085	175.1378	0	3540.223	0.000778	0.000799	0	0.001577	1.424789	0	0	1.424789	0.016756	0.017193	0	0.03395	0	0	0	0.03395	0.019076	0.019573	0	0.038649
0	0.008169	0.014795	0.022964	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6.66E-05	0.000427	0.001551	0.002045	25.86608	3.730682	0	29.59676	0.021545	0.011426	0	0.032971	0.014231	0	0	0.014231	0.000305	0.000159	0	0.000464	0	0	0	0.000464	0.021753	0.011382	0	0.033134
0	0.000908	0.001645	0.002554	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1.66E-05	0.000179	0.000657	0.000853	23.29605	0.200803	0.318893	23.81575	0.000118	5.30E-05	0.000358	0.000529	0.000285	1.76E-06	0.000327	0.000614	0.00047	0.00041	0.001848	0.002728	0.007318	0.00116	0.003354	0.01456	0.000686	0.000598	0.002023	0.003307
0.001146	0.001437	0.00875	0.011334	156.8378	5.784747	0	162.6225	0.000138	0.000112	0	0.00025	0.046553	0	0	0.046553	0.002975	0.002401	0	0.005376	0	0	0	0.005376	0.003387	0.002733	0	0.00612
0	0.000755	0.001388	0.002144	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.43E-06	0.000242	0.000891	0.001136	0	0.555163	0	0.555163	0	0.002878	0	0.002878	0	0	0	0	0	2.67E-05	0	2.67E-05	0	0	0	2.67E-05	0	0.001904	0	0.001904
0	7.80E-05	0.000143	0.000221	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7.13E-05	0.000342	0.002004	0.002417	32.52847	2.661992	0.224738	35.4152	0.000197	0.001636	0.000296	0.002128	0.000545	4.69E-05	0.000172	0.000764	0.000614	0.012654	0.001739	0.015006	0.004523	0.000564	0.003253	0.023346	0.000896	0.018464	0.001904	0.021264
3.39E-05	0.000162	0.000633	0.000829	15.21868	1.039422	0	16.2581	6.78E-06	4.32E-06	0	1.11E-05	0.00539	0	0	0.00539	0.000146	9.30E-05	0	0.000239	0	0	0	0.000239	0.000166	0.000106	0	0.000272
0	0.000366	0.001041	0.001407	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.000195	0.00045	0.001755	0.0024	52.80914	6.13965	0	58.94879	0.197377	0.030091	0	0.227468	0.014963	0	0	0.014963	0.00193	0.000286	0	0.002216	0	0	0	0.002216	0.137829	0.020431	0	0.158259
0	3.87E-05	0.000111	0.00015	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4.11E-07	3.02E-06	3.43E-05	3.78E-05	0.202185	0	0.001476	0.203661	9.38E-07	0	2.50E-06	3.44E-06	3.42E-06	0	1.48E-06	4.90E-06	2.52E-06	0	1.41E-05	1.66E-05	5.48E-06	1.33E-06	5.35E-06	2.87E-05	3.68E-06	0	1.54E-05	1.91E-05
0	0.014772	0.025102	0.039874	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.32E-05	4.77E-05	0.000362	0.000443	2.077302	0	0	2.077302	9.71E-06	0	0	9.71E-06	0.00159	0	0	0.00159	0.000209	0	0	0.000209	0	0	0	0.000209	0.000238	0	0	0.000238
0	0.001641	0.002789	0.00443	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TOG_DIUR	TOG_HOTS	TOG_RUNI	TOG_TOTA	CO_RUNEX	CO_IDLEX	CO_STREX	CO_TOTEX	SOx_RUNE	SOx_IDLEX	SOx_STREX	SOx_TOTE	NH3_RUNI	Fuel Consumption
0.000236	3.90E-05	0.000416	0.001377	0.025885	0	0.002035	0.02792	6.75E-06	0	1.70E-07	6.92E-06	3.45E-05	0.170365
0	0	0	0.68535	0.470673	7.397701	0	7.868374	0.043468	0.003175	0	0.046644	2.255777	1269.265
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0.412684	1.884483	0.427954	0	2.312437	0	0	0	0	0.387095	53.59256
0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.154018	0.807395	1.670145	6.97242	89.05716	0	16.78686	105.844	0.055186	0	0.001878	0.057064	1.508151	1404.618
0	0	0	0.000279	0.004515	0	0	0.004515	5.76E-06	0	0	5.76E-06	2.04E-05	0.156524
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.345405	0.071097	0.088564	0.630275	1.826062	0	0.780077	2.606138	0.004597	0	0.000289	0.004886	0.110962	120.2652
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.414575	0.09016	0.252883	0.917461	8.511422	0	1.541534	10.05296	0.005248	0	0.000178	0.005426	0.116627	133.5534
0	0	0	1.02E-06	1.04E-05	0	0	1.04E-05	1.71E-08	0	0	1.71E-08	2.62E-08	0.000464
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.036543	0.006749	0.012519	0.069634	0.204794	0	0.086992	0.291786	0.000516	0	3.18E-05	0.000547	0.012459	13.47549
0	0	0	0	0	0	0	0	0	0	0	0	0	0
2.065487	0.405599	1.421455	5.420588	98.75291	0	16.60913	115.362	0.06951	0	0.00216	0.071671	1.59388	1764.17
0	0	0	0.002779	0.025525	0	0	0.025525	8.40E-05	0	0	8.40E-05	0.000253	2.284199
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.285871	0.05975	0.08579	0.556995	2.150404	0	0.760181	2.910585	0.005411	0	0.000323	0.005734	0.130703	141.135
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.24152	0.036192	0.323558	0.979125	3.591465	0.457071	3.057741	7.106276	0.008114	5.36E-05	0.00016	0.008328	0.172606	204.9912
0	0	0	0.093047	0.548368	0.063067	0	0.611434	0.003324	2.50E-05	0	0.003349	0.489545	91.08301
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.057146	0.008416	0.07614	0.268924	1.414672	0.120941	1.074743	2.610355	0.002555	1.62E-05	4.31E-05	0.002614	0.048768	64.34347
0	0	0	0.24314	0.367658	0.103529	0	0.471188	0.006765	6.52E-05	0	0.00683	0.874334	185.7322
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.663327	1.545196	1.487956	5.574958	11.71106	0	2.827194	14.53825	0.000998	0	5.92E-05	0.001057	0.010268	26.02704
1.339598	0.240628	0.919806	3.439242	52.81364	0	8.561532	61.37517	0.040633	0	0.001258	0.041891	0.757478	1031.146
0	0	0	0.021058	0.612161	0	0	0.612161	0.00246	0	0	0.00246	0.005822	66.90321
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.065029	0.012211	0.021955	0.123432	0.386259	0	0.149801	0.53606	0.000972	0	7.33E-05	0.001046	0.023493	25.74103
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.041989	0.006253	0.000262	0.051166	0.028923	0	0.005823	0.034746	0.001431	0	3.04E-07	0.001431	0.008457	35.2252
0	0	0	0.003104	0.008114	0	0	0.008114	0.000246	0	0	0.000246	0.015843	6.686469
0.041764	0.005601	0.077519	0.198702	0.103018	0.168416	0.81819	1.089623	0.002059	2.38E-05	3.81E-05	0.002121	0.015388	52.20187
0	0	0	0.038649	0.126957	0.727702	0	0.854659	0.01105	0.000575	0	0.011626	0.783637	316.3556
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0.033134	0.075828	0.036183	0	0.112012	0	0	0	0	0.037732	3.536357
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.007318	0.00116	0.003354	0.015139	0.01115	0.003166	0.033005	0.04732	0.0001	8.62E-07	1.37E-06	0.000102	0.000671	2.516782
0	0	0	0.00612	0.013447	0.03711	0	0.050557	0.000515	1.90E-05	0	0.000534	0.025628	14.53201
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0.001904	0	0.004339	0	0.004339	0	0	0	0	0.021411	0.066333
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0.004523	0.000564	0.003253	0.029604	0.011132	0.097791	0.03488	0.143803	0.00014	1.14E-05	9.65E-07	0.000152	0.001925	3.74258
0	0	0	0.000272	0.000915	0.003917	0	0.004832	5.00E-05	3.41E-06	0	5.34E-05	0.002965	1.45283
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0.158259	0.409158	0.047957	0	0.457115	0	0	0	0	0.03972	7.043472
0	0	0	0	0	0	0	0	0	0	0	0	0	0
5.48E-06	1.33E-06	5.35E-06	3.12E-05	0.000479	0	0.000175	0.000654	2.00E-06	0	1.46E-08	2.02E-06	1.70E-05	0.021522
0	0	0	0	0	0	0	0	0	0	0	0	0	0
0	0	0	0.000238	0.000283	0	0	0.000283	0	0	0	0	0.003856	0.248206
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HISTORIC
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HISTORICAL RESOURCES TECHNICAL REPORT
WESTMINSTER GARDENS SPECIFIC PLAN, DUARTE, CA

APRIL 2024



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1.0 EXECUTIVE SUMMARY

The Westminster Gardens Specific Plan (WGSP; the Project) proposes to redevelop the 32-acre senior living community of Westminster Gardens. Westminster Gardens is located at 1420 S. Santo Domingo Avenue (APN [Accessor's Parcel No.] 8529-014-025; the Project Site) in the City of Duarte. The purpose of this report is to determine if historical resources as defined by the California Environmental Quality Act (CEQA)[1] are located on the Project Site and, if so, to identify potential impacts to historical resources caused by the Project. This report is intended to inform environmental review of the Project.

The Project Site originated as a private residential property, initially developed with the Morrison House in the 1930s. In 1935, the Morrisons constructed a Spanish Colonial Revival style building on the property known as "El Sueño" or "The Dream." In 1939, "El Sueño" was incorporated into a new residence constructed by the family, referred to as "La Casa Soñada," or "the dreamed-of home." The residence was designed by architect Robert Bennett, who was a distant cousin of the family. In 1950, a 27-acre portion of the Morrison Ranch was purchased by Frank Shu, who was born in China and attended Yih Wen Commercial School led by Missionary teachers. Shu donated the land, as well as $1 million, to the Presbyterian Missionary Board. The land and money were used to build a group of residences for retired Presbyterian missionaries.[2] The former Morrison Ranch was subsequently converted for its new use, and it became known as Westminster Gardens.

The property has not been previously evaluated and is not listed in the Built Environment Resource Directory (BERD), a database of previously evaluated resources throughout the state.[3] In 2022, the Morrison House was found eligible for listing in the National Register of Historic Places (National Register) and the California Register of Historical Resources (California Register) at the local level of significance for its association with Wayland A. and Lucile P. Morrison and for its architectural merit.[4] It is therefore considered a historical resource as defined by CEQA for the purpose of this report. At that time, only the Morrison House itself was evaluated for individual eligibility; ancillary buildings and the greater Westminster Gardens site were not considered. This report therefore evaluates the greater Westminster Gardens site for potential eligibility as a collection of resources, including the Morrison House.

There is one historical resource located on the Project Site, the collection of remaining buildings and features that are associated with the Morrison Ranch. These include the Morrison House and seven accessory structures: Unit 64/Cape Cod Cottage; Pool House; Pool; Unit 15/Cottage; pool shelter; perimeter wall; and maintenance building. These buildings and features are eligible for listing in the National Register of Historic Places and California Register of Historical Resources at the local level under Criteria B/2 and C/3. The buildings collectively convey an association with the Morrison family and therefore are considered a historical resource for purposes of CEQA.

The buildings associated with Westminster Gardens, which were constructed in phases beginning the 1950s, are not individually or collectively considered historical resources. They are not

[1] California PRC, Section 21084.1.
[2] R. Aloysia Moore and Bernice Bozeman Watson, *On the Duarte* (Duarte: City of Duarte, 1976), 188.
[3] California Office of Historic Preservation, "Built Environment Resource Directory: Los Angeles County," 2023.
[4] Historic Resources Group, Morrison House Historical Resources Evaluation Report, prepared for MIG, July 2022.

associated with important events or patterns of development; they are not associated with significant persons; and they are not architecturally distinctive or eligible as an example of the property type.

The Project proposes to update the WGSP to guide future development of the Project Site. The Project would be implemented in phases over the next 15 to 20 years. The Project proposes to redevelop the Project Site to create a new, mixed-income community that caters to a large section of the aging population in the region. The Project proposes to demolish all existing buildings on the Project Site except for the existing Morrison House. The Morrison House will be kept intact and rehabilitated using the Secretary of the Interior's Standards.

An analysis of potential impacts found that the demolition of secondary and tertiary contributors would not cause a substantial adverse change in the property such that it would no longer convey its significance as a historical resource or justify its designation for listing in the National Register or California Register, and, as such, the demolition of secondary and tertiary contributors would not result in a significant adverse impact on the environment as defined by CEQA. Analysis also found that the Project would not result in indirect impacts from new construction. The proposed new construction would not materially impair the Morrison House and it would continue to convey its historical significance following implementation of the Project. Therefore, the Project would not result in substantial adverse impacts from the demolition of buildings and features on the Project Site; rehabilitation of the Morrison House; or potential new construction on the Project Site.

Although the proposed Project would not result in a significant adverse change to a historical resource such that it could no longer convey its significance, the Project would remove features associated with the Morrison Ranch. Therefore, recommendations to recognize and document the historical significance of the Morrison Ranch include the documentation of the existing conditions of the primary, secondary and tertiary features of the Morrison Ranch, in accordance with Historic American Building Survey (HABS) guidelines and standards. The Applicant may also develop an interpretive program, consisting of historic photographs or other ephemeral materials, highlighting the early development of Duarte, the contributions of the Morrison family, and the history of the Morrison Ranch.

2.0 PROJECT SUMMARY[5]

Project Location

The WGSP area is located in the City of Duarte, CA. The WGSP area is bordered by Huntington Drive to the north, Central Avenue to the south, Santo Domingo Avenue to the west, and Bradbourne Avenue to the east. It is located on the eastern edge of the recently adopted Town Center Specific Plan and in proximity to the Gold Line Station and the Gold Line Station Specific Plan Area. A portion of the eastern boundary is immediately adjacent to an existing townhome development.

The site is surrounded by a variety of land uses. The land uses along Huntington Drive and Santo Domingo Avenue are a mix of residential and commercial while the uses along the eastern edge of the Project Site are residential with a mix of high density two and three-story apartments, townhomes, and single-family homes. There are no immediate uses to the south along Central Avenue which runs parallel to the Foothill Freeway (Interstate 210).

A location map is included in Figure 1, below.

Existing Conditions

The WGSP area consists of four parcels, totaling approximately 32 acres. It is owned by HumanGood SoCal dba Westminster Gardens (the Applicant). The Project Site is currently used as a Life Plan Community (LPC), providing three senior housing types on site: Independent Living Units, Assisted Living Units, and Memory Care Units. The Independent Living Units are dispersed in multiple buildings throughout the Project Site. The Memory Care building is located on the northeastern corner of the Project Site adjacent to the Huntington Drive Entry. Assisted Living buildings are in the center adjacent to the common amenities. The buildings range from individual single-story cottage units, single story multi-unit buildings, two-story administrative offices, and supporting facilities such as a recreation center and dining hall. They were designed by various architects and constructed between the 1920s and 2010s. These buildings have not been previously identified as historical resources, and analysis conducted for this report confirms that they do not meet eligibility criteria for listing at the federal, state, or local levels. Therefore, the buildings associated with the development of Westminster Gardens are not considered historical resources for purposes of CEQA.

The Morrison Ranch was developed on the Project Site beginning in the 1920s. The main house (the Morrison House), originally constructed in 1935-1939, has been previously identified as eligible for local designation. Other ancillary buildings on the Project Site associated with the Morrison Ranch have not been previously evaluated for potential historical significance. However, these buildings, along with the Morrison House, collectively convey their historic association with the Morrison family, as discussed further in Section 6. Therefore, the extant components of the Morrison Ranch are treated as a historical resource for purposes of CEQA.

[5] Information in this chapter excerpted from "Westminster Gardens Specific Plan," May 2023, 11.

Project Description

The proposed Project is an updated Specific Plan for Westminster Gardens, to be implemented in phases over a period of a maximum of twenty years, which would redevelop the Project Site to address the unmet demand for senior housing and services within Duarte and the surrounding communities. Through multiple phases of redevelopment, the Applicant plans to replace its aging housing facilities and infrastructure with new housing options in multiple buildings of differing scale across the campus. The goal of the redevelopment is to create a mixed-income community that caters to a large sector of the aging population in the region.

The redevelopment would include both Life Plan Community (LPC) Housing and Non LPC Housing. Although the final unit mix and the timing for construction are to be determined based on market conditions and financial viability, the proposed redevelopment of the Project Site envisions a variety of housing types, and services that may include a mix of Independent Living LPC Units; Affordable Senior Non LPC Units; Non LPC Units; Care Uses and Services; Mixed-use Buildings; and Office Buildings.

For purposes of the analysis in this report, it is assumed that all existing buildings and features on the Project Site, with the exception of the Morrison House, would be demolished as part of the Project. The Morrison House, which is considered a historical resource for purposes of CEQA, would remain in its current location and would be rehabilitated according to the Secretary of the Interior's Standards for Rehabilitation. The ancillary features associated with the Morrison Ranch would be demolished.

The WGSP includes development standards and design guidelines governing the use and development of the Project Site. In addition, there is a conceptual plan for a potential development scenario in the WGSP. For purposes of the analysis in this report, the conceptual plan and the relevant design guidelines are used to evaluate potential impacts to historical resources on the Project Site.

OVERARCHING DEVELOPMENT STANDARDS

Building heights play a major role in defining the physical landscape and overall functionality of the built environment. For purposes of evaluating potential impacts on the Project Site, the relevant height limitation is the maximum height allowance of five stories of 65 feet for the Life Planned Residential/Mixed Use buildings.[6]

For development along the edges of the Project Site, specific standards have been developed to address the relationship between future development and the surrounding context. The Morrison House is located in the southwestern portion of the Project Site, at the corner of Santo Domingo Avenue and Central Avenue.

[6] "Westminster Gardens Specific Plan," 36.

[7] "Westminster Gardens Specific Plan," 39.

The WGSP includes guidelines for building design, which include design solutions to articulate the façades to reduce the massing and long, continuous wall planes; setbacks for upper stories; and differentiated roof styles.[10] The WGSP design guidelines include appropriate materials and finishes to maintain high quality design and continuity throughout the Project Site,[11] and incorporates the Spanish Colonial Revival architectural style as an appropriate precedent for new construction on the Project Site.[12]

[8] "Westminster Gardens Specific Plan," 41.
[9] "Westminster Gardens Specific Plan," 36.
[10] "Westminster Gardens Specific Plan," 43.
[11] "Westminster Gardens Specific Plan," 44-45.
[12] "Westminster Gardens Specific Plan," 47.

FIGURE 1: LOCATION MAP



3.0 METHODOLOGY

The Project Site was developed as Morrison Ranch starting in the 1930s. The main house associated with the Morrison family (the Morrison House) was previously identified as a historical resource; therefore, it is not re-evaluated herein. However, the ancillary buildings and features on the property associated with the Morrison family have not been previously evaluated. Therefore, they are collectively evaluated for potential historical significance. In addition, the buildings and features constructed starting in the 1950s for Westminster Gardens have not been previously identified as potential historical resources and are therefore evaluated herein. The buildings and landscape features are evaluated under the eligibility criteria and integrity thresholds for potential eligibility for listing in the National Register of Historic Places and the California Register of Historical Resources. The field methods and analysis are based on guidance from the National Park Service and the California Office of Historic Preservation for evaluating potential historical resources. A site visit was conducted on November 6, 2023. Identification of physical features and historic integrity were ascertained during the site visit and through review of available building records and other archival materials.

This report was prepared using primary and secondary sources related to the history and development of the Project Site, including reference materials available at the Duarte Historical Society and Monrovia Public Library. The following sources were consulted:

- Building permits
- Sanborn Fire Insurance maps
- Historic newspaper articles
- Historic photographs
- *Duarte* by Irwin Margiloff, Neil Earle, and the Duarte Historical Society (Charleston, SC: Arcadia Publishing, 2009)
- *On the Duarte* by R. Aloysia Moore and Bernice Bozeman Watson (City of Duarte, 1976)
- Interview with Chris Morrison[13]
- 2003 California State Polytechnic University, Pomona survey findings
- Other primary and secondary sources relevant to the history and development of the Project Site and surrounding area as listed in the bibliography

Research, field inspection, and analysis were performed by Christine Lazzaretto, Managing Principal; Alexandra Perlman, Senior Architectural Historian; John LoCascio, Principal Architect; and Mariana Ruiz, Architectural Historian, all of whom meet the Secretary of the Interior's Professional Qualifications Standards in their respective fields.

[13] Chris Morrison is the grandson of Wayland and Lucile Morrison and the great-grandson of Norman H. Morrison.

4.0 REGULATORY FRAMEWORK

Historic Designations

Historical and cultural resources fall within the jurisdiction of several levels of government. The framework for the identification and, in certain instances, protection of cultural resources is established at the federal level, while the identification, documentation, and protection of such resources are often undertaken by state and local governments. As described below, the principal federal, State, and local laws governing and influencing the preservation of historical resources of national, State, regional, and local significance include:

- The National Historic Preservation Act of 1966, as amended;
- The Secretary of the Interior's Standards for the Treatment of Historic Properties (Secretary's Standards);
- The California Environmental Quality Act (CEQA);
- The California Register of Historical Resources (California Register);
- The California Public Resources Code;
- The City of Duarte General Plan; and
- The City of Duarte Historic Preservation Element

Historical Resources Under CEQA

The California Environmental Quality Act ("CEQA") is the principal statute governing environmental review of projects occurring in the state and is codified in Public Resources Code (PRC) Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under CEQA Section 21084.1, 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.

CEQA Guidelines Section 15064.5 recognizes that historical resources include: (1) resources listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources; (2) resources included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any objects, buildings, structures, sites, areas, places, records, or manuscripts which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

NATIONAL REGISTER OF HISTORIC PLACES

The National Historic Preservation Act of 1966 established the National Register of Historic Places (National Register) as "an authoritative guide to be used by federal, state, and local governments, private groups and citizens to identify the Nation's historic resources and to

indicate what properties should be considered for protection from destruction or impairment."[14] The National Register recognizes a broad range of historical and cultural resources that are significant at the national, state, and local levels and can include districts, buildings, structures, objects, prehistoric archaeological sites, historic-period archaeological sites, traditional cultural properties, and cultural landscapes.[15] Within the National Register, approximately 2,500 (3 percent) of the more than 90,000 districts, buildings, structures, objects, and sites are recognized as National Historic Landmarks or National Historic Landmark Districts as possessing exceptional national significance in American history and culture.[16]

Whereas individual historic properties derive their significance from one or more of the criteria discussed in the subsequent section, a historic district derives its importance from being a unified entity, even though it is often composed of a variety of resources. With a historic district, the historic resource is the district itself. The identity of a district results from the interrelationship of its resources, which can be an arrangement of historically or functionally related properties.[17] A district is defined as a geographic area of land containing a significant concentration of buildings, sites, structures, or objects united by historic events, architecture, aesthetic, character, and/or physical development. A district's significance and historic integrity determine its boundaries. A resource that is listed in or eligible for listing in the National Register is considered "historic property" under Section 106 of the National Historic Preservation Act.

Criteria

To be eligible for listing in the National Register, a resource must be at least 50 years of age, unless it is of exceptional importance as defined in Title 36 CFR, Part 60, Section 60.4(g). In addition, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Four criteria for evaluation have been established to determine the significance of a resource:

- **A.** It is associated with events that have made a significant contribution to the broad patterns of our history;
- **B.** It is associated with the lives of persons significant in our past;
- **C.** It embodies the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- **D.** It has yielded, or may be likely to yield, information important in prehistory or history.[18]

[14] 36 Code of Federal Regulations (CFR) 60. https://www.ecfr.gov/cgi-bin/text-idx?SID=b36f494ab8c19284178b4c593eda2a8f&tpl=/ecfrbrowse/Title36/36cfr60_main_02.tpl (accessed January 2024).
[15] The identification of archaeological sites and traditional cultural properties is outside the scope of this report.
[16] United States Department of the Interior, National Park Service, "National Historic Landmarks: Frequently Asked Questions," https://www.nps.gov/subjects/nationalhistoriclandmarks/faqs.htm. (accessed January 2024).
[17] United States Department of the Interior, National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation, 1997, 5.
[18] United States Department of the Interior, National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation, 1997, 8. Criterion D typically applies to potential archaeological resources, which is outside the scope of this report.

Integrity

In addition to meeting one or more of the criteria of significance, a property must have integrity, which is defined as "the ability of a property to convey its significance."[19] The National Register recognizes seven qualities that, in various combinations, define integrity. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. In general, the National Register has a higher integrity threshold than State or local registers.

The National Register recognizes seven aspects or qualities that comprise integrity: location, design, setting, materials, workmanship, feeling, and association. These qualities are defined as follows:

- *Location* is the place where the historic property was constructed or the place where the historic event took place.
- *Design* is the combination of elements that create the form, plan, space, structure, and style of a property.
- *Setting* is the physical environment of a historic property.
- *Materials* are the physical elements that were combined or deposited during a particular period of time and in a particular pattern or configuration to form a historic property.
- *Workmanship* is the physical evidence of the crafts of a particular culture or people during any given period in history or prehistory.
- *Feeling* is a property's expression of the aesthetic or historic sense of a particular period of time.
- *Association* is the direct link between an important historic event or person and a historic property.[20]

Period of Significance

The National Park Service defines *period of significance* as "the length of time when a property was associated with important events, activities or persons, or attained the characteristics which qualify it for... listing" in National, State or local registers. A period of significance can be "as brief as a single year... [or] span many years." It is based on "specific events directly related to the significance of the property," for example the date of construction, years of ownership, or length of operation as a particular entity.[21]

Historic Districts

Standard preservation practice evaluates collections of buildings from similar time periods, places, and historic contexts as *historic districts*. The National Park Service defines a historic district as "a significant concentration, linkage, or continuity of sites, buildings, structures, or

[19] United States Department of the Interior, National Register Bulletin #15: How to Apply the National Register Criteria for Evaluation, 1997, 44.

[20] U.S. Department of the Interior, National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation (Washington D.C.: National Park Service, 1995), 44-45.

[21] *National Register Bulletin 16A: How to Complete the National Register Registration Form*. Washington D.C.: National Park Service, U. S. Department of the Interior, 1997. (42)

objects united historically or aesthetically by plan or physical development."[22] A historic district derives its significance as a single unified entity.

According to the National Park Service, "a district can comprise both features that lack individual distinction and individually distinctive features that serve as focal points. It may even be considered eligible if all of the components lack individual distinction, provided that the grouping achieves significance as a whole within its historic context. In either case, the majority of the components that add to the district's historic character, even if they are individually undistinguished, must possess integrity, as must the district as a whole."[23] Resources that have been found to contribute to the historic identity of a district are referred to as *district contributors*. Properties located within the district boundaries that do not contribute to its significance are identified as *non-contributors*.

CALIFORNIA REGISTER OF HISTORICAL RESOURCES

The California Register of Historical Resources (California Register) is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change."[24] The California Register was enacted in 1992, and its regulations became official on January 1, 1998. The California Register is administered by the California Office of Historic Preservation (OHP). The criteria for eligibility for the California Register are based upon National Register criteria.[25] Certain resources are determined to be automatically included in the California Register, including California properties formally determined eligible for, or listed in, the National Register. To be eligible for the California Register, a prehistoric or historic-period property must be significant at the local, State, and/or federal level under one or more of the following four criteria:

- **A.** It is associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States; or
- **B.** It is associated with the lives of persons important to local, California or national history; or
- **C.** It embodies the distinctive characteristics of a type, period, region or method of construction or represents the work of a master or possesses high artistic values; or
- **D.** It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California or the nation.[26]

A resource eligible for the California Register must meet one of the criteria of significance described above and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible

[22] *National Register Bulletin 15: How to Apply the National Register Criteria for Evaluation*. Washington D.C.: National Park Service, U. S. Department of the Interior, 1997, 5.
[23] *National Register Bulletin 15*, 5.
[24] California Public Resources Code, Section 5024.1[a]. http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=5024.1 (accessed January 2024).
[25] California Public Resources Code, Section 5024.1[b] http://leginfo.legislature.ca.gov/faces/codes_displaySection.xhtml?lawCode=PRC&sectionNum=5024.1 (accessed January 2024).
[26] Criterion 4 addresses potential archaeological resources, which is outside the scope of this report.

that a historic resource may not retain sufficient integrity to meet the criteria for listing in the National Register, but it may still be eligible for listing in the California Register.

Additionally, the California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register and those formally determined eligible for the National Register;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the State Office of Historic Preservation (OHP) and have been recommended to the State Historical Resources Commission for inclusion on the California Register.

Other resources that may be nominated to the California Register include:

- Historical resources with a significance rating of Category 3 through 5 (those properties identified as eligible for listing in the National Register, the California Register, and/or a local jurisdiction register);
- Individual historical resources;
- Historic districts; and,
- Historical resources designated under any local ordinance.

CITY OF DUARTE HISTORIC PRESERVATION ELEMENT

The City of Duarte does not have a Historic Preservation Ordinance that provides for the local designation of historical resources. Therefore, this report evaluates the property for listing in the National and California Registers. The identification of historical resources in the City is consistent with the goals of the Historic Preservation Element of the City's 2007 General Plan. The Historic Preservation Element outlines goals, objectives, and policies for historic preservation in the City.[27] Relevant goals include:

Historic Preservation Goal 1: To make citizens and decision-makers aware of Duarte's history and historic built environment.

Objective 1.3 Integrate historic preservation into the operations of the Community Development Department.

Historic Preservation Goal 2: To maintain and update the City's inventory of historical resources.

Objective 2.1 Preserve Duarte's historical resources by supporting continued research related to the City's historic resources inventory.

Historic Preservation Goal 3: To promote the preservation of local historical resources.

[27] Duarte General Plan 2005-2020, Chapter 7 - Historic Preservation Element.

Objective 3.1 Preserve the City's inventory of historical resources for future generations to enjoy.

Policies

HP 3.1.1 Encourage property owners to preserve the character defining features of historical resources.

HP 3.1.2 Promote the preservation of historic and cultural resources by providing incentives and technical assistance.

5.0 PHYSICAL DESCRIPTION

Current Setting

The Project Site is located in the south-central region of the City of Duarte. It occupies the majority of the block bounded by Huntington Drive to the north, Bradbourne Avenue to the east, Central Avenue to the south, and Santo Domingo Avenue (previously Duarte Avenue) to the west.

The surrounding area is characterized primarily by its relatively flat topography and mix of low-rise residential development, including single-family homes, duplexes, and apartment buildings, often set in tract developments, dating from the 1950s through 1990s. The Project Site is surrounded by residential uses to the north, east, and west: single- and multi-family residences are located immediately to the west; apartment buildings are located immediately to the north; and a single-family residential tract development is located immediately to the east. The Project Site is bounded by Interstate 210 (I-210) to the south.

The landscaping on the Project Site was largely completed between the late 1930s and 1960s. To the north of the Morrison House, there is a woodland garden with a small brook that collects into several pools. Vegetation includes mature trees, shrubs, grasses, and flowers. Hardscaping includes winding concrete pathways and scattered brick planters.

Overview & Identification of Buildings and Features on the Project Site

Westminster Gardens is a residential development occupying the 32-acre Project Site. The buildings constructed for Westminster Gardens are organized around a central nucleus containing administrative and common use buildings set within large lawns, surrounded by vehicular access roads. Extant buildings and features associated with Morrison Ranch occupy the southwest corner of the Project Site.

The Project Site is fully fenced and gated and has two points of access which serve as both vehicular and pedestrian connections to the surrounding streets. Primary vehicular access is via Santo Domingo in the southwestern corner of the Project Site. The entry street, Orchard Road, branches into the streets that wind through the Project Site and connect the residential groupings: Pepper Tree Lane, Christmas Tree Lane, Oleander Drive, Live Oak Drive, and Liquid Amber Drive. Additional vehicular access includes driveways that lead to several one-story garages. Secondary/emergency access is accessible via Huntington Drive.

The periphery of the Project Site is occupied by groupings of residential units, all of which face inwards. Within these groupings, residential units are connected by a network of pedestrian walkways. Landscaping on the property is extensive, consisting of lawns, shrubs, and a large number of mature trees, including pepper trees. The perimeter buildings on the north, east, and south edges of the Project Site are set back from the sidewalks with lawns bisected by concrete paths.

There are 53 residential buildings constructed for Westminster Gardens which were completed in approximately six phases. In addition, there are five administrative buildings; five garages; and one maintenance building constructed for Westminster Gardens. Extant features on the Project Site pre-dating the development of Westminster Gardens include the Morrison House, which has been adaptively reused as administrative offices for Westminster Gardens, and a pool, pool house, pool shelter, tennis court, perimeter wall, unit 64/Cape Cod Cottage, Cottage No. 15, maintenance building, and garage/maintenance building. All the buildings on the Project Site are identified in Table 2 and Figures 2 and 3, below. Existing conditions photographs are included as Appendix D.

TABLE 2. BUILDING CONSTRUCTION

NAME	DATE	ARCHITECT/ BUILDER	HISTORIC USE	CURRENT USE
Unit 64/Cape Cod Cottage	c. 1924	Unknown	Residential	Residential
Morrison House	1935-1939	Unknown/Robert E. Bennett	Residential	Administrative
Pool House	1935	Unknown	Recreational	Recreational
Pool	1935	Unknown	Recreational	Recreational
Pool Shelter	1935	Unknown	Recreational	Recreational
Perimeter Wall	c. 1935	Unknown	Wall	Wall
Cottage No. 15	1939	Robert E. Bennett	Residential	Residential
Maintenance Building	1939	Robert E. Bennett	Residential/ Garage	Garage
Garage/Maintenance	c. 1949	Unknown	Garage	Garage
Units 16-17	1952	Douglas Honnold/J. Walter Johnson	Residential	Residential
Units 40-52	1952	Douglas Honnold/J. Walter Johnson	Residential	Residential
Units 65-69	1952	Douglas Honnold/J. Walter Johnson	Residential	Residential
Units 115-127	1952	Douglas Honnold/J. Walter Johnson	Residential	Residential
West Garage	1952	Douglas Honnold/J. Walter Johnson	Garage	Garage
Units 109-112	1953	Douglas Honnold/J. Walter Johnson	Residential	Residential
Units 18-19	1953	Douglas Honnold/J. Walter Johnson	Residential	Residential
Unit 20	1953	Douglas Honnold/J. Walter Johnson	Residential	Residential
Units 53-54	1958	Douglas Honnold	Residential	Residential
Units 72-78	1958	Douglas Honnold	Residential	Residential
East Garage	1959	E.B. Hulsebus Co.	Garage	Garage
Shu Lodge	1962	Orr, Strange, Inslee & Senefeld/Samuelson Brothers	Lodge	Lodge

NAME	DATE	ARCHITECT/ BUILDER	HISTORIC USE	CURRENT USE
Dining Room/Kitchen	1962	Orr, Strange, Inslee & Senefeld/Samuelson Brothers	Dining	Dining
Fitness Center	1962	Orr, Strange, Inslee & Senefeld/Samuelson Brothers	Suite 17	Fitness Center & Garage
Units 204-206	1963	C.L. Senefeld	Residential	Residential
Units 212-222	1963	C.L. Senefeld	Residential	Residential
Units 207-213	1963	C.L. Senefeld	Residential	Residential
Units 216-222	1963	C.L. Senefeld	Residential	Residential
Units 200-202	1967	C.L. Senefeld	Residential	Residential
Units 208-210	1967	C.L. Senefeld	Residential	Residential
Units 131-141	1970	Franklin D. Howell/ Shephard and Morgan Construction Co.	Residential	Residential
North Garage	1970	Franklin D. Howell/ Shephard and Morgan Construction Co.	Garage	Garage
Central Garage	1972	Franklin D. Howell/Van Vliet Construction	Laundry Building	Garage
Units 223-227	1972	Franklin D. Howell/Van Vliet Construction	Residential	Residential
Units 224-226	1972	Franklin D. Howell/Van Vliet Construction	Residential	Residential
Packard Hall	1978	Franklin D. Howell	Recreational	Recreational
Memorial Lodge	1980	Franklin D. Howell	Residential	Residential
Hacienda	1992	Wheeler and Wheeler/Jim Martin Construction	Residential	Residential
Units 229-231	1992	Wheeler and Wheeler/Jim Martin Construction	Residential	Residential
Units 248-250	1992	Wheeler and Wheeler/Jim Martin Construction	Residential	Residential
Units 233-237	1998	Wheeler and Wheeler/Jim Martin Construction	Residential	Residential
Units 21-29	2000	Wheeler and Wheeler/Jim Martin Construction	Residential	Residential
Units 300-318	2000	Wheeler and Wheeler/Jim Martin Construction	Residential	Residential
Picnic Shelter	c. 2001	Unknown	Recreational	Recreational

FIGURE 2. SITE MAP

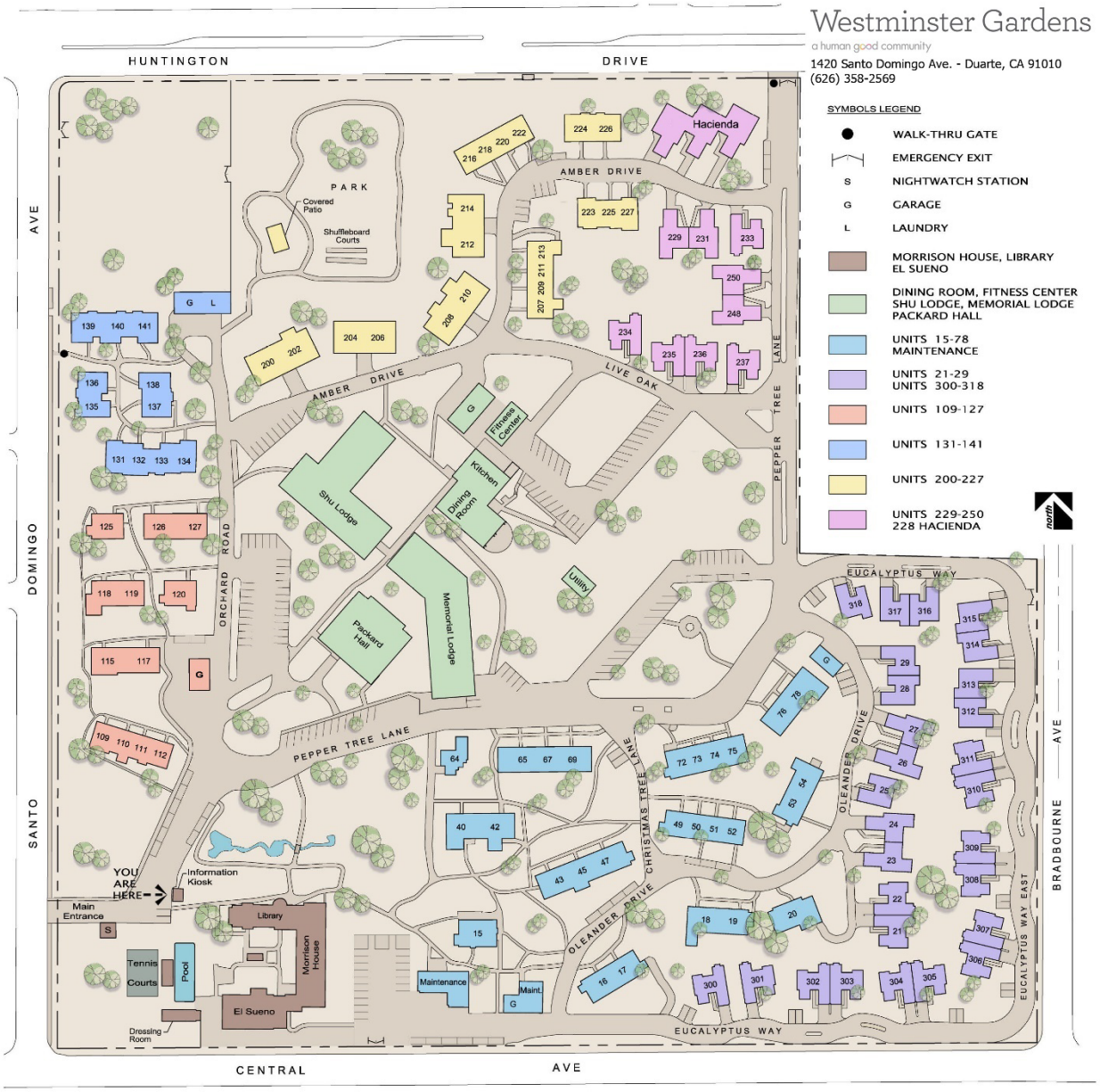
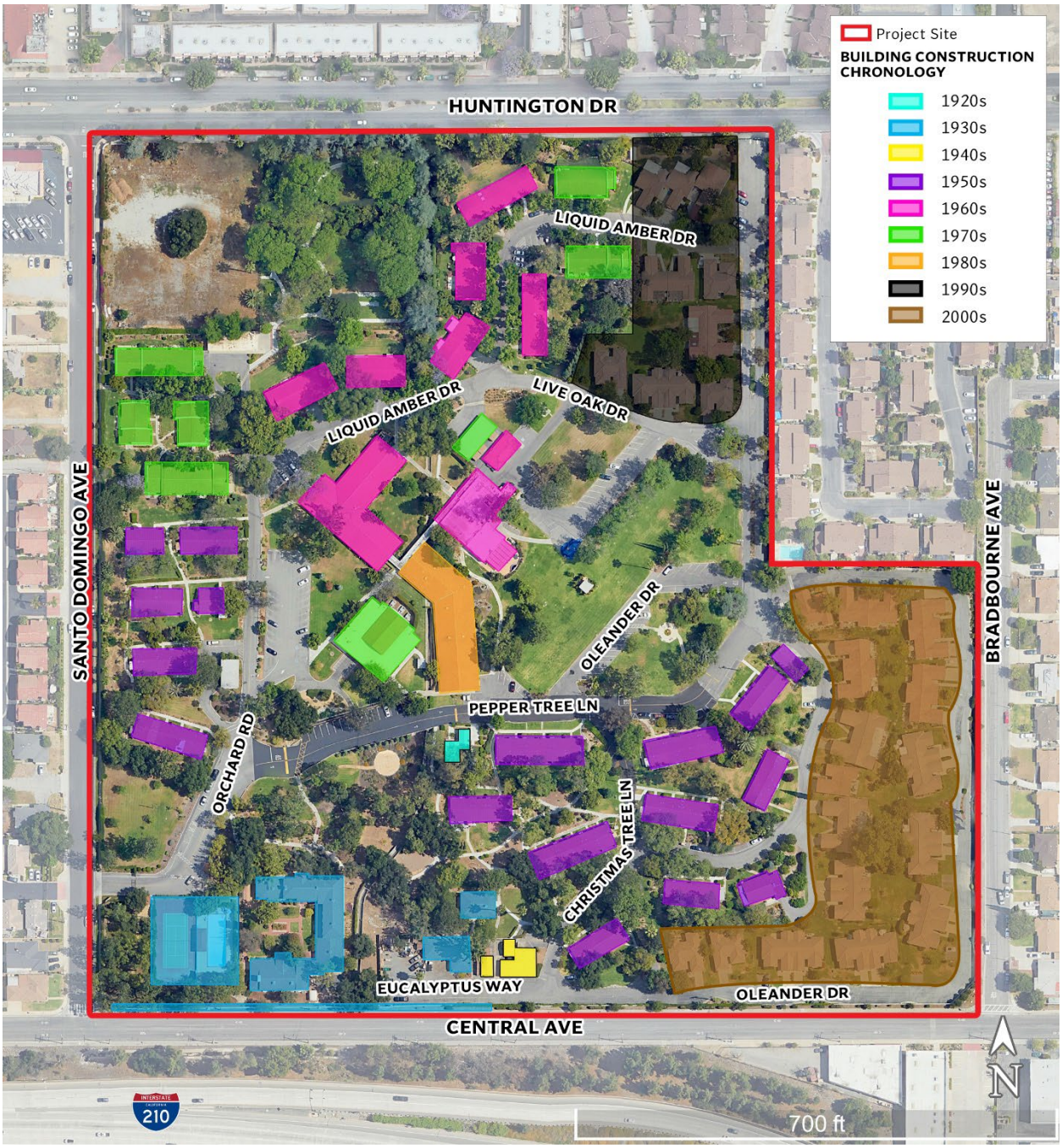


FIGURE 3. CONSTRUCTION CHRONOLOGY MAP OF THE PROJECT SITE



Architectural Description

MORRISON HOUSE



The Morrison House is a one- and two-story Spanish Colonial Revival style building that was constructed in two phases: the southern wing of the building "El Sueño" was designed by Robert E. Bennett and constructed in 1935, and an L-shaped addition "La Casa Soñada" (composed of the central block and north wing) was added in 1939. Built as a single-family residence, the building is now used for office and communal spaces at Westminster Gardens.



The Morrison House has a U-shaped plan that frames a central courtyard. It has complex massing and an asymmetrical composition; the stairwell on the north wing creates a cylindrical volume. The building has a mix of low-pitched gable and hipped roofs which are clad in red clay tiles and have boxed eaves with plaster soffits. Several clay tile chimneys are located along the ridgeline. There are two chimneys with chimney hoods: one on the north wing and one on the south wing. The building has a second-story cantilevered balcony that has wood posts, a wood balustrade with shaped wood balusters, and open eaves with exposed, shaped rafter tails. It is accessible via an exterior staircase on the north façade. A *corredor*[28] on the first floor has octagonal columns with cushion capitals, exposed rafters, and tile floor.



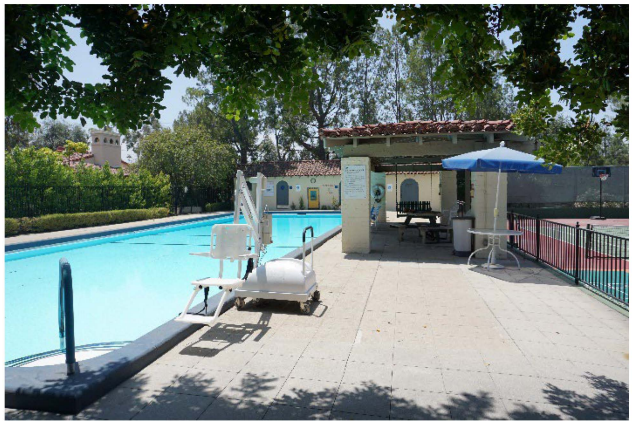
Fenestration consists primarily of divided-light steel sash casement windows in single, coupled, and grouped configurations. There is a stacked bow window located along the south façade and a cantilevered enclosed paneled wood balcony along the north façade of the north wing. A heraldic-themed leaded stained-glass window is on the west façade. The primary entrance is located on the south façade of the north wing and consists of divided-light steel

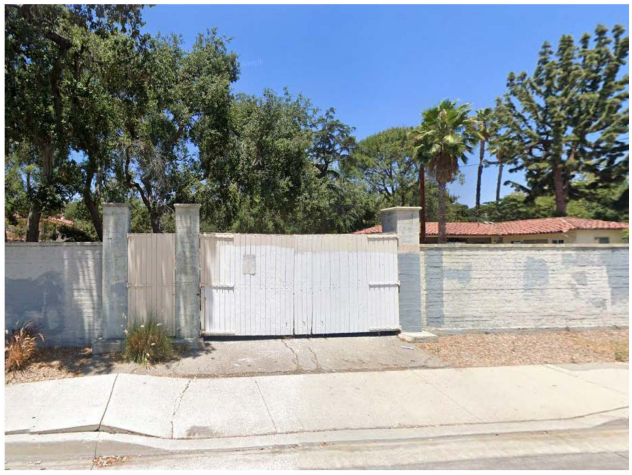
[28] A *corredor* is a narrow external porch that often lines an outdoor patio; also referred to as a portale.

French doors with sidelights, terracotta tile terrace; it is accessible via a ramp. Secondary entrances consist of single and paired partially glazed divided-light wood doors.

POOL HOUSE, SHELTER, POOL, TENNIS COURT, AND RETAINING WALL







The pool, pool house, shelter, and tennis court are located in the southwest portion of the site, immediately west of the Morrison House. The pool house is a one-story building with a rectangular plan, simple massing, and symmetrical composition. It has a low-pitched gable roof with open eaves, exposed rafter tails, and clay barrel tile roofing. Exterior walls are finished in cement plaster. Fenestration is comprised of wood hopper and vinyl sliding windows. Entrances consist of round-arched wood plank doors. A tile fountain is located along the primary (north) façade.

The shade structure consists of four brick piers and two wood posts that support a very low-pitched hipped roof with clay barrel tile roofing and exposed rafter tails.

The tennis court has a hard surface and is surrounded by a low metal fence.

The retaining wall is located along the southern perimeter of the property and is constructed of brick. It has a wood gate.

COTTAGE NO. 15



Unit 15 (Cottage No. 15) is located in the southwest portion of the Project Site. It is one story in height with a rectangular plan and asymmetrical composition. It has a low-pitched hipped roof with clay barrel tile roofing and an interior chimney. The exterior walls are veneered in brick. Fenestration consists primarily of horizontal sliding vinyl windows. A garden box window is located on the north façade. The primary entrance is located on the south façade and has a partially glazed wood door accessible via a concrete stoop.

MAINTENANCE BUILDING



The Maintenance Building is in the southwest portion of the Project Site. It is one story in height with an 'L'-shaped plan and asymmetrical composition. It has a low-pitched hipped roof with open eaves and clay barrel tile roofing. The exterior walls are finished in smooth cement plaster. Fenestration consists primarily of steel casement windows with wood sills. It has fixed and casement multi-light steel corner windows. Entrances are located on the north façade and consist of wood doors. There are two vehicular bays, two pairs of metal industrial slab doors, and two vinyl windows on the south façade.

GARAGE/MAINTENANCE BUILDING



The Garage/Maintenance Building is located in the southcentral portion of the Project Site. It is one story in height and has an 'L'-shaped plan and an asymmetrical composition. The building has a flat roof with an overhanging wood eave on the north façade. The exterior walls are finished in smooth cement plaster. Fenestration consists of steel fixed and casement multi-light windows. It has a single wood and divided-light glazed French doors. The south façade has five vehicle bays.

UNIT 64/CAPE COD COTTAGE



Unit 64 (Cape Cod Cottage) has an irregular plan and asymmetrical composition. It has a gable roof with boxed eaves, eave returns, and asphalt shingles. It has an interior brick chimney and louvered gable vents. The exterior is clad in wood shingles. It has double-hung and casement vinyl windows. The primary entrance has a wood slab door. It is accessible via a concrete porch with metal railing.

SHU LODGE



Shu Lodge is located in the central portion of the Project Site. It is connected to Packard Hall, the Dining Room/Kitchen, and Memorial Lodge via a covered walkway. The building is one-story in height, has an 'L'-shaped plan, and an asymmetrical composition. The building has a gable roof with boxed eaves clad in clay barrel tiles. The exterior is finished in rough texture stucco. Fenestration is comprised of aluminum and vinyl sliding and fixed windows. Doors are primarily aluminum sliding doors and paired metal doors.

DINING ROOM/KITCHEN



The Dining Room/Kitchen is located in the central portion of the Project Site. It is connected to Packard Hall, Shu Lodge, and Memorial Lodge via a covered walkway. The building is one-story in height, has an irregular plan, and is asymmetrical in composition. Its east façade projects outwardly towards an outdoor patio. The building has a flat roof with a parapet. The exterior is clad in rough texture stucco. Fenestration is composed of fixed and sliding metal windows. Entrances have metal automatic doors.

FITNESS CENTER



The Fitness Center is located in the central portion of the Project Site, next to a parking garage. The building is one-story in height and has a rectangular plan. The building has a very low-pitched hipped roof with overhanging eaves. The exterior is clad in rough texture stucco. It has a single sliding aluminum window. Entrances are accessible via concrete ramps with metal railings and have single or paired partially-glazed metal doors.

PACKARD HALL



Packard Hall is located in the central portion of the Project Site. It is connected to Shu Lodge, the Dining Room/Kitchen, and Memorial Lodge via a covered walkway. The building is one-story in height, has a rectangular plan, and is symmetrical in composition. The building has a flat roof with overhanding eaves. The exterior is clad in rough texture stucco. Fenestration is composed of fixed and sliding vinyl windows. The primary entrance has paired wood paneled doors flanked by sidelights. Secondary entrances have glazed metal doors.

MEMORIAL LODGE



Memorial Lodge is located in the central portion of the Project Site. It is connected to Packard Hall, the Dining Room/Kitchen, and Shu Lodge via a covered walkway. The building is one-story in height, has an 'L'-shaped plan, and is asymmetrical in composition. The building has an asymmetrical gable roof with boxed eaves that is clad in clay barrel tiles. The exterior is clad in rough texture stucco. Fenestration is composed of aluminum and vinyl sliding and fixed windows. The primary entrance has a recessed metal automatic door and is accessible via a concrete ramp.

RESIDENTIAL UNITS 16-20 AND 43-78



Residential Units 16-20 and 43-78 are situated in the southern portion of the Project Site. The buildings are one-story in height, have rectangular plans, and are generally symmetrical. Each building accommodates one to four units. The buildings have gable roofs clad in clay barrel tile and occasionally have clay tile-clad awnings. Constructed of concrete masonry units, the exterior includes both exposed units and smooth cement plaster. Buildings typically have projecting walls along one façade to create private, yet open, patios. These patios feature simple metal pipe supports. Fenestration is composed of vinyl sliding windows. Entrances have wood doors with screens.

RESIDENTIAL UNITS 109-127



Residential Units 109-127 are situated in the eastern portion of the Project Site and are almost identical to units 16-20 and 43-78. The buildings are one-story in height, have rectangular plans, and are generally symmetrical. The buildings have gable roofs clad in clay barrel tile and occasionally have clay tile-clad awnings. Each building accommodates one to four units. The buildings have gable roofs clad in clay barrel tile and occasionally have clay tile-clad awnings. Constructed of concrete masonry units, the exterior includes both exposed units and smooth cement plaster. Buildings typically have projecting walls along one façade to create private, yet open, patios. These patios feature simple metal pipe supports. Fenestration is composed of vinyl sliding windows. Entrances appear to feature wood doors with screens.

RESIDENTIAL UNITS 131-141



Residential Units 131-141 are situated in the northwestern portion of the Project Site. The buildings are one-story in height, have irregular plans, and are generally symmetrical. Each building accommodates two to four units. The buildings have gable roofs clad in clay barrel tiles. The walls asymmetrically project above the roofline between units. The exterior is clad in rough texture cement plaster. Fenestration is composed of vinyl sliding and double-hung windows. Entrances feature wood doors with screens.

RESIDENTIAL UNITS 200-227



Residential Units 200-227 are situated in the northern portion of the Project Site. The buildings are one-story in height, have rectangular plans, and are generally symmetrical. Each building accommodates two to four units. The buildings have gable roofs clad in clay barrel tiles. Like residential units 131-141, some of the buildings' walls asymmetrically project above the roofline between units. The exterior is clad in rough texture cement plaster. Fenestration is composed of aluminum and vinyl sliding and double-hung windows. Entrances feature wood doors with screens.

RESIDENTIAL UNITS 229-250



Residential Units 229-250 are situated in the northeastern portion of the Project Site. The buildings are one-story in height, have irregular plans, and are generally asymmetrical. Each building accommodates one to three units. The buildings have hipped roofs clad in clay barrel tiles. The exterior is clad in rough texture cement plaster. Fenestration is composed of vinyl fixed and sliding windows. Entrances feature wood doors with screens. These buildings have attached garages.

RESIDENTIAL UNITS 21-29 AND 300-318



Residential Units 21-29 and 300-318 are situated in the southeastern portion of the Project Site. The buildings are one-story in height, have irregular plans, and are generally symmetrical. Each building accommodates one to two units. The buildings have hipped and cross-gable roofs clad in clay barrel tiles. The exterior is clad in rough texture cement plaster. Fenestration is composed of sliding and double-hung windows. Entrances feature wood doors.

PARKING GARAGES



There are 5 parking garages on the property. They are utilitarian in design with rectangular plans, symmetrical compositions, and either low-pitched hipped roofs with asphalt composition shingle roofing, or flat roofs. The exterior walls are finished in smooth cement plaster. The garages have tilt-up wood plank auto doors.

PICNIC AREA AND SHELTER



The picnic area and shelter are located in the northern portion of the Project Site. This is a large open space with several different types of fruit trees. The shelter has a flat roof upheld by six wood squared posts. Several benches are located throughout the picnic area. A centrally located plaque from 2001 notes that the park “honors Westminster Gardens residents who answered the call to global service in ministry, medicine, and education.” It records the different countries where residents served.

MASONIC LODGE SITE



The masonic lodge site is located in the northwestern portion of the Project Site. The site is largely vacant except for a large, mature oak tree surrounded by a circle of stones and two lampposts.

ALTERATIONS

There have been numerous alterations on the Project Site since its initial development in the 1930s as a single-family residence, and later as a retirement community in the 1950s. Many of these alterations have occurred to the dozens of residential units throughout the Project Site, largely from the 1970s to the present.

Common alterations to the residential units include the replacement of original windows with vinyl units, replacement of doors, 100 to 300-square-foot additions, and extensive interior remodels. Interior remodels commonly included converting the number of units within each building, such as from a triplex to a duplex. Awnings and patio walls were frequently added to outdoor spaces, commonly in the 1990s. Other alterations include standard repair work and maintenance, such as reroofing.

The Morrison House has been altered several times since its original construction in 1935-1939.[29] A kitchen unit was added to the building in 1956.[30] In 1957, the interior of the building was remodeled; two bathrooms were divided into four bathrooms, and four dressing rooms were converted into kitchens.[31] Fire sprinklers were installed in 1975.[32] The building was reroofed by Lytle Roofing in 1980.[33] Part of the building was transformed from a residential unit into office space in 1982.[34]

A list of alterations is included in Appendix C.

[29] Building permits prior to 1950 are not on file with the City of Duarte of County of Los Angeles and were not available for review.
[30] County of Los Angeles, Building Permit No. 7870, issued on July 6, 1956.
[31] County of Los Angeles, Building Permit No. 1534, issued on December 18, 1957.
[32] City of Duarte, Building Permit No. 6063, Issued on January 21, 1975.
[33] City of Duarte, Building Permit No. 15209, issued on December 30, 1980.
[34] County of Los Angeles, Miscellaneous Application No. 2483A, issued on March 31, 1982.

6.0 DEVELOPMENT HISTORY

Early Development

The City of Duarte comprises a portion of the former Rancho Azusa de Duarte, which was granted to Andres Avelino de Duarte in 1841. Following the end of the rancho era, the former ranch lands were subdivided and used to grow citrus fruit, primarily oranges. Following World War II, consistent with development patterns throughout Southern California during this period, agricultural land was subdivided for residential development to house the rapidly growing population. The City of Duarte was incorporated in 1957.

The Project Site was originally part of the Rancho Azusa de Duarte. It comprised one-half of a 40-acre parcel, described as the "north 20 acres of w ½ and w ½ of e ½ of lot 16, section 30, Azusa de Duarte Rancho." The 20-acre property was owned by Norman C. Jones until his death in 1877 when it was sold by his heirs to B.D. Eachus.[35] In 1887, Eachus sold the property to Henry N. Urmy for $6,000.[36]

In 1888, Dr. Norman H. Morrison purchased the 20-acre property.[37] Morrison was chief surgeon for the Santa Fe Railway line and founder of the Santa Fe Hospital in the Boyle Heights neighborhood of Los Angeles.[38] He worked and resided in Los Angeles with his family but established the Morrison Ranch in Duarte and started citrus farming on the site shortly after purchasing the land.[39] It appears that the ranch was mostly used as a summer retreat for much of the late 19th and early 20th centuries. In 1897, Morrison purchased the "old Santa Fe depot building at Duarte and remove[d] it to his ranch nearby for a farm building."[40]

Following the death of Norman H. Morrison in 1921, his son Dr. Wayland A. Morrison and Wayland's wife Lucile Phillips Morrison took ownership of the ranch in Duarte.[41] At that time, the property was still used by the Morrison family as a weekend and vacation home. Although Wayland A. Morrison had plans for improvements at the ranch as early as 1911, it was not until 1924 that he started making changes to the site, including building a Cape Cod cottage (extant, moved circa 1940).[42] Morrison also built a five-room bungalow on the east side of the ranch for their tenant, Oscar R. Greene, located at 940 E. Huntington Drive.[43] By the 1930s, the grounds were described as containing a lily pool shaded by huge trees, a woodland garden, and a swimming pool; the residence was described as featuring a music room and wood-paneled library.[44] The property also had a tennis court.

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[35] "Mortgage Sale," *Los Angeles Evening Express, M*arch 9, 1877, 4.
[36] "Daily Real Estate Record," *Los Angeles Herald,* May 6, 1887, 2; "Real Estate Transfers," *Los Angeles Evening Express,* September 14, 1888, 3.
[37] "Real Estate Record," *Los Angeles Herald,* September 26, 1888, 7.
[38] "Norman H. Morrison," United States Federal Census, 1910, https://www.ancestry.com; (accessed January 2024); "Who's Who in Monrovia," *Monrovia News-Post,* July 9, 1930, 1.
[39] "Dr. Morrison of Duarte Taken by Death," *Monrovia Daily News Post,* January 6, 1950, 1 and 8.
[40] "Azusa," *Los Angeles Herald,* October 25, 1897, 7.
[41] "Operation Unavailing for Surgeon," *Los Angeles Times,* July 4, 1921, 15.
[42] "The City in Brief," *Monrovia Daily News,* October 10, 1911, 3.
[43] "Dr. Morrison, of L.A., Remodeling Home in Duarte," *Monrovia Daily News,* May 2, 1924, 4; Duarte City Directory (Arcadia Publishing, 1937), 323.
[44] "Richey-Barrett Wedding Will Take Place Tonight in Country Home Garden," *Los Angeles Evening Post-Record,* August 18, 1934, 5; "Recent Fire Call to Duarte to Cost City $1500 in Repair Work," *Monrovia News Post,* September 28, 1936, 1; "Beautiful Duarte Home Is Setting for Morrison-Meyers Wedding," *Monrovia News-Post,* February 9, 1942, 3; "Re-Zoning in Duarte Denied," *Monrovia News-Post,* June 1, 1945, 1.

In 1935, the Morrisons constructed a Spanish Colonial Revival style building on the property with a "large dance room, dining room, kitchen, powder room, [and] patio … next to the swimming pool and tennis court."[45] The Morrison children used this building to entertain their friends; it was known as "El Sueño" or "The Dream." In 1939, "El Sueño" was incorporated into a new residence constructed by the family, forming the southern wing of a larger U-shaped building. The Morrison family referred to the new building as "La Casa Soñada," or "the dreamed-of home." The residence was designed by architect Robert Bennett, who was a distant cousin of the family, and built by J. Walter Johnson.[46] Morrison also expanded the acreage from twenty to fifty acres.[47] At this time, the Morrisons relocated to Duarte full-time.

The residence was described as a "spacious mansion with its three wings forming a U, it has eight suites of rooms built by the Morrisons for their children and [their] families."[48] Landscape features completed as part of the project include the brick walkway centered on a rectangular reflecting pool, likely clad in Gladding, McBean tiles.[49] On the interior, several of the rooms were adorned with intricate woodwork completed by Swedish craftsmen.[50]

The garage and cottage (Unit 15) were also constructed at this time. The cottage was built by Mrs. Lucile Morrison as a writing studio. She also kept "unusual dolls in the house" and since then it became known as the "doll house."[51] Located east of the main house, the building houses Lucille Morrison's collection of over 1,000 dolls.[52] The original Cape Cod cottage was relocated and expanded with an addition.[53]

Following World War II, much of the farmland in the Duarte area was transformed from orange groves to residential subdivisions, and all of the citrus packing plants in Duarte closed.[54] In 1949, the Morrisons donated 2.5-acres of their ranch for use as a youth agency recreation center.[55] Dr. Wayland A. Morrison died in 1950, and his wife Lucile Morrison took over control of the ranch.[56] Around this same time, Lucile Morrison moved to Arcadia,[57] and began selling or donating portions of the ranch. Land donated by Lucile Morrison provided for much-needed services for the local community. A portion of the land was donated to serve as a Masonic Temple, and a large portion of the estate was sold at this time for use as a retirement home for Presbyterian missionaries, discussed further below.

[45] Almar Whitaker, "Little Wonders of War," *Los Angeles Times,* November 1, 1942, 71.
[46] Interview with Chris Morrison by Alexandra Perlman. June 13, 2022; Morrison Family Scrapbook by Lucille Morrison, Westminster Gardens.
[47] Davis, 1938, 214.
[48] "Pastors Visit Missionary Home in Duarte," *Daily News-Post,* March 15, 1951, 2.
[49] Interview with Chris Morrison, June 13, 2022. Gladding, McBean was established in 1874 in the town of Lincoln, California. It became the first company on the Pacific Coast to produce terra cotta roof tiles and by 1925, Gladding, McBean operated ten clay products plants in California, Oregon, Washington, Montana, and British Columbia. The company utilized two hundred kilns and employed over two thousand people. It was the primary supplier of sewer pipes, terra cotta roof tiles, and ornamental terra cotta on the West Coast and developed a nationwide reputation for quality and innovative design. Lucile Morrison's father Lee A. Phillips was Vice President of Gladding, McBean.
[50] Interview with Chris Morrison by Alexandra Perlman, June 13, 2022. Several of the wood carvings were Egyptian themed, likely because the house was built shortly after Lucile Morrison finished writing her award-winning book *The Lost Queen of Egypt.*
[51] "'Garden' in Duarte Serves Missionaries," *Daily News-Post,* July 30, 1966, 6.
[52] Leo J. Schamadan, undated document, on file at Westminster Gardens.
[53] "Duarte Facility Houses 33 Retired Missionaries," *Los Angeles Times,* October 12, 1952, 178.
[54] See historical aerials included in Appendix A.
[55] "Dr. Morrison of Duarte Taken by Death," *Monrovia Daily News Post,* January 6, 1950, 1 and 8.
[56] "Dr. Morrison of Duarte Taken by Death," *Monrovia Daily News Post,* January 6, 1950, 1 and 8.
[57] "County Studies Proposal for Missionary Home in Duarte," *Daily News-Post,* December 14, 1950, 1.

Duarte Masonic Temple

In 1953, Lucile Morrison donated three acres at 1900 E. Huntington Drive in the northwestern portion of the property for a new Duarte Masonic Temple. Morrison gifted the land in memory of her father and husband.[58] Lucile Morrison's only stipulation with the gift was that the new lodge building "conform in architecture with other buildings on the farmer estate of her late husband, Dr. Wayland P. Morrison, and herself."[59] The Master Plan began in 1954 and construction of the "modernistic building" was completed in 1955.[60] Construction efforts were headed by V.R. Bush, Albert Pederson, Jack La Sonce, Arno Krueger, and Dick Mosher.[61] Photographs of the building in 1955 show that it was likely an addition to an earlier residence constructed circa 1925 (see Appendix B). The temple became the home for the Sojourner Lodges 607 and 608. It was demolished in 1999. All that remains on the site is an oak tree and two historic lamp posts.

Westminster Gardens

In 1950, Frank Shu purchased a portion of the Morrison Ranch. Shu was born in China and attended Yih Wen Commercial School led by Missionary teacher William Booth. In the late 1940s, Shu traveled to the United States where he presented $1 million to the Presbyterian Missionary Board to be used to build a group of residences for retired Presbyterian missionaries.[62] The former Morrison Ranch was subsequently converted for its new use, and it became known as Westminster Gardens. At the time of its founding, residents were required to have served at least 20 years in a foreign country and have reached the age of retirement.

At the time of the acquisition, the Morrison Ranch was improved with the Morrison House, pool, pool house, pool shelter, retaining wall, cottage (Unit 15), Cape Cod cottage (Unit 64), maintenance building, and garage/maintenance building. The Cape Cod cottage (Unit 64) was built in the 1920s.[63] It also had extensive gardens and natural features, including a pond. These existing buildings were repurposed as apartments for the site's new use as a retirement community.[64] A gift of $100,000 by Gertrude Weller of Los Angeles provided funds for the remodeling of the rooms in the Morrison House into apartments, which was completed by J. Walter Johnson.[65] The two cottages and maintenance building were also adapted for apartments.[66]

A full building program was also approved shortly after purchase, and construction began on several new apartment buildings on the property in 1951, designed by Beverly Hills-based architect Douglas Honnold.[67] In 1952, the first phase of construction was completed by Honnold and contractor K. Walter Johnson.[68] These "completely furnished modern cement block

[58] "Duarte Temple Site Donated to Masons," *Daily News-Post,* December 19, 1953, 1.
[59] "Dinner Launches Temple Drive," *Daily News-Post,* April 26, 1954, 3.
[60] "Master Plan for Duarte Masonic Temple Property Under Way," *Daily News-Post,* March 18, 1954, 16; "Dedication Set of New Temple," *Daily News-Post,* May 16, 1955, 7; "Duarte Masons Dedicate New Temple," *Daily News-Post,* June 27, 1955, 7.
[61] "Masonic Temple to be Dedicated," *Daily News-Post,* June 24, 1955, 7.
[62] R. Aloysia Moore and Bernice Bozeman Watson, *On the Duarte* (Duarte: City of Duarte, 1976), 188.
[63] "Duarte Facility Houses 33 Retired Missionaries," *Los Angeles Times,* October 12, 1952, 178.
[64] City of Duarte, Building Permits Nos. 66666 and 66667, September 28, 1951.
[65] Mollie Hopper, *Westminster Gardens: A 50 Year History* (Duarte, CA: Westminster Gardens, 2000), 2; City of Duarte, Building Permit, December 18, 1957.
[66] "Westminster Directors View Building," *Daily News-Post,* October 8, 1951, 1.
[67] "Start New Building at Westminster Gardens," *Pasadena Independent,* August 16, 1951, 49.
[68] City of Duarte, Building Permits Nos. 58055-58057, June 25, 1951; City of Duarte, Building Permit No. 58065, June 25, 1951; City of Duarte, Building Permit No. D78843B, February 29, 1952; City of Duarte, Building Permit No. D85206B, April 28, 1952; City of Duarte, Building Permit No. D85207B, April 29, 1952.

apartments" provided a capacity for 50 residents.[69] Westminster Gardens was dedicated in July of 1952.[70] Additional apartment buildings were constructed in 1958, also designed by Douglas Honnold.[71]

In 1957, Lucile Morrison deeded an additional strip of land along Huntington Drive to Westminster Gardens for its expansion eastward. That same year the Rest Home (demolished) was designed by architects Douglas Honnold and John Rex.[72] Orr, Strange, Inslee & Senefeld designed the Dining Room/Kitchen, Fitness Center, and the Grace Shu Lodge, named in honor of the wife of Frank M. S. Shu.[73] These buildings were constructed in 1962 by Samuelson Brothers.

In 1963, several new buildings were constructed in the northern region of the site. Designed by C.L. Senefeld, additional buildings of the same style were added to this grouping in 1967. That year, apartments on the first floor of the Morrison House were converted into administrative offices. The total number of residences reached 131 by 1967.[74]

In 1970, four additional residences and an ancillary building with a laundry room and five-car garage were constructed in the northwestern portion of the property. Designed by architect Franklin D. Howell and built by Shephard and Morgan Construction Co., the buildings accommodated eighteen new residents.[75] The swimming pool was also renovated at that time. Howell designed five additional apartment buildings, which were constructed by Van Vliet Construction in 1972.[76]

Construction at Westminster Gardens slowed in the late 1970s and early 1980s, and most work involved alterations to existing buildings. Only two new buildings in the center of the site were developed at this time: Packard Hall and Memorial Lodge. Packard Hall, a recreational space for residents, was designed by Franklin D. Howell and constructed in 1978.[77] Howell also designed the Memorial Lodge, a residential building, which was completed two years later in 1980.[78]

Additional buildings were constructed in the northeastern and southeastern regions of the site between 1993 and 1999. These buildings were designed by Wheeler and Wheeler and constructed by Jim Martin Construction.[79]

A table of building permits associated with Westminster Gardens is included as Appendix C.

[69] "Duarte Facility Houses 33 Retired Missionaries," *Los Angeles Times,* October 12, 1952, 178.
[70] "Missionary Home to Be Dedicated," *Daily News-Post,* July 18, 1952, 2.
[71] City of Duarte, Building Permit No.
[72] "First Unit of Duarte Project Furthered," *Los Angeles Times,* March 3, 1957, 148.
[73] "Westminster Gardens Dedicate New Structure," *South Pasadena Review,* October 24, 1962, 15.
[74] Hopper, 3.
[75] "Westminster Garden News," *Daily News-Post,* August 28, 1970, 3.
[76] Hopper, 4.
[77] City of Duarte, Building Permit, June 15, 1978.
[78] City of Duarte, Building Permit No. 5343A, September 26, 1980.
[79] City of Duarte Building Permits Nos. 7436, 7461, and 7464, September 10, 1998.

Past Owners/Occupants

THE MORRISON FAMILY

The property that now comprises Westminster Gardens was owned by the Morrison family from 1888-1950. The Morrison House was constructed by Wayland and Lucile Morrison in 1935-1939, along with the ancillary features of the pool, pool house, pool shelter, tennis court, retaining wall, unit 64/Cape Cod Cottage, Cottage No. 15, maintenance building, and garage/maintenance building. Biographical information about the Morrisons is included below.

TABLE 1. SUMMARY OF OWNERS/OCCUPANTS

DATE	OWNER/OCCUPANT	USE
1888-1921	Norman H. Morrison	Vacation Residence
1921-1938	Wayland A. and Lucile P. Morrison	Vacation Residence
1939-1950	Wayland A. and Lucile P. Morrison	Primary Residence
1951-Present	Westminster Gardens	Retirement Community

NORMAN H. MORRISON

Norman H. Morrison was born in 1853 in Missouri. Morrison ran away from home at the age of ten, eventually attending the University of Iowa. He moved to Santa Barbara with his new wife, Marie Cobb, in 1877.[80] In Santa Barbara, Morrison worked on a dairy before making the acquaintance of Dr. Bates, a local doctor who agreed to teach Morrison the basics of medicine. After memorizing *Grey's Anatomy*, Morrison sold his dairy and moved to San Francisco. Morrison briefly attended the University of California before transferring to the Kansas City Medical College. Graduating in 1880, Morrison worked as the local doctor in McPherson, Kansas.

The lure of California ultimately brought Morrison to Los Angeles, where he was made Chief Surgeon of the Southern California Railroad in 1888.[81] That same year, he bought the 20-acre ranch property in Duarte. In 1904, with the merging of the Southern California Railroad and the Atchison, Topeka and Santa Fe Railroad, he became their first Chief Surgeon. Morrison held the position of Chief Surgeon for seventeen years and was largely responsible for the founding of the 1905 Santa Fe Hospital in Boyle Heights. Following the death of his first wife Marie Cobb, Morrison remarried Irma Rhodes. They resided at 1263 W. Adams Boulevard in Los Angeles until his death in 1921.[82] Although Morrison resided primarily in Los Angeles, he is recorded as never losing "his love of the soil and many of his spare hours were spent working around the orange trees on his ranch in Duarte."[83]

WAYLAND A. MORRISON

Wayland A. Morrison inherited the Duarte ranch from his father Norman H. Morrison in 1921. He used the property as a summer residence from 1921 to 1938 and resided there full-time with his wife Lucile P. Morrison and their children from 1939 until 1950 in a "beautiful Spanish Structure."[84]

[80] "Matrimonial," *Fort Scott Daily Mirror,* January 31, 1877, 4.
[81] Davis, 1957, 292; Interview with Chris Morrison by Alexandra Perlman, June 13, 2022.
[82] "Bride for Dr. Morrison," *Los Angeles Times,* September 5, 1906, 15.
[83] Davis, 1957, 293.
[84] Davis, 1957, 293.

Wayland A. Morrison was born in 1888.[85] He was primarily raised in Los Angeles, although he did briefly attend Duarte Elementary School.[86] He earned a Bachelor of Arts degree from Stanford University in 1910. Following graduation, Morrison briefly moved to Duarte, where he worked as an automobile salesman at E. M. F. and Flanders automobile agency and as a real estate agent at Tifal Brothers.[87] Morrison planned to build a residence on the Duarte property around that time.[88]

Morrison briefly resided in Massachusetts, where he attended Harvard Medical School. Following his graduation in 1914, Morrison worked as the house surgeon at Massachusetts General Hospital for two years before returning to Southern California in 1916.[89] Morrison served in the U.S. Army Medical Corps for the duration of World War I; he was discharged as a Major at the end of the war. Morrison then returned to Southern California where he married Lucille Phillips in 1917, and the couple resided in their new residence at 434 Plymouth Boulevard, designed by architects Meyer & Holler of the Milwaukee Building Company.[90] Morrison succeeded his father as chief surgeon of the Santa Fe Railway in 1919.

In the late 1930s, Morrison and his wife Lucile P. Morrison sold the property at Plymouth Boulevard and moved to Duarte full-time.[91] At this time, Morrison expanded his acreage from twenty to fifty acres.[92] He was known for giving "much of his time to community affairs and problems."[93] Morrison served on the boards of the Duarte-Monrovia Citrus Association, the Duarte-Mutual Irrigation and Canal Co., the Duarte-Mutual Water Co., and as a director for the Duarte City Commerce. During World War II, Morrison served as the Area Medical Director of the War Casualty Stations for the Office of Civilian Defense, and organized stations at Rosemead, Temple City, and Duarte; the latter of which was housed in a wing of his own residence.[94] Dr. Wayland A. Morrison died in 1950.

LUCILE P. MORRISON

Lucile Phillips Morrison was born in Los Angeles in 1896 to philanthropist Catherin Coffin and Los Angeles financier Lee A. Phillips. Lucile Phillips was raised at #4 Berkeley Square in the West Adams neighborhood and attended the Marlborough School. She graduated from Vassar College in 1917 and married Wayland A. Morrison that same year.

Lucile Phillips Morrison was a notable author of numerous children's books and the novel *The Lost Queen of Egypt*, which won the first prize for fiction from the National League of American Penwomen in 1938. In 1958, she received a master's degree in psychology from Pepperdine University and began her own private psychology practice. Morrison served as a board member for the Educational Policy Committee for Scripps College for 42 years and was named an Honorary Trustee of Scripps College.[95]

In addition to her many other pursuits, Lucile Morrison was extremely active in Duarte's civic

[85] "Wayland A. Morrison," United States Federal Census, 1940, accessed on January 2024 at: https://www.ancestry.com.
[86] Charles F. Davis, *History of Monrovia and Duarte* (Monrovia, CA: A. H. Cawston, 1938), 214.
[87] "For Sale," *Monrovia Daily News,* February 1, 1912, 3.
[88] "Return of W. A. Morrison," *Monrovia Daily News,* October 10, 1911, 3.
[89] "Return of W. A. Morrison," *Monrovia Daily News,* October 10, 1911, 3.
[90] "Home for Doctor," *Los Angeles Times,* June 8, 1919, 83.
[91] "Phillips' Widow, Daughter to Handle Million," *Daily News,* February 1, 1938, 9.
[92] Davis, 1938, 214.
[93] "Dr. Morrison of Duarte Taken by Death," *Monrovia Post,* January 6, 1950, 1-
[94] Davis, 1957, 295.
[95] "Scripps College Honors Arcadian," *Arcadia Tribune,* August 6, 1972, 5.

affairs. In 1957, she was described by historian Charles Davis as "one of the community's greatest benefactors. For years she has generously dedicated her time and means for worthy Duarte projects."[96] Morrison offered her Duarte property for use as a casualty station during World War II, and the site was used after the war as a Well Baby Clinic, Communicable Diseases Clinic, Dental Clinic, and one of the cottages served as Duarte's first county library facility. She also donated land for the Duarte Masonic Hall.

Lucile Morrison also organized and served as the first president of the Duarte Community Service Council and helped establish the Duarte Youth Acres, the city's first recreational facility. She served on the boards for the Duarte Community Center Corporation; Duarte Mutual Water Company; Chamber of Commerce; Duarte Women's Club; Reading Circle; and at Westminster Gardens. In 1967, Morrison was honored with the Duarte Historical Society's Pioneer Service Award.[97] She also organized and preserved newspaper articles, which were donated to the Duarte Historical Society.[98] Lucile P. Morrison died in 1991.

Associated Architects/Builders

ROBERT E. BENNETT

Robert E. Bennett of Bennett & Bennett designed the Morrison House. Bennett was born in Pasadena in 1915 to John Cyril Bennett and Olevia Cobb. He received a bachelor's degree in architecture from the University of California in 1936 and a master's degree from the California Institute of Technology in 1937. Robert E. Bennett was a distant cousin of the Morrison family and designed the Morrison House shortly after receiving his architecture degree. Bennett then briefly worked under his father, notable local architect John Cyril Bennett (Cyril Bennett). In 1946, he and his father entered into a partnership in the firm Bennett & Bennett.

Robert E. Bennett's father, J. Cyril Bennett was a notable local architect. Cyril Bennett attended the University of California, Berkeley where he graduated with a bachelor's degree in architecture in 1910. Bennett then moved to Pasadena, California, where he married Olevia Cobb in 1913 and briefly worked as a draftsman for architect Sylvanus B. Marston before forming his own company in 1914. Cyril Bennett completed several independent projects during his early career, including the Raymond Theater (1919-1921); City of Pasadena Fire Department Main Station (1922); and Glendora Theater (1923). He also designed several residences, such as the W. H. Batterson House (1921) and William Leithed House (1924) in Pasadena. In 1924, Cyril Bennett joined with architect Fitch Haskell to form Bennett and Haskell. The partnership designed several notable buildings in Pasadena from 1924 to 1934, including the Central National Bank in Pasadena (1926); All Saints' Episcopal Church Parish House and Rector (1929-1930); and their collaboration with George E. Bergstrom on the design of the Pasadena Civic Auditorium (1925-1932).[99] From 1934 to 1941, Bennett again formed his own firm.

In 1946, his son Robert E. Bennett joined the firm to form Bennett and Bennett, which lasted until his retirement in 1955. Bennett & Bennett designed several commercial and educational buildings.

[96] Davis, 1957, 295.
[97] "Historical Society Holds Annual Installation Fete," *Daily News-Post,* May 17, 1967, 1.
[98] Claudia Heller, *Duarte Chronicles* (Charleston, SC: The History Press, 2013), 27.
[99] "John Cyril Bennett," *Pacific Coast Architecture Database,* https://pcad.lib.washington.edu/person/477/ (accessed January 2024).

Notable commissions include the Temple City National Bank (1950) and the First National Bank in Santa Ana (1953).[100] Notable education projects include an administrative building at Edison Elementary School (1945) and the Physical Sciences building at the University of California, Riverside (1954).[101] Community projects included the Van Ness Community Center (1949) and three clubhouses for parks in Los Angeles (1949).[102] Bennett & Bennett designed several bakeries in Los Angeles, including the Barbara Ann Bakery (1955); Coliseum Bakery (1955); Langendorf Bakery (1955); and Sheriff's Wayside Honor Farm Bakery (1958).[103] The firm also completed updates and modernizations to the Los Angeles Coliseum and designed a two-story office building immediately adjacent to it in 1953.[104]

Cyril Bennett died in 1957.[105] Following the death of his father, Robert E. Bennett continued working for the firm. In 1969, Robert E. Bennett was awarded a CTI gold plaque for his work on the Los Angeles Coliseum.[106] In 1968, Bennett & Bennett was hired to enlarge the women's facilities at the Rose Bowl in Pasadena.[107] Robert E. Bennett died in 2003.

DOUGLAS HONNOLD

Douglas Honnold designed the first phases of residential development at Westminster Gardens in the 1950s. Douglas Honnold, AIA was born in Montreal, Canada, in 1901. He embarked on his academic journey at Cornell University in Ithaca, New York, where he studied from 1920 to 1921. He then continued his education at the University of California, Berkeley, from 1922 to 1923.[108] Following his studies, Honnold assumed roles as a draftsman and designer at several architectural firms in Southern California between 1923 and 1927. In 1929, he established his own architectural firm, Douglas Honnold, where he served as the principal architect.[109] Honnold's portfolio encompassed a diverse array of projects, spanning single and multi-family residences, musical centers, restaurants, medical facilities, and commercial structures.

In 1952, Honnold closed his independent firm and embarked on a partnership with John Leon Rex. Collaborating with Rex yielded remarkable achievements, notably the award-winning design of the Los Angeles Federal Savings and Loan Association building in North Hollywood in 1960, as well as the Hollywood building situated at the intersection of Sunset Boulevard and Vine Street in 1964.[110] In 1966, the partnership welcomed Piercy K. Reibsamen, leading to the formation of Honnold, Reibsamen, and Rex Architects.[111] Their joint endeavors encompassed the creation of multiple hospitals, residential and commercial projects across Southern California.

[100] "Construction Under Way on New Santa Ana Bank Unit," *Los Angeles Times,* April 26, 1953, 112; "Temple City Bank Plans New Building," *Pasadena Independent,* February 24, 1950, 2; "Bank Here Plans Remodeling Program," *Long Beach Press,* September 25, 1955.
[101] "Bennett, Robert E." *American Architects Directory,* 1956; "Award Architects' Contracts for New School Buildings," *Pasadena Independent,* November 7, 1945, 3.
[102] "New Recreation Center," *Southwest Wave,* July 31, 1949, 2; "Draw Clubhouses," *Pasadena Independent,* January 30, 1949, 26.
[103] "Additions Slated for Honor Farm," *Los Angeles Times,* April 20, 1958, 116.
[104] "Building Added to Los Angeles' Huge Stadium," *Los Angeles Times,* September 6, 1953, 21.
[105] "Cyril Bennett, 65, Dies; Pasadena Civic Leader," *Los Angeles Times,* May 26, 1957, 5.
[106] "Peristyle Tile Work Wins Master Award," *Los Angeles Times,* March 23, 1969, 134.
[107] "400,000 Approved for Rose Bowl Projects," *Los Angeles Times,* May 29, 1968, 24.
[108] "Douglas Honnold," Pacific Coast Architecture Database (PCAD). Accessed on January 9, 2024 at: https://pcad.lib.washington.edu/person/218/
[109] "Douglas Honnold," PCAD.
[110] "Douglas Honnold," PCAD.
[111] "Douglas Honnold," AIA American Architects Directory, 1970, 419. Accessed on January 9, 2024 at: https://content.aia.org/sites/default/files/2018-09/Bowker_1970_H.pdf

Honnold was a member of American Institute of Architects, Southern California Chapter and assumed various roles within the Chapter. He chaired the Public Relations Committee in 1954, served as chapter president in 1956, achieved fellowship status in 1957, and took on the role of secretary in 1966. Throughout this period, Honnold served as an instructor at the Art Center College of Design in Pasadena. Douglas Honnold passed away in 1974 at the age of 72.

ORR, STRANGE, INSLEE & SENEFELD

Orr, Strange, Inslee & Senefeld etc. designed the second phase of residential development at Westminster Gardens starting in the 1960s. In addition to the residential development, this included designing the Shu Lodge, Dining Room/Kitchen, and Fitness Center. Los Angeles-based architect Robert H. Orr founded the architectural firm Orr, Strange, Inslee & Senefeld in 1949. The firm was known for Mid-Century Modern and International style religious and institutional buildings.

Architect Robert Hall Orr was born in 1873 on Prince Edward Island, Canada, and immigrated to the United States in 1881. Orr studied architecture at the University of Illinois until 1908 and worked as a draftsman in the office of W.H. Weeks in Salinas from 1899-1906. He started his own Southern California-based private practice in 1908 and became known for his designs for the Pilgrim Congregational Church, Pomona (1911) the Pitzer House, Claremont (1913), Wilshire Boulevard Christian Church, Los Angeles (1922-23), and the Ninth Church of Christian Scientist, Los Angeles (1924-27). Orr also served as the supervising architect for Pomona College. Orr held the position of President of the Board of Building and Safety Commissioners for the City of Los Angeles from 1930-34, and Chairman of the Board of Directors for the Architects Bureau from 1945–48. He was a fellow of the American Institute of Architects. Orr formed the firm of Orr, Palmer, Inslee & Huber (later renamed to reflect practitioners) in 1945. He worked at the firm until 1962, two years before his death.[112]

William T. Strange, Jr. was born in 1899 in Ardmore, Oklahoma.[113] Strange received a bachelor's degree in architecture from Texas A&M and primarily worked in Texas into the 1920s. He was a partner in the firms of Peters, Haynes and Strange beginning in 1927. Strange was largely active designing schools and hospitals in Texas, before he relocated to Southern California in 1934.[114] In California, Strange continued to specialize in designing school buildings and campuses, including Juan Cabrillo School, Malibu (1965); Florence Nightingale Jr. High School, Los Angeles (1969); and Los Angeles Baptist High School, North Hills (1969).[115] He died in 1979.

Robert R. Inslee was born in 1910 and received his architectural education at the University of California, Berkeley. Following World War II, he became a partner in the architectural firm of Orr, Palmer, Inslee, Huber and Strange. During his career, Inslee designed 388 churches in California, Arizona, Nevada and Hawaii.[116] He also designed several health facilities, hospitals, and convalescent homes as well as municipal buildings, telephone buildings and several residences. Inslee was an educator in the community as well as an architect. He developed the vocational

[112] "Robert Hall Orr," Pacific Coast Architecture Database, accessed on January 17, 2024 at: https://pcad.lib.washington.edu/person/874/.
[113] "William T. Strange," United States Federal Census, 1950. Ancestry.com.
[114] Gary Wooten Smith, "Sylvan Blum Haynes: The Dean of West Texas Architects," master's thesis, Texas Tech University (1993), 106, 119.
[115] "Strange, William Thomas Jr.," American Architects Directory, 1970, 888.
[116] "Inslee Vision of Churches," *Glendale News Press*, October 22, 1993.

architectural drafting classes at Glendale Community College from 1938-1941 and taught drafting at Hoover High School.[117] Inslee served as chairman of the Glendale City Planning Commission from 1961-1969 and was a member of the Design Review Board in 1987. He was also an active member of the local chapter of the AIA. Inslee passed away in 2006.

Claude Leslie Senefeld was born in Bloomington, Indiana in 1914. He received a bachelor's degree in architectural design in 1935 before settling in Southern California. Senefeld's primary focus was the design of health facilities, retirement communities, and churches. To this effect, he designed the Quaker Gardens Retirement Housing Complex, Stanton (1966); Lutheran Health Center, Alhambra (1968); and the Paradise Valley Retirement Home Main Building, National City (1968).[118] Other notable projects include the California P.E.O. Home, San Jose (1964), Santa Ynez Valley Recovery Residence, Solvang (1972), and Morningside Retirement, Fullerton (1990).[119] He was active in the field until a decade before his death in 2000.[120]

FRANKLIN D. HOWELL

Howell designed the third phase of residential development at Westminster Gardens in the 1970s. Additionally, he designed Packard Hall and Memorial Lodge. Franklin Davenport Howell was born in Los Angeles in 1917 and attended Pasadena City College (1939) and University of Southern California (1941), where he received degrees in architecture. During World War II, Howell served as a chief draftsman for the Consolidate Engineering Corps (1941-1944).

In 1947, he joined the firm of Marsh, Smith & Powell, where he continued to work until 1955. He joined with A.C. Zimmerman to form Zimmerman & Howell in the 1950s. The firm largely focused on school campuses and larger institutional buildings. Notable works include Harbor Junior College, Wilmington (1958) and Francis Parkman Junior High School, Woodland Hills (1959).[121] They also designed Pasadena High School, Pasadena (1958), which received an award from the American Association of School Administrators in 1963.[122] Howell died in 1982.

[117] Amirkahanian, Ani, "Renowned Local Architect Dies at 96," *Glendale News Press*, May 3, 2006.
[118] "Senefeld, Claude Leslie," American Architects Directory, 1970, 824.
[119] "P.E.O. Home Charter Residents from Area," *Berkeley Gazette,* May 6, 1964, 17; "Recovery Unit Plans Asked for Bid Call," *Santa Ynez Valley News,* February 10, 1972, 1.
[120] Obituary, *Los Angeles Times,* August 16, 2000, 203.
[121] "Readied," *Los Angeles Times,* July 19, 1959, 113; "New Construction at HJC Announced," *News-Pilot,* October 24, 1958, 5.
[122] "Pasadena School," *Los Angeles Times,* August 3, 1958, 122; "Award Winner," *Los Angeles Times,* February 17, 1963, 128.

7.0 HISTORIC CONTEXT

Convalescent and Retirement Communities in the United States

EARLY DEVELOPMENT

In 19th century America, elderly care was largely confined to the home. This was the same for medical interventions in general, as the home was considered an ideal place for medical care, nursing, and surgery. Public almshouses were one of the only forms of public welfare for the indigent elderly and were largely intended to reform the populace through order and structure. Typically, these institutions were only entered as a last resort when no other options were available. [123]

The late 19th and early 20th century saw a rise in elderly care through philanthropic social and religious organizations. These institutions founded small, culturally homogenous "rest homes," largely for their members or congregants. Institutions that provided services ranged from teachers to retired veterans to members of various ethnic groups.[124] Sometimes a person applying for residency may be required to turn over all their monetary assets to the establishment in return for a pledge of life care.

Emerging from the Great Depression, the Social Security Act of 1935 created cash benefit programs for the elderly. Specifically, the establishment of Old Age Assistance (OAA) provided fiscal aid to the elderly. An opt-in program, the federal government provided a fifty percent match for participating states of up to thirty dollars for OAA recipients. This provided some segments of the aged population with the means to support themselves at home. While the OAA offered freedom for some elderly, other people were unable to care for themselves physically or mentally at home and required additional aid.[125] To provide the care and support to these populations, a growing number of "rest homes" and "convalescent homes" for the elderly emerged in the 1930s and 1940s. Private institutions of this sort increasingly offered intensive nursing and personal care, transforming a previously public welfare institution into for-profit nursing homes.[126] This further expanded in the post-World War II era, as more options for elderly care emerged.

POST-WORLD WAR II BOOM

In the post-war era, an entire generation of retirees emerged. The percentage of the population that was elderly had dramatically increased over the 20th century, representing 4% of the population in 1900, 8% in 1950, and 11% in 1980.[127] As the elderly population grew, society increasingly discouraged their continued employment, so that jobs were available for younger generations. At the same time, young adults and their children increasingly moved away from their parents and grandparents into newly completed suburbs that typically did not attract older generations.[128]

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[123] Sidney D. Watson, "From Almshouses to Nursing Homes and Community Care," *Georgia State University Law Review* 26, no. 3 (Spring 2010), 940-941.
[124] Muriel R. Gillick, "The Evolution of the Nursing Home," *American Scientist* 106, no. 3 (May-June 2018), 186.
[125] Watson, 942-943.
[126] Watson, 944-945.
[127] John M. Findlay, *Magic Lands: Western Cityscapes and American Culture after 1940* (Berkeley: University of California Press, 1992), 166.
[128] Findlay, 170.

Several federal programs in the 1950s and 1960s sought to improve life for retirees. In the 1950s, Federal Housing Authority loans were used to fund a boom of for-profit housing and real estate ventures, including new developments for the elderly. The Hill-Burton amendments of 1954 also provided public money to build nursing homes. This period of development had very little quality control or oversight. As a result, in 1965, President Lyndon Johnson reformed senior living services with the Older Americans Act. The Act sought to ensure adequate retirement incomes, suitable housing, meaningful activity, and community services. Passage of Medicare and Medicaid the same year provided the elderly with affordable health care insurance.[129]

The mid-20th century also ushered in the increased mobility and movement of elderly populations. Improved health and increased longevity meant that this generation of retirees included fit and active individuals with time and money to spend. Increasingly, clusters of retirees spread to the southern and western states, often upon their retirement. These "mobile retirees" were typically healthy and wealthy and migrated to warmer climates. While some populations would move to warmer areas only for the winter months (colloquially termed "snowbirds"), others permanently relocated. Studies from this period increasingly indicated that elderly persons preferred to live with other elderly people.[130]

In this way, the migration of the elderly followed general postwar movement in the same direction, settling in California, Florida, and the Southwest.[131] At first, early efforts to cater to the elderly in warmer states took the form of trailer parks and the subdivision or detached houses.[132] Eventually, developers in these regions established age-segregated communities to keep up with demand. Retirement communities—a planned development consisting of a group of housing units with shared services or facilities marketed to individuals over a certain age—propagated across the country. California was a major destination for these communities, and by 1966 had some 35 retirement communities housing approximately 54,000 persons. By 1976, the West had more retirement communities of all kinds (699, or 29.8 percent of the national total) as well as more residents of retirement communities than any other region in the country (346,631 or 37.8 percent).[133]

Out of this new era of development came several types of elderly housing.[134] Perhaps most famous were the "retirement new towns," which according to historian John M. Findlay, "represented the ultimate in residential segregation by age. Planned from the ground up for the retired, and marketed exclusively to people aged fifty or older, they intentionally kept their distance from 'mixed' neighborhoods."[135] These communities were largely created by developers such as Del E. Webb of the Del E. Webb Development Company (DEVCO) and Ross Cortese in the 1950s and 1960s.

DEVCO recognized that a sizable market could be found for age-segregated housing and sought to simplify the business of buying a home in a retirement community. The company provided a packaged residence and amenities for purchasers, including golf courses, recreational facilities,

[129] Keith R. Knapp and Doughlas M. Olson, *The Health Services Executive* (Springer Publishing Company, LLC, 2021), 3-4.
[130] Lawrence E. Davies, "The Retirement Village: A New Life Style," *New York Times,* January 18, 1970, 1.
[131] Findlay, 167, 290.
[132] Judith Ann Trolander, *From Sun Cities to Villages: A History of Active Adult, Age-Restricted Communities* (Gainesville: University Press of Florida, 2011), 23.
[133] Findalay, 169.
[134] Hunt et al., *Retirement Communities: An American Original* (New York: Routledge, 2013), 175.
[135] Findlay, 168.

and shopping centers. In 1960, DEVCO established Sun City, perhaps the most famous early retirement community, which was located fifteen miles northwest of Phoenix, Arizona. This community was mostly geared towards white, middle-upper class retirees. The population grew from 7,300 in 1965 to 40,000 in 1977.

By the 1970s, the retirement community concept had spread to other areas of the country, including metropolitan states of the northeast. In New Jersey, there were 30,000 retirement community dwelling units by the mid-1970s.[136] In 1970, the *New York Times* wrote:

> The retirement village concept, which began flowering on the West Coast a decade or two ago, is attracting ever larger numbers of the 20 million Americans who are over age 65. It has spread across the country to New England, the South and Middle West. Never before have so many elderly people been on the move, facing such an array of alternatives for leisurely living. By the tens of thousands they are flocking to new retirement homes, often leaving behind the clamor of cities, frequently moving to warmer climates for community living in villages and high-rise facilities tailored to their particular tastes. They are looking for people of similar ages and interests, for convenience, for peace and security and sometimes for a less expensive existence.[137]

As the elderly became older, however, some could no longer keep up with these new "active retirement" towns, which required a decent amount of autonomy and health. Increasingly, residential-care complexes for the elderly sprouted around the gates of sprawling retirement communities like Sun City. These communities aimed at housing a second generation of elderly and offered full-time care for residents.[138]

COMMUNITIES IN CALIFORNIA AND GREATER LOS ANGELES

The earliest elderly homes in California date to the late 19th century. In Los Angeles, Hollenbeck Palms (originally Hollenbeck Home) was established in 1890 as the first continuing elderly care community in the state. Hollenbeck Palms was a charity home established to aid "indigent women and homeless children" who would be instructed so as provide "the children inmates a practical education or education sufficient to prepare them for some avocation in life."[139]

Other elderly homes followed into the early 20th century, and were typically associated with a religious, ethnic, fraternal, or labor community. Extant examples including Kingsley Manor in Hollywood, also known as the Pacific Old People's Home (1912) and the Jewish Home for the Aged (later Keiro Retirement Home, 1916). Many more retirement and convalescent institutions opened in the 1930s, including the British Home in Sierra Madre (1931), Eastern Star Home in Brentwood (1932), and Nazareth House in West Los Angeles (1935).[140]

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[136] Findlay, 173; Mary Doyle, "Retirement Communities: The Nature and Enforceability of Residential Segregation by Age," *Michigan Law Review* 76, no. 1 (November 1977), 64.
[137] Lawrence E. Davies, "The Retirement Village: A New Life Style," *New York Times,* January 18, 1970, 1.
[138] Leslie Berkman and Davan Maharaj, "Growing Too Old or Too Ill for the Retirement Village," *Los Angeles Times,* May 4, 1992. Accessed on January 18, 2024 at: https://www.latimes.com/archives/la-xpm-1992-05-04-mn-1015-story.html
[139] "A Noble Gift," *Ventura Free Press,* December 4, 1890, 2.
[140] Historic Resources Group, "Pacific Old People's Home," *Hollywood Community Plan Area Survey Report,* 2011; "Keiro Retirement Home," *Los Angeles Conservancy,* n.d. accessed on January 19, 2024 at: https://www.laconservancy.org/learn/historic-places/keiro-retirement-home; "History," *The British Home,* accessed on January 19, 2024 at: https://britishhome-ca.us/history-of-the-british-home; Historic Resources Group, "Eastern Star

In California, retirement communities and other residential living options for the elderly proliferated in the post-World War II years. In the 1960s, Webb built two new Sun Cities in California: one in Riverside County, about 25 miles southeast of the City of Riverside and one in Kern County, four miles southwest of Bakersfield. Kern City saw 55,000 people turn out in the first four days of sales, and Riverside Sun City was planned to house 150,000 people.[141]

Also in the 1960s, Los Angeles-based developer Ross Cortese developed three Leisure World communities in California: Seal Beach; Laguna Hills; and Rossmoor in Walnut Creek. These communities were restricted to buyers of a minimum age (usually 52 or 55 years) and frequently involved paying monthly condominium or co-op fees.[142] Other for-profit retirement communities popped up across the San Gabriel Valley. The 1963 manual *Building for the Elderly* identifies several examples of retirement communities in this area, including the Royal Oaks Manor in Duarte (Orr, Strange & Inslee, 1959) and Mt. San Antonio Congregational Homes in Pomona (Kenneth Lind, 1961).[143]

In addition to for-profit new developments, non-profit communities continued to thrive in the state. By 1963, there were approximately 90 non-profit homes for the aged in California. These were mostly associated with religious or fraternal organizations, including Baptist, Lutheran, Methodist, and Catholic homes. Others catered to a particular segment of the retired population, such as the Southern California Teacher's Homes, Jewish Home for the Aged, and the Los Angeles Home for the Armenian Aged.

Many of these retirement communities were located in the general vicinity of Los Angeles, with seventeen (17) non-profit retirement homes in the San Gabriel Valley alone: six in Alhambra; two in Duarte (including Westminster Gardens); one in Glendora; one in Monrovia; four in Pasadena; and three in San Gabriel.[144] Overall for-profit and non-profit retirement communities continued to proliferate, and there were over 75 such homes in Los Angeles County alone by 1968.[145]

Associated Planning & Design Principals

The design of Westminster Gardens from the 1950s onwards was influenced by transformations in the way that health care facilities and residential neighborhoods were designed in the 20th century. The history of health care facility design ethos, specifically regarding the emergence of the "cottage plan" in mental and juvenile reform schools, is reflected in several aspects of Westminster Gardens. Similarly, a discussion of the "retirement village" concept following World War II is also included for greater context.

Home," National Register of Historic Places nomination form, March 28, 2019.
[141] Remi Nadeau, *California: The New City* (New York: David McKay Company, Inc., 1963), 273.
[142]California Department of Transportation, *Tract Housing in California, 1945-1973* (Sacramento: CalTrans, 2011), 53-55.
[143] Noverre Musson and Helen Heusinkveld, *Building for the Elderly* (New York: Reinhold Publishing Corporation, 1963), 14.
[144]American Association of Homes for the Aging, *Directory of Non-Profit Homes for the Aged* (New York: AAHA, 1963), 1-3.
[145] State of California Department of Social Welfare, *California Homes for the Aging* (California 1968), Appendix 11.

HEALTH CARE FACILITIES AND THE EMERGENCE OF THE "COTTAGE PLAN"

In early American history, when the elderly were still largely cared for at home, health care facilities such as almshouses and convalescent homes were largely centered on "indoor relief" whereby residents were kept indoors and separate from the larger population.

Into the 19th century, the new popular theory of environmental determinism emerged. This theory held that the environment, including architecture and landscape, could shape behavior and affect a cure for illnesses. One of the earliest practitioners for adapting architecture to treat the needy, in this case for mental illness, was Dr. Thomas Story Kirkbride. Kirkbride developed "The Kirkbride Plan," which placed an administration building at the center of two wings, and segregated residents based on sex and symptoms of illness. Extensive grounds with cultivated parks surrounded these centers, as Kirkbride believed that fresh air and natural light were key for patients' recovery.[146]

Contemporaneously, in a similar institutional setting, that of juvenile reform schools, buildings were typically monumental in scale and designed with large, imposing façades. Employing the congregate system, schools were often contained within a single building, much like mental health institutions. Campuses were designed with formal "big-block" institutional buildings intended to house large numbers of students. Californian examples include the Preston School of Industry in Ione and the Whittier State School (also known as Fred C. Nelles School for Boys) in Whitter, which adopted monumental Romanesque Revival style buildings.

Nursing facilities also followed the trajectory of "big-block" design, whereby elderly residents were situated in monolithic centralized buildings. These buildings were common for several reasons, both because it architecturally was popular to house the population together, like that in health and reform schools, and also because convalescent and elderly homes were often started through the gift of an existing property. For example, Hollenbeck Palms was established as the result of a gift from Mrs. Elizabeth Hollenbeck of her residence and 12 adjoining acres. Kingsley Manor, originally Pacific Old People's Home, was founded through the donation of land by a deceased benefactor to the German Methodist Episcopal Church.

By the early 20th century, a group of doctors proposed a new planning scheme for health institutions: "The Cottage Plan." This plan included a series of human-scale cottages arranged in a village-like setting with extensive landscaping and gardens. The center of the plan typically housed the administrative buildings and other shared spaces.[147] Medical and reform institutions, including mental health and juvenile reform schools, largely adopted this plan. In schools, this reflected a move towards the cottage or family system, a plan that "consisted of several small buildings run by a housemother or father to oversee boys of similar ages and experiences."[148]

For example, Whittier State School's architecture evolved during this period to adopt a family-like, rather than prison-style, environment. The school demolished many of the old, monumental buildings and "introduced human-scale architecture representative of the new ideas of reform"

[146] Historic Resources Group, "Rockhaven Sanitarium Historic District," National Register of Historic Places nomination form, 2016.
[147] Historic Resources Group, "Rockhaven."
[148] Mirosalva Chávez-García, "Intelligence Testing at Whittier School, 1890-1920," *Pacific Historical Review* 76 (May 2007), 199.

between 1915 and 1934.[149] New "family-like" styles included brick and stucco buildings and residential cottages in the Tudor-Revival style with English Arts and Crafts influences. Buildings were sited in an oval formation around the shared buildings and the site was improved with park-like open spaces and landscaping.

Similarly, the Barlow Hospital for tuberculosis patients in Los Angeles used the cottage plan in establishing individual residential bungalows for patients that were separated from shared buildings. Patient cottages were constructed between 1915 and 1930s; their many windows, ventilated attics, and large sleeping porches reflected the belief that fresh air and sunlight were the basis for good health. The cottages were donated by individuals and charitable organizations, including the Hebrew Consumptive Relief Organization, the Los Angeles Shriners, and local families such as the Morrisons, Kerckhoffs, and Thorns.[150]

The popularity of these plans continued into the 1930s and beyond. Examples of institutions in Southern California that utilized this style plan includes the Rockhaven Sanitarium, 20th Century Rest Home, and Mission Lodge Sanitarium.[151] The plan also influenced the design of numerous other property types, including some retirement homes, as seen in the rise of retirement villages in the post-war era.

RETIREMENT VILLAGES

Into the post-war era, retirement villages became a popular type of elderly housing that mixed innovation and nostalgia. Unlike earlier monolithic constructions, retirement villages involved separate small homes that were clustered to resemble neighborhood units, in many ways adopting the Cottage Plan of health and reform institutions. They also contrasted the contemporaneous proliferating suburbs, with their regularly laid-out streets, lawns, and individualized buildings.

As argued by historian Matthew Lasner, two examples of retirement villages (Rossmoor and Heritage Village) designed by developer Charles Warren Callister:

> Tried to create a new urban pattern that was relatively dense yet dominated by natural features as the result of clustering, the use of natural-looking materials and landscaping, and the studied rejection of applied ornament… Simultaneously [they] worked to keep residents oriented and to shape their behavior by invoking familiar environments. Architecturally they embraced bold new forms but were also tethered to local traditions.[152]

These retirement communities arranged housing into separate "neighborhoods" that consisted of buildings clustered around inward-facing courtyards to create a feeling of security and community, while providing privacy with balconies or enclosed patios.[153]

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[149] PCR, "Fred C. Nelles School," Historic American Building Survey (HABS No. CA-2400), 2016; "Architecture & Reform," *The Fred C. Nelles School,* accessed on January 19, 2024 at: https://fredcnelles.com/history/architecture-and-reform/
[150] Jim Dobbs and Jennifer Schroder, "Barlow Hospital Historic and Architectural Significance," *Elysian Park* (Los Angeles: University of California Los Angeles, 1992), V-10.
[151] Historic Resources Group, "Rockhaven."
[152] Matthew Gorgon Lasner, "Retirement Planning: Charles Warren Callister, the Neighborhood Unit, and the Architecture of Community at Rossmoor and Heritage Village," *Journal of the Society of Architectural Historians* 80, no. 4 (December 2021), 438.
[153] Lasner, 445.

The 1963 manual *Building for the Elderly* identifies several types of retirement building plans, including "proximate residences," which are independent living units for the elderly clustered in a group.[154] As interest in elderly communities grew, the popularity and number of retirement villages continued to climb, into the 21st century.

[154] Noverre Musson and Helen Heusinkveld, *Building for the Elderly,* 211.

8.0 IDENTIFICATION OF HISTORICAL RESOURCES

Individual buildings, site features, and other features on the Project Site are examined below for the purposes of identifying potential historic resources. As a framework for this assessment, HRG examined the entire site, inclusive of all buildings and features that are within its boundary as discussed below.

Previous Evaluations

In 2022, the Morrison House was found eligible for individual listing in the National Register of Historic Places (National Register) and the California Register of Historical Resources (California Register) at the local level of significance for its association with Wayland A. and Lucile P. Morrison and for its architectural merit.[155] At that time, only the Morrison House was evaluated for individual eligibility; ancillary buildings and the greater Westminster Garden site were not considered. This report is included as Appendix E.

Evaluation of Historical Resources on the Project Site[156]

Because the Morrison House was only previously evaluated for individual significance, this report considers the building within the greater context of the property. This report holistically evaluates buildings, structures, and other site features of the property for potential significance both individually and collectively. Based on the historic context and development history of the site, there are two potential historical resources located on the Project Site: the Morrison Ranch and the Westminster Gardens. These two potential resources are evaluated below.

The City of Duarte does not have an ordinance that defines local designation criteria. Therefore, the property is evaluated against the established criteria for listing in the National Register of Historic Places and the California Register of Historical Resources.

MORRISON RANCH

Evaluation of Historic Significance

The Project Site contains a grouping of buildings, structures, and site features that dates to the 1930s and 1940s development of the site as a ranch by the Morrison family. The Morrison property was originally part of the Rancho Azusa de Duarte, which was subdivided and purchased in 1888 by Norman H. Morrison as a vacation home and citrus farm. The family built a pool, pool house, tennis court, retaining wall, and the eastern portion of the Morrison House at the property in 1935. In 1939, the residence was expanded, and additional buildings were completed, including the cottage (Unit 15) and garage/maintenance building.

In 2022, the Morrison House was found individually eligible for listing in the National Register of Historic Places (National Register) and the California Register of Historical Resources (California Register) at the local level of significance for its association with Wayland A. and Lucile P.

[155] Historic Resources Group, Morrison House Historical Resources Evaluation Report, prepared for MIG, July 2022.
[156] This report analyzes the subject property for eligibility under Criterion A/1, B/2, and C/3. Criterion D/4 addresses potential archaeological resources which is outside the scope of this study.

Morrison and for its architectural merit. The evaluation considers the building as well as functionally related extant ranch buildings as a collective property.

Criterion NR A/CR 1 (Events/Pattern of Development)

The Morrison property was originally part of the Rancho Azusa de Duarte, which was subdivided and purchased in 1888 by Norman H. Morrison as a vacation home and citrus farm. The Morrisons originally lived in a cottage and the Depot house, which is no longer extant. The Morrison House postdates these associations, and the property as a whole no longer reflects its early ranching history or association with prewar agriculture. The Morrison House itself was constructed in several stages. In 1935, the southern wing was constructed for use as a social hall for the family and their guests. At this time, the property was used as a vacation and summer home for the family, and their permanent residence was in Los Angeles. In 1939, the central block and north wing were added, and the building was used as a residence. When the residence was completed, the Morrison family relocated to the property full-time.

Based on research conducted for this report, there is no evidence that a singular event important in history occurred at the Morrison Ranch. In addition, the original construction of the site as a single-family residence and its subsequent uses do not meet the threshold as defined by the National Park Service for designation as an example of an important trend or development pattern. The historical uses of Morrison Ranch are not historically significant in a local, state, or national historic context.

Therefore, the Morrison Ranch is not significant under National Register of Historic Places Criterion A or California Register of Historical Resources Criterion 1.

Criterion NR B/CR 2 (Association with an important person)

Both Wayland A. Morrison and Lucile P. Morrison were notable and active residents of Duarte. They both resided at their home on the project site during their period of important involvement in the nascent community. Wayland A. Morrison served as a surgeon whereas Lucile P. Morrison was an author. Lucile P. Morrison worked out of the cottage (Unit 15) on the property. In addition to their given careers, the Morrisons were also significant and active members in the community of Duarte. The Morrisons served as members of civic community boards, even founding several organizations, and consistently donated to and promoted philanthropic causes in Duarte. These activities frequently involved the Morrison Ranch, which served as the site for numerous meetings and events. The Morrisons both worked at the Red Cross Casualty Station established at the house during World War II, and donated land to various causes, often focused on establishing much-needed services in Duarte. This included donating land for the establishment of a youth agency recreation center, public library, Duarte Child Welfare Clinic, and Duarte Masonic Temple. Overall, the Morrisons contributed to the growth and development of community services in Duarte during their years at the Morrison Ranch.

Therefore, the Morrison Ranch is significant under National Register of Historic Places Criterion B and California Register of Historical Resources Criterion B at the local level of significance for its association with notable Duarte residents Wayland A. Morrison and Lucile P. Morrison.

Criterion NR C/CR 3 (Architectural merit)

A portion of the Morrison House, the pool, pool house, pool shelter, retaining wall, and tennis courts built in the 1930s were designed by an unknown architect. The remainder of the residence, cottage, and maintenance building were designed by noted local architect Robert E. Bennett in

1939. These buildings are excellent examples of the Spanish Colonial Revival style of architecture designed early in Bennett's career. Collectively, the site exhibits a high quality of design and distinctive characteristics of the style, including is brick veneer, hipped and gable roofs clad in clay barrel tiles, decorative detailing, and steel casement windows. The house is the primary exemplar of these features. It reflects California indoor-outdoor living in the relationship between the buildings, site features, and outdoor landscaped spaces. The pool house, pool shelter, cottage, and maintenance building reflect significant character-defining features of the style, including low-pitched gable and hipped roofs clad in red tiles, brick and smooth cement plaster exteriors, and elaborate chimneys. The retaining wall is also built of brick, similar to the other buildings and features.

Therefore, the Morrison Ranch is significant under National Register of Historic Places Criterion C and California Register of Historical Resources Criterion 3 at the local level of significance as an excellent example of a Spanish Colonial Revival style residential estate in the late 1930s.

EVALUATION OF HISTORIC INTEGRITY

Historic integrity is the ability of a property to convey its significance and is defined as the "authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's prehistoric or historic period."[157] The National Park Service defines seven aspects of integrity for historic resources. These are *location*, *design*, *setting*, *materials*, *workmanship*, *feeling*, and *association*.

The integrity of the Morrison Ranch is evaluated below based on these seven aspects. The period of significance under Criterion A/1 is 1939-1950, reflecting the period when the Morrison family lived full-time on the property. The period of significance under Criterion C/3 is 1935-1939, the years during which the extant Ranch buildings were constructed.

Location: All contributors to the Morrison Ranch remain in their original location on the site. Therefore, it retains integrity of *location*.

Design: The Morrison Ranch retains distinctive design characteristics from its original construction. The buildings, structures, and site features of the Morrison Ranch retain their historic spatial relationships with each other. The pool house, unit 15, and maintenance building are all modest examples of the Spanish Colonial Revival style of architecture. Each individual element retains is important design features, Significant design elements of the Morrison House include its one- to two-story height, asymmetrical composition, complex massing, and mix of gable and hipped roofs; and Spanish Colonial Revival features including clay barrel tile roofing, multiple chimneys, a *corredor* with octagonal columns, bow windows, steel-sash windows, and cantilevered balcony. Despite some interior alterations over time, the Morrison Ranch retains the majority of the essential physical features that reflect its original Spanish Colonial Revival design. Therefore, it retains integrity of *design*.

Setting: The Morrison Ranch was constructed as a single-family residence surrounded by ancillary buildings, recreational facilities, and landscaping on a large, citrus farm. The Morrison Ranch retains the setting of its immediate surroundings. However, since the 1950s when the property was converted to Westminster Gardens, additional buildings have been added to the site

[157] U. S. Department of the Interior, National Park Service, *National Register Bulletin 16A: How to Complete the National Register Nomination Form* (Washington, DC: 1997), 4.

to accommodate the new use and there have been continued changes to the wider surroundings. Therefore, it retains integrity of *setting*.

Materials: The Morrison Ranch retains most of its materials from the period of significance. These include brick and cement plaster exterior wall cladding, clay roof tiles, brick chimneys, steel frame windows, wood balconies, and carved wood panels, among others. Minor changes include the replacement of original windows with vinyl sliders on Unit 15. Therefore, it retains integrity of *materials*.

Workmanship: The Morrison Ranch retains the physical evidence of the workmanship of a 1930s and 1940s single-family residential complex. The complex's many features, including masonry, shaped wood rafter tails, clay roof tiles, wood staircase and terracotta pavers all reflect the crafts of the time. The complex continues to retain substantial physical evidence of period construction techniques, including finishes and design elements, that reflect the character and identity of the site. Therefore, it retains integrity of *workmanship*.

Feeling: The Morrison Ranch retains integrity of location, design, materials, and workmanship, and thus continues to express the aesthetic and historic sense of a 1930s and 1940s Spanish Colonial Revival style residential complex. Therefore, it retains integrity of *feeling*.

Association: Association is the direct link between an important historic event or person and an historic property. Because the Morrison Ranch retains integrity of *location*, *design, materials, workmanship,* and *feeling*, it retains its historic character from the 1930s, 1940s and 1950s and continues to convey its direct link to Lucille and Wayland Morrison.

FUNCTIONALLY RELATED BUILDINGS

The property appears to contain historic buildings that are functionally related historically and, as such, are treated as a single historic structure. According to the National Park Service, buildings may be functionally related if they meet certain criteria.[158] This is the case for the Morrison Ranch, where the buildings are located on the same property, were designed as an overall composition, are proximate, and were owned by the same family for a singular purpose (residential). Therefore, the Morrison Ranch is considered an individual resource composed of multiple functionally related structures.

The Morrison Ranch is an important early residence developed by the Morrison family in Duarte. The period of significance for the property extends from circa 1924, when the site was first improved by the Morrison family, to 1950, when it was transferred for use as a retirement facility. The Morrison Ranch is comprised of the Morrison House, along with ancillary buildings that date from c. 1924 to 1950. Collectively, these buildings reflect representative property types of an early residential complex, including the residence and ancillary buildings and recreational spaces. Despite some alterations, all features contain sufficient integrity to convey their significance. Westminster Gardens is composed of seventy-two (72) permanent buildings, structures, and site features. Of these, seven (7) have been identified as contributors and two (2) have been identified

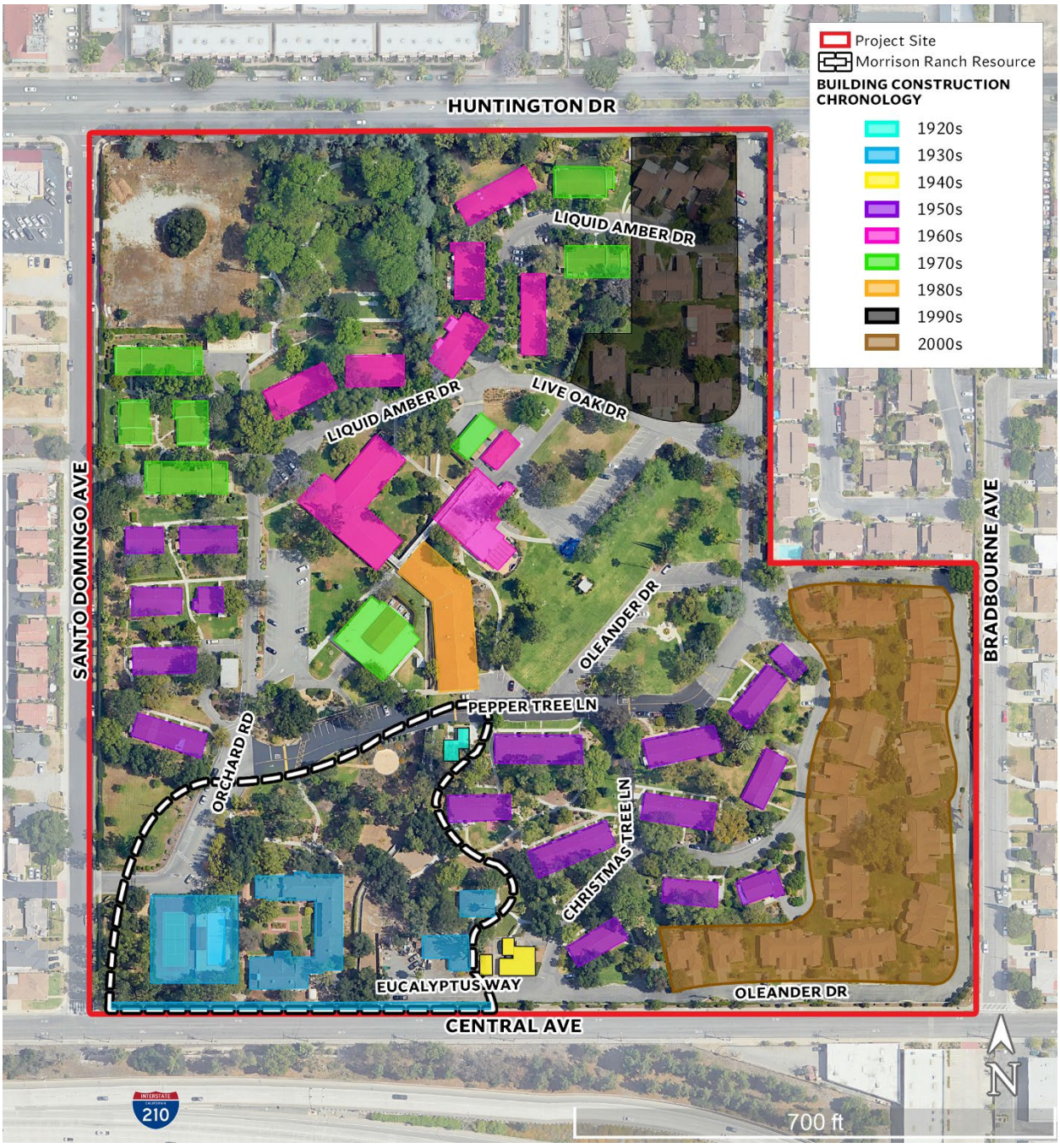
[158] "Functionally Related Structures: General Criteria," *National Park Service,* https://www.nps.gov/subjects/taxincentives/functionally-related-general-criteria.htm (accessed February 8, 2024); "Functionally Related Structures: Additional Guidance," *National Park Service,* https://www.nps.gov/subjects/taxincentives/functionally-related-additional-guidance.htm (accessed February 8, 2024).

as non-contributors to the historic property; these are shown in Table 3 and on the map in Figure 4, below.

TABLE 3. MORRISON RANCH

NAME	DATE	ARCHITECT/ BUILDER	INTEGRITY	HISTORIC STATUS	LEVEL OF CONTRIBUTION
Unit 64/Cape Cod Cottage	c. 1924	Unknown	Fair	Contributor	Secondary
Morrison House	1935-1939	Robert E. Bennett	Good	Contributor	Primary
Pool House	1935	Unknown	Good	Contributor	Secondary
Pool	1935	Unknown	Good	Contributor	Secondary
Pool Shelter	1935	Unknown	Good	Contributor	Tertiary
Tennis Court	1935	Unknown	Poor	Non-Contributor	N/A
Perimeter Wall	c. 1935	Unknown	Good	Contributor	Secondary
Unit 15/Cottage	1939	Robert E. Bennett	Good	Contributor	Secondary
Maintenance Building	1939	Robert E. Bennett	Fair	Contributor	Tertiary
Garage/Maintenance	c. 1949	Unknown	Fair	Non-Contributor	N/A

FIGURE 4. MORRISON RANCH BOUNDARY



WESTMINSTER GARDENS

Evaluation of Historic Significance

Criterion NR A/CR 1 (Events/Pattern of Development)

Based on research conducted for this report, there is no evidence that a singular event important in history occurred at Westminster Gardens. The historical use of Westminster Garden as a retirement facility is not historically significant in a local, state, or national historic context.

Westminster Gardens was developed beginning in 1950 as a retirement community, and as such is not an early example of the property type in Duarte or the greater Los Angeles area, which has numerous examples of this property from the late 19th and early 20th century. In the post-World War II era, retirement villages proliferated across Los Angeles, California, and the United States. Westminster Gardens was one of many such properties constructed during this period. In the 1960s, there were over 17 non-profit retirement homes in the San Gabriel Valley and over 75 such homes in Los Angeles County alone. Like Westminster Gardens, which was established for retired missionaries, many of these communities were associated with specific segments of the population, such as teachers or religious institutions.

Therefore, Westminster Gardens is not eligible for listing in the National Register of Historic Places or the California Register of Historical Resources under Criterion A/1.

Criterion NR B/CR 2 (Association with an important person)

No information was found to suggest that Westminster Gardens was associated with any significant personages, nor that any other individuals of historic significance were associated with the retirement community. While several of the founders and members of the community served as missionaries, there is no indication that they made significant contributions to the field.

Therefore, Westminster Gardens is not eligible for listing in the National Register of Historic Places or the California Register of Historical Resources under Criterion B/2.

Criterion NR C/CR 3 (Architectural merit)

Westminster Gardens was first established in 1950 and continued to develop to the present time. Development and expansion of the site continued in piecemeal stages to meet increased demand. Subsequent construction was not completed as part of long-term planning efforts. Rather, as the retirement community grew, numerous permanent buildings, temporary buildings, and support structures were added in an ad hoc manner to accommodate additional needs. As a result, buildings completed at Westminster Garden reflect several architectural styles by various architects and do not cohere as a larger campus.

Architects that were active on the site during these periods of development include Douglas Honnold, Orr, Strange, Inslee & Senefeld, and Franklin D. Howell. These architects completed buildings on the site that do not have set architectural styles, but rather adopt modest and utilitarian forms. As such, Westminster Gardens is not a unique or notable example of their work. No landscape architect was identified for the development of the site.

Therefore, Westminster Gardens is not eligible for listing in the National Register of Historic Places or the California Register of Historical Resources under Criterion C/3.

Summary of Eligibility Findings

As a result of this study, the Morrison Ranch property appears eligible at the local level of significance under National Register Criterion B/California Register Criterion 2 for its association with notable Duarte residents Wayland A. and Lucile P. Morrison. It is eligible at the local level of significance under National Register Criterion C/California Register Criterion 3 as an excellent example of Spanish Colonial Revival residential complex in Duarte, designed by noted architect Robert E. Bennett early in his career. The Morrison Ranch retains integrity of location, design, materials, workmanship, feeling, and association, and continues to convey its historic significance.

Analysis of Westminster Gardens found that later developments on the site from the 1950s onward are not eligible for listing in the National Register nor California Register.

9.0 ANALYSIS OF POTENTIAL IMPACTS

SIGNIFICANCE THRESHOLD

A significant effect on the environment as defined by CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5(a). Substantial adverse change is defined as "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired."[159] According to CEQA Guidelines Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or

B. Account for its inclusion in a local register of historical resources pursuant to PRC Section 5020.1(k) or its identification in a historical resources survey meeting the requirements of PRC Section 5024.1(g) Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or

C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

According to CEQA Guidelines Section 15064.4 (1-3), in evaluating the significance of the potential environmental effect of a project on historical resources, both direct physical changes to the environment and reasonably foreseeable indirect physical changes are considered:

1. A direct physical change in the environment is a physical change in the environment which is caused by and immediately related to the project;
2. An indirect physical change in the environment is a physical change in the environment which is not immediately related to the project, but which is caused indirectly by the project. If a direct physical change in the environment in turn causes another change in the environment, then the other change is an indirect physical change in the environment; and,
3. An indirect physical change is to be considered only if that change is a reasonably foreseeable impact which may be caused by the project. A change which is speculative or unlikely to occur is not reasonably foreseeable.[160]

As applied to the evaluation of potential impacts to historical resources, direct impacts are those that occur during construction and would include the demolition, material alteration, relocation, or conversion of a historical resource and/or its important character-defining features. Direct impacts may also involve potential damage related to adjacent underground excavation and general construction activities that could undermine the stability of a historical resource. Indirect

[159] CEQA Guidelines, Section 15064.5(b)(1).
[160] State CEQA Guidelines, Section 15064 (d)(1-3).

impacts may involve new construction that results in the alteration to the surroundings of a historical resource that could remove part or all of the associated setting of an historical resource, remove character-defining features or spaces surrounding the historical resource, or substantially impair or obscure the ability of the resource to convey its historical significance.

ANALYSIS OF POTENTIAL IMPACTS TO HISTORICAL RESOURCES

This section examines potential impacts to historical resources on the Project Site that may result from the Project. The Project proposes to update the WGSP to guide future development of the Project Site; would be implemented in phases over the next 15 to 20 years; and would cater to a large section of the aging population in the region. The Project proposes to demolish all existing buildings on the Project Site except for the existing Morrison House.

As this a programmatic analysis of potential impacts resulting from the WGSP update, and not an evaluation of a specific project, this report considers potential impacts that may result from the following potential Project features:

- Demolition of buildings and features on the Project Site;
- Rehabilitation of the Morrison House; and
- Potential new construction on the Project Site.

There is one historical resource located on the Project Site, the collection of remaining buildings and features that are associated with the Morrison Ranch. These include the Morrison House and seven accessory structures: Unit 64/Cape Cod Cottage; Pool House; Pool; Unit 15/Cottage; pool shelter; retaining wall; and maintenance building. These buildings and features collectively convey an association with the Morrison family and therefore are considered a historical resource for purposes of CEQA.

The buildings associated with Westminster Gardens, which were constructed in phases beginning the 1950s, are not individually or collectively considered historical resources. They are not associated with important events or patterns of development; they are not associated with significant persons; and they are not architecturally distinctive or eligible as an example of the property type.

The Project is an updated Specific Plan for Westminster Gardens that would be implemented over the course of a 15- to 20-year duration. Westminster Gardens intends to redevelop their community to address the unmet demand for senior housing and services within Duarte and the surrounding communities. Through multiple phases of redevelopment, Westminster Gardens plans to replace its aging housing facilities and infrastructure with new housing options in multiple buildings of differing scale across the campus. The redevelopment will include Independent Living (Life Plan Community [LPC]) Units; Affordable Senior Non-LPC Units; Non-LPC Units; Care Uses (LPC or Rental) and Services; mixed-use buildings; and office buildings. The Project anticipates demolishing all of the existing buildings, structures, and features on the Project Site, with the exception of the Morrison House. For conservative analysis for purposes of CEQA, impacts resulting from the potential wholesale demolition of the site (excluding the Morrison House) are evaluated in this report.

Potential Impacts from Demolition

The Project would demolish all existing buildings and features on the Project Site, with the exception of the Morrison House. The buildings and features constructed for Westminster Gardens are not historically significant, either individually or collectively. Therefore, the demolition of these buildings and features would not result in a significant adverse impact to historical resources as defined by CEQA.

The features in the southwest portion of the Project Site that are associated with the Morrison family and retain sufficient historic integrity to convey that significance are collectively considered a historical resource for purposes of CEQA. While these buildings all contribute to the property, they do not all convey the same level of significance and therefore are not weighed equally. The Morrison House is the primary and most prominent feature, and best conveys the significance of Morrison Ranch. The ancillary features have been divided into three tiers: primary, secondary, and tertiary based on their level of significance and ability to convey a significant association with the Morrison family. Secondary contributors include Unit 64/Cape Cod Cottage; Pool House; Pool; retaining wall; and Unit 15/Cottage. Tertiary contributors are the pool shelter and maintenance building. Non-contributors include the tennis courts, which have poor integrity, and the maintenance building which does not reflect the early period of development on the site by the Morrison family or the Spanish Colonial Revival style of architecture.

The loss of ancillary secondary and third contributors, in whole or in part, would result in a change to a historical resource. However, according to National Park Service guidance, the demolition of a component of a multi-building site may be acceptable, in limited circumstances, if the component is a secondary one that generally lacks historic, engineering, or architectural significance or does not occupy a major portion of the site and persuasive evidence is present to show that retention of the component is not technically or economically feasible.[161]

The Morrison House is of primary significance and most strongly reflects the association with the Morrison family. It was the primary residence and where the activities of the family took place. It was designed in the SCR style of architecture and reflects significant features of the style, including its hipped roof clad in clay barrel tiles, decorative chimneys, and *corredor*. The ancillary buildings and structures were constructed to support the main house and are not strongly associated with the family. In addition, they are not architecturally distinctive and do not represent high style of design or significant features of a particular style or type. They are subordinate to the main house and are only identified as historically significant as collectively part of the Morrison property. Therefore, the loss of the ancillary buildings and structures would not represent a significant adverse change to a historical resource as defined by CEQA. The Morrison House would continue to convey the association with the Morrison family and would remain eligible for historic designation following implementation of the Project.

Although the demolition would not result in a significant adverse impact, recommendations in Section 10 include the documentation of the remaining features of the Morrison Ranch prior to

[161] National Park Service, "Functionally Related Structures: Demolition in Multiple-Building Projects," https://www.nps.gov/subjects/taxincentives/functionally-related-demolition.htm (accessed October 2023).

demolition to recognize its historical significance in Duarte and provide information for future researchers.

The primary contributor, the Morrison House, will be kept intact and rehabilitated using the Secretary of the Interior's Standards. Therefore, the demolition of secondary and tertiary contributors would not cause a substantial adverse change in the property such that it would no longer convey its significance as a historical resource or justify its designation for listing in the National Register or California Register, and, as such, the demolition of these contributors would not result in a significant adverse impact on the environment as defined by CEQA.

POTENTIAL IMPACTS FROM REHABILITATION

As part of the Project, the Morrison House would be retained and reused as administrative offices and group meeting spaces. It would be rehabilitated according to the Secretary of the Interior's Standards and would continue to retain those features that convey its association with the Morrison family and reflect its Spanish Colonial Revival architectural style as designed by architect Robert E. Bennett.[162] Therefore, there would be no potential direct impacts to the Morrison House resulting from its rehabilitation as part of the Project.

POTENTIAL IMPACTS FROM NEW CONSTRUCTION

The Project has the potential to result in indirect impacts from new construction. Because the Project is a Specific Plan, the specific placement and design of the proposed new buildings is unknown; therefore, the analysis of potential impacts is based on the conceptual plan in the WGSP and the guidelines for new construction contained therein.

The conceptual site plan included in Figure 5 shows the anticipated design of the Project. The buildings are generally organized around the periphery and in the very center of the site. [redacted] In addition, buildings are required to be separated from each other by 10' to 25'. There will be appropriate new landscape and hardscape features installed as resident amenities and as part of the overall site design. Architectural language identified for the Project Site is Spanish Colonial Revival, including appropriate materials, features, and finishes. This ensures that the overall design of the new construction will be differentiated from, but compatible with, the Morrison House. The Project establishes setbacks that ensures separation between the new and old construction. All façades of the Morrison House would remain intact and visible, and no character-defining features would be altered or obscured. The Morrison House would retain its relationship to the street and the surrounding area. The Project also anticipates that major community amenities such as the existing park and the Morrison House will continue to serve similar roles in the future, allowing for continuity in the different stages of the development phases. As such, new construction will not negatively impact the immediate surrounds of the

[162] The rehabilitation was evaluated separately in 2022. See: Historic Resources Group, "Historic Resources Technical Report for Morrison House, Duarte," prepared for MIG. November 2022.

Morrison House. Therefore, the proposed new construction would not materially impair the Morrison House and it would continue to convey its historical significance following implementation of the Project.

FIGURE 5. CONCEPTUAL SITE PLAN



Courtesy of Human Good, Beacon Development Group, and Dahlin

10.0 RECOMMENDATIONS

The Morrison Ranch is considered a historical resource for purposes of CEQA. Although the proposed Project would not result in a significant adverse change to a historical resource such that it could no longer convey its significance, the Project would remove features associated with the Morrison Ranch. Therefore, the following recommendations are included to recognize and document the historical significance of the Morrison Ranch.

DOCUMENTATION

Prior to the issuance of demolition permits, the Applicant may retain a qualified historic preservation professional who meets the Secretary of the Interior's Professional Qualification Standards to document the existing conditions of the primary, secondary and tertiary features of the Morrison Ranch, in accordance with Historic American Building Survey (HABS) guidelines and standards. Documentation shall include historic narrative, existing drawings and plans, and high-resolution photographs of the property. The photographs shall include overall views, exterior façades, details of specific elements, and spatial relationships of the remaining features of the Morrison Ranch. Hard copies and/or electronic versions of the archival photographic documentation shall be retained on site by the Applicant and offered to the Southern California Information Center at California State University, Fullerton and the City of Duarte.

INTERPRETATION

The Applicant may develop an interpretive program highlighting the early development of Duarte, the contributions of the Morrison family, and the history of the Morrison Ranch. The interpretive program may include historic photographs or other ephemeral materials and may be located on the Project Site.

11.0 CONCLUSION

The Project proposes to redevelop the 32-acre senior living community of Westminster Gardens. This report identified one historical resource located on the Project Site, the collection of remaining buildings and features that are associated with the Morrison Ranch. These include the Morrison House and seven accessory structures: Unit 64/Cape Cod Cottage; pool house; pool; pool shelter; retaining wall; Unit 15/Cottage; and maintenance building. These buildings and features are eligible for listing in the National Register of Historic Places and California Register of Historical Resources at the local level under Criteria B/2 and C/3. The buildings collectively are considered a historical resource for purposes of CEQA.

The Project proposes to update the WGSP to guide future development of the Project Site. The Project would be implemented in phases over the next 15 to 20 years and proposes to redevelop the Project Site. The Project proposes to demolish all existing buildings on the Project Site except for the existing Morrison House. The Morrison House will be kept intact and rehabilitated using the Secretary of the Interior's Standards.

An impacts analysis of the Project determined that the demolition of secondary and tertiary contributors would not cause a substantial adverse change in the property such that it would no longer convey its significance as a historical resource or justify its designation for listing in the National Register or California Register, and, as such, the demolition of secondary and tertiary contributors would not result in a significant adverse impact on the environment as defined by CEQA. Analysis also found that the Project would not result in indirect impacts from new construction. The proposed new construction would not materially impair the Morrison House and it would continue to convey its historical significance following implementation of the Project. Therefore, the Project would not result in substantial adverse impacts from the demolition of buildings and features on the Project Site; rehabilitation of the Morrison House; or potential new construction on the Project Site.

Although the proposed Project would not result in a significant adverse change to a historical resource such that it could no longer convey its significance, the Project would remove features associated with the Morrison Ranch. Therefore, recommendations include the documentation of the existing conditions of the primary, secondary and tertiary features of the Morrison Ranch, in accordance with Historic American Building Survey (HABS) guidelines and standards. The Applicant may also develop an interpretive program, consisting of historic photographs or other ephemeral materials, highlighting the early development of Duarte, the contributions of the Morrison family, and the history of the Morrison Ranch.

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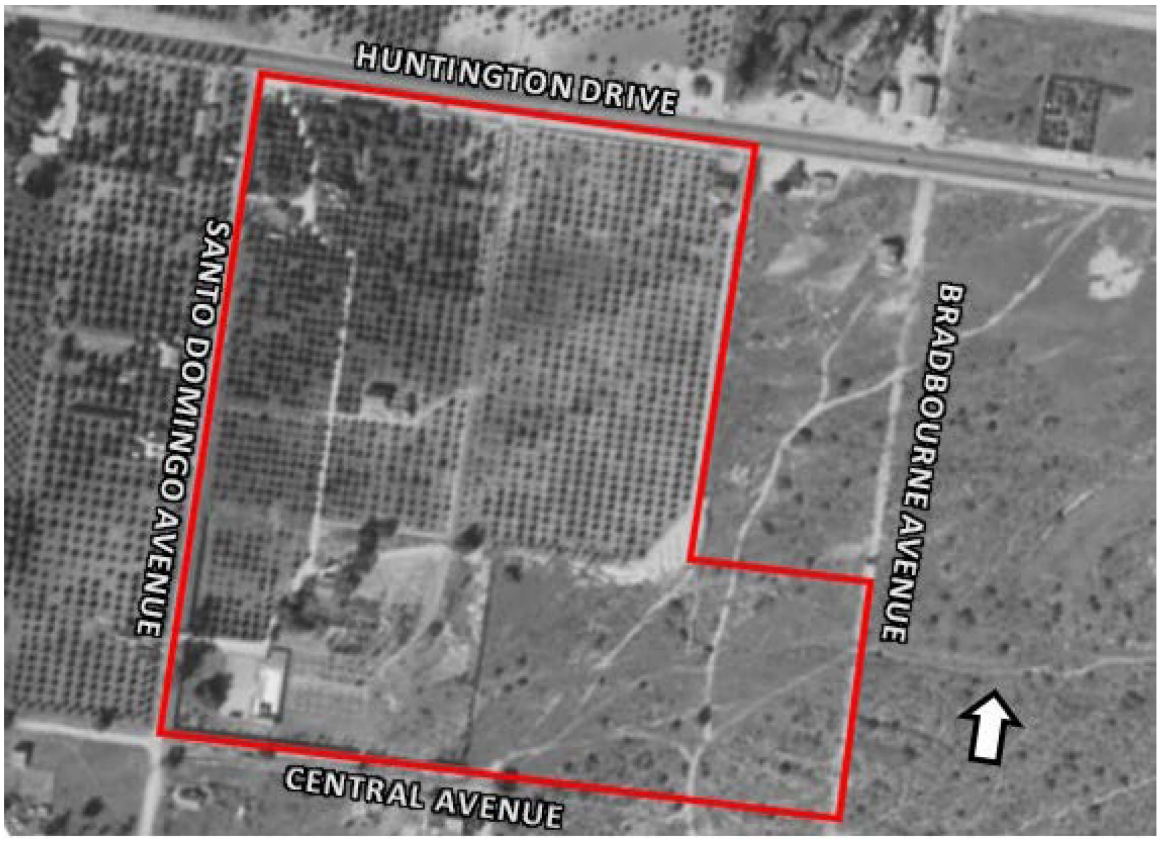
APPENDIX A

HISTORIC AERIAL PHOTOGRAPHS

TOP-DOWN VIEWS



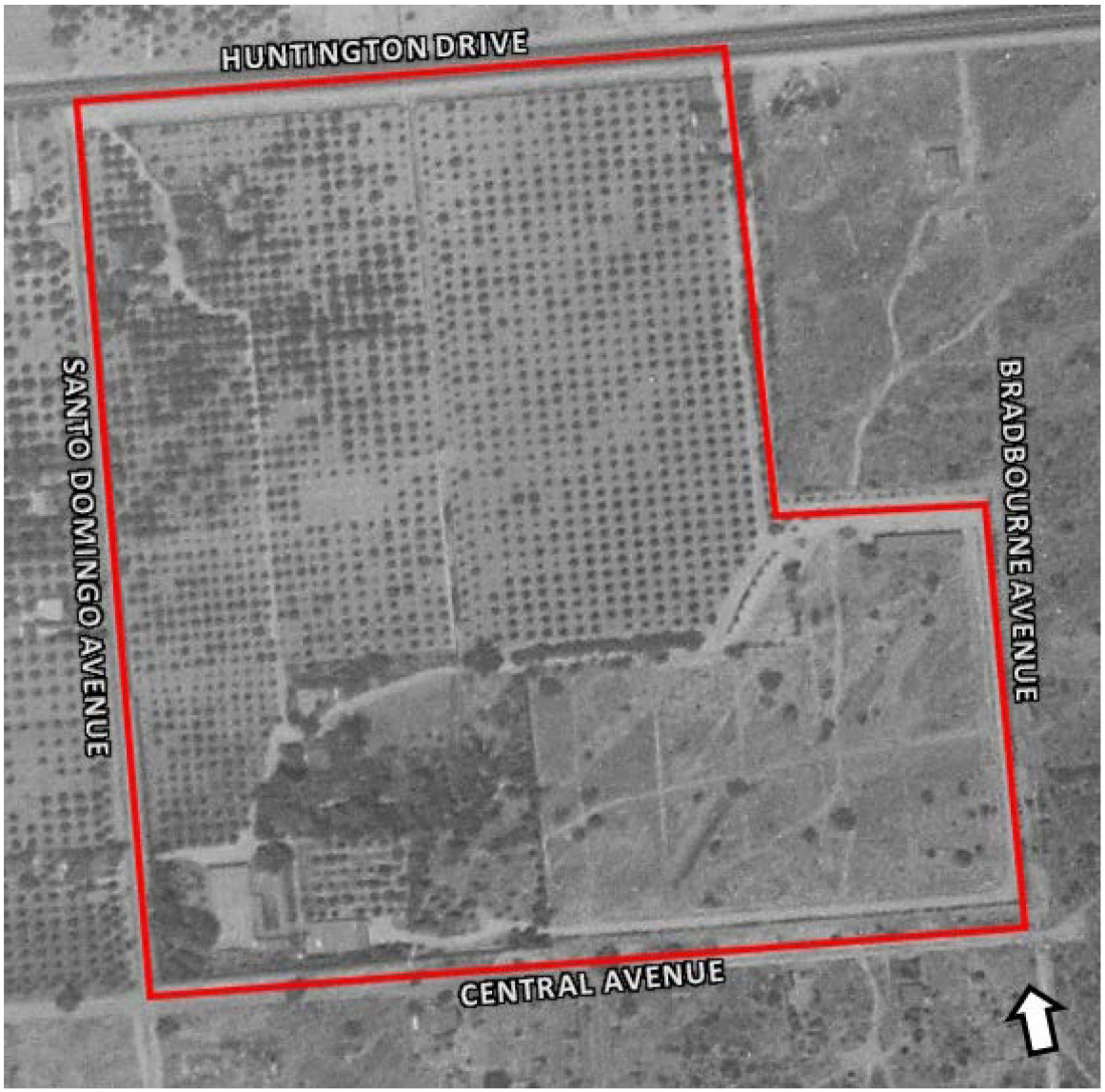
1928 aerial photograph. Project Site outlined in red. Source: Fairchild Aerial Surveys, Flight ID c-300. Frame 1-63. University of California Santa Barbara Aerial Photography Collection.



1932 aerial photograph. Project Site outlined in red. Source: Fairchild Aerial Surveys, Flight ID c-1960. Frame 15. University of California Santa Barbara Aerial Photography Collection.



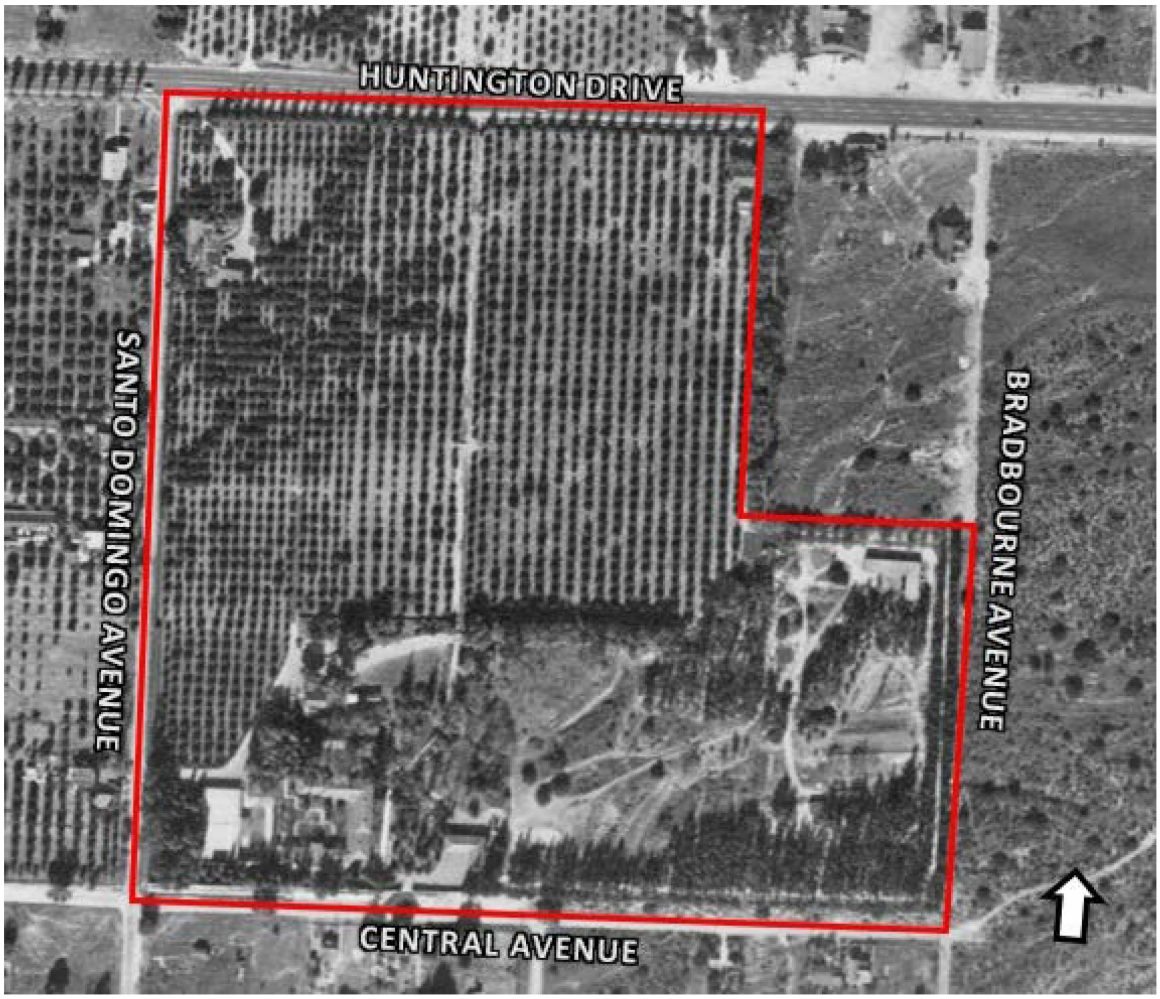
1934 aerial photograph. Project Site outlined in red. Source: Fairchild Aerial Surveys, Flight ID c-4061. Frame 1. University of California Santa Barbara Aerial Photography Collection.



1936 aerial photograph. Project Site outlined in red. Source: Fairchild Aerial Surveys, Flight ID c-4061. Frame 49. University of California Santa Barbara Aerial Photography Collection.



1938 aerial photograph. Project Site outlined in red. Source: Fairchild Aerial Surveys, Flight ID c-5043. Frame 50. University of California Santa Barbara Aerial Photography Collection.



1944 aerial photograph. Project Site outlined in red. Source: Fairchild Aerial Surveys, Flight ID ddf-1944. Frame 8-109. University of California Santa Barbara Aerial Photography Collection.



1949 aerial photograph. Project Site outlined in red. Source: Fairchild Aerial Surveys, Flight ID c-13990. Frame 1-176x. University of California Santa Barbara Aerial Photography Collection.



1952 aerial photograph. Project Site outlined in red. Source: Fairchild Aerial Surveys, Flight ID axj-1952. Frame 5k-23. University of California Santa Barbara Aerial Photography Collection.



1956 aerial photograph. Project Site outlined in red. Source: Fairchild Aerial Surveys, Flight ID tg-2400. Frame 1-135. University of California Santa Barbara Aerial Photography Collection.



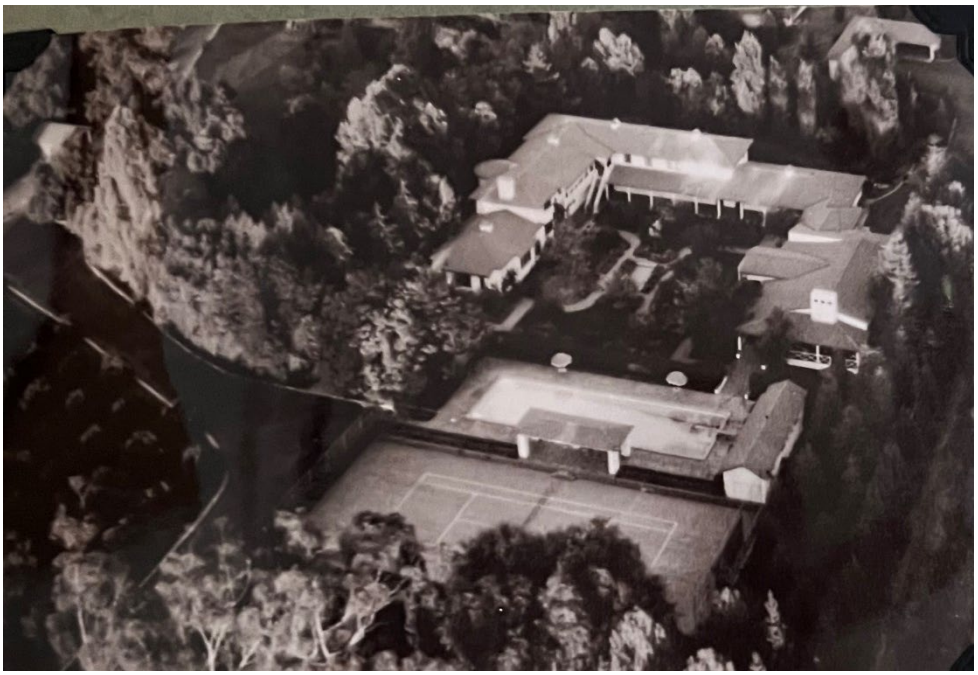
1960 aerial photograph. Project Site outlined in red. Source: Fairchild Aerial Surveys, Flight ID c-23870. Frame 1558. University of California Santa Barbara Aerial Photography Collection.



1968 aerial photograph. Project Site outlined in red. Source: Fairchild Aerial Surveys, Flight ID tg-2400. Frame 1-135. University of California Santa Barbara Aerial Photography Collection.

OBLIQUE VIEWS





1940 oblique aerial photograph of ranch and residence, facing north. Source: Westminster Gardens.
1940 oblique aerial photograph of Morrison House, facing east. Photo shows the residence, pool, pool house, pool shelter, tennis court, retaining wall, and maintenance building. Source: Westminster Gardens.



Oblique aerial photograph of Morrison House c.1949, facing east. Source: Westminster Gardens.



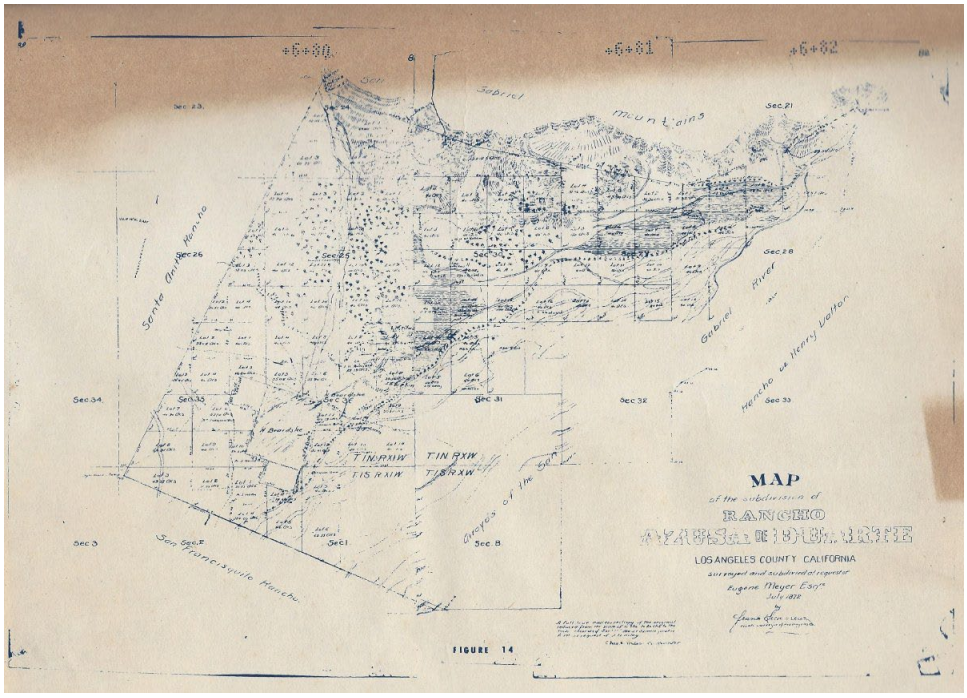
Close-up view of Morrison House, c. 1949, facing east. Source: Westminster Gardens.



Oblique aerial photograph of Westminster Gardens, c. 1975. Source: Westminster Gardens.

APPENDIX B

HISTORIC PHOTOGRAPHS



Map of Rancho Azusa de Duarte, 1872. Source: City of Monrovia.



Duarte Railroad Depot, later moved to the Morrison Ranch property by Norman H. Morrison for use as a farm building, c. 1886. Source: City of Monrovia.



Norman H. Morrison in Orange Groves on Morrison Ranch, 1914. Source: Westminster Gardens.



Santa Fe Station, first summer residence of Morrison family in Duarte (demolished), circa 1914. Source: Westminster Gardens.



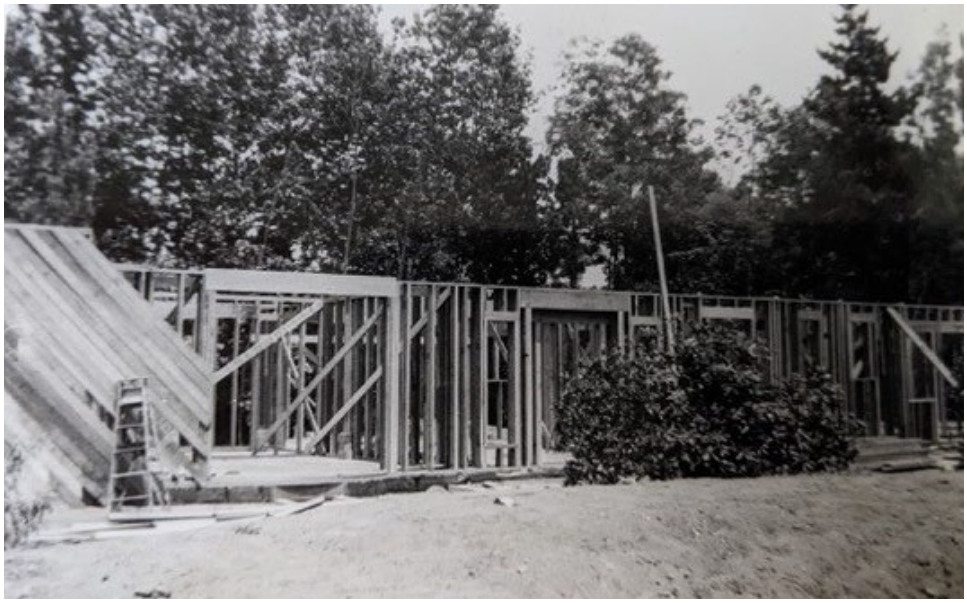
Construction of South Wing (El Sueño) of Morrison House, 1935. Source: Westminster Gardens.



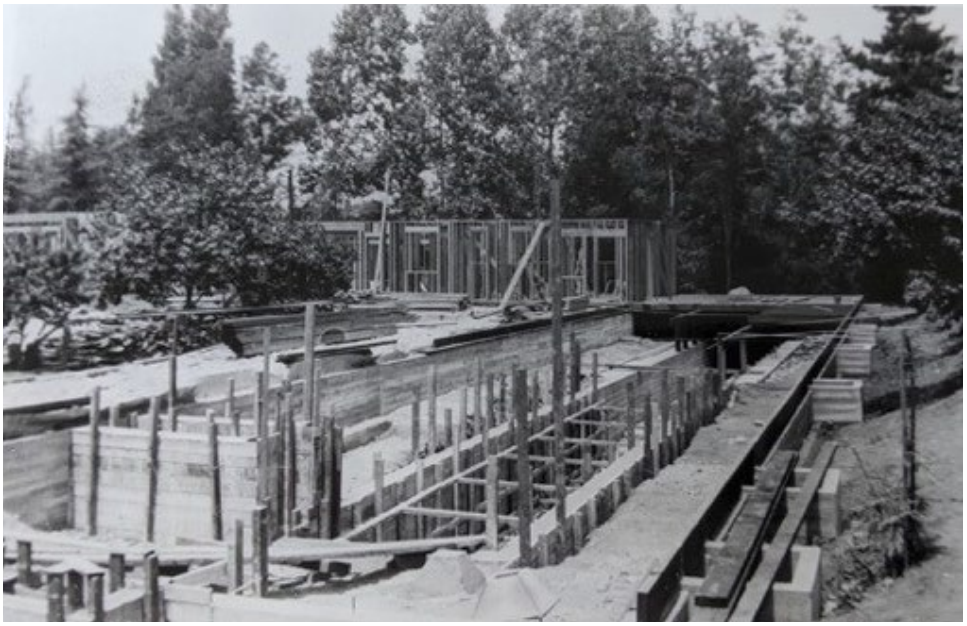
Construction of South Wing (El Sueño) of Morrison House, Lucile Morrison with builders, 1935. Source: Westminster Gardens.



Morrison Children (Keith and Wayland) at South Wing (El Sueño) of Morrison House, 1935. Source: Westminster Gardens.



View of North Wing (La Casa Soñada) of Morrison House Under Construction, 1939. Source: Chris Morrison.



View of Central Block and North Wing (La Casa Soñada) of Morrison House Under Construction, 1939. Source: Chris Morrison.



Roofing North Wing (La Casa Soñada) of Morrison House, 1939. Source: Chris Morrison.



North Wing (La Casa Soñada) of Morrison House Under Construction, 1939. Source: Chris Morrison.



Completed North Wing (La Casa Soñada) of Morrison House, 1940. Source: Westminster Gardens.



Completed North Wing (La Casa Soñada) of Morrison House, 1940. Source: Westminster Gardens.





Primary Entrance and Staricase North Wing (La Casa Soñada) of Morrison House, 1940. Source: Westminster Gardens.



Reflecting Pool at Morrison House, 1940. Source: Westminster Gardens.



Pool and Pool House, 1940. Source: Westminster Gardens.



Moving Cape Cod Cottage, 1940. Source: Westminster Gardens.



Moving Cape Cod Cottage, 1940. Source: Westminster Gardens.



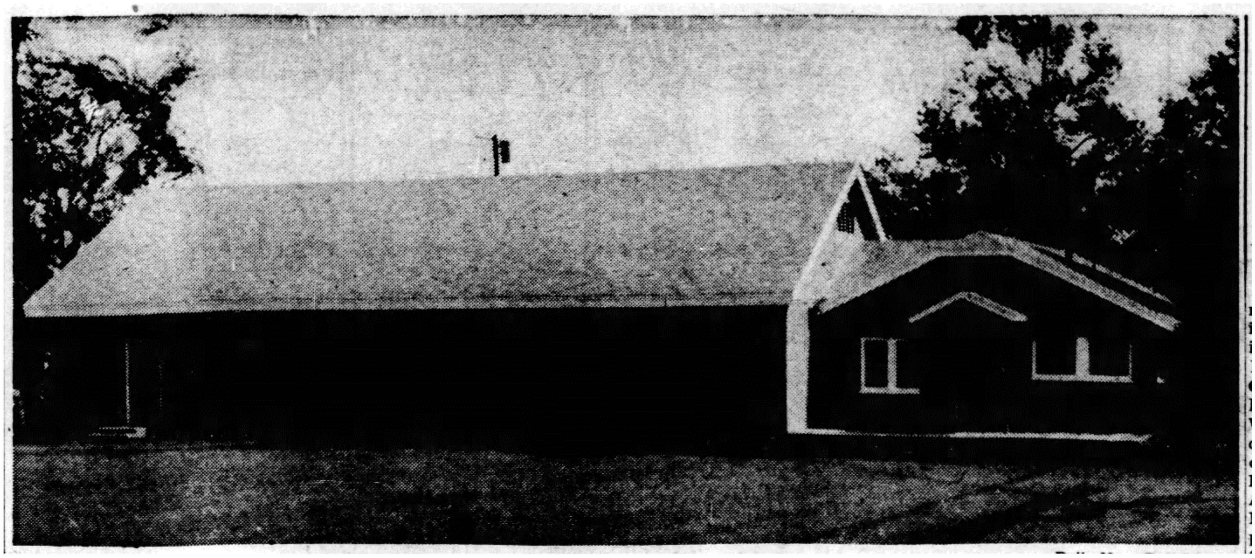
Morrison Family on Chrismas Day, 1939. Source: Westminster Gardens.



—S. J. Cole Photo

PREPARATIONS—Inspecting the site for the new Sojourner Lodge building in Duarte, are, left to right, top, Thomas K. Nielsen, Stanley S. Wand; lower, Fred D. Beatty, Leroy Thomas, Paul A. Brown, D. Floyd Fugit, Lester A. Reed and son Ricky and C. A. Garrison.

Inspecting the site for the new Masonic Temple building in the northwestern corner of the site, 1954. Source: Daily News Post.



New Masonic Temple building in the northwestern corner of the site, 1955. Source: Daily News Post



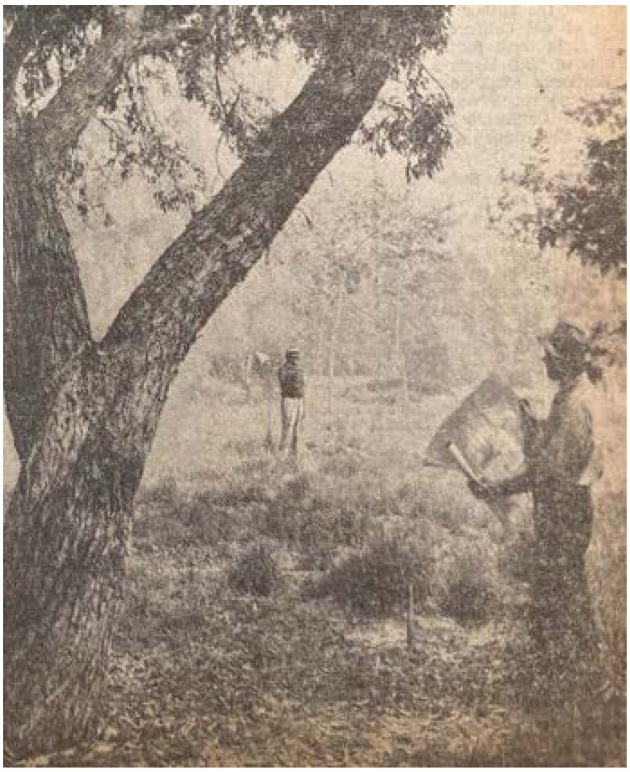
Library, Westminster Gardens, n.d. Source: City of Duarte.



Morrison House purchased by Westminster Gardens, 1951. Source: Los Angeles Times.



William C. Booth at Westminster Gardens, 1951. Source: Los Angeles Times.



Surveyors at Morrison House for Westminster Gardens, 1951. Source: Los Angeles Times.



Board of Directors reviewing building program for Westminster Gardens, 1951. Source: Daily News Post.



Swimming Pool and Shelter, c. 1952. Source: Westminster Gardens.



Resident in front of Residential Unit, c. 1955. Source: Westminster Gardens.



Residential Unit, c. 1955. Source: Westminster Gardens.



The "doll house," or Unit 15, at Westminster Gardens, c. 1955. Source: Westminster Gardens.



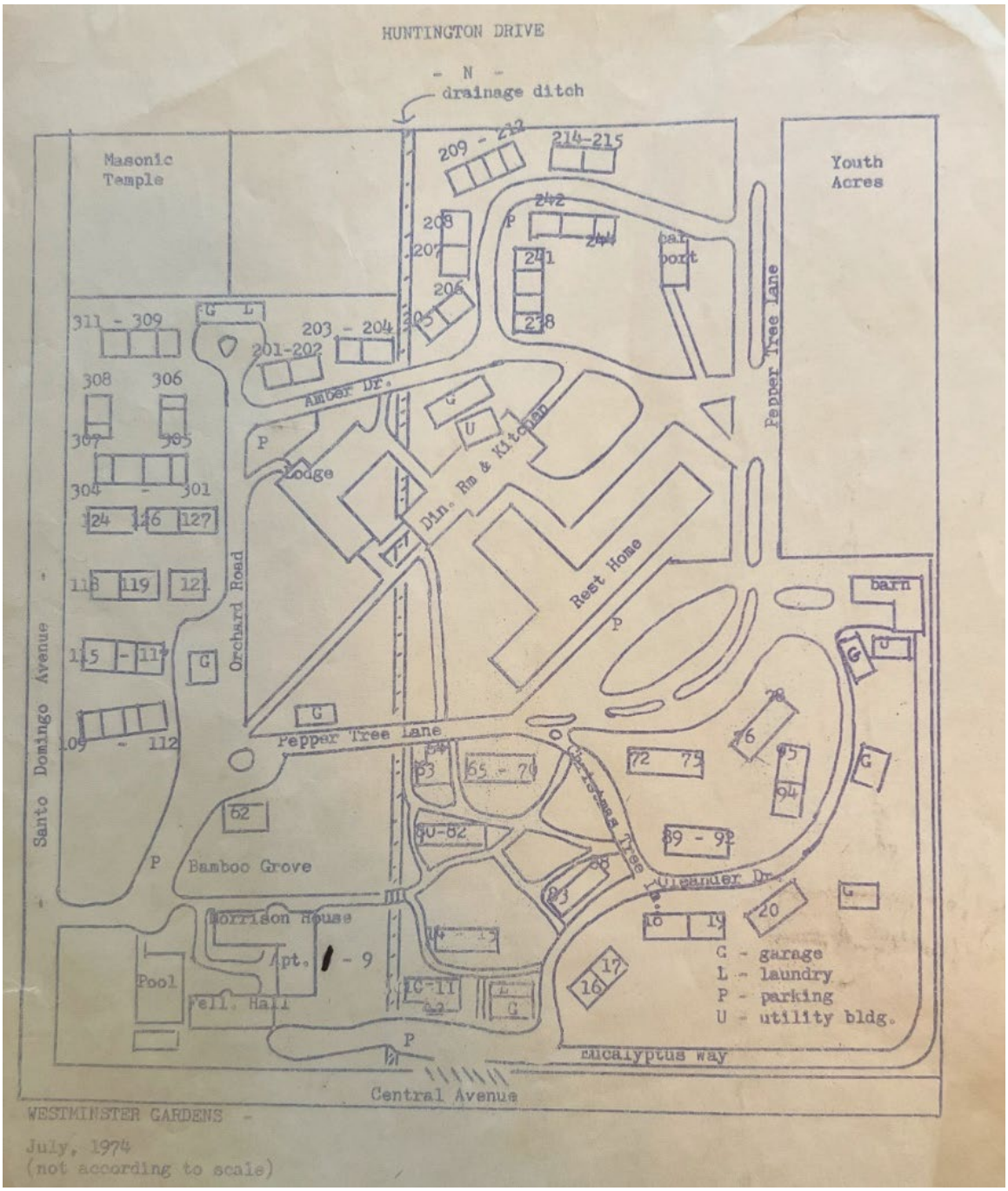
The "doll house," or Unit 15, at Westminster Gardens, 1966. Source: Daily News-Post.



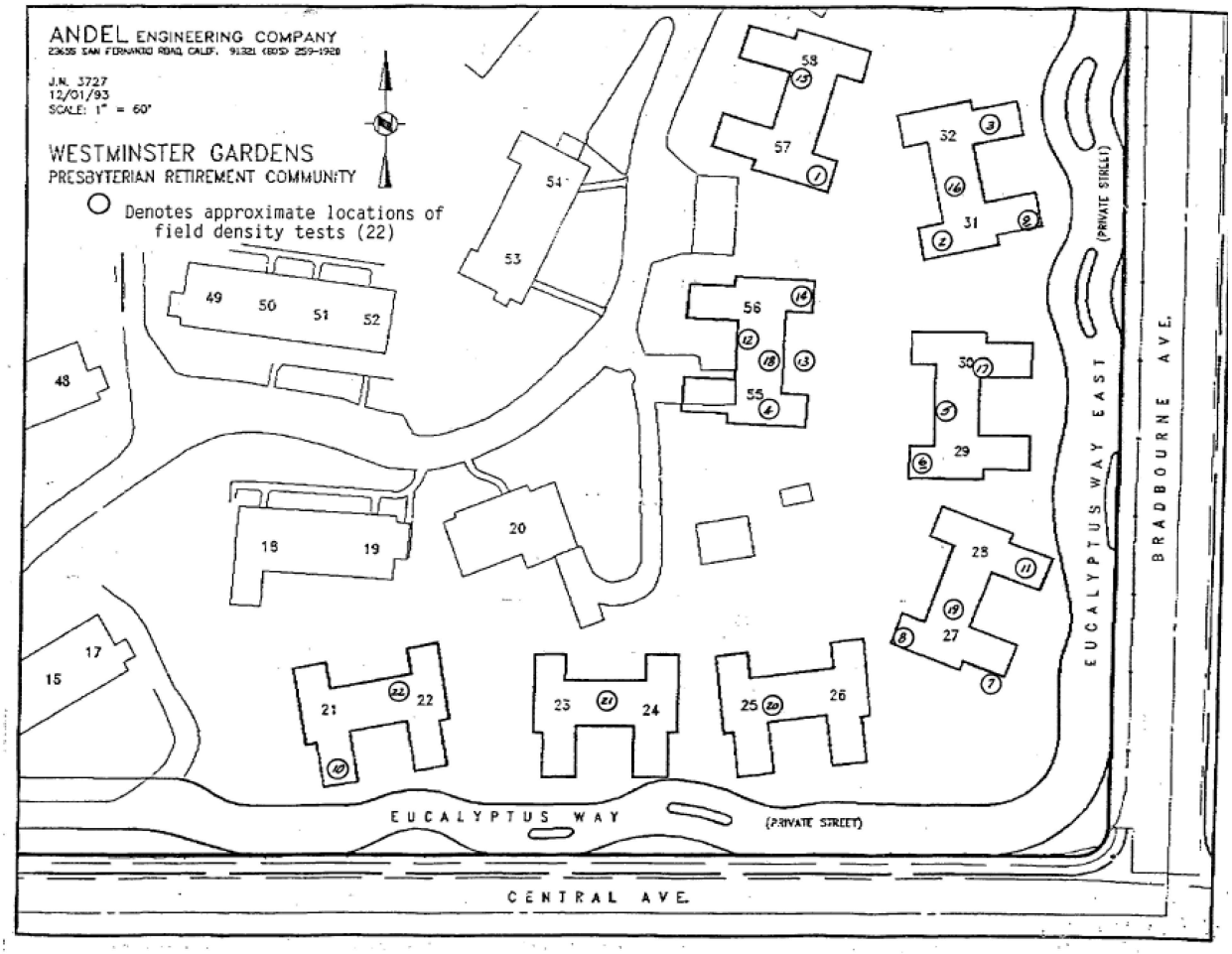
Residential Unit at Westminster Gardens, 1966. Source: Westminster Gardens.



William C. Booth at Westminster Gardens, 1966. Source: Daily News-Post.



Site Plan, July 1974. Source: Westminster Gardens.



Site Plan for new construction, 1993. Andel Engineering Company.

APPENDIX C

BUILDING PERMIT TABLE

Listed Building Name	Date (MM/DD/YY)	Permit No.	Architect/Contractor	Description of Work
Unknown	1/24/1951	45863	Douglas Honnold, architect J. Walter Johnson, contractor	Alterations to rest home. Details not legible
Unknown	6/25/1951	58054	Douglas Honnold, architect J. Walter Johnson, contractor	3048 SF, 12 rooms, one-story, concrete block and plaster walls, composition and tile roof, home for aged missionaries, plan type 1A, six units
Unknown	6/25/1951	58055	Douglas Honnold, architect J. Walter Johnson, contractor	3048 SF, 12 rooms, one-story, concrete block and plaster walls, composition and tile roof, home for aged missionaries, plan type 1B, six units.
Unknown	6/25/1951	58056	Douglas Honnold, architect J. Walter Johnson, contractor	2233 SF, 8 rooms, one-story, concrete block and plaster walls, composition and tile roof, home for aged missionaries, plant type 4A, 3 units
Unknown	6/25/1951	58057	Douglas Honnold, architect J. Walter Johnson, contractor	2233 SF, 8 rooms, one-story, concrete block and plaster walls, composition and tile roof, home for aged missionaries, plant type 4D, 3 units
Unknown	6/25/1951	58065	Douglas Honnold, architect J. Walter Johnson, contractor	1935 SF, 8 rooms, one-story, concrete block and plaster walls, composition and tile roof, home for aged missionaries, plan type 2, two units.
Unknown	6/25/1951	58060	Douglas Honnold, architect J. Walter Johnson, contractor	1010 SF, four rooms, one-story, concrete block and plaster walls, composition and tile roof, home for aged missionaries, plan type 3B, 1 unit
Unknown	6/25/1951	58058	Douglas Honnold, architect J. Walter Johnson, contractor	1740 SF, 6 rooms, one-story, concrete block and plaster walls, composition and tile, home for aged missionaries, plan type 5, 2 units
Unknown	6/25/1951	58060	Douglas Honnold, architect J. Walter Johnson, contractor	1010 SF, four rooms, one-story, concrete block and plaster walls, composition and tile roof, home for aged missionaries, plan type 3A, 1 unit
Unknown	9/27/1951	64788	Douglas Honnold, architect J. Walter Johnson, contractor	Description of work not legible.
Building C	9/28/1951	66666	Douglas Honnold, architect J. Walter Johnson, contractor	Alterations, remodel building C, laundry and garages into triplex. ZC496
Building B	9/28/1951	66667	Douglas Honnold, architect J. Walter Johnson, contractor	Alterations, remodel rest of building B to duplex dwelling. Zoning Case #496
Unit 41-42	2/29/1952	D78843B	J. Walter Johnson, contractor	Alteration, living quarters remodel one room into two kitchens. Duplex.
Garage	2/29/1952	D77842P	Douglas Honnold, architect J. Walter Johnson, contractor	New construction, 840 SF, stucco walls, composition roof, private garage, concrete floor, diagonal sheathing, unfished.
Unit 27-28	4/28/1952	D85206B	Douglas Honnold, architect J. Walter Johnson, contractor	New construction, 2080 SF, 8 rooms, one-story, plaster walls, tile roof, home for aged, 2-unit same bldg. #4

Listed Building Name	Date (MM/DD/YY)	Permit No.	Architect/Contractor	Description of Work
Unit 51, 52, 53, 54	4/29/1952	D85207B	Douglas Honnold, architect J. Walter Johnson, contractor	New construction, 2678 SF, 12 rooms, one-story, plaster walls, tile roof, home for aged, 4-unit, identical to unit #1, except 2-unite less.
Unit #65	10/19/1953	36551	Douglas Honnold, architect J. Walter Johnson, contractor	New construction, 1450 SF, 4 rooms, one-story, concrete block, composition roof, one single residential building, occup. #65
Units 96-99	10/19/1953	736550	Douglas Honnold, architect J. Walter Johnson, contractor	New construction, 3800 SF, 11 rooms, one-story, concrete block and stucco walls, composition and tile roof, four units, #96-99
Unit 63-64	10/19/1953	36522	Douglas Honnold, architect J. Walter Johnson, contractor	New construction, 2808 SF, 8 rooms, one-story, concrete block and stucco walls, composition and tile roof, one duplex building, #63 and #64
Suite 25	6/15/1954	59321	Allen M, McGill, architect J. Walter Johnson, contractor	Remodel suite 25 per plan
	2/3/1955	n/a	n/a	Load schedule from Electric Service and Supply Co. for apts 63-65
	3/14/1955	n/a	n/a	Load schedule from Electric Service and Supply Co. for apts 21-26, 31-33, 44-49, 51-54, 61-62
Administration Building	7/6/1956	[BLANK]	J. Walter Johnson, contractor	Alter existing administration building, install 5' kitchen unit (murphy kitchen), vents and change door, plumbing and electrical
Rest Home	8/24/1956	[BLANK]	Douglas Honnold and John Rex, architects J. Walter Johnson, contractor	Rest Home, 11,00 SF, total 20 beds, 16-S-2Dc.
Units 55, 56, 57, 58	5/2/1957	[BLANK]	Douglas Honnold and John Rex, architects J. Walter Johnson, contractor	New construction, 4 living units, 3744 SF
Morrison Hall	12/18/1957	[BLANK]	J. Walter Johnson, contractor	Living quarters, four units altered, #1,2,4,5. Convert dressing rooms to kitchens, and convert 2 bathrooms into 4 bathrooms.
3 Residential Dwellings	12/16/1958	[BLANK]	D. Honnold, architect E.B. Hulsebus Co.	New construction, one-story, three units, 2140 SF, residential.
Unit 58, 59, 60	12/16/1958	7028	n/a	Certificate of occupancy
Garage	3/5/1959	46	E.B. Hulsebus Co.	New construction, 20'x21', wood frame, stucco, composition roof, garage use.
Unknown	4/13/1960	452	J. Walter Johnson, contractor	New construction, 24'x 18', 1900 SF, two families, one-story, concrete block wall, tile roof, residence, building to house two dwelling units.
Garage	5/16/1960	481	J. Walter Johnson, contractor	New construction, 20' x 21', one-story, wood frame, stucco, composition roof, garage.
Suite #17	1/11/1962	1015	Samuelson Bothers, contractor	New construction, one-story, 4 hour, concrete block walls, mission tile roof, suite 17.

Listed Building Name	Date (MM/DD/YY)	Permit No.	Architect/Contractor	Description of Work
			Orr, Strange, Inslee, & Senefeld, architects	
Unknown	1/11/1962	1016	Samuelson Bothers, contractor Orr, Strange, Inslee, & Senefeld, architects	New construction, one-story, 4 HR, concrete block walls, composition and gravel roof, dining and kitchen.
Unknown	1/11/1962	1014	Samuelson Bothers, contractor Orr, Strange, Inslee, & Senefeld, architects	New construction, 4 HR, concrete block walls, composition and gravel roof, 20 bed addition to rest home.
Building No. 3	11/19/1963	1802	C.L. Senefeld, architect	New construction, 2584 SF and 20 x 20 garage, 2 family, one-story, concrete block walls, mission tile roof, 2 units – 2 bed apartments (duplex)
Building No. 4	11/19/1963	1803	C.L. Senefeld, architect	2584 SF, one-story, block masonry walls, composition roof, duplex.
Building No. 2	11/19/1963	1801	C.L. Senefeld, architect	New construction, 2620 SF, four families, one-story, concrete block walls, mission tile roof, 4 units, 1 bed apartments.
Building No. 1	11/19/1963	1800	C.L. Senefeld, architect Sheppard and Morgan, contractor	New construction, 2620 SF, four families, one-story, concrete block wall, mission tile roof, 4 units, 1 bed apartments.
Unknown	12/6/1965	2535	C.L. Senefeld, architect Ted Tyler Builder Inc., contractor	New construction, 2600 SF, 2 families, one-story, residence (duplex).
Unknown	12/6/1965	2536	C.L. Senefeld, architect Ted Tyler Builder Inc., contractor	Addition, 6940 SF, one-story, concrete masonry, composition roof, rest home, addition to nursing home.
Unknown	3/20/1967	2054	C.L. Senefeld, architect Ted Tyler Builder Inc., contractor	New construction, 2560 SF, two families, one-story, block masonry, built-up residence.
Unknown	6/30/1967	3016	[BLANK]	New construction, install heating and air conditioning, valuation $1900
Carport	7/26/1967	3139	Ted Tyler Builder Inc., contractor	Alteration, provide garage doors to carport.
Building F	9/15/1967	3074	Strange, Insler, and Senefeld, architects Ted Tyler Builder Inc., contractor	Addition, tile roof porch and glass wall, retirement home
n/a	2/14/1968	3144	Norman Jackson, contractor	Block wall construction

Listed Building Name	Date (MM/DD/YY)	Permit No.	Architect/Contractor	Description of Work
Mechanical Room	6/12/1968	3233	Ted Tyler Builder Inc., contractor	Addition, 13' x 18', 234 SF, concrete block wall, drywall, addition to mechanical room.
Unit 78	4/3/1970	4415	Air Vent Awning, contractor L.Paley, Engineer	Addition, 13' x 6' 784 SF, one room, one-story, screens exterior and interior, aluminum roof, patio cover and screens.
Unit 72, 73, 74, 75	4/3/1970	4416	Air Vent Awning, contractor L.Paley, Engineer	Addition, 25' x 6.5', 150 SF, one room, one-story, open interior and exterior, aluminum roof, patio cover
Building A, B, C, D, L	8/14/1970	4536	F.D. Howell, architect Shepard & Morgan, contractor	New construction, plaster walls, tile roof, 11 dwelling units, 5 structures, residences.
Garages	10/7/1970	4576	F.D. Howell, architect Shepard & Morgan, contractor	New construction, 2504 SF, plaster exterior, asphalt roofing, garages
Unknown	4/2/1971	4634	Van Vliet Construction, contractor	Addition, 224 SF, one room, stucco, plaster interior, tile roof, bedroom addition.
Unknown	4/5/1971	4636	C.L. Senefeld, architect Ted Tyler Construction Co., contractor	Addition, 216 SF, one room, one-story, block exterior, composition roof, office, northeast corner of existing inf.
Patio	4/22/1971	4657	Owner, contractor	Addition, 100 SF, one room, one-story, aluminum roof, patio.
Building A, northeast corner of property	6/30/1972	4863	Van Vliet Construction, contractor F.D. Howell, architect	New construction, 2050 SF, 4 each, stucco exterior, plaster interior, clay tile roof, 2-unit dwelling, home for the aged.
Service Building-Laundry	6/30/1972	4865	Van Vliet Construction, contractor F.D. Howell, architect	New construction, 22' x 44', 5 rooms, one-story, concrete block exterior, drywall interior, built-up composition and gravel roof, service building – laundry.
Building B, northeast corner of property	6/30/1972	4864	Van Vliet Construction, contractor F.D. Howell, architect	New construction, 2413 SF, 3 and 4 room each, one-story, stucco exterior, plaster interior, clay tile roof, 3 dwelling units, home for the aged.
Maintenance Workshop	7/7/1972	4870	Owner, contractor	New construction, 21 ' x 50' 1050 SF, 4 rooms, one-story, exterior plywood, partial drywall, 3-15' felt and rock roof, maintenance workshop
Carport	2/20/1973	5162	Van Vliet Construction, contractor	New construction, 1350 SF, one-story, open exterior, carport, 5 stalls
Unknown	12/4/1973	5758	C.L. Senefeld, architect	Alteration, one story, nursing home.
Unit 16	3/11/1976	6514	Noway Door and Screen, contractor	Addition, 120 SF, one room, patio enclosure, roof screens and glasene.

Listed Building Name	Date (MM/DD/YY)	Permit No.	Architect/Contractor	Description of Work
Unknown	10/19/1977	[BLANK]	James D. Smith, contractor	Addition, 75 SF, one story, addition to kitchen, apartment.
Unknown	6/15/1978	[BLANK]	F.D. Howell, architect	New construction, type V – 1 Hour, multi-purpose building, 6340 SF.
Unknown	7/5/1979	0993A	[BLANK]	Addition, 108 SF, one room, one-story, fiberglass roof, concrete floor.
Unknown	9/26/1980	5343A	Franklin Howell, architect	New construction, 8625 SF, one story, type V 1 hr., apartment for ambulatory senior citizens, 18 units.
Unit 78	10/29/1980	5716A / 5717A	Rober Haussler, architect Pacesetter Building Co., contractor	Addition, 240 SF, 12' x 20' aluminum cover and screen enclosure.
Unknown	12/30/1980	6055B	Lytle Roofing, contractor	Repair, work done with koppers spec. 1/90 upside down/KMM Aluminum.
Offices	3/31/1981	0028A	Frank Howell, architect Van Vliet Construction, contractor	New construction, 2855 SF, one-story, offices.
Unknown	2/9/1982	2071A	Lytle Roofing, contractor	Repair, one-story, apply upside down cap sheet, then Kmm set in adhesive.
Offices	7/5/1982	2483A	Frank Howell, architect	Occupancy Inspection for offices granted. B-2 occupancy group.
Unit 85	4/8/1983	0661A	Culver Heaton, architect Forestwood Construction, contractor	Addition, 200 SF, wood patio cover, residential
Unknown	10/3/1984	0645A	Arcadia Custom Partitions, contractor	New construction, 680 SF, one-story, free-standing patio cover, steel with concrete slab.
Cape Code Cottage	8/26/1986	3164A	Owner, contractor	Alteration, 900 SF, one-story, one family, remodel interior of one house, replace electrical, plumbing, heating, and ventilating.
Unit 40-42	12/10/1986	3560A	Owner, contractor	Alteration, one story, convert triplex dwelling into duplex
Unit 115 and 117	12/10/1986	3557A	Owner, contractor	Alteration, covert triplex dwelling to duplex
Unit 76-78	12/10/1986	3554A	Owner, contractor	Alteration, covert triplex dwelling to duplex
Unit 214	4/18/1988	0521A	Prime Lime, architect Arcadia Patio, contractor	New construction, 64 SF, one-story, ½ bathroom.
Unit 18	6/14/1988	0146A	J&R Perryman, architect	Addition, 260 SF, one-story, one family, aluminum patio addition, ICBO # 3190P
Unit 207	8/5/1991	726	Airflo Aluminum Awning, contractor	Addition, 192 SF, one story, aluminum patio cover, 16' x 12' ICBO #2138P
Unit 228, 230, 232	12/12/1991	336 1043	Wheeler and Wheeler Architects	New construction, 4697 SF, one story, three families, 3-unit triplex, unit A 1553 SF, Unit B 1572 SF, Unit C, 1572 SF

Listed Building Name	Date (MM/DD/YY)	Permit No.	Architect/Contractor	Description of Work
			Jim Martin Construction, contractor	
Unit 213	3/10/1992	1232	Airflo Aluminum, contractor	Addition, patio enclosed I.C.B.O. #
Unit 229 and 231	4/13/1992	1297	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New construction, 3106 SF, one story, two families, one duplex, livable area 2232 SF, garage 874 SF.
Unit 248 and 250	4/15/1992	1310	Marti Enterprise, contractor	New construction 3106 SF, one story, two families, (1) duplex, livable 2237 SF, garages 874 SF.
Unit 229 and 231	7/8/1992	1517	Marti Enterprise, contractor	Alteration, Patio wall, one 7' high x 14' long black wall
Unit 248 and 250	7/8/1992	1518	Marti, contractor	Alteration, Patio wall, one 7' high x 14' long black wall
Unit 248	7/26/1993	2536	Jim Martin Construction, contractor	Alteration, 300 SF, one story, one family, patio enclosure and roof. (14' x 21') alteration ICBO #5014
Unit 57 and 58	1/5/1994	2930 2935	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New construction, 2232 SF, one story, 2 families (duplex). Includes garages, and two-family residences.
Unit 55-56	1/5/1994	2931 2936	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New construction, 2232 SF, one story, two families, duplex with attached garage (437 SF), standard plan.
Unit 55 and 56	3/21/1994	3065	Wheeler and Wheeler Architects Jim Martin Construction, contractor	Alteration, 2323 SF, one story, one family, patio wall – units, 55 and 56 ICBO #2621P
Unit 58	3/21/1994	3066	Wheeler and Wheeler Architects Jim Martin Construction, contractor	Alteration, 2323 SF, one story, one family, Patio wall – unit 58 only. ICBO #2621P
Unknown (Wall)	4/7/1994	3101	Clark Contractors	New construction, constructing wall approx. 1000 ft ling (fences)
Unknown (Fence)	4/25/1994	3125	Wheeler and Wheeler Architects Robert Clark, contractor	New construction, Stucco fence 462 lineal feet, 6' high. Metal fence, 227 lineal feet, 6' high.
Unit 212	3/16/1995	3820	Rock Construction, contractor	Addition, 64 SF, one story, one family, bathroom addition unit #212

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Packard Hall	10/31/1996	5481	Cal Roofing, contractor	Repair, reroof
Unknown	4/9/1997	5872	Custom Masonry, contractor	Block wall repair
Unit 141	6/18/1997	6086	CHCG Architects Jim Martin Construction, contractor	Addition, 133SF, remodel/addition to existing unit. Function includes bathroom, bedroom, and laundry facility.
Unit 223, 224, and 225	6/18/1997	6092	CHCG Architects Jim Martin Construction, contractor	Addition, 480 SF, one story, remodel/addition to existing units. Function include bathrooms, bedroom, and laundry facility.
Unit 200	6/18/1997	6087	CHCG Architects Jim Martin Construction, contractor	Addition, 126 SF, remodel/addition to existing unit. Functions include bathroom, bedroom, and laundry facility
Unit 222	6/18/1997	6088	CHCG Architects Jim Martin Construction, contractor	Addition, 320 SF, one story, remodel/addition to existing unit. Functions include bathroom, bedroom, and laundry facility.
Unit 125	6/18/1997	6090	CHCG Architects Jim Martin Construction, contractor	Addition, 310 SF, one story, remodel/addition to existing unit. Functions include bedroom, bedroom, and laundry facility.
Unit 213	9/25/1997	6366	CHCG Architects Rock Construction, contractor	Addition, 320 SF, one story, bedroom and bathroom, addition to existing building.
Unit 34A and 34B	9/1/1998	7436	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New construction, 3331 SF, one story, two families, units 2302 (2 qty), garages 729 SF (2 qty).
Unit 33A and 33B	9/1/1998	7435	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New Construction of residential, 3331 SF, one story, two families, duplex, unit 2596 SF (2 qty), garage 735 SF (2qty).
Unit 237	9/10/1998	7464	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New construction, 2596 SF, one-story, one family, single family dwelling
Unit 235-236	9/10/1998	7461	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New construction, 3331 SF, one-story, two families, duplex dwelling, residential, units 2596 SF, garage 735 SF.

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Unit 234	9/10/1998	7462	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New construction, 1788.5 SF, one-story, one family, unit 1412.5 SF, garage 376 SF.
Unit 38A	10/8/1998	7571	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New construction, 1788.5 SF, one story, one family, single unit residence, 14125 SF, garage 376 SF.
Unit 38B	10/8/1998	7572	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New Construction, 1788.5 SF, one story, one family, single unit residence 1412.5 SF, garage 376 SF.
Unit 233	12/16/1998	7836	Jim Martin Construction, contractor	New Construction, 1788.5 SF, one-story, one family, single family dwelling, unit 1412.5 SF, garage 376 SF
Unknown (fence)	2/2/1999	Unknown	Andel Engineering, Jim Martin Construction, contractor	New construction, 960' lineal, 8' high, masonry fence.
Unknown (wall)	2/18/1999	7984	Andel Engineering, Jim Martin Construction, contractor	New construction, 960' lineal, 8' high, masonry wall.
Unit 35A and 35B	5/10/2000	9135	Wheeler and Wheeler Architects Jim Martin Construction, contractor	2618 SF one-story, two families, foundation only, current use, duplex.
Unknown	5/10/2000	9134	Wheeler and Wheeler Architects Jim Martin Construction, contractor	2618 SF one-story, two families, foundation only, current use, duplex.
Unit 36 A and B	5/10/2000	9133	Wheeler and Wheeler Architects Jim Martin Construction, contractor	2618 SF, one story, 2 families, foundation only, current use duplex.
Unit 37	5/10/2000	9132	Wheeler and Wheeler Architects Jim Martin Construction, contractor	2619 SF, one story, 2 families, single family – duplex, foundation only.
Unit 36A and 36B	7/19/2000	9299	Wheeler and Wheeler Architects	New Construction, 1675 SF, one story, new building, current use Duplex.

Listed Building Name	Date (MM/DD/YY)	Permit No.	Architect/Contractor	Description of Work
			Jim Martin Construction, contractor	
Unit 22 A and B	7/19/2000	9298	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New construction, 1672 SF, one story, new building, duplex.
Unit 35A and 35B	7/19/2000	9301	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New construction, 1672 SF, one story, new building, duplex.
Unit 37A and 37B	7/19/2000	9300	Wheeler and Wheeler Architects Jim Martin Construction, contractor	New construction, 1672 SF, one story, new building, current use duplex.
Unit 33A	7/20/2000	9302	West Coast Custom Rooms, contractor	Addition, 120 SF, one story, one family, 12x10 patio cover, ICBO #2228P
Unknown	1/4/2001	9676	Owner, contractor	Demolish, removal two non-bearing walls
Unit 34A	5/14/2001	9985	West Coast Custom Rooms, contractor	Addition, flat plan patio cover ICBO #2228P
Unit 226	2/2/2003	1948	Wheeler and Wheeler Architects	Addition, 264 SF, Bathroom addition, master bed extension.
Cafeteria	6/3/2003	2333	Pro-spec Enterprise, contractor	Installation of T-bar, ceiling in cafeteria
Unit 204, 206	8/12/2003	2589	R.P.S. Roofing, contractor	Tear-off existing, install hot mop roof system with rock
Unit 11-17 Unit 53-54	7/15/2004	3974	Pro-spec Enterprise, contractor	Alteration, rehab restrooms
Health Care Center	9/1/2004	4174	American Working, Inc., contractor	Demolish health care center
Unit 18 and 19	9/22/2004	4241	R.P.S. Roofing, contractor	1500 SF, one-story, rear of building remove tile, install new felts, (2) layers, install new US tile
Unit 78	10/21/2004	4391	Pro-spec Enterprise, contractor	Remodel restroom, 50SF.
Unit 49-52	12/14/2004	4591	Wheeler and Wheeler Architects	Addition, 628 SF bedroom expansion. 3224 SF interior TI

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			Pro-spec Enterprise, contractor	
Unit 65-70	12/14/2004	4590	Wheeler and Wheeler Architects Pro-spec Enterprise, contractor	Addition, 30 SF bath addition, 2930 Int. TI
Unit 43-78	12/14/2004	4592	Wheeler and Wheeler Architects Pro-spec Enterprise, contractor	Addition, 30 SF bathroom addition, 3224 SF Int. TI
Unit 76-78	5/19/2005	5143	R.P.S. Roofing, contractor	T/O existing tile roof and replace, (2) felt layers & (1) pc U.S. Tile
Units 65-70	5/19/2005	5142	R.P.S. Roofing, contractor	T/O existing tile roof and replace, (2) #30 16 felt & (1) pc U.S. Tile
Unit 40-42	10/5/2005	5877	R.P.S. Roofing, contractor	T/O existing tile roof & replace – (2) felt layers, install (1) pc "S" tile
Main Entrance	10/13/2005	5920	B+H Sign Co.	½" solid PVC stud mounted to existing wall.
Unit 207	2/2/2006	6244	R.P.S. Roofing, contractor	Repair, tear off & hot mop
Unit 42	3/6/2006	6337	Pro-spec Enterprise, contractor	Alteration, remodel 2 bathrooms
Unit 73 – 75	3/27/2006	6425	R.P.S. Roofing, contractor	Re-roof, tile section 1/2 , tear0off – (2) base sheets, install 1 pc "S" Tile. Front half only.
Unit 40	5/10/2006	6567	Pro-spec Enterprise, contractor	Remodel bathroom, fir wall.
Main Entrance	5/15/2006	6600	Pro-spec Enterprise, contractor	Addition, (2) 4' high x 12' long monument sign and fence relocation.
Unit 10-12	5/30/2006	6690	Wheeler and Wheeler Architects Pro-spec Enterprise, contractor	Remodel (3) residential units to convert to maintenance facility for west gardens.
Unit 14 and 15	6/20/2006	6790	Pro-spec Enterprise, contractor	Alteration, remodel unit #14-15, interior remodel
Unit 115	6/20/2006	6792	Wheeler and Wheeler Architects Pro-spec Enterprise, contractor	Alteration, remodel unit #115, interior remodel.
Unit 118	6/20/2006	6791	Wheeler and Wheeler Architects	Alteration, remodel unit #118, interior remodel.

Listed Building Name	Date (MM/DD/YY)	Permit No.	Architect/Contractor	Description of Work
			Pro-spec Enterprise, contractor	
Unit 202	7/6/2006	6851	Wheeler and Wheeler Architects	Alteration, interior remodel replace existing windows
Unit 20	7/6/2006	6847	Wheeler and Wheeler Architects Pro-spec Enterprise, contractor	Alteration, interior remodel replace existing windows.
Unit 213	7/6/2006	6854	Wheeler and Wheeler Architects Pro-spec Enterprise, contractor	Alteration, interior remodel, replace existing windows.
Unit 19	7/6/2006	6843	Wheeler and Wheeler Architects Pro-spec Enterprise, contractor	Alteration, interior remodel, replace existing windows.
Unit 117	7/10/2006	6863	Pro-spec Enterprise, contractor	Install W/D, remodel kitchen/bath
Unknown	1/25/2007	7539	American Wrecking, Inc.	Demolish, 5300 SF, one story, demo two garages and two maintenance buildings.
Dining Hall	7/5/2007	8289	Wheeler and Wheeler Architects Pro-spec Enterprise, contractor	Addition, 1800SF, one story, approx. 1800 SF addition to east dining hall.
Four car garage	3/6/2008	9140	Laura Serder, architect	New construction, four-car garage 877 SF.
Unit 300	5/1/2008	9371	Laura Serder, architect Elite MFG Homes, contractor	New construction, new garage 375 SF, and single unit 1323 SF, Building permit for garage and dwelling foundation only.
Unit 301	5/1/2008	9372	Laura Serder, architect Elite MFG Homes, contractor	New construction, new garage 375 SF, and single unit 1323 SF, Building permit for garage and dwelling foundation only.
Unit 29 and 30	5/1/2008	9368	Laura Serder, architect Elite MFG Homes, contractor	New construction, new duplex and garages, garage 375 SF (x2), duplex 2646 SF, building permit for garage and duplex foundation.
Unit 32 A and 32B	5/1/2008	9370	Laura Serder, architect Elite MFG Homes, contractor	New Duplex and garages, garage 375 SF (x2), duplex 2646 SF, building permit for garage and duplex foundation
Unit 31A and 31B	5/1/2008	9369	Laura Serder, architect Elite MFG Homes, contractor	New construction, duplex and garages, garage 375 SF (x2), duplex 2646 SF, building permit for garage and dwelling foundation.

Listed Building Name	Date (MM/DD/YY)	Permit No.	Architect/Contractor	Description of Work
Unit 27 and 28	5/1/2008	9367	Laura Serder, architect Elite MFG Homes, contractor	New construction, duplex and garages, duplex 2646 SF, garages 375 SF (x2), permit for garages and dwelling foundation only.
Unit 214	9/9/2008	9731	Pro-spec Enterprise, contractor	Alteration, remodel 2-bath, 1-kitchen, add recessed lights.
Unit 73	9/3/2009	556	Pro-spec Enterprise, contractor	Remodel, 800 SF, bath and kitchen remodel, new lighting and windows.
Unit 126	9/10/2009	574	Pro-spec Enterprise, contractor	Remodel existing unit includes windows c/o, bath/kitchen remodel, new laundry unit.
Unit 141	9/28/2009	622	Pro-spec Enterprise, contractor	Remodel, convert enclosed patio to living area (approx. 105 sf) for TV room/WIC, replace 4 windows, 1 sliding door, new drywall in ceiling.
Unit 74	3/25/2013	2013-061	Pro-spec Enterprise, contractor	Alteration; new windows, remodel bath/kitchen, closet, remove patio enclosure, remodel living room/bedroom.
Unit 78	5/13/2013	2013-190	Pro-spec Enterprise, contractor	Remodel, interior remodel includes plumbing, HVAC, and replace windows with dual glazed vinyl milgarg windows, re-configure walk in closet, install new lighting, fir walls, install tile floors (bath, kitchen, and living room), includes electrical and plumbing.
Unit 17	6/27/2013	2013-276	Pro-spec Enterprise, contractor	Interior remodel of residential unit, includes structural, and MEP.
East Guard Shack	9/3/2013	2013-372	Pro-spec Enterprise, contractor	Alteration, remove [E] guard shack and replace with new in same location. Includes structural, electrical, and mechanical.
Unit 73	10/17/2013	2013-438	Pro-spec Enterprise, contractor	Alteration; Interior remodel of closet vanity area into laundry center including plumbing and electrical work.
Unit 233	11/4/2013	2013-459	Pro-spec Enterprise, contractor	Remodel, interior remodel, demo [E] bath to create accessible shower, includes MEP.
Unit 216	1/7/2014	2014-004	Pro-spec Enterprise, contractor	Remodel, remove 2 [E] sliders and replace w/ dual glazed low-e slider, replace 1 bathroom and 1 kitchen window, bathe and kitchen remodel, replace HVAC unit, convert closet to laundry, includes electrical, plumbing, and mechanical.
Unit 314	3/5/2014	2014-073	Pro-spec Enterprise, contractor	Remodel; bathroom remodel includes new walk in shower, move toilet to east wall, reconfigure walls to create new walk-in closet, drywall and finish electrical, and plumbing.
Unit 137	4/1/2014	2014-107	Pro-spec Enterprise, contractor	Remodel, interior remodel, replaces windows and sliders, insulate new walls, re-configure patio and replace, install rear porch laundry, cover ceiling acoustic, add new cabinetry, includes MEP.
Unit 301	5/15/2014	2014-177	Pro-spec Enterprise, contractor	Alteration; Remodel master bath, add wall in master bed, includes electrical, plumbing, and mechanical.

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Unit 206	6/11/2014	2014-206	Pro-spec Enterprise, contractor	Remodel; bathroom remodel, rear patio slab, change out windows with dual glazed low-e, change out HVAC, includes electrical, plumbing and mechanical.
Unit 223	6/23/2014	2014-220	Pro-spec Enterprise, contractor	Alteration, closed laundry conversion, add some lan-lights/outlets.
Unit 75	7/30/2014	2014-275	Pro-spec Enterprise, contractor	Alteration; bathroom remodel includes demo [E] bathroom to create walk-in shower, demo entry wall to create openness to kitchen, fabricate and install new countertops, breakfast counter, includes electrical and plumbing work.
Unit 23	8/18/2014	2014-298	Pro-spec Enterprise, contractor	Alteration, remodel 2 shower stalls
Unit 110	11/26/2014	2014-458	Pro-spec Enterprise, contractor	Addition; construct laundry in hallway closet, upgrade sub-panel change-out HVAC.
Unit 218	4/13/2015	2015-157	Pro-spec Enterprise, contractor	Remodel, convert [E] entry closet into [N] laundry room, includes electrical and plumbing.
Unit 202	4/21/2015	2015-168	Pro-spec Enterprise, contractor	Remodel; Interior remodel, convert east closet to laundry room, install recessed lighting throughout unit, remove/replace 6 windows, electrical and plumbing.
Unit 218	6/17/2015	2015-257	Pro-spec Enterprise, contractor	Remodel, remodel unit 218, widen kitchen through opening, demo [F] tub/shower in guest bath, rebuild [N] walk in shower, includes MEP.
Unit 64	3/31/2016	2016-160	Pro-spec Enterprise, contractor	Remodel, interior remodel of kitchen, bathroom, and laundry, includes MEP.
Unit 225	4/12/2016	2016-187	Pro-spec Enterprise, contractor	Remodel, interior remodel includes replace windows and sliders, rear porch laundry, cover ceiling acoustic, add new cabinetry, remodel bathroom, includes electrical and plumbing.
Unit 250	9/9/2016	2016-460	Pro-spec Enterprise, contractor	Remodel, remodel two showers to create accessible shower, includes MEP.
Unit 250	10/3/2016	2016-479	Rooms N Cover, contractor	Alteration, 273 SF, (13'x21') patio enclosure with electrical.
Unit 26	10/3/2016	2016-478	Rooms N Cover, contractor	Alteration, 231 SF (11' x 21') patio enclosure with electrical.
Unit 138	1/25/2017	2017-025	Pro-spec Enterprise, contractor	Remodel, interior remodel, replace windows w/ vinyl low-e replacements, convert rear porch to laundry, cover existing ceiling acoustic, convert tub to walk in shower, new vanity, add new kitchen cabinets and granite tops, add recessed LEF lights, includes electrical and plumbing.
Unit 117	3/27/2017	2017-119	Pro-spec Enterprise, contractor	Remodel, interior remodel, replace windows, convert tub to shower, re-configure walk in closet, replace sliders with new egress window, fir walls and walls and add outlets and data connections, includes MEP.

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Unit 120	5/8/2017	2017-170	Pro-spec Enterprise, contractor	Remodel, interior remodel, demo of kitchen/bathroom/cabinetry, fur out exterior walls under windows for utilities, drywall, install new windows, expand guest bathroom out 3' x14' to accommodate new laundry, re-tile all bathrooms, includes MEP.
Unit 209	11/13/2017	2017-476	Pro-spec Enterprise, contractor	Addition, bathroom addition 11x10 (110 SF) on existing 8" slab, remove existing slider, includes MEP.
Unit 140	2/20/2018	2018-082	Pro-spec Enterprise, contractor	Remodel, bathroom remodel, retrofit two windows, install two windows, infill slider, add laundry room (No additional SF), includes MEP.
Unit 54	6/6/2018	2018-237	Pro-spec Enterprise, contractor	Remodel bathroom and kitchen, strip out kitchen cabinets, replace rear/kitchen door, move bedroom closet 3' into living room, new kitchen cabinetry, install new raised cabinetry, includes MEP.
Unit 131	6/12/2018	2018-244	Pro-spec Enterprise, contractor	Remodel, interior kitchen and bath remodel, replace windows, includes MEP.
Unit 211	2/26/2019	2019-088	Pro-spec Enterprise, contractor	Remodel, demo existing shower, kitchen, hall closet, remove windows and sliders, reframe new shower to larger dimension, reframe hall closet to accommodate new laundry center, create new kitchen cabinetry layout to expand area, fill slider to accommodate new egress window. Includes electrical and plumbing.
Unit 305	5/8/2019	2019-195	Pro-spec Enterprise, contractor	Remodel, remodel two bathrooms (tub conversion/re-tile), remodel kitchen (cabinetry and countertops), remove soffits from kitchen island/framing and drywall, includes MEP.
Unit 42	5/22/2019	2019-244	Pro-spec Enterprise, contractor	Remodel, convert tub to shower, move laundry into closety, replace windows with dual glazed vinyl Milgard windows, re-configure walk-in closet, replace slider with new egress window. Includes electrical and plumbing.
Unit 227	9/30/2019	2019-431	VIA Colors Construction Services INC, contractors	Remodel, interior remodel of unit includes kitchen and bath remodel, enclosed in 35 SF patio.
Unit 112	10/7/2019	2019-455	VIA Colors Construction Services INC, contractors	Remodel, interior remodel for bedroom, kitchen, and bathroom. Includes MEP.
Unit 300	12/18/2019	2019-573	VIA Colors Construction Services INC, contractors	Alteration, 2 new showers, hot mop, and 14 outlets.
Unit 229	12/18/2019	2019-572	VIA Colors Construction Services INC, contractors	Alterations, replaced showers, hot mop, and 14 outlets.
Unit 303	12/18/2019	2019-570	Pro-spec Enterprise, contractor	Remodel, interior remodel includes demo of bathrooms and remove cabinetry, reconfigure master bath to add closet, convert guest bath to walk in shower, install recessed lighting, GFI's, arch faults, subpanel; install new cabinetry, tile bathrooms, includes electrical, fixtures, and plumbing.

Listed Building Name	Date (MM/DD/YY)	Permit No.	Architect/Contractor	Description of Work
Unit 213	1/2/2020	2020-006	VIA Colors Construction Services INC, contractors	Remodel, new electrical subpanel, install 1 new window, and repair sliding door, lath and stucco repair, includes electrical and mechanical.
Unit 109	1/8/2020	2020-579	VIA Colors Construction Services INC, contractors	Remodel, interior remodel of kitchen and bath, electrical panel upgrade, includes MEP.
Unit 110	1/14/2020	2020-014	VIA Colors Construction Services INC, contractors	Remodel, interior remodel of kitchen, bedroom, and bath, includes MEP.
SHU Lodge	2/6/2020	2020-060	Pro-spec Enterprise, contractor	Remodel, shu lodge sitting room remodel, smooth out ceiling, install crown molding, open new 3'x6'8" door to hallway and install new hollow metal rated frame and door, create 5' x 4' opening in wall to install a hollow metal window. Includes electrical.
Unit 310	2/13/2020	2020-069	Gary D Richter, contractor	Remodel, kitchen and bathroom remodel, includes electrical and plumbing.
Unit 224	3/11/2020	2020-106	Pro-spec Enterprise, contractor	Remodel, includes interior demo of kitchen, reframe bathroom, add recessed lighting, laundry circuits, republic bathroom, water heater, shower, new windows, low-e dual glazed, kitchen cabinetry, includes MEP.
Unit 15	3/11/2020	2020-117	Pro-spec Enterprise, contractor	Remodel, bathroom remodel includes demo bathroom/tub, demo basin slab and lower drain to create walk in shower, re-tile, drywall, plumbing included; install new trellis at north elevation 8' x 12'
Unit 28	6/30/2020	2020-245	Pro-spec Enterprise, contractor	Addition and remodel, remodel bath and shower and closet.
Unit 207	8/6/2020	2020-291	Pro-spec Enterprise, contractor	Remodel, interior remodel of kitchen and bathroom-laundry area that includes, MEP.
Unit 212	11/24/2020	2020-477	Pro-spec Enterprise, contractor	Remodel, convert shower to laundry, replace countertops, re-tile master bath, includes electrical and plumbing.
Unit 25	12/7/2020	2020-496	Pro-spec Enterprise, contractor	Remodel, restroom remodel includes interior demo, create new walk-in shower, relocate toilets, reconfigure walls to create new walk-in closet, drywall and finish, install vinyl floor, includes MEP.
Unit 27	12/23/2020	2020-521	Pro-spec Enterprise, contractor	Remodel, two bathroom remodel to include demo of existing showers, create two new accessible showers, tile new showers and floor, drywall, and replace doors, includes plumbing and electrical.
Unit 231	8/11/2021	2021-368	VIA Colors Construction Services INC, contractors	Remodel, bathroom and kitchen remodel, includes electrical and plumbing.
Unknown	1/24/1951	45863	Douglas Honnold, architect J. Walter Johnson, contractor	Alterations to rest home. Details not legible

APPENDIX D

EXISTING CONDITIONS PHOTOGRAPHS

Historic Resources Group, November 2023 and January 2024



Overview of Westminster Garden Landscaping, facing east.



Overview of Westminster Garden Landscaping and Morrison House, facing south.



Channelized River and Landscaping, facing south.



Channelized River and Landscaping, facing north.



North and East Boundaries from Pepper Tree Lane, facing north.



Orchard Road and Landscape, facing south.



Landscape and Pathways, facing north.



Community Garden and Property Boundary, facing northeast.



Pool House, facing southwest.



Pool House Fountain, facing south.



Pool and Pool Shelter, facing southwest.



Tennis Court, facing southwest.



North and West Façades of Cottage No. 15, facing southeast.



South and East Façades of Cottage No. 15, facing northwest.



South Façade of Maintenance Building, facing north.



East Façade of Maintenance Building, facing west.



North Façade of Maintenance Building, facing southeast.



South and East Façades of Garage/Maintenance Building, facing northwest.



South and West Façades of Cape Cod Cottage Replica, facing northeast.



East Façades of Shu Lodge, facing north.



Covered Walkway between Shu Lodge, Memorial Lodge, and Dining Room/Kitchen, facing northeast.



Northeast Façade of Dining Room/Kitchen, facing south.



North Façade of Packard Hall, facing southwest.



Representative Courtyard of Units 49-75, facing east.



Representative Unit, Units 126-127, facing west.



Representative Unit, Units 207-213, facing south.



Restroom Building, Picnic Area, facing north.



Picnic shelter, facing northeast.




Lampposts in Northwestern Corner, facing north.



Oak Tree in Northwestern Corner of Site, facing south.

APPENDIX E

MORRISON HOUSE EVALUATION REPORT, 2022

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CALIFORNIA
AMERICAN WATER

Westminster Gardens Water Supply Assessment

JANUARY 2025

CALIFORNIA AMERICAN WATER



CALIFORNIA AMERICAN WATER

CALIFORNIA AMERICAN WATER

Westminster Gardens Water Supply Assessment

JANUARY 2025

Prepared by Water Systems Consulting, Inc

WSC

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ACRONYMS & ABBREVIATIONS

AFY	Acre Feet per Year
CAW	California American Water
CCRC	Continuing Care Retirement Communities
CDSS	California Department of Social Services
CEQA	California Environmental Quality Act
CIMIS	California Irrigation Management Information System
CPS	Comprehensive Planning Study
CWC	California Water Code
DU	Dwelling Unit
DWR	Department of Water Resources
EIR	Environmental Impact Report
ET	Evapotranspiration
FY	Fiscal Year
GPCD	Gallons per Capita per Day
IRRP	Indirect Reuse Replenishment Project
LACSD	Los Angeles County Sanitation Districts
LPC	Life Plan Community
MDD	Maximum Day Demand
MSGB	Main San Gabriel Basin
MWD	Metropolitan Water District
OSY	Operating Safe Yield
PHD	Peak Hour Demand
RCFE	Residential Care Facilities for the Elderly
SB	Senate Bill
SCAG	Southern California Association of Governments
SWP	State Water Project
UMWP	Urban Water Management Plan

USGVMWD	Upper San Gabriel Valley Municipal Water District
WSA	Water Supply Assessment
WSC	Water Systems Consulting

1.0 Introduction and Purpose

This Water Supply Assessment (WSA) was prepared on behalf of MIG, Inc (MIG) for California-American Water (CAW) by Water Systems Consulting, Inc. (WSC) to satisfy the requirements of California Water Code (CWC) Section 10910 (Senate Bill 610) for the Westminster Gardens Specific Plan Amendment (Project), which is proposed by applicant Human Good. The Project lies within the city limits of the City of Duarte (City) and is located within CAW's Duarte water service area. The City is the Lead Agency for the Project's Environmental Impact Report (EIR) which is required by the California Environmental Quality Act (CEQA).

As required by Senate Bill 610 (SB 610), CAW is responsible for assessing whether the total projected water supplies available during average, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand for the Project, in addition to CAW's existing and planned future uses. A water supplier's Urban Water Management Plan (UMWP) serves as a foundational document for a WSA. The water demands of the proposed Project were not accounted for in CAW's *2020 Urban Water Management Plan for California American Water - Los Angeles County District* (2020 UWMP), as submitted to the California Department of Water Resources (DWR) in June 2021. The 2020 UWMP includes projections that have been updated and incorporated into this document to reflect the most recent supply and demand information. Additional information from other sources is also incorporated into this WSA to document supplies from all sources, including groundwater and purchased water. Documentation includes identifying and quantifying water rights, contracts, and/or entitlements to the supply. CAW must provide the results of the assessment to the City, as the Lead Agency, for inclusion in the CEQA document for the Project. This WSA includes the following:

- Overview of CAW's Los Angeles County District water system (Section 2.0)
- Description of the Project and proposed water demand (Section 3.0 and 4.0)
- Information on CAW's current and projected Los Angeles County District water supplies (Section 5.0)
- Comparison of the Duarte water service area water supplies and water demands for average, single dry, and multiple dry years (Section 6.0)
- Determination of the Duarte water service area water supply sufficiency (Section 7.0)
- Additional analysis of supply and demand for the redevelopment of the Andres Duarte School parcel (Section 8.0)
- Description of water system hydraulic modeling results and determination of required water system improvements (Section 9.0)

1.1 Legislation

The City has determined that the Project is subject to review under CEQA (*Public Resources Code, Section 21000 et seq.*), and the state CEQA Guidelines (*California Code of Regulations,*

Section 15000 et. seq.) The City has determined that the Project is a "project" as defined in CWC 10912 and has determined that a WSA is required for the Project.

SB 610 amended the Public Resources Code, effective January 1, 2002, to incorporate CWC requirements for certain types of development projects to improve the link between information on water supply availability and certain land use decisions made by cities and counties. SB 610 seeks to promote more collaborative planning between local water suppliers, cities and counties by requiring detailed information regarding water availability to be provided to the city and county decision-makers prior to approval of specified large development projects.

Under SB 610, water suppliers must prepare WSAs for projects with a proposed residential development of more than 500 dwelling units. WSAs must be provided to local governments for inclusion in any environmental documentation. The Project proposes 550 new residential units, which includes redevelopment of 149 existing residential units resulting in a net increase of 401 residential units. Additionally, this WSA includes analysis of a separate, nearby development project at the Andres Duarte School site consisting of 175 proposed new residential units (see Section 8.0). The Project requires a WSA because it includes a proposed residential development of more than 500 dwelling units.

1.2 Definitions

For the purposes of this WSA, the following defined terms are used:

- **Groundwater production:** The amount of water produced from CAW groundwater supply sources and put into the distribution system based on metered flows at each well. CAW provided annual groundwater production data for 2021-2023.
- **Purchased Water:** The amount of water purchased from CAW's wholesale supply sources and put into the distribution system based on metered flows at each supply connection. Note that purchased water includes replacement water purchased for any groundwater pumped that exceeds CAW's allocation.
- **Consumption:** The amount of billed metered water consumed by customers. CAW provided annual consumption data for 2021-2023.
- **Demand:** The amount of water distributed through the entire water system, which is the sum of groundwater production and purchased water. Demand includes non-revenue water, which is equal to the difference between water put into the distribution system and consumption.
- **Non-revenue water**: Unmetered water use and losses from the distribution system due to leaks, unauthorized connections, or theft.
- **Unit Factor:** The calculated amount of water demand per unit (e.g., acre, sqft, dwelling unit, etc.) of a specific type of use (e.g., land use, development type, business type, etc.).

2.0 Public Water System Overview

The CAW Los Angeles County District consists of the Baldwin Hills, Duarte, and San Marino service areas. The water systems within these three service areas are not interconnected with each other and have independent water supplies. All three service areas of the Los Angeles County District are in Los Angeles County, California. In 2020, the Los Angeles County District provided water to 28,181 connections and served an estimated population of 101,670 people. This population made up approximately 1% of the Los Angeles County population. Figure 2-1 shows the location of all three service areas in Los Angeles County.

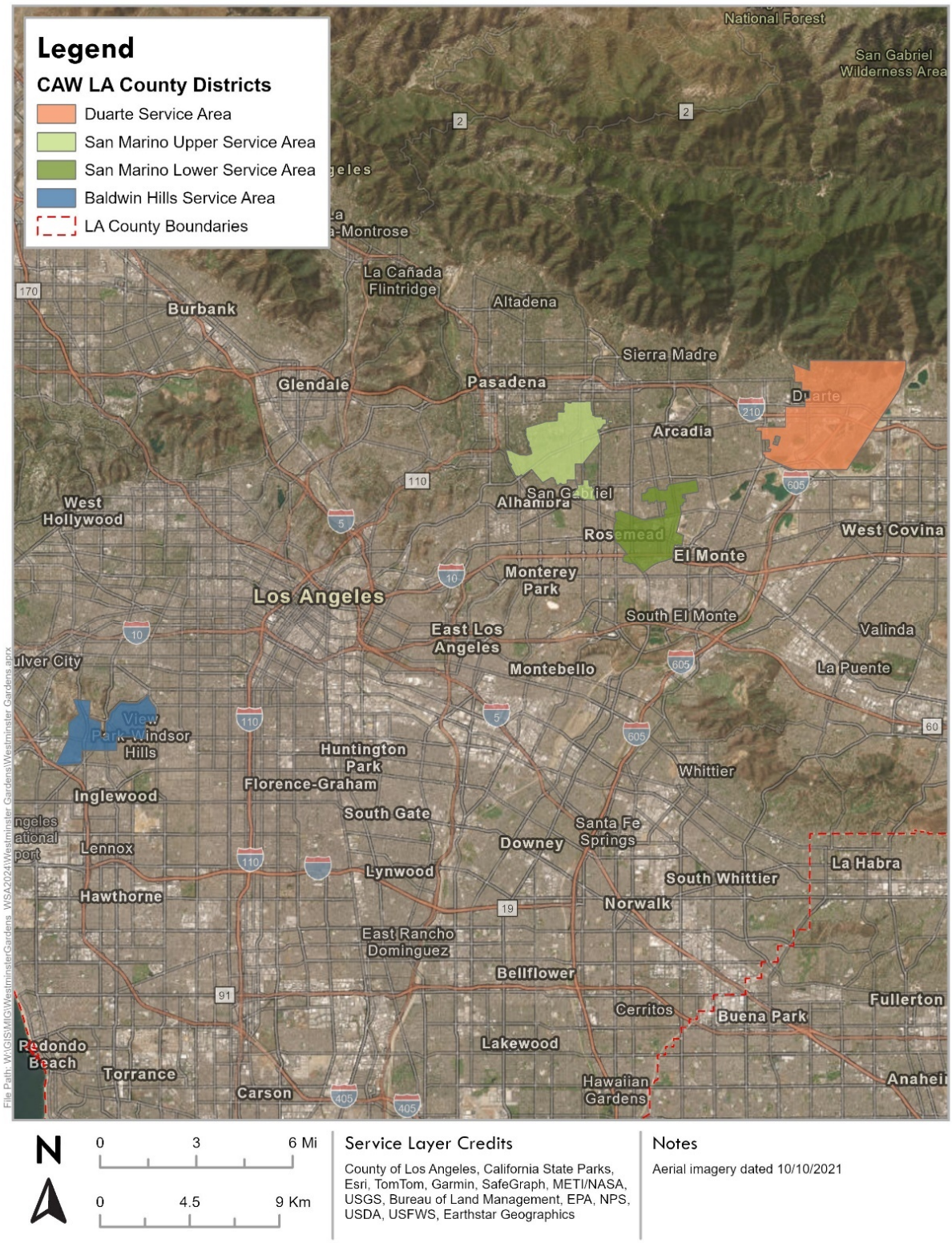

Figure 2-1. CAW LA Systems Overview

The Project is located entirely within CAW's Duarte service area. The Duarte water service area encompasses approximately 6,459 acres and is located approximately 20 miles northeast of downtown Los Angeles. The Duarte water service area spans both sides of Interstate 210 immediately west of the Interstate 210/Interstate 605 freeway interchange. The San Gabriel River runs along the eastern border of Duarte. In 2020, California American Water's Duarte service area provided water to 7,494 connections in the cities of Azusa, Bradbury, Duarte, Irwindale, and Monrovia. CAW serves approximately 27,901 people in the Duarte service area. Only the Duarte service area will be discussed in subsequent sections of this WSA because the Project is in the Duarte water service area, which is operated separately from CAW's San Marino and Baldwin Hills service areas.

2.1 Climate

The Los Angeles County District has a Mediterranean climate as evidenced by its dry, warm to hot summers, and mild, somewhat rainy winters with modest transitions in temperature. The warmest month of the year is August, and the coldest month is December. The average temperature is 64.3 degrees Fahrenheit (°F). On average, the weather station used to record climate data receives 31.1 inches of rainfall annually. Table 2-1 shows average monthly precipitation, evapotranspiration (ETo), and temperature in more detail.

Table 2-1. Historical Temperature, Rainfall and Reference Evapotranspiration (ETo) Data

Month	Average Precipitation (inches)	Average ETo (inches)	Average Air Temp (°F)
January	4.3	2.2	55.6
February	4	2.6	56
March	2.7	3.8	58.7
April	4.9	4.6	61.8
May	5.6	5.1	64.8
June	1.6	6	69.6
July	2.8	6.7	74.7
August	0	6.3	75.2
September	0.2	5	73.1
October	0.6	3.7	67.4
November	1	2.5	60.7
December	3.4	1.9	54.4
Annual Average	**31.1**	**50.4**	**64.3**

Source: California Irrigation Management Information System (CIMIS), Station 159 in Monrovia, (period of record is from January 2005 through December 2020) http://wwwcimis.water.ga.gov/cimis/data.jsp

2.2 Service Area Population

The current and projected populations for the Duarte water service area are shown in Table 2-2. The 2020 UWMP developed population projections and annual growth rates based on demographic projections from the Southern California Association of Governments (SCAG) and these projections are used for this WSA. Assuming two people per independent living unit and one person per assisted living unit (see Table 3-1), it is anticipated that the Project will result in approximately 754 additional permanent residents within the Duarte water service area by 2040.

Table 2-2. Duarte Water Service Area Projected Population Growth

	2020	2025	2030	2035	2040	2045
Duarte Water Service Area	27,901	28,398	28,897	29,394	29,751	30,108
Additional Permanent Residents[1]	0	0	283	518	754	754
Projected Population	27,901	28,398	29,180	29,912	30,505	30,862

1 – Additional residents estimated based on two people per independent living unit and one person per assisted living unit (see Table 3-1)

2.2.1 Other Demographic Factors

The Duarte service area is located within the West San Gabriel Valley Planning Area and a small portion of the East San Gabriel Planning Area as defined in the Los Angeles County General Plan. Within the unincorporated portion of the West San Gabriel Valley Planning Area, the projected population growth is 33% and the projected employment growth is 34% between 2010 and 2035 (Los Angeles County, 2022).

Most of the communities in the Los Angeles District service areas are approaching buildout and have little or no available vacant land left to develop. Most growth is anticipated to come from redevelopment and higher density development.

To ensure that the demographic factors impacting the Duarte water service area are accurately captured, the growth rates utilized for this WSA are based on the 2020 UWMP population projections to maintain consistency with previously adopted projections. Note that more recent population projections from the SCAG are available, however; using the most recent data would conflict with the 2020 UWMP.

3.0 Project Description

The Project area consists of 33 acres on four parcels in the central portion of the City of Duarte in Los Angeles County, California. The Project is bordered by Huntington Drive to the north, Santa Domingo Avenue to the west, Brabourne Avenue to the east, and Central Avenue to the south. The Project site lies within CAW's Duarte water service area, a public water system as defined in CWC Section 10912 and is shown in Figure 3-1 below.

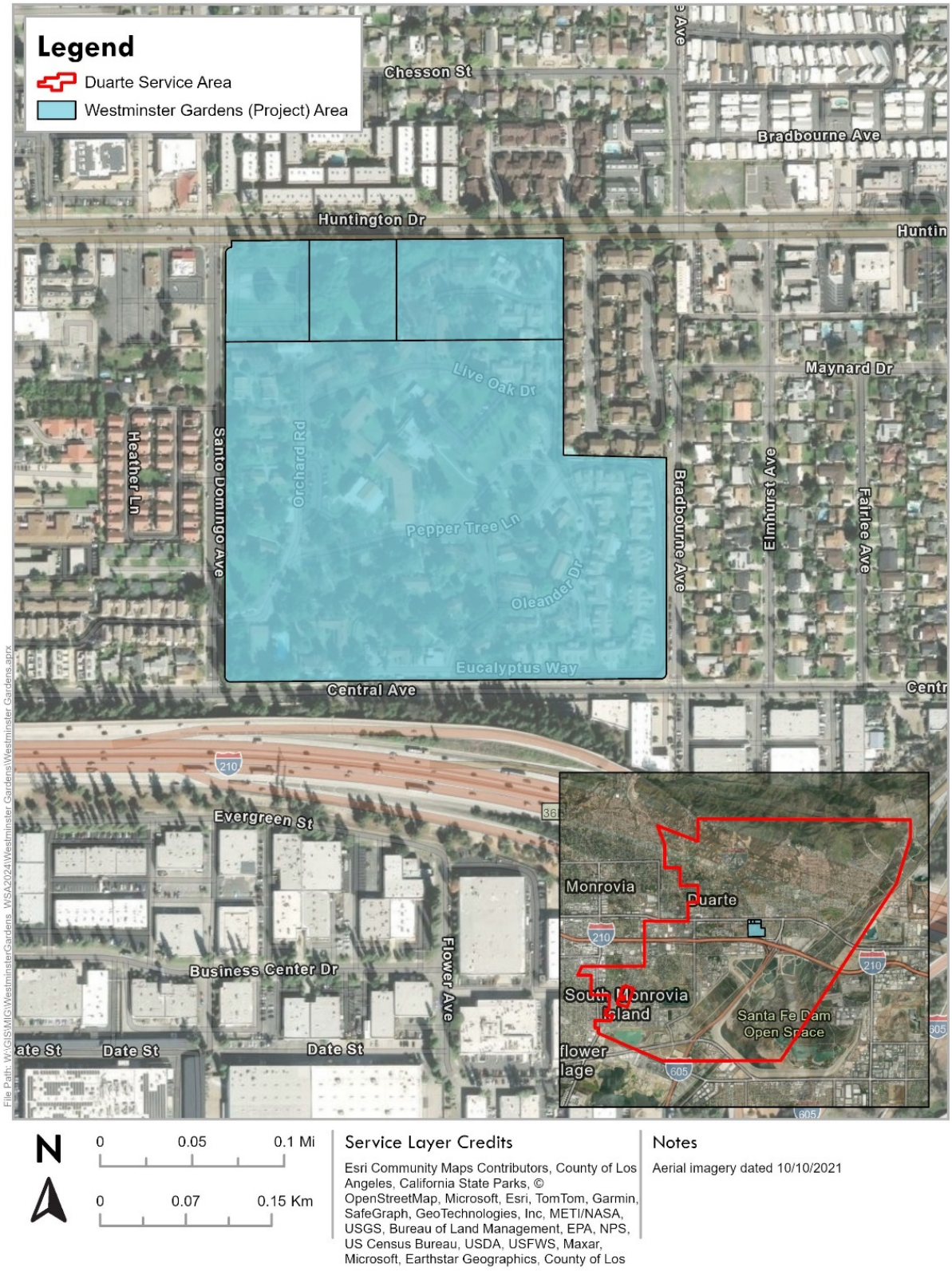

Figure 3-1. Project Location

The site is under single ownership and is an existing senior residential community known commonly as Westminster Gardens and identified by the applicant as a Life Plan Community (LPC). LPCs, also known as Continuing Care Retirement Communities (CCRCs), provide residential and assisted living housing options for adults age 60+ by providing a wide range of care, services, and activities in one place. The Westminster Gardens LPC campus is currently licensed by the California Department of Social Services (CDSS), which oversees the Senior Care Licensing Programs for both CCRCs and Residential Care Facilities for the Elderly (RCFE), for a capacity of 200. Three of the four parcels on the Project site are developed with the remaining fourth parcel undeveloped.

The proposed Project is a redevelopment of the existing Westminster Gardens campus to address the unmet demand for senior housing and services within Duarte and the surrounding communities. The Project site's existing, proposed new, and net proposed uses are shown in Table 3-1.

Table 3-1. Project Site Existing, Proposed, & Net Development

Land Use	Residential (units/beds)	Residential (square feet)	Non-Residential (square feet)
Existing			
Independent Living Unit	107	113,453	0
Assisted Living/Memory Care Unit	42	24,055	
Resident Amenity			18,122
Utility and Maintenance			3,891
Office			5,650
Retail			0
Total	**149**	**137,508**	**27,663**
Proposed New			
Independent Living Unit	460	682,000	0
Assisted Living/Memory Care Unit	90	81,000	
Resident Amenity			65,000
Utility and Maintenance			7,000
Office			25,000
Retail			15,000
Total	**550**	**763,000**	**112,000**
Proposed Net New			
Independent Living Unit	353	568,547	0
Assisted Living/Memory Care Unit	48	56,945	0
Resident Amenity	0	0	46,878
Utility and Maintenance	0	0	3,109
Office	0	0	19,350
Retail	0	0	15,000
Total	**401**	**625,492**	**84,337**

4.0 Water Demand Analysis

The 2020 UWMP summarized existing demands and projected future water demands based on a Gallons Per Capita Per Day (GPCD) method. The total demand was estimated by multiplying the GPCD by the projected populations for 2025, 2030, 2035, 2040, and 2045 (Water Systems Consulting, Inc., 2021). To estimate the additional demand for the Project, which was not accounted for in the 2020 UWMP, the Project site's existing water use and unit water demand factors were applied. The Project is categorized as two sectors of water use type: residential

and non-residential. The projected water demands for each water use type will be discussed in the following sections.

4.1 Residential

The residential components of the Project include a net increase of 353 independent living units and 48 assisted living/memory care units. Since the existing uses at the Project site consist of similar residential uses, the existing site's average water demand from 2019 and 2021 was used to determine unit water demand factors and projected water demand. Based on the 2020 UWMP, water loss and assumed demand increase from 2020-2025 were added to develop a water demand factor. The average existing residential demand was divided by the number of dwelling units to determine a water demand factor in gallons per day per dwelling unit (gpd/DU). This factor was then applied to the proposed net dwelling units to determine total demand in gallons per day (gpd) and acre feet per year (AFY). The projected residential water demand of the Project is shown in Table 4-1. Note that because the Project is a total redevelopment of the existing site, the new development will likely have more efficient water use than the existing site uses due to more stringent water efficiency codes and devices. However, the existing site use water demand factor was used to be consistent with 2020 UWMP assumptions as a conservative estimate of potential demand.

Table 4-1. Residential Project Net Demand

Residential Use Detail	Net Proposed Dwelling Units	Water Demand Factor, gpd/DU[1,2]	Factor Source	Net Project Water Demand, gpd	Annual Water Demand, AFY
Independent Living Unit	353	115	Existing Site Use	40,623	45.5
Assisted Living/Memory Care Unit	48	115	Existing Site Use	5,524	6.2
Total Residential Demand					**51.7**

1 – gpd/DU: Gallons per Day per Dwelling Unit
2 – The water demand factor was used to be consistent with 2020 UWMP assumptions as a conservative estimate of potential demand. Redevelopment will likely have more efficient water use.

4.2 Non-Residential

The non-residential components of the Project include a net increase of 46,878 square feet of resident amenity, 3,109 square feet of utility and maintenance space, 19,350 square feet of office space, and 15,000 square feet of retail space. The water demand factors for the non-residential use types are based on factors established by the City of Ventura (Wood Rodgers,

2020) and Santa Clarita Valley Water Agency (GSI Water Solutions, Inc., 2022) for similar uses. The water demand factors were multiplied by the proposed net Project areas to determine the non-residential net projected water demand increase as shown in Table 4-2.

Table 4-2. Non-Residential Project Net Demand

Non-Residential Use Detail	Net Proposed Area, square feet	Water Demand Factor, gpd/square feet	Factor Source	Net Project Water Demand, gpd	Annual Water Demand, AFY
Resident Amenity	46,878	0.18	City of Ventura	8,302	9.3
Utility and Maintenance	3,109	0.04	City of Ventura	118	0.1
Office	19,350	0.04	City of Ventura	735	0.8
Retail	15,000	0.18	Santa Clarita Valley Water Agency	2,700	3.0
Total Non-Residential Demand					**13.3**

4.3 Total Net Project Water Demand

Combining the residential and non-residential net new water demands of the Westminster Gardens Project yields the net projected water demand shown in Table 4-3. Note that the projected water demand assumes that any existing water demand at the Project site will be replaced and offset by redevelopment demands. Therefore, Table 4-4 shows the existing site demand and the Project's net additional water demand in 5-year increments.

Table 4-3. Net Project Demand, AFY

Use Type	Projected Net Water Demand, AFY
Total Residential Demand	51.7
Total Non-Residential Demand	13.3
Total Project Demand	**65**

It is assumed that the Project phasing will occur in equal increments from 2025-2040. The existing water demand of the project site, approximately 19 AFY, is expected to be offset by new development by 2030. Therefore, Table 4-4 shows the existing site demand and the Project's net additional water demand in 5-year increments. The Project is expected to be completed by 2040.

Table 4-4. Project Water Demand Phasing, AFY

Water Demand	2020	2025	2030	2035	2040	2045
Existing Project Site Demand	19	19	19	19	19	19
Net Additional Project Demand	0	0	24	45	65	65
Total Site Demand	19	19	44	64	84	84

4.4 Duarte Water Service Area Demand

Table 4-5 summarizes actual and projected demand in the Duarte water service area, including and excluding the net additional Project demand. The net additional Project demand was added to the 2020 UWMP demands to determine the total service area demand, which is used in subsequent sections of this WSA. As described in the 2020 UWMP, demands were calculated based on GPCD targets per the requirements of Senate Bill x 7-7 (SB7). The GPCD metric provides a way to gauge water use per person historically to project expected future demand patterns based on population projections. The net additional Project Demand does not impact the District-wide GPCD or the Duarte water service area GPCD. CAW expects to meet or be below its required District-wide SB7 GPCD targets with and without the net additional Project demand.

Table 4-5. Historic and Projected Water Demand with the Project, AFY

	2020	2025	2030	2035	2040	2045
Water Demand	6,221	5,949	6,053	6,157	6,232	6,307
Net Additional Project Demand	0	0	24	45	65	65
Total Duarte Demand	6,221	5,949	6,077	6,202	6,297	6,372

5.0 Water Supply Analysis

5.1 Water Sources

CAW obtains its water supply for the Duarte water service area within the Los Angeles County District from: 1) imported water from the Upper San Gabriel Valley Municipal Water District (USGVMWD), 2) groundwater from the Main San Gabriel Basin (MSGB), and 3) surface water from the MSGB obtained from the San Gabriel River. USGVMWD obtains its water supply from the Metropolitan Water District (MWD) of Southern California. Demands not supplied by groundwater allocations are met by purchasing supplemental water from a wholesaler for direct potable use or untreated raw water as replacement water for the groundwater basin due to over-pumping. Untreated raw surface water can be used to meet irrigation demands or to replenish the groundwater basin.

5.1.1 Purchased or Imported Water

CAW obtains wholesale water from the USGVMWD, a member agency of MWD. MWD acquires water from the Colorado River Aqueduct and the California State Water Project (SWP) and distributes treated and untreated water to its member agencies. Untreated water is used for groundwater replenishment. While a sufficient volume of imported water has historically been available for parties that exceed their portion of the Operating Safe yield (OSY), drought-mandated cutbacks from the SWP and Colorado River Aqueduct have severely limited the availability of imported water for groundwater replenishment in recent years. For that reason, the MSGB Watermaster has implemented and is expanding a variety of programs that USGVMWD participates in to provide a drought buffer and increase supply reliability as described in section 5.1.2.

5.1.2 Groundwater

CAW has adjudicated rights to the MSGB. The Duarte water service area is classified as an "integrated producer," which includes an adjudicated right to 1.84634 percent of the OSY of the MSGB, which is established on an annual basis. The MSGB Watermaster's Five-Year Water Quality and Supply Plan 2023-2024 to 2027-2028 (MSGB Five Year Plan) serves as the groundwater management plan for the MSGB, attached as Appendix A. According to the MSGB Five Year Plan, in 2024, the OSY of the MSGB is projected as 150,000 acre-feet per year (AFY). In the four following years starting in 2025, the OSY is projected to be 130,000 AFY (Main San Gabriel Basin Watermaster, 2023). The Duarte water service area's allocation is assumed to be based on the OSY of 130,000 AFY and is calculated as 2,400 AFY starting in 2025.

The MSGB is managed by the MSGB Watermaster. Management includes regulating the amount of water pumped from the Basin for all pumpers while responsibly managing the groundwater supply. Groundwater producers in the MSGB are allowed to exceed their OSY allocation, provided they pay an assessed replenishment fee to the MSGB Watermaster. Most years, the total pumping from the MSGB exceeds the total OSY in order to meet the total demand from all producers, including CAW. As described in USGVMWD 's 2020 UWMP, "The [MSGB] judgement does not restrict the quantity of water which parties may extract from the [MSGB]… If a producer extracts water in excess of its right under the annual [OSY], it must pay an assessment for Replacement Water, which is sufficient to purchase one acre-foot of Supplemental Water to be spread in the MSGB for each acre-foot of excess production" (Stetson Engineers Inc., 2021). The MSGB Watermaster uses the funds generated from the replenishment fees to purchase replacement water from wholesale agencies that have access to imported water. The authorized wholesaler of imported water for CAW's Duarte system is USGVMWD.

DWR, MWD, and USGVMWD are implementing several water supply strategies to ensure that sufficient supply is available in drought conditions as described in the MWD 2020 UWMP (Metropolitan Water District of Southern California, June 2021). These strategies include

investments in: conservation; water recycling; transfer agreements; storage; and supply. Based on these investments DWR, MWD, and USGVMWD anticipate that there will be sufficient supply available to meet forecasted purveyor demands as described in the MWD 2020 UWMP (Metropolitan Water District of Southern California, June 2021), and Upper District's 2020 UWMP identifies 4,960 AFY of surplus supply in the worst historical drought year conditions (Stetson Engineers Inc., 2021). However, unprecedented reductions in SWP availability in 2022, after the UWMPs were completed, were not foreseen in the UWMPs. Drought conditions in 2022 severely limited the availability of imported water for groundwater replenishment. Therefore, the MSGB Watermaster and its partners worked to flexibly adapt to changing circumstances by developing new tools such as Reverse Cyclic storage and the Water Supply Agreement with MWD to extend the timing for recharging imported water. The MSGB Watermaster and its partners have developed a large portfolio of water tools and programs that are used in both dry and wet years to manage the MSGB effectively. Three of the most important are described below:

> "*1. Maintain a low Operating Safe Yield (OSY). The key impact of a low OSY is that it requires the purchase of additional Replenishment Water to meet demands while helping to refill the Basin.*
> *2. Collect funds through the Resource Development Assessment (RDA) to purchase Replenishment Water whenever it is available. Storing Replenishment Water helps replenish the Basin and ensures that water is available to counter the impacts of future extreme droughts.*
> *3. Collaborate in the Metropolitan Water District's (MWD) Regional Recycled Water Program, which is being designed to deliver up to 80,000 acre-feet of reliable recycled water to the Basin to replace variable imported supplies and decreased local runoff in dry years*" (Main San Gabriel Basin Watermaster, 2023).

These initiatives provide additional reliability to groundwater supplies in the MSGB and for the purposes of this WSA, it is assumed UGVMWD will continue to be able to meet demands for replacement water.

While not foreseen at this time, if extreme drought conditions occur that cannot be fully mitigated with the range of actions and tools described above, it is possible that in the future the MSGB Watermaster may have to institute mandatory water conservation measures in order to manage the aquifer. If that occurs, CAW would likely need to pass similar measures on to its customers, including this Project, in accordance with its Water Shortage Contingency Plan in effect at that time. Under such circumstances, water needed to meet human health and safety needs would be prioritized, and outdoor water use would typically be the most restricted.

From 2016 to 2023, groundwater accounted for 71 to 94 percent of total water supply for the Duarte water service area. Note that any water used in excess of CAW's groundwater and integrated right allocations is considered purchased water and accounts for the remaining percent of total water supply. CAW's active wells serving the Duarte water service area pumped

4,724 to 6,221 AFY between 2016 and 2023 as shown in Table 5-1. Projected pumping for the Duarte water service area is shown in Table 5-3.

Table 5-1. CAW Duarte Historical Groundwater Production, AFY

Groundwater Basin	2016	2017	2018	2019	2020	2021	2022	2023
Duarte - MSGB	5,055	5,612	5,852	5,589	6,221	5,828	5,335	4,724

5.1.3 Surface Water

In the Duarte service area, the Los Angeles County District is classified as an "Integrated Producer" in the MSGB Judgement that provides for two types of water allocation rights including a diversion component and a pumping component. The Los Angeles County District has an integrated right from the San Gabriel River (diversion right). The integrated right is fixed at an annual allocation of 1,672 AFY. Historically, water has been diverted from the San Gabriel River located in the San Gabriel watershed. Water that is released from the San Gabriel Reservoir is delivered through a weir located adjacent to the City of Pasadena power plant and water from Morris Reservoir is diverted directly from the San Gabriel River The full allocation of water (1,672 AFY) is applied to the Fish Canyon spreading grounds or returned to the San Gabriel River and spread further downstream. The spreading functions to recharge the aquifers which supply Duarte's wells. The reservoir and spreading activity are managed by the Los Angeles County Department of Public Works in conjunction with water purveyors with surface water diversion rights.

5.2 Transfer Opportunities

CAW leases unused portions of other purveyor's allocations in the MSGB when available. Typically, these opportunities are available when other purveyors experience well contamination or other production interruptions. While this supply is available sometimes, it is not considered a reliable source and is not quantifiable as a projected future supply source.

5.3 Future Water Projects

Other than rehabilitation and replacement of existing infrastructure, there are currently no planned future projects to bring new supply sources to the Duarte water service area.

MWD and USGVMWD are currently developing the Regional Recycled Water Program (RRWP), "which is being designed to deliver up to 80,000 acre-feet of reliable recycled water to the Basin to replace variable imported supplies and decreased local runoff in dry years" (Main San Gabriel Basin Watermaster, 2023).

5.4 Recycled Water

The CAW Los Angeles County District does not collect or treat any of the wastewater generated within its service area. The CAW Los Angeles County District does not currently use recycled water within its service area; however, it is continually looking for opportunities and working with its regional partners to use recycled water within the service area.

5.5 Water Supply Summary

CAW's historical water supplies for the Duarte service area are summarized in Table 5-2.

Table 5-2. CAW Duarte Historical Water Supplies, AFY

Water Supply	Water Supply Detail	2016	2017	2018	2019	2020	2021	2022	2023
Groundwater (not desalinated)	MSGB	2,770	2,770	2,770	2,770	2,770	2,770	2,770	2,770
Surface water (not desalinated)	MSGB Integrated Right	1,672	1,672	1,672	1,672	1,672	1,672	1,672	1,672
Purchased or Imported Water	Upper District Replacement Water	613	1,170	1,410	1,147	1,779	1,386	893	282
Total		**5,055**	**5,612**	**5,852**	**5,589**	**6,221**	**5,828**	**5,335**	**4,724**

Historically, CAW has been able to supply 100% of its demand in the Duarte service area through its groundwater and surface water sources. CAW has also historically exceeded its groundwater allocation in the MSGB and made up for the over production by purchasing replacement water from the USGVMWD. In accordance with the provisions of the MSGB Judgment, CAW will be able to increase groundwater pumping from the MSGB to meet the demands of the Project and pay for the associated replacement water from the MSGB Watermaster. As stated in Sections 5.1.2 and 5.5, there is no limit on the quantity of groundwater that CAW can extract from the MSGB if CAW purchases the equivalent amount of replacement water. It is assumed UGVMWD will continue to be able to meet demands for replacement water due to the water supply reliability discussed in Section 5.1.2.

While not foreseen at this time, if extreme drought conditions occur that cannot be fully mitigated with the range of actions and tools described above, it is possible that in the future the MSGB Watermaster may have to institute mandatory water conservation measures in order to manage the aquifer. If that occurs, CAW would likely need to pass similar measures on to its customers, including this Project, in accordance with its Water Shortage Contingency Plan in effect at that time. Under such circumstances, water needed to meet human health and safety needs would be prioritized, and outdoor water use would typically be the most restricted.

It is assumed that the use of surface water for non-potable irrigation was discontinued in 2020 and therefore the full allocation of the MSGB Integrated Right (1,672 AFY) will be utilized. Table 5-3 provides a summary of the projected potable water supply sources from 2025 to 2045 in 5-year increments, which is based on meeting 2020 UWMP projections and net additional Project demands.

Table 5-3. CAW Duarte Projected Water Supplies, AFY

Water Supply	Water Supply Detail	2025	2030	2035	2040	2045
Groundwater (not desalinated)	MSGB	2,400	2,400	2,400	2,400	2,400
Surface water (not desalinated)	MSGB Integrated Right	1,672	1,672	1,672	1,672	1,672
Purchased or Imported Water	Upper District Replacement Water	1,877	2,005	2,130	2,225	2,300
Total		**5,949**	**6,077**	**6,202**	**6,297**	**6,372**

5.6 Water Supply Reliability

Factors impacting the reliability of the CAW Duarte's supply are shown in Table 5-4. The legal factors affecting supply include groundwater adjudications, provided in Appendix B, and replacement water purchase agreements for excess pumping. Environmental factors related to wholesale supply reliability include reduced deliveries of SWP due to reduced pumping in the Bay-Delta. Water quality factors influence groundwater production capacity and efficiency in the MSGB. All the supplies are subject to reduction as a result of climatic factors.

Table 5-4. Factors that Affect Supply Reliability.

Water Supply Sources	Legal	Environmental	Water Quality	Climatic
MSGB	X		X	X
USGVMWD	X	X		X

Table 5-5 shows the supply reliability base years used to approximate average, single dry, and multiple dry year conditions for all supply sources of the Duarte system.

Table 5-5. Basis for Water Year Data.

Supply Reliability	Average Water Year	Single Dry	Multiple Dry Years
MSGB	2011-2020 Avg	2013	2012-2016
USGVMWD	FY[1] 2005-2006	FY 2013-2014	FY 2011/12-2013/14
1 - FY: Fiscal Year			

6.0 Water Supply and Demand Analysis

Based on the supply reliability base years presented in the previous section, Table 6-1 shows a comparison of supply and demand projections in a normal year. The demand values account for the 2020 UWMP and Project net additional demands. Table 6-2 presents a comparison of supply and demand projections in a single dry year while Table 6-3 presents a comparison of supply and demand for multiple dry years. Note it is assumed that additional demands not accounted for in the 2020 UWMP can be supplied by utilizing groundwater production and offsetting any excess use by purchasing replacement water as discussed in Section 5.1.1.

Table 6-1. Normal Year Supply and Demand Comparison, AFY

	2025	2030	2035	2040	2045
Supply Totals[1]	5,949	6,077	6,202	6,297	6,372
Demand Totals[2]	5,949	6,077	6,202	6,297	6,372
Difference	0	0	0	0	0

1 – It is assumed that all demand not met by the allocations in the MSGB will be met by purchasing replacement water from USGVMWD. Supply values from the 2020 UMWP have been adjusted to reflect the additional purchased water.
2 – Demand totals updated to reflect addition of net additional Project demands.

Table 6-2. Single Dry Year Supply and Demand Comparison, AFY

	2025	2030	2035	2040	2045
Supply Totals[1]	6,593	6,735	6,873	6,979	7,062
Demand Totals[2,3]	6,593	6,735	6,873	6,979	7,062
Difference	0	0	0	0	0

1 – It is assumed that all demand not met by the allocations in the MSGB will be met by purchasing replacement water from USGVMWD. Supply values from the 2020 UMWP have been adjusted to reflect the additional purchased water.
2 – Demand totals updated to reflect addition of net additional Project demands.
3 – "% of normal" values, from Table 7-3 in the 2020 UWMP, are applied to normal demand in Table 6-1 (of this WSA) to reflect anticipated demand changes in dry years.

Table 6-3. Multiple Dry Years Supply and Demand Comparison, AFY

		2025	2030	2035	2040	2045
First Year	Supply Totals	6,546	6,686	6,821	6,923	7,006
	Demand Totals	6,546	6,686	6,821	6,923	7,006
	Difference:	**0**	**0**	**0**	**0**	**0**
Second Year	Supply Totals	6,615	6,755	6,885	6,988	N/A
	Demand Totals	6,615	6,755	6,885	6,988	N/A
	Difference:	**0**	**0**	**0**	**0**	**N/A**
Third Year	Supply Totals	6,563	6,701	6,823	6,925	N/A
	Demand Totals	6,563	6,701	6,823	6,925	N/A
	Difference:	**0**	**0**	**0**	**0**	**N/A**
Fourth Year	Supply Totals	5,296	5,412	5,508	5,595	N/A
	Demand Totals	5,296	5,412	5,508	5,595	N/A
	Difference:	**0**	**0**	**0**	**0**	**N/A**
Fifth Year	Supply Totals	5,388	5,506	5,598	5,685	N/A
	Demand Totals	5,388	5,506	5,598	5,685	N/A
	Difference:	**0**	**0**	**0**	**0**	**N/A**

Notes: It is assumed that all demand not met by the allocations in the MSGB will be met by purchasing replacement water from USGVMWD. Supply values from the 2020 UMWP have been adjusted to reflect the additional purchased water. Demand totals have been updated to reflect addition of net additional Project demands.
"% of normal" values, from Table 7-3 in the 2020 UWMP, are applied to normal demand in Table 6-1 (of this WSA) to reflect anticipated demand changes in dry years.

7.0 Determination of Water Supply Sufficiency

Assuming the required MSGB replacement water supply presented in this Draft WSA will be available as it has been historically, this WSA concludes that CAW's total projected water supplies available during average, single dry, and multiple dry water years will meet the projected water demand for all phases of the Project, in addition to CAW's existing and planned future uses. CAW will be able to offset an increase in groundwater pumping from the MSGB due

to the Project by paying for replacement water from the MSGB Watermaster. As stated in Sections 5.1.2 and 5.5, there is no limit on the quantity of groundwater that CAW can extract from the MSGB if CAW purchases the equivalent amount of replacement water. It is assumed UGVMWD will continue to be able to meet demands for replacement water. While not foreseen at this time, if extreme drought conditions occur that cannot be fully mitigated with the range of actions and tools described above, it is possible that in the future the MSGB Watermaster may have to institute mandatory water conservation measures in order to manage the aquifer. If that occurs, CAW would likely need to pass similar measures on to its customers, including this Project, in accordance with its Water Shortage Contingency Plan in effect at that time. Under such circumstances, water needed to meet human health and safety needs would be prioritized, and outdoor water use would typically be the most restricted. The City will coordinate with CAW to pursue access of these supplies and necessary infrastructure upgrades.

8.0 Additional Analysis – Andres Duarte School Redevelopment

An additional analysis was conducted for a proposed project at the existing Andres Duarte School site, which would not require a WSA on its own. Because of the proximity (approximately 0.5 miles) to the Project (Westminster Gardens) site, the proposed redevelopment of the Andres Duarte School was analyzed as a part of this WSA for adjustments to the 2020 UMWP demand projections and potential impacts to the existing water distribution system. The following sections describe the proposed Andres Duarte School redevelopment and summarize the conjoined project impacts on CAW's Duarte distribution system. The proposed developments, including Westminster Gardens (Project) and the Andres Duarte School redevelopment, are shown in Figure 8-1.

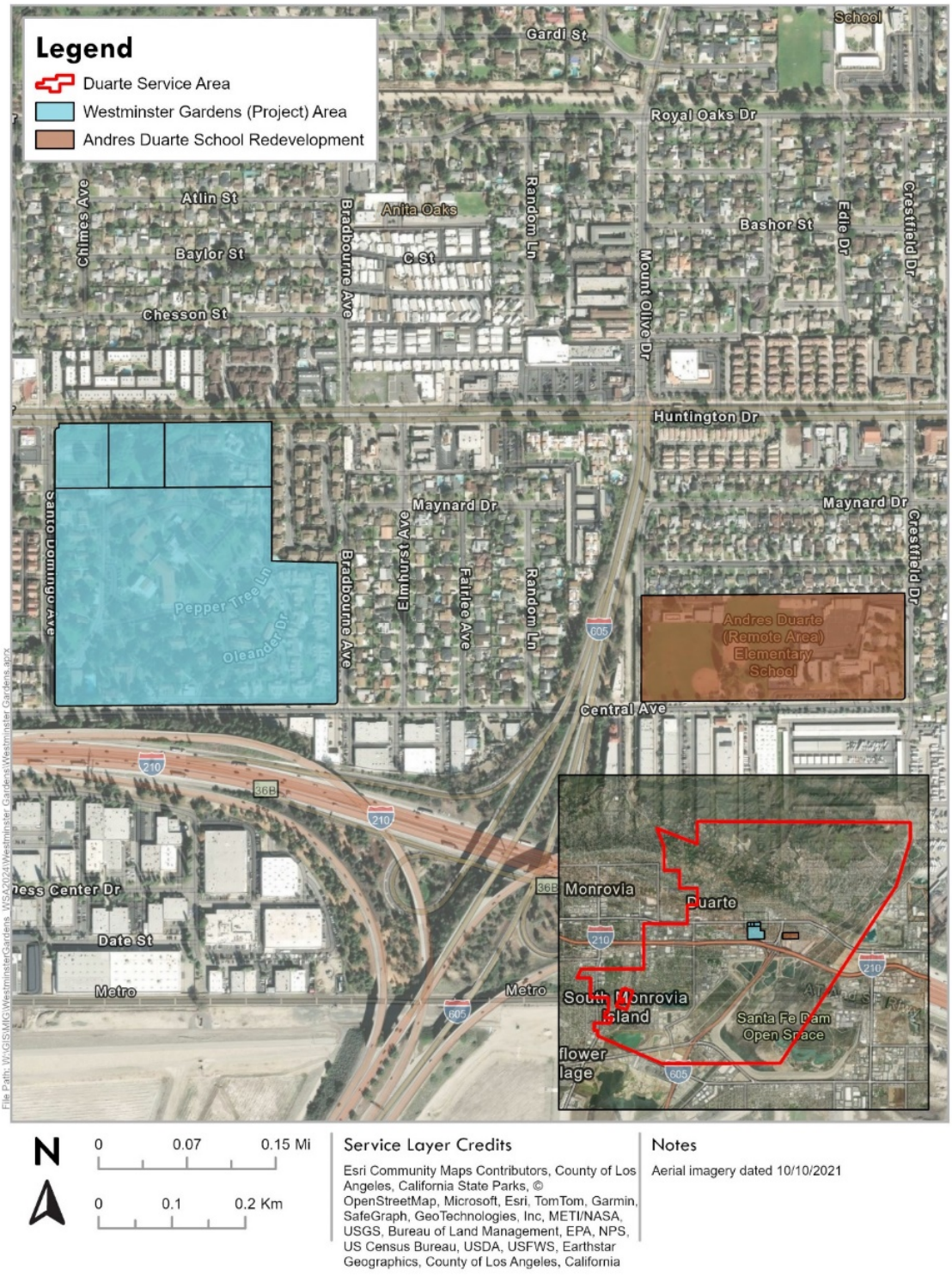

Figure 8-1. Proposed Projects' Location

8.1 Project Demand Projections

The redevelopment of the existing Andres Duarte School parcel will consist of maintaining approximately 5.5 acres of existing park space and redeveloping the remaining area (7.5 acres) of the parcel into residential townhomes. Water demand projections for the multi-family residential (MFR) townhomes assumed a water demand factor of 156 gpd/DU, sourced from a WSA completed in 2020 for the Duarte service area (Water Systems Consulting, Inc., 2020). Demand projections for the park portion of the parcel are based on 2023 consumption data (the year after the school shut down), which represents water supplied only for the park's use. Table 8-2 and Table 8-2 below present the projected residential and non-residential (park) water demands for the Andres Duarte School redevelopment. Based on these estimates, the Andres Duarte School redevelopment is projected to require approximately 40 AFY.

Table 8-1. Residential Redevelopment Water Demand

Land Use Detail	Proposed Dwelling Units (DUs)	Water Demand Factor (gpd/DU)	Factor Source[1]	Proposed Water Demand (gpd)	Annual Water Demand (AFY)
Residential (Townhouses)	175	156	2020 Duarte Station Specific Plan WSA	27,300	30.6

1 – The residential water demand factor is based on recent water use studies from the Water Research Foundation and the Los Angeles County Sanitation District. **(Water Research Foundation, 2017)**, **(Water Research Foundation, 2015)**, **(Los Angeles County Sanitation District No. 3, 2015)**

Table 8-2. Non-Residential Redevelopment Water Demand

Land Use Detail	Proposed Development (acres)	Water Demand Factor (gpd/acres)	Factor Source	Water Demand, gpd	Water Demand, AFY
Non-Residential (Park)	5.5	1,509	Existing Site Use[1]	8,300	9.3

1 – Based on 2023 parcel water use. The school was shut down in 2022 and had no water demands.

The redevelopment of the Andres Duarte School was assumed to occur in 2030. The average water use for the proposed redevelopment parcel from 2019 to 2022 was 16 AFY. This amount was included within the 2020 UWMP. The net additional demands over time from the Project are shown in Table 8-3.

Table 8-3. Andres Duarte School Redevelopment Demand Phasing, AFY

Water Demand	2020	2025	2030	2035	2040	2045
Existing Project Site Demand	16	16	16	16	16	16
Net Additional Project Demand	0	0	23	23	23	23
Total Site Demand	16	16	40	40	40	40

8.2 Supply and Demand Analysis

The water supply and demand analysis for the redevelopment of the Andres Duarte School followed the same methodology as presented in Section 6.0. Note that the projected demands in the following analysis account for the demands projected in the 2020 UWMP, the net additional Project demands of the Westminster Gardens (Project) redevelopment, and the net projected demands of the Andres Duarte School redevelopment. Table 8-4 presents a comparison of supply and demand projections in a normal year. Table 8-5 presents a comparison of supply and demand projections in a single dry year and Table 8-6 presents a comparison of supply and demand projections for multiple dry years.

Table 8-4. Normal Year Supply and Demand Comparison, AFY

	2025	2030	2035	2040	2045
Supply Totals[1]	5,949	6,101	6,225	6,320	6,395
Demand Totals[2]	5,949	6,101	6,225	6,320	6,395
Difference	0	0	0	0	0

1 – It is assumed that all demand not met by the allocations in the MSGB will be met by purchasing replacement water from USGVMWD. Supply values from the 2020 UMWP have been adjusted to reflect the additional purchased water.
2 – Demand totals updated to reflect net additional Project demands and redevelopment of the Andres Duarte School site.

Table 8-5. Single Dry Year Supply and Demand Comparison, AFY

	2025	2030	2035	2040	2045
Supply Totals[1]	6,593	6,761	6,899	7,004	7,088
Demand Totals[2,3]	6,593	6,761	6,899	7,004	7,088
Difference	0	0	0	0	0

1 – It is assumed that all demand not met by the allocations in the MSGB will be met by purchasing replacement water from USGVMWD. Supply values from the 2020 UMWP have been adjusted to reflect the additional purchased water.
2 – Demand totals updated to reflect net additional Project demands and redevelopment of the Andres Duarte School site.
3 – "% of normal" values, from Table 7-3 in the 2020 UWMP, are applied to normal demand in Table 8-4 (of this WSA) to reflect anticipated demand changes in dry years.

Table 8-6. Multiple Dry Years Supply and Demand Comparison, AFY

		2025	2030	2035	2040	2045
First Year	Supply Totals	6,546	6,709	6,844	6,947	7,029
	Demand Totals	6,546	6,709	6,844	6,947	7,029
	Difference:	**0**	**0**	**0**	**0**	**0**
Second Year	Supply Totals	6,615	6,779	6,908	7,011	N/A
	Demand Totals	6,615	6,779	6,908	7,011	N/A
	Difference:	**0**	**0**	**0**	**0**	**N/A**
Third Year	Supply Totals	6,563	6,725	6,846	6,949	N/A
	Demand Totals	6,563	6,725	6,846	6,949	N/A
	Difference:	**0**	**0**	**0**	**0**	**N/A**
Fourth Year	Supply Totals	5,296	5,435	5,532	5,618	N/A
	Demand Totals	5,296	5,435	5,532	5,618	N/A
	Difference:	**0**	**0**	**0**	**0**	**N/A**
Fifth Year	Supply Totals	5,388	5,529	5,622	5,709	N/A
	Demand Totals	5,388	5,529	5,622	5,709	N/A
	Difference:	**0**	**0**	**0**	**0**	**N/A**

Notes: It is assumed that all demand not met by the allocations in the MSGB will be met by purchasing replacement water from USGVMWD. Supply values from the 2020 UMWP have been adjusted to reflect the additional purchased water. Demand totals have been updated to reflect net additional Project demands and redevelopment of the Andres Duarte School site. "% of normal" values, from Table 7-3 in the 2020 UWMP, are applied to normal demand in Table 8-4 (of this WSA) to reflect anticipated demand changes in dry years.

8.3 Determination of Water Supply Sufficiency

Assuming the required MSGB replacement water supply presented in this Draft WSA will be available as it has been historically, this WSA concludes that CAW's total projected water supplies available during average, single dry, and multiple dry water years during a 20-year projection will meet the projected water demand for all phases of the Andres Duarte School redevelopment, in addition to CAW's existing and planned future uses, including the Project discussed in the earlier chapters of this report (Westminster Gardens). CAW will be able to

offset an increase in groundwater pumping from the MSGB due to the Project by paying for replacement water from the MSGB Watermaster. As stated in Sections 5.1.2 and 5.5, there is no limit on the quantity of groundwater that CAW can extract from the MSGB if CAW purchases the equivalent amount of replacement water. It is assumed UGVMWD will continue to be able to meet demands for replacement water. While not foreseen at this time, if extreme drought conditions occur that cannot be fully mitigated with the range of actions and tools described above, it is possible that in the future the MSGB Watermaster may have to institute mandatory water conservation measures in order to manage the aquifer. If that occurs, CAW would likely need to pass similar measures on to its customers, including this Project, in accordance with its Water Shortage Contingency Plan in effect at that time. Under such circumstances, water needed to meet human health and safety needs would be prioritized, and outdoor water use would typically be the most restricted.

As noted in Section 5.1.2, the MSGB Watermaster annually establishes an OSY for the MSGB which is then used to allocate a portion of the OSY to each respective party which can be produced free of a Replacement Water Assessment. As described in Upper District's 2020 UWMP, "The MSGB judgement does not restrict the quantity of water which parties may extract from the MSGB… If a producer extracts water in excess of its right under the annual [OSY], it must pay an assessment for Replacement Water, which is sufficient to purchase one acre-foot of Supplemental Water to be spread in the MSGB for each acre-foot of excess production" (Stetson Engineers Inc., 2021). Human Good and the City will coordinate with CAW to pursue access of these supplies and necessary infrastructure upgrades.

9.0 Water System Analysis

Using CAW's existing hydraulic model of the Duarte water distribution system, WSC modeled the impact to the system with the addition of the proposed projects (Westminster Gardens and the Andres Duarte School redevelopment). Design criteria and fire flow requirements identified in the 2019 Comprehensive Planning Study (CPS) were used in evaluating the distribution system's capability to serve the projects. A summary of the design criteria is presented in Table 9-1 and fire flow requirements are presented in Table 9-2.

Table 9-1. Design Criteria.

	Evaluation Criteria
System Pressure	Maintain a minimum pressure of 20 psi at user service connection at all times, including fire flow conditions. Water distribution systems shall be designed to maintain normal operating pressures of no less than 40 psi at the service connections during peak hour demand (PHD).
Fire Flows	Distribution systems shall be sized to provide the fire flow during maximum day demand (MDD) with a minimum system residual pressure of 20 psi.

Table 9-2. 2019 CPS Fire Flow Requirements.

Land Use Classification	Fire Flow Standards	Fire Flow, gpm
Very Low Density Residential	Rural	500
Low Density Residential	Single-Family Residential	1,500
Medium Density Residential	Multi-Family Residential	2,500
High Density Residential		
Low Density Commercial	Commercial	3,000
High Density Commercial		
Mixed Use (Residential/Commercial)		

Based on the design criteria presented above, the proposed Project, a “Mixed Use” development, will need to provide 3,000 gpm of fire flow under MDD conditions while maintaining a minimum system residual pressure of 20 psi. The redevelopment of the Andres Duarte School will need to provide 2,500 gpm of fire flow as it is a “Multi-Family Residential” development.

9.1 Modeling Results

WSC performed four simulations in CAW’s existing hydraulic model, listed below:

1. Existing Distribution System at Current MDD.
2. Existing Distribution System at Current MDD with Westminster Gardens.
3. Existing Distribution System at Current MDD with Westminster Gardens and Andres Duarte School redevelopment, see Figure 9-1.
4. Existing Distribution System at Current PHD with Westminster Gardens and Andres Duarte School redevelopment.

Results of all simulations showed that CAW's Duarte distribution system can supply the proposed projects while meeting the design criteria listed in presented in Table 9-1 and Table 9-2. The modeling shows that the existing system is able to support the new developments at this time. Note this analysis assumes that the Project (Westminster Gardens) would connect to the existing distribution system along Huntington Drive, a 12" mainline on the northern side of the Project. This analysis also assumes the Andres Duarte School redevelopment project would connect to the 12" mainline on Central Avenue. There are existing 4" pipes in the system that may restrict available fire flow. While the 4" pipes may be replaced in the future, the timing is unknown, and the improvements are unrelated to the redevelopment of the Andres Duarte School. Note that the model predicts sufficient fire flow at Central Ave, as shown in Figure 9-1. The Developer shall coordinate with the Fire Department to identify the number and location of fire services and ensure appropriate fire flow is available at such locations.

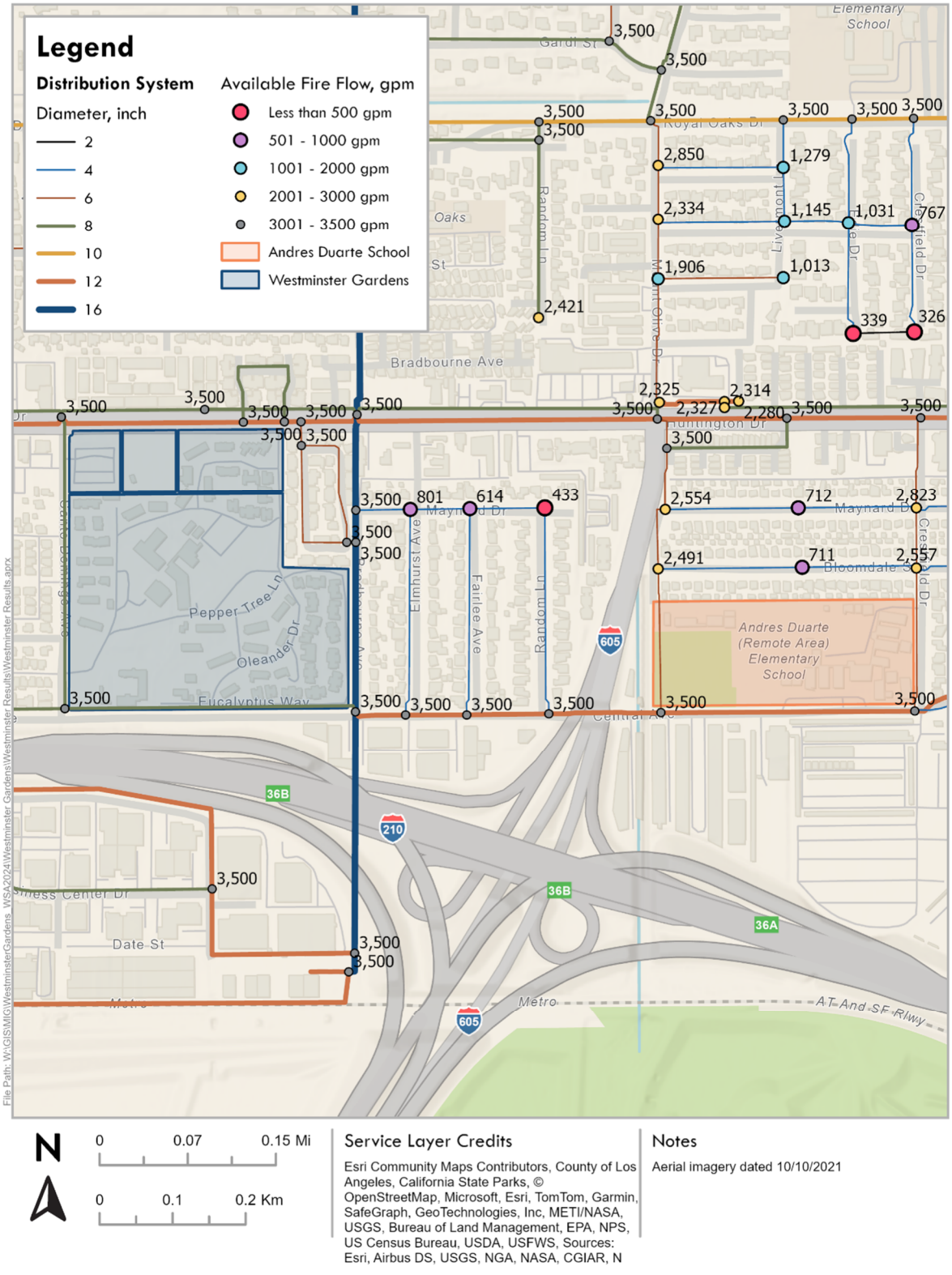

Figure 9-1. Available Fire Flow in Projects' Vicinity, MDD

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Appendix A MSGB Five Year Plan

Five-Year
Water Quality and Supply Plan



2023–24 to 2027–28

DRAFT

“ To assure that pumping does not lead to further degradation of water quality in the Basin, a Five-Year Water Quality and Supply Plan must be prepared and updated annually by Watermaster...”

Section 28 of Watermaster’s Rules and Regulations

Cover image of the State Water Project.

Five-Year Water Quality and Supply Plan

November 2023

Main San Gabriel Basin WATERMASTER

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INTRODUCTION

Main San Gabriel Basin Watermaster (Watermaster) annually prepares and updates this Five-Year Water Quality and Supply Plan (Five-Year Plan) in accordance with the requirements of Section 28 of its Rules and Regulations. The objective is to coordinate groundwater-related activities so that both water supply and water quality in the Main San Gabriel Basin (Basin) are protected and improved.

PURPOSE OF THE FIVE-YEAR PLAN

Many important issues are detailed in the Five-Year Plan, including Watermaster's plans for the following activities:

1. Monitor groundwater supply and quality.
2. Develop projections of future groundwater supply and quality.
3. Provide water supply and drought management to ensure long-term reliable and sustainable water supplies.
4. Review and cooperate on cleanup projects and provide technical assistance to other agencies.
5. Assure that pumping does not lead to further water quality degradation in the Basin.
6. Address emerging contaminants in the Basin.
7. Develop a cleanup and water supply program consistent with the U.S. Environmental Protection Agency (USEPA) plans for its Main San Gabriel Basin Superfund sites.
8. Continue to perform responsibilities under the Baldwin Park Operable Unit (BPOU) Project Agreement relating to project administration and performance evaluation.

WATERMASTER BACKGROUND AND HISTORY

The Los Angeles County Superior Court created the Main San Gabriel Basin Watermaster in 1973 to resolve water issues among water users in the San Gabriel Valley. At that time, the Watermaster's mission was to manage the Basin's water supply. During the late 1970s and early 1980s, significant concentrations of contaminants were detected in the groundwater Basin. The contamination was partly caused by past practices of local industries that had inappropriately disposed of industrial solvents and by infiltration of nitrates from an earlier agricultural period. Cleanup efforts for industrial contamination were undertaken at the local, state, and federal levels.

WATERMASTER RECEIVES WATER QUALITY RESPONSIBILITIES

By 1989, local water agencies had adopted a joint resolution concerning water quality issues, which stated that Watermaster should coordinate local activities to preserve and restore groundwater quality in the Basin. The joint resolution also called for a Basin cleanup plan. In 1991, the Los Angeles County Superior Court granted Watermaster the authority to control pumping for water quality purposes.

Accordingly, Watermaster added Section 28 to its Rules and Regulations regarding water quality management. The new responsibilities included developing this Five-Year Water Quality and Supply Plan; updating it annually, submitting it to the California Regional Water Quality Control Board, Los Angeles Region (Regional Board); and making it available for public review by November 1 of each year.

PLAN TO PERMANENTLY BALANCE THE BASIN'S GROUNDWATER SUPPLY

For decades, the Basin depended on imported replenishment water to meet about 20% of local needs. However, the reliability of these imported supplies has been diminishing over the years. The severe 2011–2016 drought made clear that Watermaster could not exclusively count on imported water deliveries each year for long-term sustainability.

Early in the drought, Watermaster recognized changes in the water supply that were occurring. As a result, by 2012, Watermaster unanimously approved an unprecedented set of changes to its Rules and Regulations to engage in developing new, proactive strategies for water supplies and storage.

Watermaster and Its Partners Have the Tools to Balance the Basin. Over the years, Watermaster, the Producers, and its many partners have developed a large portfolio of water tools and programs that are used in both dry and wet years to manage the Basin effectively.

Watermaster and its partners work to flexibly adapt to changing circumstances. For example, in 2022-23, new tools were developed such as Reverse Cyclic storage and the Water Supply Agreement with Metropolitan Water District of Southern California (MWD) to extend the timing for recharging imported water.

While there are many elements of Watermaster's Plan to proactively improve long-term water supplies and storage, the three most important are:

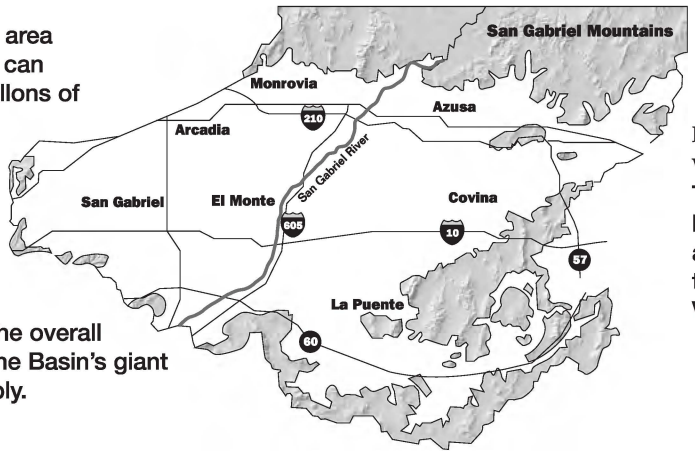
1. Maintain a low Operating Safe Yield (OSY). The key impact of a low OSY is that it requires the purchase of additional Replenishment Water to meet demands while helping to refill the Basin.

2. Collect funds through the Resource Development Assessment (RDA) to purchase Replenishment Water whenever it is available. Storing Replenishment Water helps replenish the Basin and ensures that water is available to counter the impacts of future extreme droughts.

3. Collaborate in the Metropolitan Water District's (MWD) Regional Recycled Water Program, which is being designed to deliver up to 80,000 acre-feet of reliable recycled water to the Basin to replace variable imported supplies and decreased local runoff in dry years.

Figure 1. AREA COVERED BY MAIN SAN GABRIEL BASIN

Massive Basin
The Basin has a surface area of 167 square miles and can hold about 2.8 trillion gallons of groundwater.



Watermaster's Role
Watermaster manages the overall quantity and quality of the Basin's giant underground water supply.

Precious Underground Water Supply
The Basin provides up to 90 billion gallons of groundwater annually, enough to meet over 80% of the water needs for San Gabriel Valley's 1.4 million residents.

CURRENT WATER SUPPLY CONDITIONS

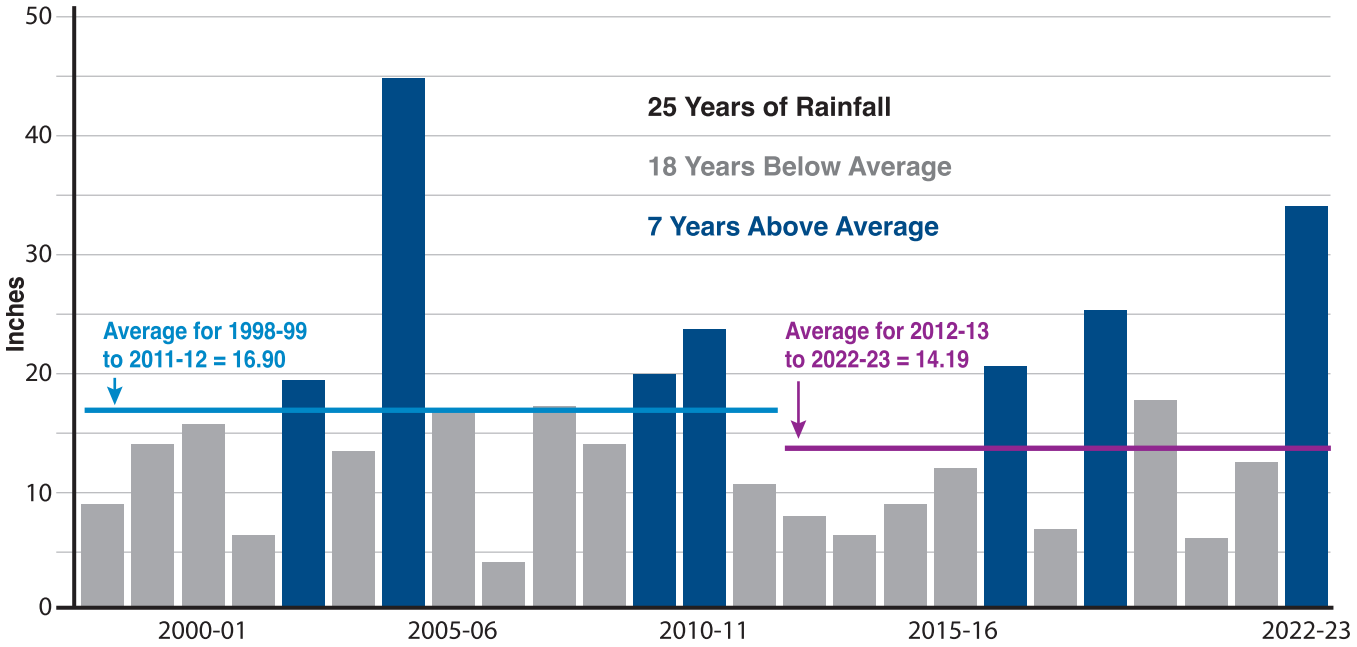
Drier-than-normal conditions have generally persisted in the San Gabriel Valley for the past two decades. Commencing in fiscal year 1998-99, annual rainfall has been below the long-term average annual amount of 18.52 inches in 19 of the past 25 years. However, during fiscal year 2022-23, the San Gabriel Valley received 34.41 inches of much-needed rainfall, which is about 186% of long-term average. This rainfall has provided relief to the San Gabriel Valley, but drier-than-normal conditions may return at any time.

More information about programs to improve long-term water reliability is provided under Water Supply and Drought Management Planning and Actions on page 27.

WATER SUPPLY INFLOWS DURING 2022–23

VALLEY RECEIVES MUCH-NEEDED RAINFALL AFTER THE PAST THREE YEARS OF BELOW-AVERAGE RAINFALL

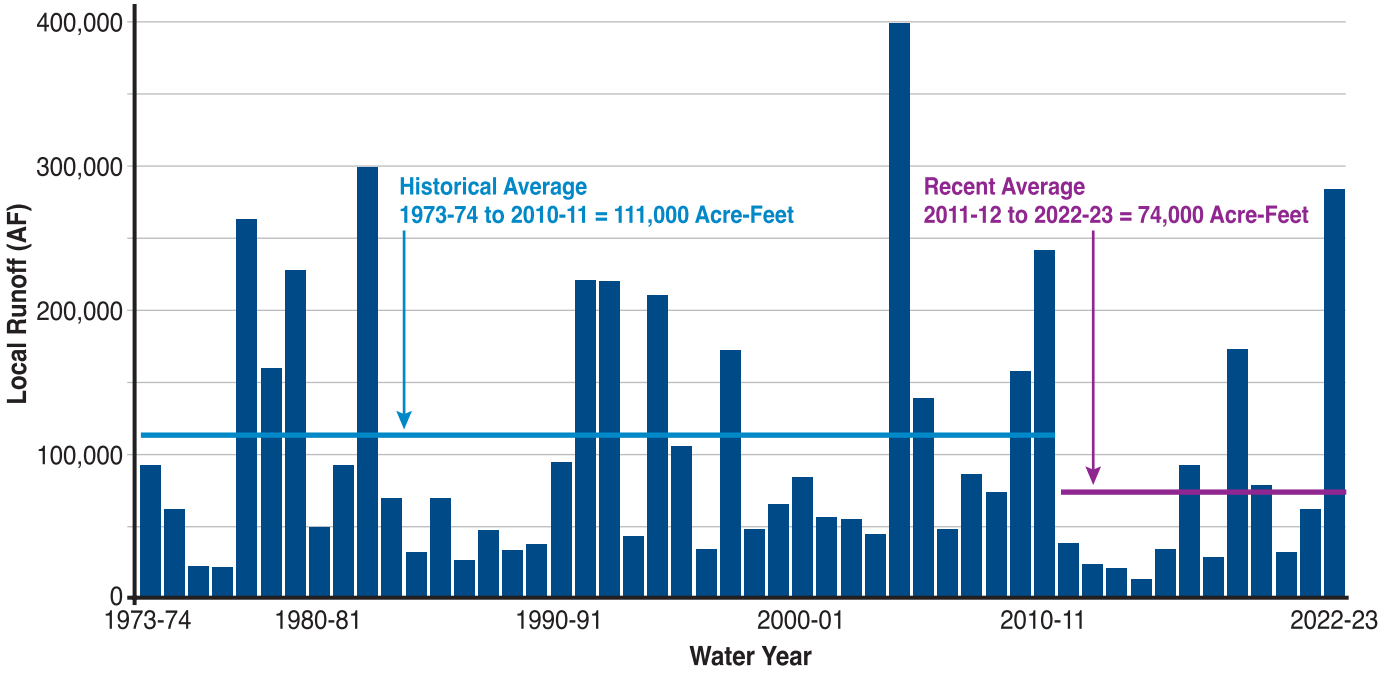
Figure 2. RAINFALL WAS ABOVE THE LONG-TERM AVERAGE THIS YEAR, BUT ONLY FOR THREE OF THE PAST 10 YEARS



SOURCE: San Gabriel River Watermaster

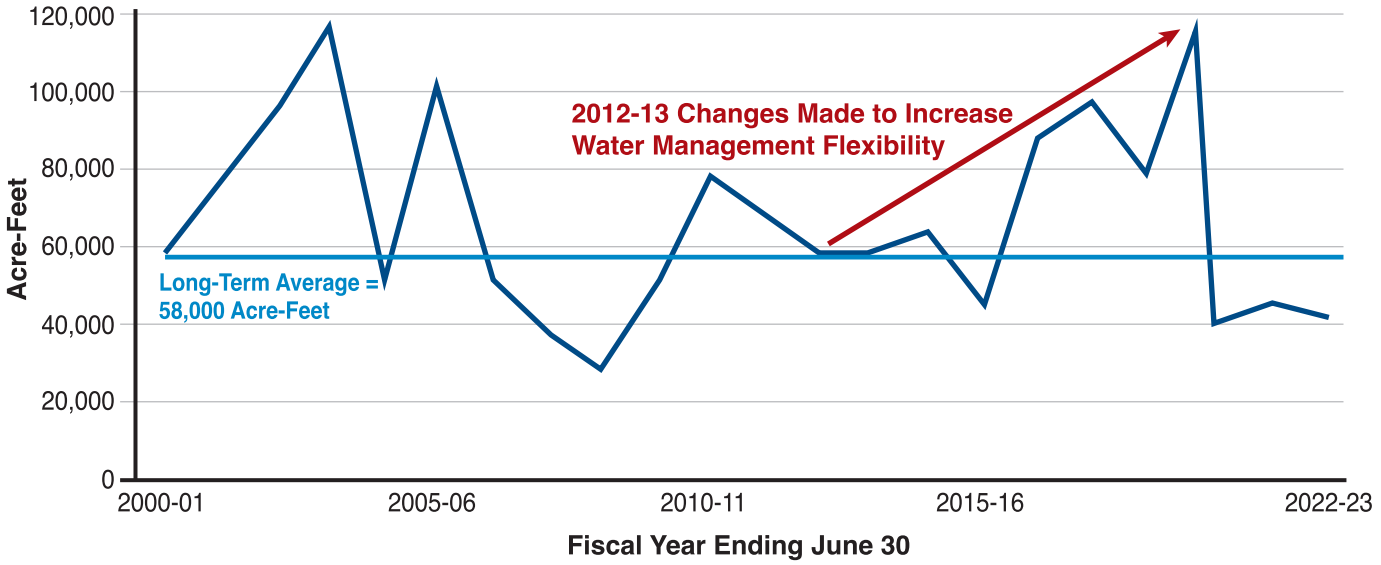
In 2022-23, the San Gabriel Valley received 34.41 inches of rain, about 186% of the long-term average of 18.52 inches. The rainfall total is an average taken from four stations located in San Dimas, Diamond Bar, El Monte, and Pasadena. Rain has been below average over the past two decades. Eighteen of the past 25 years have experienced below-average rainfall.

Figure 3. ANNUAL LOCAL WATER RUNOFF WAS WELL ABOVE AVERAGE



In 2022-23, Annual runoff was about 286,000 acre-feet, well above the historical average of about 111,000 acre-feet. However, in the 11 years between 2011-12 and 2021-22, there has been about 600,000 acre-feet less runoff than would be expected due to the many drought years.

Figure 4. IMPORTED WATER DELIVERIES BELOW LONG-TERM AVERAGE IN FY 2022-23



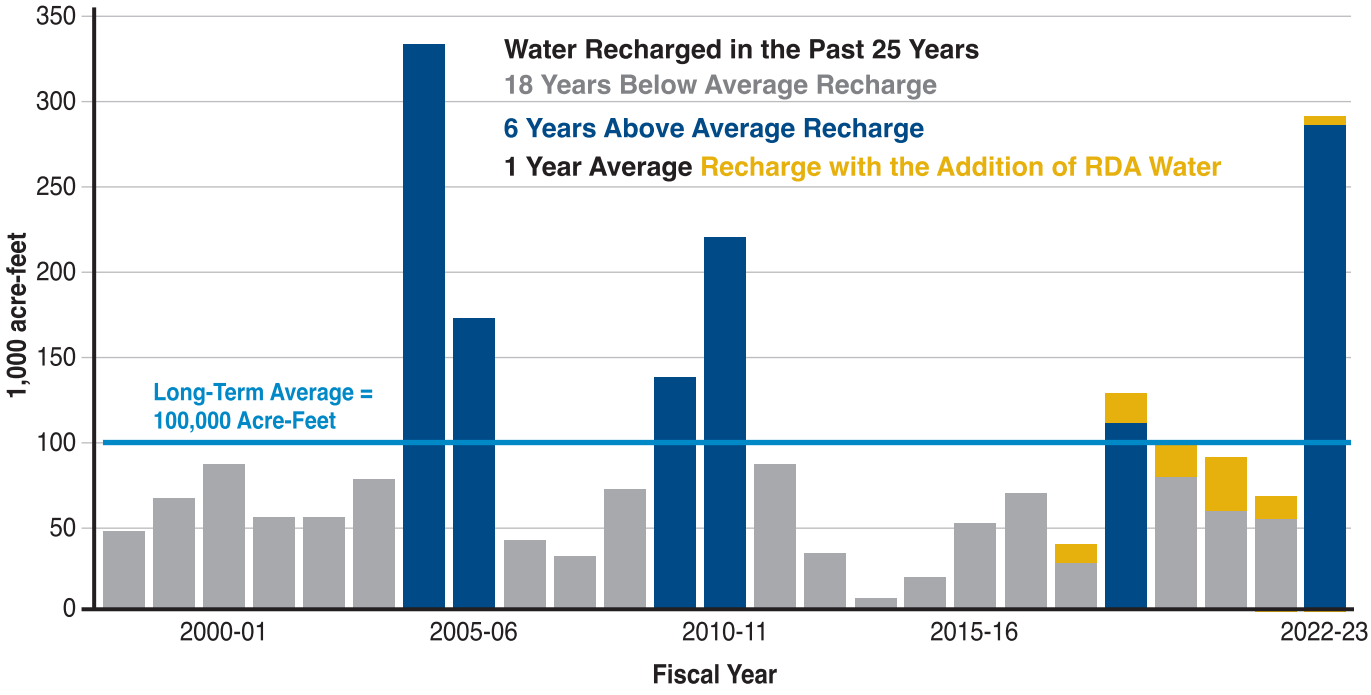
Imported water deliveries (treated and untreated) during 2022-23 were below the long-term average because imported water was less available due to the drought. In addition, due to above-average rainfall, significant runoff was spread in the San Gabriel Valley through June 2023, delaying untreated imported water deliveries for spreading into the next fiscal year. As a result, water imports totaled only about 41,000 acre-feet for direct use and groundwater replenishment. This is about 71% of the long-term average of about 58,000 acre-feet.

The RDA has provided steady funding needed to secure available imported water. As a result, imported water deliveries have been above average in recent years, though imports this year were were below average because of limited supplies due to the drought.

MANAGEMENT CHANGES SINCE 2012–13 ARE RESULTING IN INCREASED IMPORTED SUPPLIES

The long-term reliability of imported water supplies has decreased due to drought, increased competition for limited water supplies, and regulations that allocate water supplies for environmental uses. Despite these challenges, Watermaster's assertive management programs and flexible funding for imported water supply purchases through the RDA, Cyclic Storage, and other programs have enabled a trend of increasing imports of water to help balance the Basin over the long term.

Figure 5. LOCAL WATER CONSERVED WAS WELL ABOVE AVERAGE



Approximately 286,000 acre-feet of local water and 4,000 acre-feet of RDA water were conserved during 2022-23. In December 2022, Watermaster had enough funds to purchase about 74,000 acre-feet. However, due to a State Water Project Allocation for 2022 of only 5% of Health & Safety Allocation, about 14,700 acre-feet of wet deliveries for Cyclic Storage were delivered. The State Water Project Allocation for 2023 increased to 100% due to above-average rainfall in Northern California. However, due to above-average local runoff, spreading of local water continued through late June 2023. Consequently, only 4,000 acre-feet of RDA water deliveries were delivered by June 30, 2023, and the remaining RDA deliveries are delayed into the next fiscal year.

LOCAL STORMWATER CAPTURE 286% OF THE LONG-TERM AVERAGE

Total rainfall from 2011–12 through 2017–18 was well below average (an especially severe seven-year drought period within a longer 20-plus years of mostly drought conditions). During 2022-23, rainfall was about 186% of average. Stormwater capture was about 286,000 acre-feet, which was about 286% of average.

Stormwater runoff from rainfall and delivery of RDA water and untreated imported water helped increase the groundwater level by about 55 feet during fiscal year 2022-23.

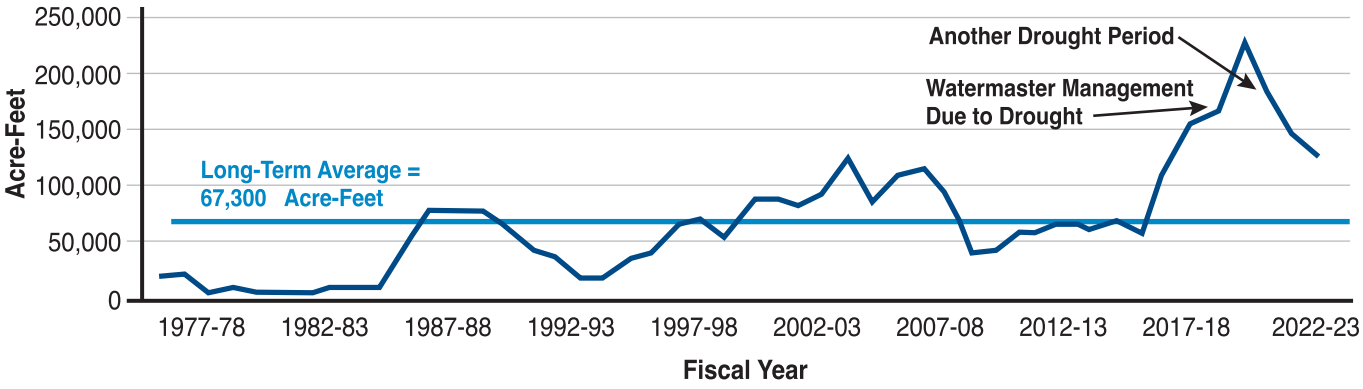
During FY 2022-23, Los Angeles County Flood Control District (LACFCD) has been performing an emergency cleanout at Cogswell and San Gabriel Reservoirs to remove sediments and debris from the Bobcat Fire. This required emptying both reservoirs. Consequently, LACFCD drained Cogswell and San Gabriel Reservoirs by the end of June 2023. The three reservoirs (Cogswell, San Gabriel, and Morris) are at a combined minimum pool of all three reservoirs.

Imported RDA Water is Another Source of Groundwater Replenishment That Supplements Local Stormwater Capture. In addition to local stormwater capture, about 4,000 acre-feet of untreated imported water were replenished for general benefit as part of Watermaster's RDA Program. Consequently, a total of about 290,000 acre-feet of water was replenished, which is roughly 290% of the long-term average.

Agreement to Pre-Deliver Imported Water Provided Additional Replenishment Water. Recognizing the importance of delivering untreated imported water when it was available, during fiscal year 2017–18, Watermaster and the Upper San Gabriel Valley Municipal Water District (Upper District) entered into an agreement with MWD to pre-deliver untreated imported water to complement the RDA Program. MWD delivered a total of 58,517.5 acre-feet during 2017-18. Subsequently, during fiscal year 2018–19, Watermaster and Upper District entered into a second agreement with MWD to pre-deliver an additional 110,000 acre-feet of untreated imported water during calendar year 2019. MWD delivered a total of about 97,000 acre-feet in 2019. In addition, Watermaster and the Three Valleys Municipal Water District (Three Valleys District) entered into a similar agreement with MWD to pre-deliver untreated imported water in 2019-20. As of June 30, 2023, there is about 24,000 acre-feet remaining in Cyclic Storage to be paid for by December 2023. During fiscal year 2022-23, Watermaster and Upper District entered into a third agreement with MWD to pre-deliver an additional 110,000 acre-feet of untreated imported water during calendar year 2023. With all the rain and efforts to capture local stormwater, imported deliveries were delayed resulting in much less than planned. Deliveries have started near the end of June 2023 and are expected to carry over into 2024.

Reverse Cyclic Program Agreement Between MWD and Upper District. In December 2022, MWD and Upper District entered into a Reverse Cyclic Program Agreement in which Upper District can purchase the water now and MWD will have 5 years to deliver the water when the State Water Project Allocation is higher than 40% or when MWD deems water is available. Under this program, the price is locked at the current rate when purchased. In December 2022, Watermaster purchased 15,000 acre-feet through Upper District, using funds from the RDA and/or Producer Cyclic Storage. During calendar year 2023, the State Water Project Allocation was set at 100% due to the above-average rainfall in Northern California. Consequently, MWD began delivering the 15,000 acre-feet near the end of June 2023.

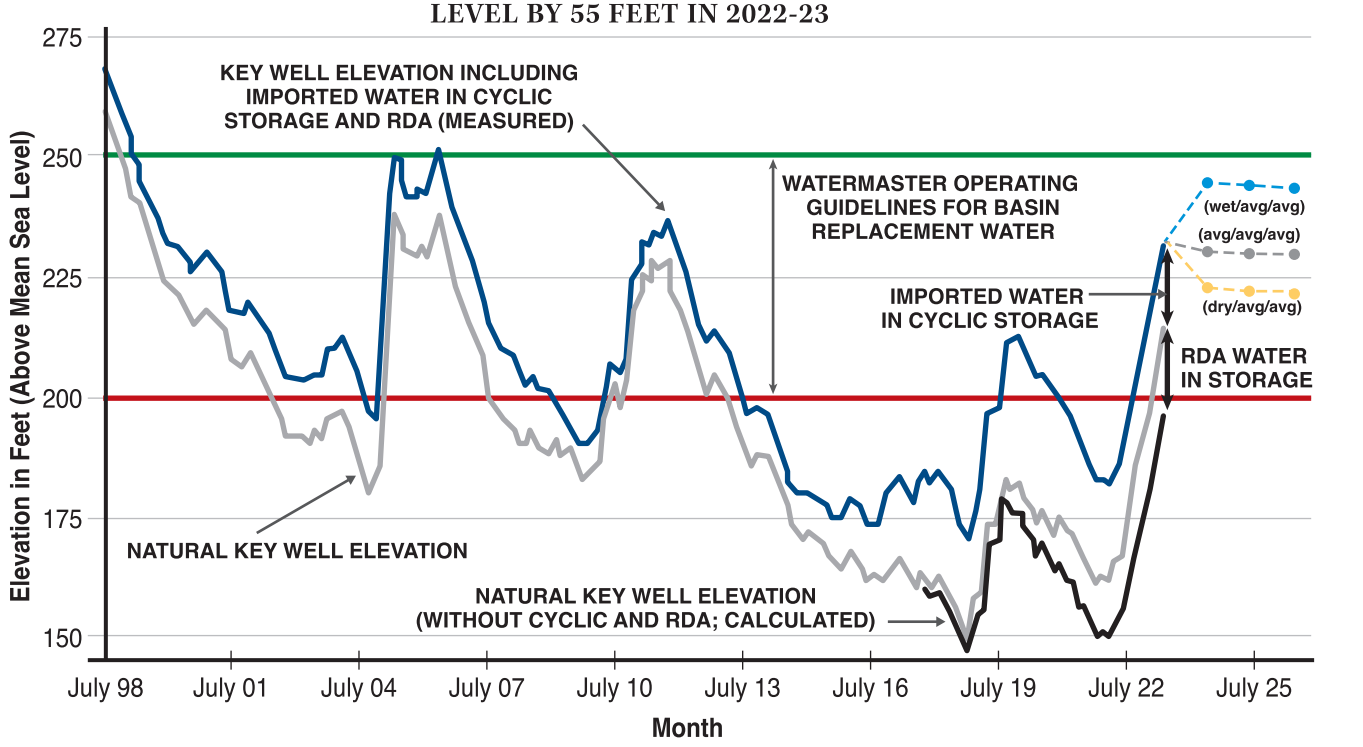
Figure 6. CYCLIC STORAGE IS WELL ABOVE AVERAGE FOR THE FIFTH CONSECUTIVE YEAR



Watermaster has taken proactive action in recent years to encourage the Producers to increase their Cyclic Storage and the Producers have responded; the total amount of Cyclic Storage this year, for example, is about two times the long-term average.

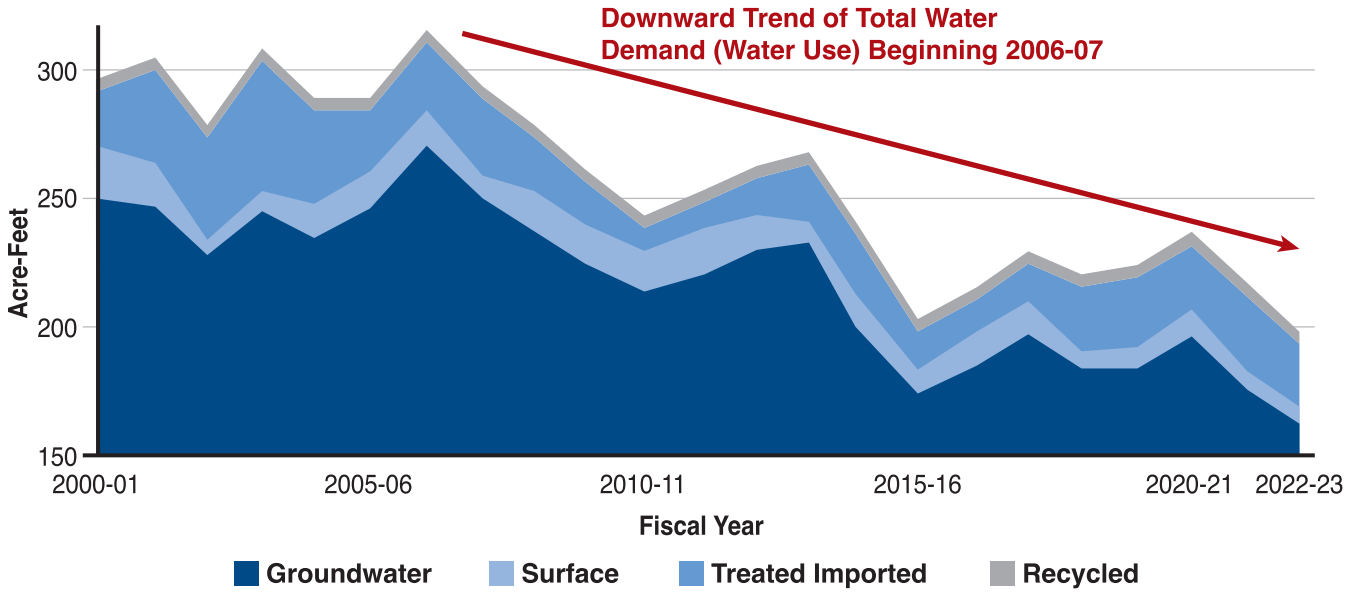
As of June 30, 2023, a total of about 128,600 acre-feet was in Cyclic Storage: about 6,000 acre-feet by Three Valleys Municipal Water District, about 6,000 acre-feet by San Gabriel Valley Municipal Water District, 4,800 acre-feet by Upper San Gabriel Valley Municipal Water District, 54,600 acre-feet by Producers, 12,800 acre-feet by Water Resource Development, 24,100 acre-feet by MWD, and 20,300 acre-feet by Puente Basin Water Agency. Cyclic Storage as of June 30, 2023, was about 15,900 acre-feet below the previous year's total. The long-term average annual storage is about 67,300 acre-feet.

Figure 7. CYCLIC STORAGE, RDA, AND RAINFALL INCREASED THE KEY WELL LEVEL BY 55 FEET IN 2022-23



The additional water provided by Cyclic Storage and RDA water helps local agencies meet their future Replacement Water obligations. The natural Key Well elevation without Cyclic Storage and RDA water is calculated to be 195 feet. With the addition of Cyclic Storage, RDA, and rainfall, the Key Well elevation is actually 232 feet—55 feet higher than it would otherwise be. Figure 7 also forecasts Key Well elevations for three scenarios: wet years, average years, and dry years.

Figure 8. TOTAL WATER DEMAND (WATER USE) REDUCED TO HISTORIC LOW



The long-term average water demand is about 259,300 acre-feet. During fiscal year 2022-23, total demand was about 197,600 acre-feet, which is a new historic low. This year's demand was made up of groundwater (161,600 acre-feet), surface water (6,800 acre-feet), imported treated water (17,600 acre-feet), and recycled water (5,000 acre-feet). Total water use within the San Gabriel Valley consists of groundwater production, surface water diversions, treated imported water deliveries, and recycled water for irrigation projects. During the previous fiscal year (2021-22), total water use was about 220,700 acre-feet. During fiscal year 2022-23, total water use was about 191,000 acre-feet.

CONSERVATION PROGRAMS HAVE LED TO STEADY DECREASES IN WATER DEMAND SINCE 2006

In recent years, Watermaster has worked with stakeholders to promote retail water conservation, and water use has decreased due to greater consumer awareness of drought conditions and increased water conservation by those consumers. During fiscal year 2022-23, total water use was about 31% lower than the fiscal year 2013-14, which preceded the then governor's declaration mandating water conservation.

CONTINUED TO MAINTAIN A CONSERVATIVE OPERATING SAFE YIELD

A Low OSY Promotes Conservation and Increases Funding to Purchase Additional Imported Supplies. Main San Gabriel Basin Watermaster annually establishes an OSY based on prevailing hydrologic conditions in the San Gabriel Valley. Because production above the OSY is subject to a Replacement Water Assessment used to purchase untreated imported water to replenish the Basin, setting a low OSY encourages conservation and increases funding to make necessary imported water purchases. Maintaining a low OSY is a central part of the overall plan to manage the Basin in a way that makes the water supply more stable and the costs more predictable in both wet and dry years.

Total Basin production during fiscal year 2022-23 was about 168,400 acre-feet, which was about 10% lower than the previous year. Production above water rights during fiscal year 2022-23 was about 16,900 acre-feet, about 41% lower than the prior year and about 53% lower than the long-term average of about 36,300 acre-feet.

Watermaster aggressively responded to the decreasing trend of the groundwater level at the Key Well during fiscal year 2022-23 by establishing an OSY of 150,000 acre-feet for fiscal year 2023-24 (identical to the OSY for the last nine years and about 39,000 acre-feet below the long-term average of about 189,000 acre-feet).

The addition of Cyclic Storage, RDA, and rainfall have increased the Key Well level by 55 feet.

KEY WELL BELOW OPERATING RANGE

The Baldwin Park Key Well is used as the benchmark for determining how the groundwater supply for the entire Basin is trending. In accordance with the Judgment, Watermaster manages the Basin with a goal of maintaining the groundwater level at the Key Well between 200 feet and 250 feet above mean sea level. As of November 21, 2018, the groundwater level at the Baldwin Park Key Well had declined to a historic low of about 169 feet. Due to above-average rainfall, the Key Well has risen to 232 feet as of June 30, 2023. Without the extensive management decisions and implementation actions described below, the Key Well would have been only about 195 feet.

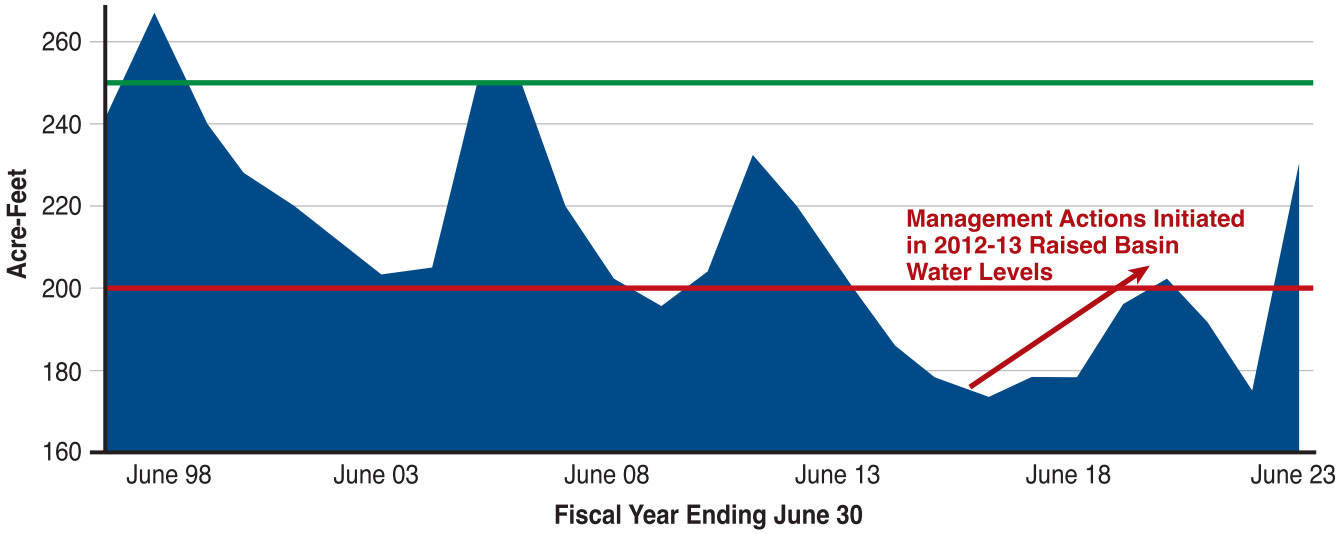
SOME FACTORS THAT INCREASED THE KEY WELL LEVELS

The factors below, and others, collectively resulted in a Key Well elevation of 232.0 feet as of June 30, 2023. This is within the target operating range for Watermaster.

- **Above Average Rainfall** following three years in a row of low rainfall. During fiscal year 2022-23, rainfall was about 186% of average while stormwater runoff was about 286% of average.
- **Coordination to Import Untreated Water.** Watermaster coordinated with Producers and the Responsible Agencies to import about 23,700 acre-feet of untreated water to the Basin, which includes 4,000 acre-feet of RDA water delivered to the Basin to augment stormwater runoff.
- **Continued Low Groundwater Pumping.** Groundwater production was only about 161,600 acre-feet, well below the long-term average of about 222,700 acre-feet.

Without Watermaster's management actions, the Key Well would have fallen from 232 feet on June 30, 2023, to about 195 feet.

Figure 9. KEY WELL ELEVATIONS DURING THE LAST TEN YEARS

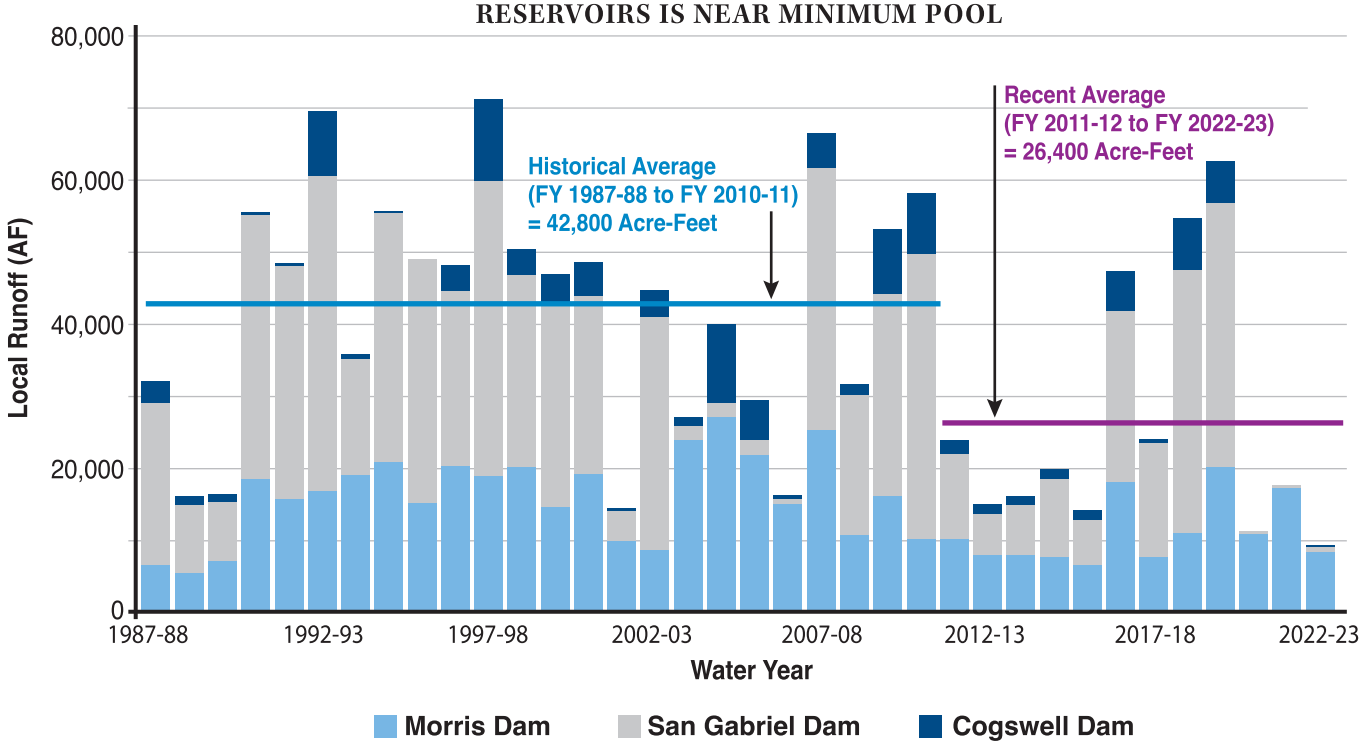


DECREASE IN WATER STORED IN CANYON RESERVOIRS

Cogswell, San Gabriel, and Morris Reservoirs have a combined maximum storage capacity of about 85,000 acre-feet. At the end of the 2022-23 fiscal year, about 9,700 acre-feet of water was stored in these reservoirs. An emergency cleanout at Cogswell and San Gabriel is occurring to remove sediments and debris due to the Bobcat Fire. Consequently, Cogswell and San Gabriel are being emptied. Water stored at the reservoirs is at the minimum pool. This is about 8,000 acre-feet less than the previous year, representing about 21% of the long-term average of about 37,300 acre-feet of water in storage at the end of the fiscal year, and only about 9% of total reservoir capacity.

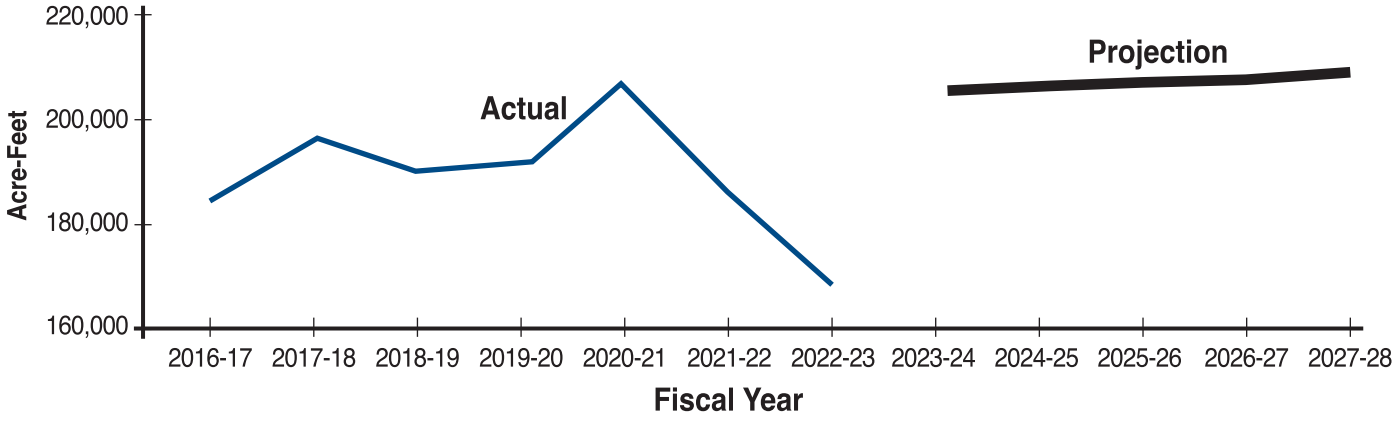
In addition, about 268,000 acre-feet of solely local runoff was recharged into the groundwater basin during fiscal year 2022–23.

Figure 10. WATER STORED IN SAN GABRIEL CANYON RESERVOIRS IS NEAR MINIMUM POOL



Total water stored in San Gabriel Canyon reservoirs at the end of the fiscal year was 9,660 acre-feet, about 21% of the long-term average.

Figure 11. GROUNDWATER PRODUCTION CONTINUES LONG DOWNWARD TREND



Total groundwater production from the Basin for the 2022–23 fiscal year was about 168,200 acre-feet, which is lower than the previous year's production of 186,053 acre-feet, and lower than the ten-year average of 193,000 acre-feet. The decrease in groundwater production over time, as illustrated in Figure 11, is primarily the result of increased water conservation at the consumer level. Groundwater production is influenced by a variety of conditions, including population, seasonal precipitation, groundwater contamination, and availability of surface water. Before 2013-14, excluding the impacts of seasonal precipitation, groundwater production had experienced a gradual long-term increase, consistent with increasing population.

Since 2013–14, there has been a significant decrease in groundwater (and overall) demand, which is likely the result of increased water conservation by consumers.

CURRENT WATER QUALITY CONDITIONS

Since the early 1990s, over 1.89 million acre-feet of contaminated groundwater have been treated for beneficial use– equal to about 8 years of basin water use.

Groundwater delivered to customers continues to be of high quality and always meets state and federal drinking water standards. However, several contaminants in areas of the Basin require careful monitoring and treatment before the water is served for domestic use. These contaminants include a variety of industrial solvents referred to as volatile organic compounds (VOCs) and nitrates (primarily from fertilizers used during the Valley's agricultural period). Since 1997, additional contaminants have been detected: perchlorate, a solid rocket fuel ingredient; N-nitrosodimethylamine (NDMA), associated with liquid rocket fuel; 1,2,3-trichloropropane (1,2,3-TCP), a degreasing agent; and 1,4-dioxane, a stabilizer for chlorinated solvents.

AGGRESSIVE WATER QUALITY RESPONSE BEGAN IN THE 1980s

While only present in limited portions of the Basin, the detected contaminants pose difficult challenges for water Producers. When the chemicals were initially detected in the late 1980s, Watermaster responded vigorously and worked closely with the local water community to sponsor research on treatment methods. Since the detection of perchlorate, NDMA, 1,2,3-TCP, and 1,4-dioxane in the Main Basin, Watermaster has been instrumental in the successful development and operation of facilities to treat those contaminants.

Watermaster and local water entities acted rapidly to design, fund, and construct cleanup projects as rapidly as possible rather than waiting for the USEPA and the firms named as responsible for the contamination to take action.

In response to the detection of these contaminants, Watermaster and local water entities aggressively pursued the construction of treatment facilities to control the spread of contaminants and continue providing high-quality water that meets all state and federal drinking water standards. Initially, a number of VOC treatment facilities were constructed, and water with excessive nitrate concentrations was blended with higher-quality water to reach acceptable levels.

This policy of remediation and reuse preserves a valuable resource, particularly during the current prolonged drought conditions, and reduces the overall cost of groundwater cleanup.

WATERMASTER IS ACTIVE IN OPERABLE UNITS

Multiple Roles in Baldwin Park Operable Unit. Watermaster led negotiations that resulted in the BPOU Project Agreement, including reimbursement for groundwater cleanup costs from certain parties responsible for the contamination. Under the BPOU Agreement, Watermaster is responsible for overall project coordination and administration, groundwater monitoring, and compliance with USEPA reporting requirements. Watermaster also participates in decisions regarding construction, operations, and technology selection. Now that all of the BPOU treatment facilities are operational, Watermaster also monitors the BPOU Project's performance in containing and removing contamination.

Watermaster's Role in Other Operable Units. In addition to cleanup activities with the BPOU, Watermaster coordinates and maintains records on groundwater cleanup efforts within the Puente Valley Operable Unit (PVOU), the El Monte Operable Unit (EMOU), the South El Monte Operable Unit (SEMOU), the Area 3 Operable Unit (Area 3 OU), and the Whittier Narrows Operable Unit (WNOU). The location of these Operable Units is shown in Figure 12.

PRIMARY CONTAMINANTS IN THE GROUNDWATER BASIN

VOLATILE ORGANIC COMPOUNDS AND NITRATES

The location of VOC contamination and cleanup methods for VOCs are generally well understood and are being safely treated and managed within the Basin.

VOCs and nitrates are the most prevalent contaminants found in the Basin. Intensive monitoring and research concerning these two types of contaminants have been underway for many years. During fiscal year 2022–23, 32 plants treated roughly 25.4 billion gallons (about 78,000 acre-feet) of VOC-contaminated water as shown in the table at the end of Appendix E.

Although VOC contamination is substantial, as Figure 13 shows, it is centered in just a few areas, leaving a large portion of the Basin unaffected. Figure 14 indicates that nitrates are also concentrated in a few areas, with the highest concentrations in the eastern portion of the Basin, away from the most productive pumping areas. Water containing nitrates above the Maximum Contaminant Level (MCL) is either blended with other low-nitrate sources of water or not used.

PERCHLORATE

The location of perchlorate contamination and cleanup methods for perchlorates are generally well understood and are being safely treated and managed within the Basin

In January 2002, the State Water Resources Control Board Division of Drinking Water (DDW) lowered the Notification Level (NL) for perchlorate from 18 parts per billion to 4 parts per billion, and 22 wells were removed from service due to unacceptable levels of perchlorate. DDW subsequently raised the NL to 6 parts per billion in March 2004 and later established an MCL of 6 parts per billion during October 2007. Watermaster played a key role in developing the first treatment facility to remove perchlorate from drinking water. On February 27, 2015, the Office of Environmental Health Hazard Assessment (OEHHA) published an updated Public Health Goal (PHG) of 1 part per billion for perchlorate in drinking water. Once OEHHA establishes or revises a PHG for a contaminant with an MCL, a determination will be made by DDW as to whether the MCL should be considered for possible revision. In July 2021, the Detection Limit for Purposes of Reporting (DLR) was dropped to 2 parts per billion.

This Year's Perchlorate Related Actions. Ion-exchange technology treatment facilities were operational at five sites in the BPOU and at two facilities in other parts of the Basin during fiscal year 2020–21. Based on its review of the perchlorate MCL, DDW recommended first establishing a lower Detection Limit for Purposes of Reporting (DLR) to gather additional occurrence data, and then revising the MCL if the new data support the development of a new standard. In April 2020, DDW issued a Notice of Proposed Rulemaking to consider lowering the perchlorate DLR to 2 parts per billion. In anticipation of a possible revision to the perchlorate MCL, Watermaster coordinated with Producers to conduct low-level detection sampling for perchlorate, using a laboratory detection level of 0.1 parts per billion, which allowed for the detection of perchlorate below the current DLR of 4 parts per billion. On July 1, 2021, DDW lowered the perchlorate DLR to 2 parts per billion.

The location of NDMA contamination and cleanup methods for NDMA are generally well understood and are being safely treated and managed within the Basin

N-NITROSODIMETHYLAMINE (NDMA)

During 1998, eight local wells were found to contain levels of NDMA above the NL (2 parts per trillion at that time). Five of the wells with measurable levels of NDMA had already been taken out of service for other reasons; the other three were put on inactive status once NDMA was detected. DDW subsequently raised the NL to 10 parts per trillion. As with perchlorate, Watermaster played a key role in the construction of NDMA treatment facilities in the BPOU area of the Basin. Five facilities were operational during fiscal year 2022–23. DDW has proposed to hold a workshop on the future establishment of an MCL for NDMA, which is planned for mid-to-late 2023.

The location of 1,2,3-TCP contamination and cleanup methods for 1,2,3-TCP are generally well understood and are being safely treated and managed within the Basin

1,2,3-TRICHLOROPROPANE (1,2,3-TCP)

The degreasing agent 1,2,3-TCP has been detected in the groundwater above the MCL of 5 parts per trillion, primarily in the BPOU and the Area 3 OU. The compound was detected in the BPOU during the winter of 2006, and its presence delayed the use of one treatment facility for potable purposes. Following detection, Watermaster, in cooperation with its BPOU Project partners, worked to construct treatment facilities to remove 1,2,3-TCP from the groundwater to make it suitable for potable uses. Those facilities remained operational during fiscal year 2022–23.

HEXAVALENT CHROMIUM

DDW is considering a hexavalent chromium MCL of 10 parts per billion, which is the same as the previous invalidated MCL. The proposed DLR was decreased from 1 part per billion to 0.05 parts per billion. The proposed compliance schedule is that systems with 10,000 or more service connections (2 years), 1,000 to 10,000 service connections (3 years), and fewer than 1,000 connections (4 years).

MANGANESE

DDW is developing a revised NL and Response Level (RL) for manganese. On January 27, 2023, DDW provided public notice of proposed revisions to the manganese NL and RL to 20 ppb and 200 ppb, respectively. DDW did not provide a timeline for the proposed revisions.

MICROPLASTICS

The definition for microplastics was adopted by DDW in June 2020. DDW's goals are to test microplastics in public drinking water for 4 years and to notify the public of the results. Phase I of the statewide plan will occur between approximately fall 2023 and fall 2025.

ACTION ON EMERGING CONTAMINANTS: PFAS (PER-AND POLYFLUOROALKYL SUBSTANCES)

Background on PFAS. PFAS are a class of synthetic chemicals that are not found naturally in the environment. PFAS are used extensively in consumer products such as carpets, clothing, paper packaging for food, personal care items (e.g., cosmetics, fragrances, hairspray), and other materials designed to be waterproof and stain resistant.

Perfluorooctanoic acid (PFOA) and perfluorooctyl sulfonate (PFOS) are two key PFAS chemicals. DDW required specific water systems to conduct water quality tests for these compounds during 2019 and established NLs and RLS for PFOA based on a running four-quarter average. Exceedance of the RL requires the water system to take the water source out of service or provide public and customer notice of the exceedance. To assist the Producers, Watermaster conducts and will continue conducting PFAS sampling and monitoring as required by the State Water Resources Control Board as part of the Basinwide Groundwater Quality Monitoring Program (BGWQMP). In addition, Watermaster is working with DDW to characterize the extent of PFAS in the Basin.

On March 5, 2021, DDW issued a drinking water NL and RL of 0.5 parts per billion and 5 parts per billion, respectively, for perfluorobutane sulfonic acid (PFBS). Wells sampled through Watermaster are generally below the Consumer Confidence Report Detection Level (CCRDL) of 0.004 parts per billion for PFBS, with some detections at less than 0.01 parts per billion—these detections are well below the NL. On July 22, 2021, OEHHA announced the release of a draft document for public review describing proposed PHGs for PFOA and PFOS in drinking water of 0.007 parts per trillion for PFOA and 1 part per trillion for PFOS. The draft document also presents health-protective drinking water concentrations for noncancer health effects of 3 parts per trillion for PFOA and 2 parts per trillion for PFOS.

On October 31, 2022, DDW established a notification level of 3 parts per trillion and response level of 20 parts per trillion for perfluorohexane sulfonic acid (PFHxS) and issued a new PFAS Monitoring Order that requires the use of a new analytical method (EPA 533).

On March 14, 2023, EPA announced the proposed National Primary Drinking Water Regulation (NPDWR) for six PFAS, including PFOA, PFOS, perfluorononanoic acid (PFNA), hexafluoropropylene oxide dimer acid (HFPO-DA, commonly known as GenX Chemicals), PFHxS, and PFBS. The proposed PFAS NPDWR does not require any actions until it is finalized. EPA anticipates finalizing the regulation by the end of 2023.

WELLS ASSESSED FOR VULNERABILITY TO CONTAMINATION

One of the primary purposes of the Five-Year Plan is to identify Basin wells that are vulnerable to contamination. A well is considered vulnerable if the concentration of contaminants has ever reached 50% of the NL or MCL allowed by state drinking water regulations. To project which wells may be vulnerable over the next five years, Watermaster reviews water quality tests performed on each well, regional water quality conditions, and contaminant migration patterns. Watermaster also participates in plans to construct treatment facilities, as needed.

WATER QUALITY PROTECTION PLAN

Watermaster maintains a Water Quality Protection Plan that provides an early warning to Producers of potential increases in contaminant levels. The Water Quality Protection Plan also provides suggested alternative sources of supply and proposes long-term actions to solve contamination problems without contributing to the migration of contaminants in the Basin.

Figure 12. LOCATION OF USEPA OPERABLE UNITS

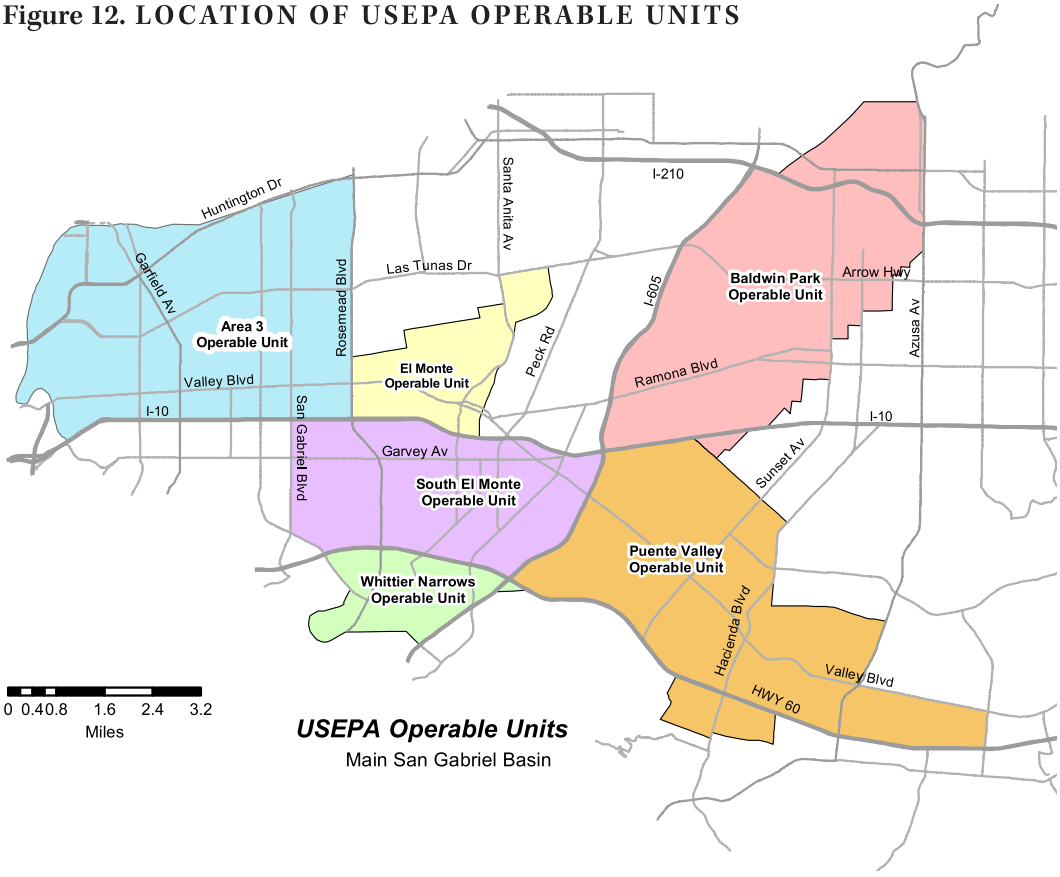
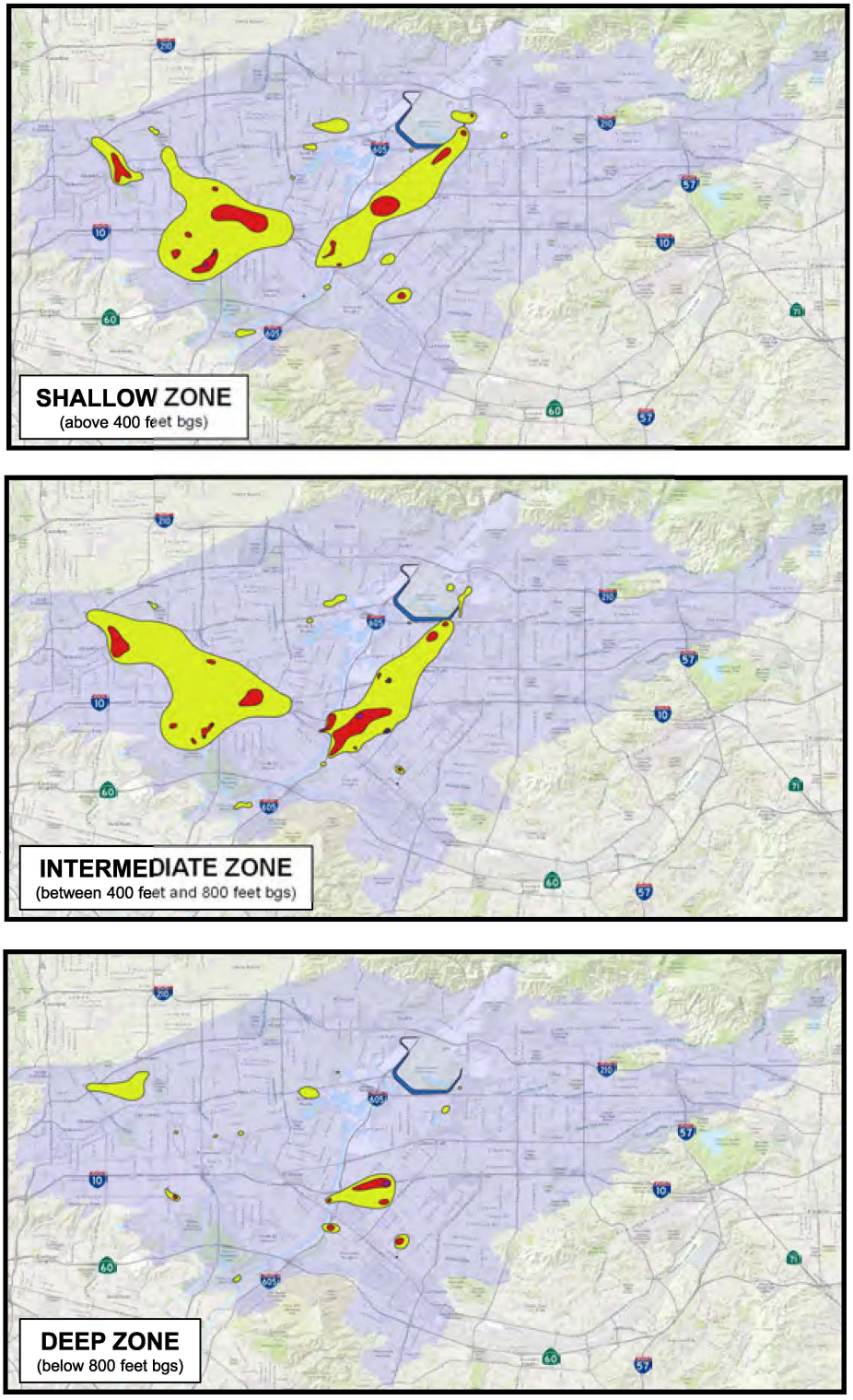
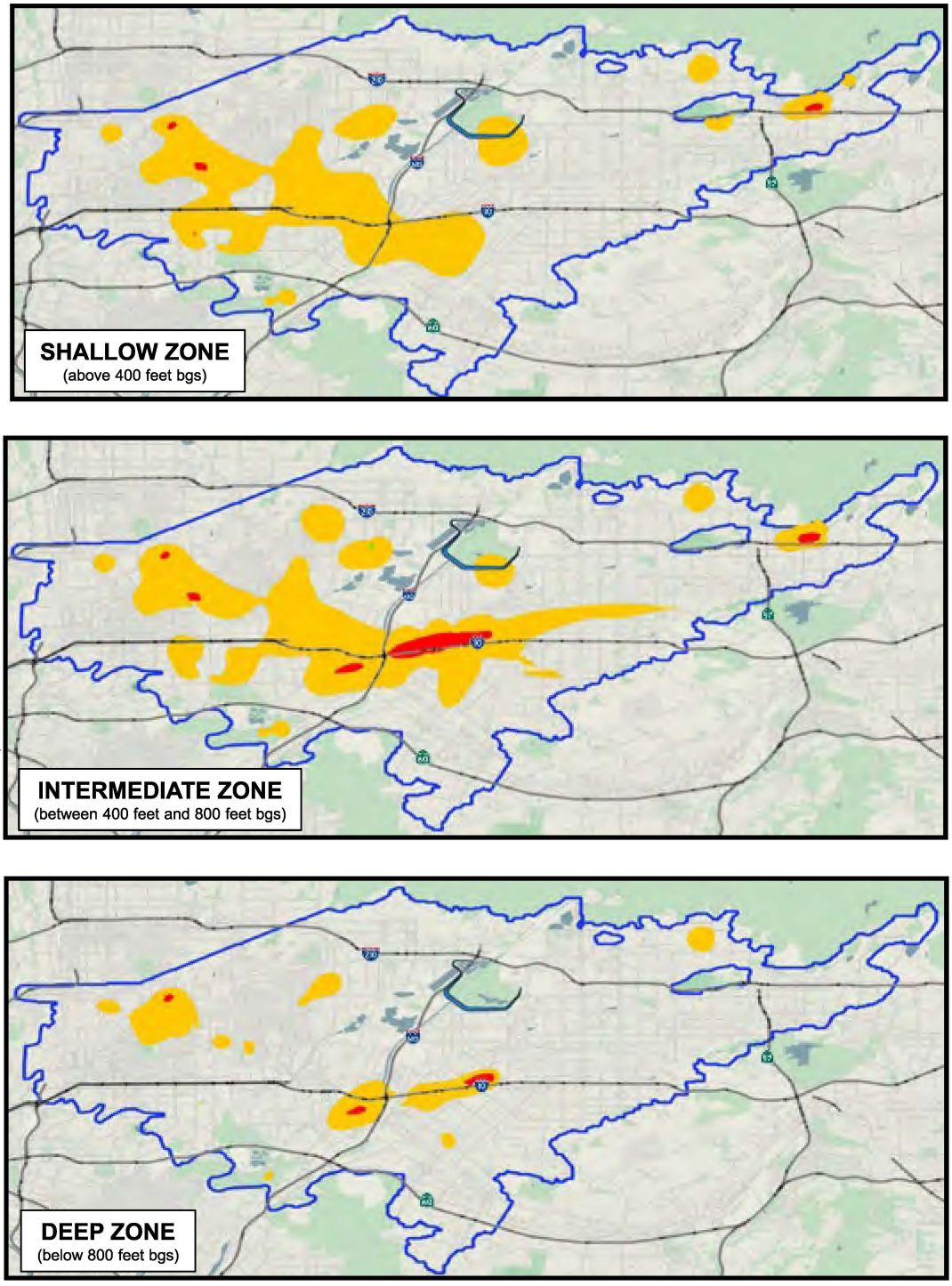


Figure 13. VOLATILE ORGANIC COMPOUND LEVELS IN GROUNDWATER THROUGHOUT THE BASIN



Extensive cleanup programs are underway in the areas affected by VOC contamination. Because the main plumes of contamination are centered in just a few areas, much of the Basin remains unaffected

Figure 14. NITRATE LEVELS IN GROUNDWATER THROUGHOUT THE BASIN



Historically, nitrate (N) contamination is highest in the eastern portion of the Basin, away from the San Gabriel River, the area of most intensive groundwater pumping.

FIVE-YEAR WATER QUALITY AND SUPPLY PLAN

HISTORICAL BACKGROUND

The Main San Gabriel Basin's designation as a federal Superfund site was prompted by the discovery of widespread VOC contamination. Cleanup plans were developed to contain and remove VOCs from groundwater, and Watermaster, along with various other local water agencies, water Producers, and regulators, have developed the expertise, financing, and treatment technologies to effectively address basinwide cleanup of VOCs.

Watermaster facilitates groundwater cleanup projects that also meet water supply needs.

The discovery of perchlorate and NDMA in 1997, however, created new challenges that complicated the existing VOC cleanup approach. Most importantly, these new contaminants could not be removed using existing treatment facilities, and new treatment methods had to be identified, financed, and implemented.

This report provides a comprehensive water quality cleanup and water supply plan for the Main San Gabriel Basin, including each of the USEPA Operable Units (see Appendix E). Watermaster's plan for each Operable Unit area is consistent with the USEPA plans, and its goal is to implement cleanup as promptly as possible, with or without the cooperation of the Responsible Parties.

GROUNDWATER MONITORING PROGRAMS

Monitoring includes measuring groundwater levels, groundwater quality, and groundwater flow. Watermaster continuously refines its understanding of the groundwater Basin to better define the Basin's safe yield and to protect and improve local water quality.

CONTINUE KEY WELL AND SUPPLEMENTAL KEY WELL OPERATION AND DATA PROCESSING

The entire 167-square-mile groundwater Basin is managed as one unit based on the groundwater levels as measured at a single Key Well in Baldwin Park. Water levels have been measured at this well since 1903 and are currently measured every three hours by an automated recorder.

Additional groundwater level recorders have been installed near the Santa Fe Spreading Grounds, adjacent to the San Gabriel River above the I-210 Freeway, in the City of Rosemead, and near Whittier Narrows Dam. These water level records are synchronized with the record in the Key Well.

Collectively, water level data from these wells provide a better understanding of the impacts of recharge operations at the Santa Fe Spreading Grounds on Basin hydrogeology. Water elevation data are collected semiannually at about 170 additional wells throughout the Basin, and water level recorders may be installed in some of those wells over the next five years.

CONTINUE BASINWIDE GROUNDWATER ELEVATION MONITORING PROGRAM (BGWEMP)

The purpose of the BGWEMP is to obtain groundwater level measurements from a large number of wells across the Basin. The information is used to prepare groundwater contour maps showing the direction of groundwater flow. The data are also used in the Basin computer model to simulate future groundwater flow patterns. Through the implementation of the BGWEMP plan over the next five years, Watermaster will take the following steps:

- Gather semiannual measurements of water levels at all 170 primary wells.
- Collect weekly measurements of water levels in nine of the 170 primary wells.
- Obtain water levels in secondary wells from well owners or water Producers, the San Gabriel Valley Protective Association, Regional Board, USEPA, and others.
- Update the database with water level data.
- Prepare semiannual groundwater contour maps of the entire Basin.
- Participate in the California Statewide Groundwater Elevation Monitoring (CASGEM) program.

IMPLEMENT PROVISIONS OF SUSTAINABLE GROUNDWATER MANAGEMENT ACT (SGMA)

SGMA became effective on September 29, 2014. As manager of an adjudicated Basin with ongoing effective management, Watermaster's requirements are generally limited to reporting the following information, to the extent available, for the portion of the Basin subject to the adjudication:

(A) **Groundwater Elevation Data.** Watermaster is the Monitoring Entity for the Main Basin under the terms of the CASGEM program and has submitted semiannual static water elevations to the Department of Water Resources (DWR) since the inception of CASGEM in 2009. Furthermore, Watermaster has collected static water elevations as part of the BGWEMP since the early 1990s. Watermaster uses the data to prepare semiannual groundwater contour maps (which are available on Watermaster's website) and support Watermaster's Main Basin groundwater computer model. Watermaster will continue to collect and review static groundwater elevation data on a regular basis.

(B) **Annual Groundwater Extraction Data.** Watermaster's Annual Report includes quarterly groundwater extraction data for each groundwater well. In addition, Watermaster provides a projection of each Producer's groundwater production over each of the upcoming five years, as shown in Appendix A of this Plan. Copies of Watermaster's current and prior annual reports are available on Watermaster's website.

(C) **Surface Water Used for Groundwater Recharge or In-Lieu Use.** Watermaster has included quarterly local surface water diversions for treated potable use in Appendix G of its Annual Report. Furthermore, Watermaster has presented a summary of local surface water used for groundwater recharge in the introduction to this Plan.

(D) Total Water Use. Water use in the Main Basin includes groundwater, treated local surface water, treated imported water, and recycled water. A summary of total water is included in the introduction to this Plan.

(E) Change in Groundwater Storage. Groundwater storage in the Main Basin is referenced to the elevation as measured at the Baldwin Park Key Well (Key Well). The Main San Gabriel Basin Judgment (Exhibit H) notes groundwater in storage was about 7.7 million acre-feet when the elevation at the Key Well was 209 feet above mean sea level (MSL). In general, each foot of change in elevation equals about 8,000 acre-feet in storage.

The Key Well elevation was about 185.2 feet on July 1, 2022, and water in storage was about 7.51 million acre-feet. The Key Well elevation on July 1, 2023, was about 232.0 feet above MSL and water in storage was about 7.88 million acre-feet. Thus, the net change in storage was an increase of about 370,000 acre-feet.

(F) Submittal of Annual Report to the Court. Watermaster submits its Annual Report to the Court by November 1 of each year. Watermaster will provide the preceding information to DWR over the next five years in compliance with SGMA.

GROUNDWATER QUALITY MONITORING

IMPLEMENT SALT AND NUTRIENT MANAGEMENT PLAN

During February 2009, the State Water Resources Control Board adopted the Recycled Water Policy, which adopted goals for water recycling, water conservation, and replenishment of stormwater runoff to enhance water supplies throughout California. One component of the Recycled Water Policy requires all groundwater basins to develop a Salt and Nutrient Management Plan (SNMP). Watermaster took the lead role in developing the SNMP for the Main San Gabriel Basin. The SNMP identifies the water quality of the Main San Gabriel Basin (specifically Total Dissolved Solids [TDS]—nitrate, chloride, and sulfate—which is not addressed by USEPA cleanup activities) and compares that water quality to standards established by the Regional Board. Each of the four water quality parameters comply with the standards set by the Regional Board, resulting in significant flexibility to implement new programs to enhance groundwater replenishment and reliability. A final draft of the SNMP was submitted to the Regional Board in May 2016 to satisfy the submittal requirement and was approved by the Regional Board in December 2016. In coordination with water purveyors, Watermaster is implementing the SNMP through continued collection and review of TDS data. The water quality data are also included in the Watermaster database to facilitate review.

Simulations of the direction of groundwater flow in 2022–23 and projections for 2027–28 show that the estimated increase in groundwater pumping during this period would not significantly change the overall direction of Basin groundwater movement, and therefore would not significantly impact water quality.

CONTINUE BASINWIDE GROUNDWATER QUALITY MONITORING PROGRAM

Under the BGWQMP, all production wells in the Basin will be sampled at least once a year for VOCs, nitrates, and TDS. In addition, sulfate and chloride are sampled at least once every three years as required by DDW. The frequency of BGWQMP sampling complements the monitoring requirements under state law and supplements information gathered through Regional Water Quality Control Board source investigations and USEPA remedial investigations. The data

collected by BGWQMP are used to identify and evaluate the current locations and magnitude of contaminant levels, along with the effectiveness of the cleanup project.

CONTINUE TITLE 22 WATER QUALITY TESTING

Watermaster continues to perform DDW-mandated Title 22 water quality sampling of groundwater from approximately 200 active wells in the Basin. Watermaster also continues to track regulations and inform local water purveyors about regulatory issues and requirements. Information from centralized water quality testing is added to Watermaster's water quality database, which contains data from many sources.

The centralized testing enables Watermaster to identify water quality trends on a regional scale that might otherwise go unnoticed at a specific well and lowers monitoring costs to Producers.

GROUNDWATER FLOW AND CONTAMINANT MIGRATION PROGRAMS

Groundwater level and quality data are entered into the Basin computer model, which simulates where contamination is projected to flow in the future. The goal is to project contaminant levels by areas in advance of a contamination event and identify remedial steps to be taken. The Basin computer model has been used to identify the area of contamination that may be captured (capture zone) under various groundwater pumping scenarios. The capture zone is also able to show the probable length of time contamination takes to flow toward a well and how long a well must be treated for contaminant removal prior to use as a drinking water supply.

GROUNDWATER SIMULATIONS SHOW FUTURE GROUNDWATER ELEVATIONS BASED ON PROJECTED DEMANDS AND REPLENISHMENT

The general groundwater elevations in fiscal year 2022-23 are shown in Figure 15 (see Appendix F). Fiscal Year 2022-23 was an unexpectedly wet year and is included in Figure 15. In addition, fiscal year 2022-23 had above-average local water spread into the Santa Fe Spreading Grounds, which was included in Figure 15. The model's predictive simulation results at groundwater production wells in fiscal year 2027-28 show changes in groundwater elevations ranging from a slight increase of approximately two feet to a maximum decrease of approximately 42 feet, and a general decrease of approximately 18 feet throughout the Basin. The continuous decrease in groundwater storage is primarily the result of current wet hydrologic conditions and applying the latest dry hydrologic conditions (fiscal years 2012-13 and 2016-17), and modestly increased groundwater production to the five-year projection from fiscal year 2023-24 through fiscal year 2027-28. The five-year predictive simulations indicate the estimated increase in groundwater production—based on projections by Producers and projected future dry hydrology—as of fiscal year 2027 -28 will not significantly change the overall direction of Basin groundwater movement as the decline in groundwater elevations occurred throughout the entire groundwater basin. Therefore, the regional groundwater flow in both the east and west portions of the Main Basin maintains its southwesterly and southeasterly flow directions, respectively, toward the Whittier Narrows. Localized pumping depressions in the EPA operable units (OUs) may alter the regional groundwater flow areas; however, those pumping depressions are caused by continuous pumping from

groundwater remedy wells associated with the EPA Superfund sites cleanup project to contain and control groundwater contaminant movement. Contaminated groundwater from those wells is treated at several treatment facilities, and the DDW-permitted water is provided for potable use.

The general groundwater elevations for fiscal year 2022-23 are shown in Figure 15 (see Appendix F). Fiscal Year 2022-23 experienced an unexpected wet climate condition, leading to above-average water replenishment in local spreading grounds, including the Santa Fe Spreading Grounds, and higher percolation from the San Gabriel River. These factors improved the overall groundwater conditions in the Basin. Figure 16 is the projected groundwater conditions for fiscal year 2027-28 under the hypothetical scenario of five consecutive dry years starting in fiscal year 2023-24. A comparison of model-simulated groundwater levels between fiscal year 2022-23 and the projected fiscal year 2027-28 reveals changes in groundwater elevations ranging from about an increase of two feet to a decline of about 42 feet, with an overall decline of around 18 feet across the Basin.

Importantly, Figure 17 (see Appendix F) shows the net decrease in the groundwater elevations throughout the Basin may be about 9 feet lower.

The continuous decline in groundwater elevations over the projected five-year period is attributed to both the dry hydrologic conditions and a modest increase in groundwater extraction. Despite these declining groundwater levels, the projected dry climate condition as well as the expected increase in groundwater production by Producers, the overall flow patterns of groundwater in the Basin remain unchanged. The decline in groundwater elevations is consistent throughout the entire groundwater basin.

As a result, regional groundwater flow patterns in both the eastern and western sections of the Main Basin continue in their southwesterly and southeasterly directions, respectively, toward the Whittier Narrows. There may be localized pumping depressions observed within the EPA operable units (OUs), which could locally alter regional groundwater flow. However, these depressions are a result of ongoing strategic remediation efforts within the EPA Superfund site cleanup project aimed at containing and controlling the movement of groundwater contaminants. The contaminated groundwater extracted from these wells is treated at various treatment facilities under permits from the DDW for eventual potable use.

SIMULATE IMPACTS OF GROUNDWATER PUMPING ON CONTAMINANT MIGRATION

Simulations similar to those described above indicate that pumping from USEPA-mandated cleanup projects as managed by Watermaster helps control and contain contaminant migration. Watermaster entered groundwater quality data collected during 2022–23 and projected quality data for 2027–28 into the groundwater model for the contamination migration studies. The computer model is used to simulate how the flow of water would affect the migration of contamination. The simulation showed that changes in groundwater flow did not have major impacts on the migration of contaminants (refer to Figures 15 and 16 in Appendix F).

The USEPA is responsible for overseeing and managing several Superfund sites located within the Main Basin, primarily focusing on remediating groundwater. These mandated cleanup projects are also jointly administered by Watermaster to control and contain the movement of contaminants. Watermaster routinely gathers, organizes, and ensures the quality and accuracy of water quality data to delineate present contaminant plumes (fiscal year 2022-23) and future contaminant plumes over a five-year projected period. Utilizing the Main Basin Model to assess the potential impacts arising from the USEPA's designated remedial wells, it is generally evident that the remediation operations are effective in controlling the movement of contaminants. Please refer to Figures 15 and 16 in Appendix F for further details.

GROUNDWATER CLEANUP PROJECTS

Watermaster coordinates and provides technical assistance on many cleanup projects in the Basin, although the cleanup facilities are owned and operated by local water utilities. Watermaster's involvement includes coordinating proposed USEPA cleanup programs to ensure, to the extent feasible, that treated water is put to beneficial use within the Basin and that projects are consistent with the Judgment.

REVIEW OF SECTION 28 APPLICATIONS

Watermaster reviews every proposal to construct, destroy, or modify a well or build a treatment plant pursuant to Section 28 of its Rules and Regulations. Watermaster's review ensures that any new or increased extractions from the Basin or any changes in production patterns are consistent with contamination cleanup efforts and will not adversely affect Basin water quality. In conjunction with the evaluation of an application to construct a new well or a treatment facility, Watermaster uses a computer model to predict the potential future impacts of each project on contaminant migration and Basin cleanup.

BASIN CLEANUP PROJECTS/USEPA OPERABLE UNIT PLANS

The USEPA established Operable Units for the various areas within the Basin that have been contaminated and require groundwater cleanup. The Operable Units are Area 3 (Alhambra area), Baldwin Park, El Monte, Puente Valley, South El Monte, and Whittier Narrows (see Figure 12). USEPA has established a methodical cleanup process that includes a review of the extent of contamination (Remedial Investigation), the development of cleanup alternatives (Feasibility Study), and the selection of the most appropriate cleanup plan (Proposed Plan). Following these activities, the USEPA issues a report identifying the agreed-on cleanup plan (Record of Decision). Subsequently, the project facilities are designed and constructed. With USEPA plans generally in place, Watermaster continues to work with affected Producers, Responsible Parties, and others to implement solutions that provide effective cleanup, conform to the USEPA plans, and use the treated water to meet local water supply needs.

DETAILS ON EACH OPERABLE UNIT

This Five-Year Plan describes each of the Operable Units along with the USEPA proposed cleanup plan. (A detailed description of the history and treatment facilities associated with each of the Operable Units is included in Appendix E.) In addition, Appendix A identifies current and projected groundwater production over the next five years, to address the contamination and implement the cleanup plans. In areas where the groundwater supply has been affected by contamination, Watermaster works with affected Producers and other local water agencies to implement cleanup as quickly as possible, with or without the cooperation of the Responsible Parties. Watermaster and affected Producers continue to seek cost recovery from the Responsible Parties for any cleanup costs they incur.

OTHER WATER QUALITY PLANNING AND ACTIONS

WATER QUALITY PROTECTION PLAN

Watermaster's Water Quality Protection Plan provides early warning to Producers before their wells are found to have contaminant levels that exceed drinking water quality standards. The Plan also contains pre-analyzed suggestions to the Producers for responding to the presence of contaminants.

LANDFILL INSPECTIONS

Watermaster routinely conducts on-site inspections of area landfills to ensure they are operated in a way that does not allow contaminants to seep into the groundwater. Watermaster reports any violations of Waste Discharge Requirements to the Regional Board for enforcement.

IDENTIFY AND REDUCE POTENTIAL SOURCES OF CONTAMINATION AND COOPERATE WITH THE REGIONAL WATER QUALITY CONTROL BOARD

Since 1993, Watermaster has obtained information from the Regional Board about sources of VOC contamination in the Basin as part of the Regional Board's investigations of potentially contaminated sites. The information includes a description of all potential sources of contamination investigated by the Regional Board, including:

- Maps showing the location of all investigation sites.
- Available cause-and-effect relationships between pollution sources and contaminated wells.
- Plans and tentative schedules to abate the source of pollution and clean up the soil and water.

Watermaster has reviewed a large amount of information gathered in Regional Board files and entered it into a database. This information is used in Watermaster's Section 28 process to help evaluate changes in pumping practices in relation to known contamination sources.

WATER SUPPLY AND DROUGHT MANAGEMENT PLANNING AND ACTIONS

The Main San Gabriel Groundwater Basin is very complex, covering 167 square miles, and can hold about 2.8 trillion gallons of water. Water enters the Basin from countless natural and man-made locations and is extracted by over 200 wells operated by dozens of independent Producers. Watermaster conducts special studies to identify projected water demands and increase understanding of the Basin so it can be managed to preserve and improve water supply and quality.

Watermaster routinely reviews available data and is prepared to construct new monitoring wells to obtain supplemental water level and water quality data to better manage the Basin. As a result of these activities, and the cooperative activities with the Regional Board (noted above), ongoing VOC or perchlorate contamination has been eliminated, and the focus is now on cleanup activities.

Watermaster coordinates and maintains records on production, stormwater, untreated imported water deliveries for groundwater replenishment, and impacts on the groundwater levels throughout the Basin, particularly at the Baldwin Park Key Well. In that capacity, Watermaster has coordinated deliveries of untreated imported water into Cyclic Storage accounts and implemented the RDA assessment, which is used to purchase untreated imported water to augment stormwater replenishment. Watermaster has developed a 3D computer model, which is used to identify the groundwater levels throughout the Basin, including wells in which decreasing groundwater levels may impact water supply reliability. Throughout the upcoming five years, Watermaster will maintain records on existing and proposed water system interconnections, water levels in production wells, and Producer plans to develop new sources of supply in anticipation of prolonged dry periods.

SERVICES AND ASSISTANCE TO PRODUCERS TO MEET WATER NEEDS

Watermaster has been advised that Producers propose constructing four new wells and two treatment plants during the next five years. Watermaster will continue providing the following services to assist Producers in meeting water demand:

- Investigate all new or increased water extractions.
- Provide computer modeling and technical support on treatment issues concerning the impact of extractions on contaminant migration.
- Prioritize areas requiring further investigation and coordinate with Producers on water supply modifications.
- Direct changes in pumping or treatment as necessary.

INTRODUCTION AND BACKGROUND ON WATER SUPPLY AND DROUGHT MANAGEMENT PLANNING AND ACTIONS

Historical Basin management practices encouraged Producers to pump local groundwater instead of relying on treated imported water to address water demands in excess of Producers' water rights. Under normal conditions, Watermaster quantifies groundwater production in excess of Producers' water rights and arranges to have an equal amount of untreated imported water delivered to replenish the over-production from the Basin at a Full-Service untreated water rate.

WIDE-RANGING LONG-TERM WATER SUPPLY MANAGEMENT TOOLS

In response to the long-term drought conditions, Watermaster has implemented wide-ranging new tools to more intensely manage Basin groundwater supplies, refill the Basin, and ensure long-term water supply reliability. These new drought management tools are described in the following pages.

Continued Implementation of the RDA Program. Watermaster developed the Supplemental Water Stormwater Augmentation Program (RDA) to help manage Basin water supplies under potential worst-case hydrologic conditions, which are assumed to be three consecutive five-year droughts with the same hydrologic conditions as the five years of drought experienced from 2011–12 through 2015–16. RDA generates revenue to purchase untreated imported replenishment water for stormwater augmentation so the Key Well elevation can be maintained above 180 feet by the end of the tenth year of a worst-case, 15-year drought cycle. Watermaster uses the RDA funds to purchase untreated imported water to replenish the Basin for the general benefit of all Producers within the Basin. Unlike the original RDA, which is a Watermaster prepurchase of Replacement Water, the Supplemental Water RDA will supplement local stormwater replenishment and allow no right of recovery using a water right by any Basin Producer.

RDA Assessment Steadily Increased to $175 per Acre-Foot. The RDA program began with an initial assessment of $40 per acre-foot on fiscal year 2016–17 production and gradually increased to $175 per acre-foot on fiscal year 2020–21 production. During fiscal year 2022-23, the RDA was $175 per acre-foot on 2022-23 production, providing sufficient revenue to purchase about 31,000 acre-feet of water (representing about a five-foot benefit to Basin groundwater levels) was generated.

Maintain a Low Operating Safe Yield (OSY). This year, Watermaster unanimously approved maintaining the OSY at 150,000 acre-feet for the ninth year in a row and setting a record low of 130,000 for the following four years. A low OSY promotes conservation and raises funds to purchase water. By maintaining this low OSY, the Board agreed to stay the course to ensure that the Main Basin and its operations are sustainable over the long term.

Three-Year Purchased Water Plan. Watermaster annually prepares the Three-Year Purchased Water Plan, in which it quantifies the amount of untreated imported water that will be purchased from each of the three municipal water districts within the San Gabriel Valley and delivered to replenish groundwater supplies within the Basin. Untreated imported water deliveries will be made to:

1) augment the lack of local stormwater replenishment through the Water Resource Development program,
2) increase the amount of water held in Producer Cyclic Storage accounts,
3) satisfy the prior year's Replacement Water obligation, and
4) support other programs negotiated with Watermaster.

Recognizing the quantity of untreated imported water anticipated to be delivered in the ensuing three years aids Watermaster's management of groundwater levels and supplies.

Proactive Measures to Increase Cyclic Storage. Both Watermaster and Producers recognize that prolonged drought conditions will adversely impact untreated imported water availability, which is essential to managing the Basin. Consequently, Watermaster has taken proactive measures to encourage Producers to increase the collective amount of water in their Cyclic Storage accounts from about 15,000 acre-feet as of the end of June 2010 to 55,600 acre-feet as of June 2023.

Extensive Outreach to Promote Retail Water Conservation And Understand Water Issues. For many years, Watermaster has worked with stakeholders across the Basin to encourage consumer-based conservation efforts to reduce groundwater production. After Watermaster staff, Board, and an Ad Hoc Committee carefully reviewed communication and education needs, Watermaster selected a consultant and initiated an expanded Basin Outreach Program focusing on basinwide and San Gabriel River Watershed supply sources. The goal is to help the public understand critical regional water issues, including how the watershed and Basin work, what makes the Basin unique, and why a wet year in Northern California does not necessarily translate into robust water supplies in the Basin.

Working Toward Massive Increase in Recycled Water Use. Watermaster is working with Los Angeles County Sanitation Districts, MWD, and others to pursue a large supply of 60,000 to 80,000 acre-feet per year of treated recycled water for Basin replenishment.

Increase Replenishment. Watermaster is working with a range of stakeholders to implement tighter coordination and management to allow replenishment of imported water even during rainy periods. It is also finding new opportunities and incentives to deliver untreated imported water for Basin replenishment.

Implement More Flexible Financial Tools. Watermaster has instituted new, more flexible financial tools to increase water imports, such as pre-purchase of water through Cyclic Storage, Reverse Cyclic Storage, and Replacement Water Accounting, and is evaluating others, including mid-year assessments.

Enabling an Additional Source of Imported Water. Colorado River water could provide a valuable source of replenishment water, so Watermaster is actively developing plans to allow deliveries, when available.

Encouraging Use of Sustainable Supplies. The In-Lieu Program allows Producers to deliver treated renewable water in lieu of pumped water, reducing the demand for groundwater.

Developing And Implementing Storage and Export Programs. Watermaster has developed criteria for new water storage and export programs.

Using Technology to Understand the Basin. Watermaster's groundwater model provides sophisticated analysis to inform decision-making.

Improving Stormwater Capture. Watermaster is participating in a multi-year study led by Las Virgenes Municipal Water District that is investigating the potential for collecting urban runoff and stormwater and recycling it into a usable new water supply by using existing capacity in wastewater treatment plants.

Protecting Water Rights. Watermaster worked to protect water rights associated with legislation and expansion of the National Recreation Area along the San Gabriel River.

OTHER ACTIONS IN 2022-23 TO INCREASE WATER SUPPLIES TO THE BASIN

Quagga Mussel Control Plan. In order to allow delivery of Colorado River Water when State Project water is unavailable and groundwater conditions reach critically low levels, threatening the loss of drinking water supplies, Watermaster collaborated with MWD, Main San Gabriel Basin Watermaster, USGVMWD, and Los Angeles County Public Works and developed a Provisional Quagga Mussel Control Plan. The Plan documents the procedures, operating criteria, monitoring, and testing methods to prevent, to the extent practicable, the establishment of any quagga mussel population in the reach of the San Gabriel River following delivery of Colorado River Water. The final draft plan has been reviewed and commented on by the required regulatory agencies. The Plan will be reviewed and updated annually.

Entered Into a Third Agreement to Pre-Deliver Imported Water to Provide Additional Replenishment Water. Due to above-average rainfall in Northern California, the State Water Project Allocation for 2023 was at 100%. To take advantage of the available untreated imported water, Watermaster and Upper District entered into a third agreement with MWD to pre-deliver an additional 110,000 acre-feet of replenishment water. Deliveries began in June 2023 and are expected to be completed by December 30, 2023 and may carryover into 2024 in order to deliver the full amount.

PROJECTED GROUNDWATER DEMAND PRODUCER ESTIMATES

The amount of water production decreased compared to the prior year and remained significantly lower than the long-term average due in part to consumer water conservation.

Section 28 directs each Producer to submit a report to Watermaster detailing its projected water demands and water production requirements over the following five years. Projections were received from 20 Producers (all municipal water suppliers), accounting for about 80% of the groundwater production from the Basin.

For those Producers who did not submit projections, Watermaster provided an estimate based on the assumption that each Producer had an aggregate projected growth rate that was the same as those Producers who did submit projections.

Projected groundwater production is shown in Appendix A. Figure 11 shows the total projected and historical groundwater production from the Basin since 2016–17.

UPGRADE OF GROUNDWATER MODEL TO 3D

The long-used and highly effective 2D groundwater model was updated during a multiyear process to 3D. It will provide advanced capabilities for identifying existing conditions, designing programs, and testing outcomes. The groundwater model will be useful for virtually every aspect of Basin management, from recycled water development to water quality evaluations to well performance analysis.

AQUIFER PERFORMANCE TESTS

Watermaster has developed a groundwater flow model for the entire Basin that assists in evaluating the potential impacts of changes in groundwater production. Although Watermaster completed its three-year Aquifer Performance Test investigation, additional tests will be conducted as required for Section 28 applications or for other needs. A tabulation of potential Aquifer Performance Test investigation sites is included in Appendix D. The sites identified include a production well and at least one monitoring well. The tests provide information on the characteristics of the aquifer such as transmissivity, hydraulic conductivity, and coefficient of storage. The information gathered on aquifer characteristics will support cleanup activities, including groundwater model development and calibration (see Appendix D).

DIRECTORY TO APPENDICES

The Following Appendices Are Found in This Section:

A. Projected Groundwater Demands from 2023–24 to 2027–28

B. Simulated Changes in Groundwater Elevations at Wells or Wellfields in Main San Gabriel Basin

C. Highlights of Volatile Organic Compounds and Nitrate Concentrations, and Wells Vulnerable to Contamination

D. Potential Sites for Aquifer Performance Tests

E. Summary of Treatment Facility Activity in the Main San Gabriel Basin

F. Simulated Basin Groundwater Contours 2022–23 and 2027–28 (Figures 15 and 16),

   Simulated Groundwater Elevation Changes Between FY 2022–23 and FY 2027–28 (Figure 17),

   VOC Plume Map in BPOU and Perchlorate Plume Map in BPOU (Figures 18 and 19)

APPENDIX A.

Projected Groundwater Demands from 2023–24 to 2027–28

APPENDIX A
PROJECTED GROUNDWATER DEMANDS FROM 2023-24 TO 2027-28

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
9447 SAN GABRIEL CANYON LLC (VIETNAMESE AMERICAN BUDDHIST TEMPLE) (1)									
8000191	VIET TEM	16	10	9.94	10.10	10.30	10.50	10.70	10.90
SUBTOTAL		16	10	9.94	10.10	10.30	10.50	10.70	10.90
ADAMS RANCH MUTUAL WATER COMPANY (CALIFORNIA AMERICAN WATER COMPANY)									
1902106	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902689	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000182	3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
ALHAMBRA, CITY OF (2)									
1900010	MOELR (8)	3,387	2,100	1,500.13	1,740.00	940.00	940.00	940.00	940.00
1900011	9	798	495	14.44	16.00	16.00	16.00	16.00	16.00
1900012	10	NA	NA	0.00	0.00	0.00	4.00	4.00	8.00
1900013	12	807	500	0.00	8.00	8.00	8.00	8.00	8.00
1900014	13	1,048	650	181.46	150.00	280.00	280.00	280.00	280.00
1900015	14	1,532	950	0.00	0.00	1,000.00	1,000.00	1,000.00	1,000.00
1900016	15	1,774	1,100	1,646.78	1,440.00	1,400.00	1,400.00	1,400.00	1,400.00
1900017	2 LON	1,589	985	943.02	1,320.00	1,260.00	1,260.00	1,260.00	1,260.00
1900018	GARF	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902789	1 LON	1,613	1,000	1,349.71	1,320.00	1,260.00	1,260.00	1,260.00	1,260.00
1903014	11	1,032	640	13.94	16.00	16.00	16.00	16.00	16.00
1903097	7	968	600	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		14,549	9,020	5,649.48	6,010.00	6,180.00	6,184.00	6,184.00	6,188.00
AMARILLO MUTUAL WATER COMPANY (SAN GABRIEL VALLEY WATER COMPANY) (2)									
1900791	SOUTH (1)	644	399	6.43	470.06	489.04	508.80	524.41	529.93
1900792	NORTH (2)	424	263	0.00	0.77	0.77	0.77	0.77	0.77
SUBTOTAL:		1,068	662	6.43	470.83	489.81	509.57	525.18	530.70
ANDERSON, RAY L. AND HELEN									
8000085	NA	18	11	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		18	11	0.00	0.00	0.00	0.00	0.00	0.00
ARCADIA, CITY OF (1)									
1901013	1 LON	1,613	1,000	178.18	620.00	620.00	620.00	620.00	620.00
1901014	2 LON	1,613	1,000	0.00	0.00	0.00	0.00	0.00	0.00
1901015	1 BAL	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902077	1 CAM	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902078	2 CAM	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902084	2 LGY	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902358	1 STJ	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902791	2 BAL	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902854	1 PEC	5,968	3,700	2,200.48	3,920.00	3,920.00	3,920.00	3,920.00	3,920.00
8000127	1 LO	4,516	2,800	4,333.27	1,820.00	1,820.00	1,820.00	1,820.00	1,820.00
8000177	2 STJ	1,613	1,000	0.00	0.00	0.00	0.00	0.00	0.00
8000213	3 CAM	4,355	2,700	2,126.10	3,160.00	3,160.00	3,160.00	3,160.00	3,160.00
8000214	3 LGY	2,903	1,800	407.40	1,520.00	1,520.00	1,520.00	1,520.00	1,520.00
SUBTOTAL:		22,582	14,000	9,245.43	11,040.00	11,040.00	11,040.00	11,040.00	11,040.00
ARCADIA RECLAMATION (1)									
8000229	NA	NA	NA	29.76	48.00	48.00	48.00	48.00	48.00
SUBTOTAL:		NA	NA	29.76	48.00	48.00	48.00	48.00	48.00
ATTALLA, MARY L.									
8000119	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		NA	NA	0.00	0.00	0.00	0.00	0.00	0.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
AZUSA, CITY OF (AZUSA AGRICULTURAL WATER COMPANY, AZUSA VALLEY WATER COMPANY) (1)									
1902533	5 (1)	1,613	1,000	1,129.66	1,310.00	1,310.00	1,310.00	1,310.00	1,310.00
1902535	6 (3)	4,839	3,000	645.78	470.00	470.00	470.00	470.00	470.00
1902536	GENESIS 1 (4)	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902537	GENESIS 2 (5)	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902538	GENESIS 3 (6)	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000072	1 (7)	4,839	3,000	1,218.49	1,060.00	1,060.00	1,060.00	1,060.00	1,060.00
8000086	3 (8)	4,678	2,900	2,254.59	2,370.00	2,370.00	2,370.00	2,370.00	2,370.00
1902457	2 (1 NORTH)	3,226	2,000	1,632.24	1,290.00	1,290.00	1,290.00	1,290.00	1,290.00
1902458	4 (2 SOUTH)	4,516	2,800	2,389.22	1,410.00	1,410.00	1,410.00	1,410.00	1,410.00
1902113	AVWC 1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902114	AVCW 2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902115	8 (AVWC 4)	3,065	1,900	571.30	480.00	480.00	480.00	480.00	480.00
1902116	7 (AVWC 5)	1,613	1,000	160.87	230.00	230.00	230.00	230.00	230.00
1902117	9 (AVWC 6)	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902425	AVWC 7	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000103	10 (AVWC 8)	4,194	2,600	227.69	160.00	160.00	160.00	160.00	160.00
8000178	11	2,581	1,600	965.10	1,590.00	1,590.00	1,590.00	1,590.00	1,590.00
8000179	12	2,420	1,500	737.42	1,420.00	1,420.00	1,420.00	1,420.00	1,420.00
1903119	VULCAN	NA	NA	38.06	40.00	40.00	40.00	40.00	40.00
SUBTOTAL:		37,583	23,300	11,970.42	11,830.00	11,830.00	11,830.00	11,830.00	11,830.00
AZUSA ASSOCIATES LLC (COVELL, ET AL)									
1900390	DALTON	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
B & B RED-I-MIX CONCRETE INC.									
1902589	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
BANKS, GALE & VICKI (1)									
1900415	NA	560	347	22.34	30.00	30.00	30.00	30.00	30.00
SUBTOTAL		560	347	22.34	30.00	30.00	30.00	30.00	30.00
BASELINE WATER COMPANY									
1901200	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901201	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901202	3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
BEVERLY ACRES MUTUAL									
8000004	ROSE HILLS	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
BIRENBAUM, MAX									
8000005	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
BROOKS, GIFFORD JR.									
1902144	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		NA	NA	0.00	0.00	0.00	0.00	0.00	0.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
BURBANK DEVELOPMENT COMPANY									
1900093	BURB	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
CALIFORNIA-AMERICAN WATER COMPANY/DUARTE SYSTEM (2)									
1900354	STA FE	1,694	1,050	161.26	600.00	600.00	610.00	610.00	620.00
1900355	B V	2,339	1,450	478.46	820.00	830.00	840.00	850.00	860.00
1900356	MT AVE	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900357	LAS L	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900358	FISH C	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902907	WILEY	2,420	1,500	2,056.55	850.00	860.00	870.00	880.00	880.00
1903018	CR HV	2,581	1,600	634.89	910.00	920.00	930.00	930.00	940.00
8000139	ENCTO	1,936	1,200	370.74	680.00	690.00	690.00	700.00	710.00
8000140	LASL 2	2,258	1,400	27.37	800.00	800.00	810.00	820.00	830.00
1900497	BACON	484	300	1.98	170.00	170.00	170.00	180.00	180.00
8000216	B V 2	2,661	1,650	785.17	940.00	950.00	950.00	960.00	970.00
8000237	LEMON	242	150	231.62	90.00	90.00	90.00	90.00	90.00
SUBTOTAL:		16,614	10,300	4,748.04	5,860.00	5,910.00	5,960.00	6,020.00	6,080.00
CALIFORNIA-AMERICAN WATER COMPANY/SAN MARINO SYSTEM (2)									
1900917	HALL	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900918	GUESS	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900919	MISVW	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900920	MISVW	1,613	1,000	1,098.44	810.00	820.00	830.00	830.00	840.00
1900921	RIC-1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900922	RIC-2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900923	IVR-1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900924	MAR-1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900925	MAR-2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900926	GRAND	2,016	1,250	454.60	1,010.00	1,020.00	1,030.00	1,040.00	1,050.00
1900927	ROSE	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900934	ROAN	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900935	LONG	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901441	BR-1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902424	HOWL	1,129	700	249.87	570.00	570.00	580.00	580.00	590.00
1902787	BR-2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902867	IVR-2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1903019	MAR-3	1,936	1,200	1,725.77	970.00	980.00	990.00	1,000.00	1,010.00
1903059	DELMAR	1,290	800	619.10	650.00	650.00	660.00	670.00	670.00
8000175	HALL-2	2,258	1,400	163.80	1,130.00	1,140.00	1,160.00	1,170.00	1,180.00
8000222	RIC-3	2,581	1,600	731.35	1,290.00	1,310.00	1,320.00	1,330.00	1,350.00
8000182	ADA-3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901508	9	2,420	1,500	215.24	400.00	410.00	410.00	420.00	420.00
8000217	11	2,420	1,500	1,185.31	1,210.00	1,230.00	1,240.00	1,250.00	1,260.00
SUBTOTAL:		17,662	10,950	6,443.48	8,040.00	8,130.00	8,220.00	8,290.00	8,370.00
CALIFORNIA COUNTRY CLUB (1)									
1902529	CLUB	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902531	ARTES	1,129	700	0.00	0.00	0.00	0.00	0.00	0.00
1903084	SYC	1,290	800	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		2,420	1,500	0.00	0.00	0.00	0.00	0.00	0.00
CALIFORNIA DOMESTIC WATER COMPANY (2)									
1901181	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000236	2A	5,323	3,300	3,448.06	2,940.00	2,810.00	2,680.00	2,550.00	2,550.00
1901182	1-E	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901183	5	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901185	13-N	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902967	6	6,613	4,100	337.56	3,910.00	3,740.00	3,570.00	3,400.00	3,400.00
1903057	3	6,775	4,200	6,165.07	4,400.00	4,210.00	4,020.00	3,830.00	3,830.00
1903081	8	4,839	3,000	118.04	2,940.00	2,810.00	2,680.00	2,550.00	2,550.00
8000100	5A	6,452	4,000	5,213.09	3,910.00	3,740.00	3,570.00	3,400.00	3,400.00
8000174	14	5,323	3,300	0.00	0.00	0.00	0.00	0.00	0.00
8000223	10	8,065	5,000	1,854.46	4,900.00	4,690.00	4,480.00	4,270.00	4,270.00
1900092	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		43,390	26,900	17,136.28	23,000.00	22,000.00	21,000.00	20,000.00	20,000.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
CARRIER CORPORATION (1)									
Carrier	--	--	--	0.00	5.00	5.00	5.00	5.00	5.00
SUBTOTAL:		--	--	0.00	5.00	5.00	5.00	5.00	5.00
CEDAR AVENUE MUTUAL WATER COMPANY									
1901411	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902783	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
CEMEX CONSTRUCTION MATERIALS L.P. (AZ-TWO INC.)									
1900038	2	2,305	1,429	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		2,305	1,429	0.00	0.00	0.00	0.00	0.00	0.00
CHAMPION MUTUAL WATER COMPANY (SAN GABRIEL VALLEY WATER COMPANY)									
1900908	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902816	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000121	3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
CHEVRON USA									
1900250	TEMP1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
CITRUS VALLEY MEDICAL CENTER, QUEEN OF THE VALLEY CAMPUS (QUEEN OF THE VALLEY HOSPITAL) (1)									
8000138	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
CLAYTON MANUFACTURING COMPANY									
1901055	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000170	MW-4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
COLLISON, E.O.									
1902968	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
CORCORAN BROS.									
1902814	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
COUNTY SANITATION DISTRICT NO. 18 (1)									
8000008	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000009	3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000104	LE 1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000105	LE 2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000106	LE 3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000107	LE 4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000128	EO8A	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000129	E09A	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000130	E10A	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000131	E11A	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000141	EX1	NA	NA	0.22	0.24	0.24	0.24	0.24	0.24
8000142	EX2	NA	NA	0.03	0.00	0.00	0.00	0.00	0.00
8000143	EX3	NA	NA	0.01	0.00	0.00	0.00	0.00	0.00
8000144	EX4	NA	NA	0.01	0.00	0.00	0.00	0.00	0.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
8000161	E01R	NA	NA	0.08	0.08	0.08	0.08	0.08	0.08
8000162	E03R	NA	NA	0.04	0.04	0.04	0.04	0.04	0.04
8000163	E05R	NA	NA	0.52	0.50	0.50	0.50	0.50	0.50
8000164	E07R	NA	NA	0.76	0.87	0.87	0.87	0.87	0.87
8000165	E02R	NA	NA	0.75	0.84	0.84	0.84	0.84	0.84
8000166	E04R	NA	NA	0.25	0.24	0.24	0.24	0.24	0.24
8000167	E06R	NA	NA	0.17	0.15	0.15	0.15	0.15	0.15
8000168	E08R	NA	NA	0.32	0.32	0.32	0.32	0.32	0.32
WRP FL E	WRP FL E	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				9.60	10.00	10.00	10.00	10.00	10.00
COVINA, CITY OF									
1901685	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901686	2	968	600	0.00	0.00	0.00	0.00	0.00	0.00
1901687	3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		968	600	0.00	0.00	0.00	0.00	0.00	0.00
COVINA IRRIGATING COMPANY (2)									
1900881	CONTR	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900882	3 BAL	2,903	1,800	2,283.62	2,650.00	2,650.00	2,650.00	2,650.00	2,650.00
1900883	2 BAL	2,581	1,600	6.23	4.00	4.00	400.00	400.00	400.00
1900885	1 BAL	2,097	1,300	774.61	600.00	1,000.00	1,250.00	1,600.00	1,600.00
1900880	VALEN	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		7,581	4,700	3,064.46	3,254.00	3,654.00	4,300.00	4,650.00	4,650.00
CREVOLIN, A.J.									
8000011	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
CROWN CITY PLATING COMPANY									
8000012	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
DAVIDSON OPTRONICS INC.									
8000013	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
DAWES, MARY K.									
1902952	4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
DEFALCO, JOHN & CAROLE									
8000194	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
DEL RIO MUTUAL WATER COMPANY (1)									
1900331	BURKE	261	162	81.00	90.00	90.00	90.00	90.00	90.00
1900332	KLING	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		261	162	81.00	90.00	90.00	90.00	90.00	90.00
DRIFTWOOD DAIRY									
1902924	1	298	185	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		298	185	0.00	0.00	0.00	0.00	0.00	0.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
DUNNING, GEORGE									
1900091	1910	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
EL MONTE, CITY OF (2)									
1901692	2A	1,532	950	378.83	405.36	421.57	438.44	455.97	474.21
1901693	3	807	500	0.00	0.00	0.00	0.00	0.00	0.00
1901694	4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901695	5	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901699	10	2,420	1,500	441.43	472.34	491.23	510.88	531.32	552.57
1901700	11	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902612	MT VW	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1903137	12	2,742	1,700	47.36	50.68	52.70	54.81	57.01	59.29
8000066	--	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000101	13	4,839	3,000	0.00	0.00	0.00	0.00	0.00	0.00
8000231	14	290	180	234.52	250.93	260.96	271.40	282.26	293.55
8000232	15	274	170	254.86	291.46	303.12	315.24	327.85	340.96
8000233	16	403	250	433.61	463.97	482.53	501.83	521.91	542.78
SUBTOTAL:		13,307	8,250	1,790.61	1,934.73	2,012.12	2,092.61	2,176.31	2,263.36
EL MONTE CEMETERY ASSOCIATION									
8000017	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
FRUIT STREET WATER COMPANY									
1901199	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
GATES, JAMES RICHARD (1)									
8000215	NA	NA	NA	0.36	1.00	1.00	1.00	1.00	1.00
SUBTOTAL:				0.36	1.00	1.00	1.00	1.00	1.00
GLENDORA, CITY OF (2)									
1900826	11-E	1,452	900	354.10	900.00	900.00	900.00	900.00	900.00
1900827	12-E	3,226	2,000	1,418.27	2,000.00	2,020.00	2,020.00	2,020.00	2,020.00
1900828	10-E	1,048	650	268.99	650.00	660.00	660.00	660.00	660.00
1900829	8-E	2,742	1,700	1,538.41	1,700.00	1,720.00	1,720.00	1,720.00	1,720.00
1900830	9-E	2,742	1,700	2,038.60	1,700.00	1,720.00	1,720.00	1,720.00	1,720.00
1900831	7-G	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901523	1-E	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901524	4-E	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901525	3-G	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901526	2-E	807	500	406.95	500.00	500.00	500.00	500.00	500.00
8000003	--	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000149	5-E	2,903	1,800	941.50	1,800.00	1,820.00	1,820.00	1,820.00	1,820.00
8000184	13-E	1,290	800	739.07	800.00	810.00	810.00	810.00	810.00
SUBTOTAL:		16,211	10,050	7,705.89	10,050.00	10,150.00	10,150.00	10,150.00	10,150.00
GOEDERT, LILLIAN									
8000027	GOEDERT	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
GOLDEN STATE WATER COMPANY (SOUTHERN CALIFORNIA WATER COMPANY)/SAN DIMAS DISTRICT (1)									
1902148	BAS-3	968	600	0.00	0.00	0.00	0.00	0.00	0.00
1902149	BAS-4	1,210	750	0.00	0.00	0.00	0.00	0.00	0.00
1902150	HIGHWAY	1,129	700	225.85	1,050.00	1,050.00	1,060.00	1,060.00	1,070.00
1902151	ART-1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902152	ART-2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902154	L H-2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902266	COL-1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902267	COL-2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902268	COL-4	726	450	0.00	0.00	0.00	0.00	0.00	0.00
1902269	COL-5	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902270	COL-6	686	425	0.00	0.00	0.00	0.00	0.00	0.00
1902271	COL-7	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
1902272	COL-8	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902286	CITY	323	200	143.98	300.00	300.00	300.00	300.00	300.00
1902842	ART-3	403	250	99.48	380.00	380.00	380.00	380.00	380.00
1902287	MALON	605	375	456.63	560.00	560.00	570.00	570.00	570.00
8000212	HIGHWAY 2	1,613	1,000	390.47	1,500.00	1,510.00	1,510.00	1,520.00	1,520.00
SUBTOTAL:		7,662	4,750	1,316.41	3,790.00	3,800.00	3,820.00	3,830.00	3,840.00
GOLDEN STATE WATER COMPANY (SOUTHERN CALIFORNIA WATER COMPANY)/SAN GABRIEL DISTRICT (1)									
1900510	1 S G	1,774	1,100	1,231.82	1,360.00	1,360.00	1,370.00	1,370.00	1,380.00
1900511	2 S G	1,452	900	227.74	740.00	740.00	750.00	750.00	750.00
1900512	2 GAR	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900513	1 GAR	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900514	3 SAX	565	350	0.00	0.00	0.00	0.00	0.00	0.00
1900515	1 SAX	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000146	4 SAX	1,532	950	1.19	0.00	0.00	0.00	0.00	0.00
1902144	1 EAR	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902017	1 JEF	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902018	2 JEF	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902019	3 JEF	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902020	1 AZU	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902024	1 ENC	1,936	1,200	795.31	740.00	740.00	750.00	750.00	750.00
1902027	1 PER	697	432	111.39	270.00	270.00	270.00	270.00	270.00
1902030	1 GRA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902031	2 GID	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902032	1 GID	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902034	1 FAR	1,936	1,200	0.86	250.00	250.00	250.00	250.00	250.00
1902035	2 ENC	968	600	380.39	740.00	740.00	750.00	750.00	750.00
1902461	2 GRA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902948	2 FAR	1,210	750	0.00	120.00	120.00	120.00	120.00	130.00
8000073	3 ENC	1,048	650	457.55	400.00	400.00	400.00	410.00	410.00
8000111	4 JEF	2,097	1,300	775.45	1,610.00	1,610.00	1,620.00	1,620.00	1,630.00
8000221	3 GAR	NA	NA	655.62	560.00	560.00	560.00	560.00	560.00
SUBTOTAL:		15,214	9,432	4,637.32	6,790.00	6,790.00	6,840.00	6,850.00	6,880.00
GOULD ELECTRONICS INC. AND JOHNSON CONTROLS INC. (1)									
SEW	SEW	NA	NA	22.10	40.00	40.00	40.00	40.00	40.00
DEW	DEW	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				22.10	40.00	40.00	40.00	40.00	40.00
GREEN, WALTER									
8000027	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000028	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
HANSEN, ALICE									
8000029	2946	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
HANSON AGGREGATES WEST, INC. (LIVINGSTON-GRAHAM) (1)									
1900961	1 DUA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900963	1 KIN	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901492	1 EL	3,302	2,047	56.19	60.00	60.00	60.00	60.00	60.00
1901493	3 EL	4,563	2,829	89.26	110.00	110.00	110.00	110.00	110.00
1903006	4 EL	356	221	0.00	0.00	0.00	0.00	0.00	0.00
--	Temp	NA	NA	0.00	4.00	4.00	4.00	4.00	4.00
SUBTOTAL:		8,221	5,097	145.45	174.00	174.00	174.00	174.00	174.00
HARTLEY, DAVID									
8000029	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
HEMLOCK MUTUAL WATER COMPANY (1)									
1901178	NORTH	219	136	23.47	30.00	30.00	30.00	30.00	30.00
1902806	SOUTH	516	320	38.34	40.00	40.00	40.00	40.00	40.00
SUBTOTAL:		736	456	61.81	70.00	70.00	70.00	70.00	70.00
HERMETIC SEAL CORPORATION (1)									
EW-21/22	EW-21/22	NA	NA	37.97	50.00	50.00	50.00	50.00	50.00
SUBTOTAL:				37.97	50.00	50.00	50.00	50.00	50.00
IBY PROPERTY OWNER, LLC (MOLSON COORS USA, LLC) (1)									
8000034	--	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000075	2	5,533	3,430	11.75	50.00	50.00	50.00	50.00	50.00
8000076	--	5,533	3,430	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		11,065	6,860	11.75	50.00	50.00	50.00	50.00	50.00
INDUSTRY WATERWORKS SYSTEM, CITY OF (2)									
1902581	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902582	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902583	5TH AVE	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000078	3	2,016	1,250	0.00	0.00	0.00	0.00	384.00	384.00
8000096	4	2,016	1,250	0.00	0.00	0.00	0.00	768.00	768.00
8000097	5	1,936	1,200	1,106.34	1,920.00	1,920.00	1,920.00	768.00	768.00
SUBTOTAL:		5,968	3,700	1,106.34	1,920.00	1,920.00	1,920.00	1,920.00	1,920.00
KIYAN, HIDEO									
1902970	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
LA PUENTE VALLEY COUNTY WATER DISTRICT (2)									
1901459	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901460	2	1,936	1,200	1,532.57	1,932.00	1,932.00	1,932.00	1,932.00	1,932.00
1902859	3	2,016	1,250	59.19	4.00	4.00	4.00	4.00	4.00
8000062	4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000209	5	2,016	1,250	2,130.87	2,016.00	2,016.00	2,016.00	2,016.00	2,016.00
8000238	IZ-1	NA	NA	7.51	6.00	6.00	6.00	6.00	6.00
8000239	IZ-2	NA	NA	0.00	2.00	2.00	2.00	2.00	2.00
8000240	IZ-EAST	NA	NA	13.14	8.00	8.00	8.00	8.00	8.00
8000241	IZ-WEST	NA	NA	26.53	14.00	14.00	14.00	14.00	14.00
8000242	MZ-1	NA	NA	13.10	11.00	11.00	11.00	11.00	11.00
8000243	MZ-2	NA	NA	11.34	11.00	11.00	11.00	11.00	11.00
8000244	MZ-3	NA	NA	10.89	9.00	9.00	9.00	9.00	9.00
SUBTOTAL:		5,968	3,700	3,805.14	4,013.00	4,013.00	4,013.00	4,013.00	4,013.00
LA VERNE, CITY OF									
1902322	SNIDO	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
LAKIN, KELLY									
8000158	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
LANDEROS, JOHN									
8000031	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
LOS ANGELES, COUNTY OF (1)									

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
1902666	6	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000070	1 SF	3,349	2,076	690.24	820.00	820.00	820.00	820.00	820.00
8000074	2 SF	458	284	35.45	30.00	30.00	30.00	30.00	30.00
8000088	B RED	174	108	0.00	0.00	0.00	0.00	0.00	0.00
8000089	N LK	1,323	820	0.00	0.00	0.00	0.00	0.00	0.00
8000090	600	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902158	BN PK	2,087	1,294	0.00	0.00	0.00	0.00	0.00	0.00
8000150	3A	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
EPA (LE L)	WNOU	NA	NA	1,838.22	2,800.00	2,800.00	2,800.00	2,800.00	2,800.00
SUBTOTAL:		10,101	6,262	2,563.91	3,650.00	3,650.00	3,650.00	3,650.00	3,650.00
LOS FLORES MUTUAL WATER COMPANY									
11902098	1-LO	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
21902098	1-HI	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
LOUCKS, DAVID									
8000032	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
MAECHTLEN, J.J. TRUSTEE									
1902321	OLD60	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902322	SNIDO	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902323	M & N	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
MANNING BROS. ROCK & SAND COMPANY									
1900117	36230	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
MAPLE WATER COMPANY (SUBURBAN WATER SYSTEMS)									
1900042	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000109	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
MARTINEZ, FRANCES MERCY									
8000033	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA									
1900693	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900694	3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
MONROVIA, CITY OF (2)									
1900417	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900418	2	2,742	1,700	95.61	1,140.00	1,170.00	1,200.00	1,230.00	1,260.00
1900419	3	2,742	1,700	1,596.45	1,110.00	1,140.00	1,170.00	1,190.00	1,220.00
1900420	4	2,903	1,800	1,367.96	1,520.00	1,560.00	1,600.00	1,640.00	1,670.00
1940104	5	3,871	2,400	31.15	1,760.00	1,810.00	1,850.00	1,900.00	1,940.00
8000171	6	3,871	2,400	2,608.04	1,600.00	1,640.00	1,680.00	1,720.00	1,760.00
SUBTOTAL:		16,130	10,000	5,699.21	7,130.00	7,320.00	7,500.00	7,680.00	7,850.00
MONROVIA NURSERY									
1902456	DIV 4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
MONTEREY PARK, CITY OF (2)									
1900453	1	968	600	425.01	270.00	280.00	280.00	290.00	300.00
1900454	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900455	3	968	600	532.58	700.00	710.00	730.00	740.00	760.00
1900456	4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900457	5	2,903	1,800	2.76	600.00	610.00	630.00	640.00	660.00
1900458	6	968	600	0.00	0.00	0.00	0.00	0.00	0.00
1902372	7	1,290	800	0.00	0.00	0.00	0.00	0.00	0.00
1902373	8	2,903	1,800	0.00	0.00	0.00	0.00	0.00	0.00
1902690	9	2,903	1,800	6.27	10.00	10.00	10.00	10.00	10.00
1902818	10	2,903	1,800	1,489.67	1,780.00	1,820.00	1,860.00	1,910.00	1,950.00
1903033	12	3,226	2,000	1,571.49	2,360.00	2,420.00	2,470.00	2,530.00	2,580.00
1903092	14	1,129	700	0.00	0.00	0.00	0.00	0.00	0.00
8000126	FERN	1,613	1,000	12.90	240.00	250.00	250.00	260.00	270.00
8000196	15	3,226	2,000	1,550.15	1,790.00	1,820.00	1,870.00	1,910.00	1,950.00
SUBTOTAL:		25,002	15,500	5,590.83	7,750.00	7,920.00	8,100.00	8,290.00	8,480.00
MOON VALLEY NURSERY OF CALIFORNIA, INC. (COINER, JAMES W., DBA COINER NURSERY) (1)									
1903072	5R	NA	NA	57.55	50.00	50.00	50.00	50.00	50.00
SUBTOTAL:				57.55	50.00	50.00	50.00	50.00	50.00
MUNOZ, RALPH (1)									
8000219	MUNOZ	NA	NA	0.70	1.00	1.00	1.00	1.00	1.00
SUBTOTAL:				0.70	1.00	1.00	1.00	1.00	1.00
NAMIMATSU FARMS INC.									
1901034	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
NICK TOMOVICH & SON									
8000037	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
NO. 17 WALNUT PLACE MUTUAL WATER COMPANY									
8000038	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
OWL ROCK PRODUCTS (ROBERTSON'S READY MIX)									
1900043	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902241	NA	3,205	1,987	0.00	0.00	0.00	0.00	0.00	0.00
1903119	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		3,205	1,987	0.00	0.00	0.00	0.00	0.00	0.00
PARK WATER CO.									
1901307	26-A	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000039	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
PICO COUNTY WATER DISTRICT									
8000040	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
POLOPOLUS, ET AL									
1902169	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
PROGRESSIVE BUDDHIST ASSOCIATION (1)									
8000228	--	48	30	0.37	1.00	1.00	1.00	1.00	1.00
SUBTOTAL:		48	30	0.37	1.00	1.00	1.00	1.00	1.00
RICHWOOD MUTUAL WATER COMPANY									
1901521	1 SOUTH	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901522	2 NORTH	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
ROWLAND WATER DISTRICT (1)									
--	--	NA	NA	0.00	4.00	4.00	4.00	4.00	4.00
SUBTOTAL:				0.00	4.00	4.00	4.00	4.00	4.00
RURBAN HOMES MUTUAL WATER COMPANY (1)									
1900120	1-NORTH	726	450	0.00	0.00	0.00	0.00	0.00	0.00
1900121	2-SOUTH	484	300	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		1,210	750	0.00	0.00	0.00	0.00	0.00	0.00
RUTH, ROY									
8000041	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
S.L.S. & N. INC. (1)									
8000151	NA	NA	NA	28.72	30.00	30.00	30.00	30.00	30.00
SUBTOTAL:				28.72	30.00	30.00	30.00	30.00	30.00
SAN GABRIEL COUNTRY CLUB (1)									
1900547	1	226	140	38.78	40.00	40.00	40.00	40.00	40.00
1902979	2	750	465	182.57	200.00	200.00	200.00	200.00	200.00
SUBTOTAL:		976	605	221.35	240.00	240.00	240.00	240.00	240.00
SAN GABRIEL COUNTY WATER DISTRICT (2)									
1901669	5 BRA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901670	6 BRA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901671	7	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901672	8	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902785	9	1,613	1,000	1,790.69	1,800.00	1,800.00	1,800.00	1,800.00	1,800.00
1902786	10	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000067	11	1,129	700	70.41	80.00	80.00	80.00	80.00	80.00
8000123	12	4,274	2,650	656.01	750.00	750.00	750.00	750.00	750.00
8000133	14	3,871	2,400	542.78	700.00	700.00	700.00	700.00	700.00
8000220	15	3,871	2,400	590.36	705.00	705.00	705.00	705.00	705.00
SUBTOTAL:		14,759	9,150	3,650.25	4,035.00	4,035.00	4,035.00	4,035.00	4,035.00
SAN GABRIEL VALLEY WATER COMPANY (1)									
1900725	G4A	1,534	951	408.86	470.00	480.00	490.00	490.00	490.00
1900733	5A	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902635	B1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000112	B5C	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000038	--	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900729	1B	1,792	1,111	3.29	370.00	380.00	390.00	390.00	390.00
1902946	1C	3,268	2,026	0.00	0.00	0.00	0.00	0.00	0.00
8000081	1B4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000082	1B5	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000102	1D	3,524	2,185	2,522.11	3,310.00	3,360.00	3,420.00	3,420.00	3,420.00
1900749	2C	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902857	2D	3,684	2,284	207.73	1,030.00	1,050.00	1,070.00	1,070.00	1,070.00
8000065	2E	3,226	2,000	1,312.70	290.00	290.00	300.00	300.00	300.00
1900736	8A	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900746	8B	1,887	1,170	881.84	200.00	200.00	200.00	200.00	200.00
1900747	8C	2,299	1,425	1,674.92	1,310.00	1,330.00	1,360.00	1,360.00	1,360.00
1903103	8D	3,629	2,250	446.41	1,700.00	1,720.00	1,760.00	1,760.00	1,760.00
8000113	8E	4,412	2,735	8.40	440.00	440.00	450.00	450.00	450.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
1900739	11A	3,557	2,205	2,018.17	2,530.00	2,570.00	2,620.00	2,620.00	2,620.00
1900745	11B	2,894	1,794	0.62	50.00	50.00	50.00	50.00	50.00
1902713	11C	1,578	978	3.05	30.00	30.00	30.00	30.00	30.00
8000083	11B7	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902858	B4B	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902947	B4C	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900718	B5A	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900719	B5B	4,741	2,939	3,253.34	3,100.00	3,150.00	3,210.00	3,210.00	3,210.00
1900721	B6B	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1903093	B6C	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000084	B6B2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000098	B6D	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902525	B2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000122	B7E	826	512	396.64	400.00	400.00	410.00	410.00	410.00
1901435	B7A	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901436	B8	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901437	B9	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901439	B11A	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901440	B7B	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000068	B7C	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000094	B7D	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000099	B9B	1,327	823	542.63	580.00	590.00	610.00	610.00	610.00
8000108	B11B	2,855	1,770	606.08	830.00	840.00	860.00	860.00	860.00
8000172	1E	4,274	2,650	345.06	1,190.00	1,200.00	1,230.00	1,230.00	1,230.00
8000160	B5D	3,805	2,359	1,234.96	1,710.00	1,740.00	1,770.00	1,770.00	1,770.00
8000169	8F	4,794	2,972	803.08	690.00	700.00	710.00	710.00	710.00
NA	G4B	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
NA	1F	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000197	2F	NA	1,576	120.21	300.00	310.00	310.00	310.00	310.00
NA	B11C	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000203	B24A	3,736	2,316	7.13	130.00	130.00	130.00	130.00	130.00
8000204	B24B	3,668	2,274	0.67	0.00	0.00	0.00	0.00	0.00
8000187	B25A	3,892	2,413	2,858.07	3,670.00	3,720.00	3,790.00	3,790.00	3,790.00
8000188	B25B	3,968	2,460	3,002.89	3,370.00	3,430.00	3,490.00	3,490.00	3,490.00
8000189	B26A	1,011	627	935.61	1,000.00	1,020.00	1,040.00	1,040.00	1,040.00
8000190	B26B	1,800	1,116	1,305.76	1,040.00	1,050.00	1,070.00	1,070.00	1,070.00
8000205	B5E	4,654	2,885	5,165.64	4,030.00	4,090.00	4,170.00	4,170.00	4,170.00
8000226	11D	2,823	1,750	323.63	800.00	810.00	830.00	830.00	830.00
NA	B24C	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
NA	B24D	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		85,457	54,556	30,389.50	34,570.00	35,080.00	35,770.00	35,770.00	35,770.00
SLOAN RANCHES									
1901198	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000045	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
SIERRA LA VERNE COUNTRY CLUB (1)									
8000124	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000125	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000192	15 OFFSITE	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
SIERRA MADRE, CITY OF (1)									
8000193	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
SONOCO PRODUCTS COMPANY (1)									
1912786	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902971	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000137	2	NA	NA	78.51	80.00	80.00	80.00	80.00	80.00
SUBTOTAL:				78.51	80.00	80.00	80.00	80.00	80.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
SOUTH COVINA WATER SERVICE									
1901606	102	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
SOUTH PASADENA, CITY OF (2)									
1901679	GRAV 2	1,129	700	1.56	240.00	240.00	240.00	240.00	240.00
1901681	2 WIL	1,936	1,200	0.00	0.00	0.00	0.00	0.00	0.00
1901682	3 WIL	3,161	1,960	1,809.52	2,225.00	2,225.00	2,225.00	2,225.00	2,225.00
1903086	4 WIL	1,774	1,100	969.94	1,335.00	1,335.00	1,335.00	1,335.00	1,335.00
SUBTOTAL:		8,000	4,960	2,781.02	3,800.00	3,800.00	3,800.00	3,800.00	3,800.00
SOUTHERN CALIFORNIA EDISON COMPANY (1)									
1900342	1EB86	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900343	2EB76	211	131	0.00	0.00	0.00	0.00	0.00	0.00
8000046	110RH	NA	NA	0.03	10.00	10.00	10.00	10.00	10.00
8000047	MURAT	2,420	1,500	0.00	0.00	0.00	0.00	0.00	0.00
1900344	38EIS	1,415	877	0.00	0.00	0.00	0.00	0.00	0.00
1900344	38W	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		4,045	2,508	0.03	10.00	10.00	10.00	10.00	10.00
STERLING MUTUAL WATER COMPANY (1)									
1902085	SOUTH	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902096	NORTH	397	246	48.45	40.00	40.00	40.00	40.00	40.00
8000132	NEW SO	436	270	30.48	50.00	50.00	50.00	50.00	50.00
SUBTOTAL:		832	516	78.93	90.00	90.00	90.00	90.00	90.00
SUBURBAN WATER SYSTEMS (2)									
1900337	152W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901429	201W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901430	201W2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901431	201W3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901432	201W5	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901433	201W4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901434	201W6	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901596	147W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901597	142W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901598	139W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901599	139W2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901600	139W3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901602	140W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901604	148W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901608	105W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901609	106W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901610	111W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901611	112W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901612	113W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901613	114W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901614	117W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901615	120W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901616	122W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901617	123W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901618	124W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901619	125W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901620	126W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901621	131W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901622	133W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901623	134W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901624	135W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901625	136W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901627	202W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902119	149W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902519	150W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902760	147W2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902761	153W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902762	154W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902763	157W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1903067	140W3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000069	139W4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000077	147W3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000087	125W2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000092	126W2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
8000093	140W4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000145	140W5	4,516	2,800	0.02	1,048.41	1,048.41	1,048.41	1,048.41	1,048.41
8000095	139W5	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000152	139W6	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902518	151W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902819	155W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902820	155W2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901605	101W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901607	103W1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000181	121W1	2,742	1,700	943.24	1,611.11	1,611.11	1,611.11	1,611.11	1,611.11
8000183	142W2	4,033	2,500	4,086.57	3,711.22	3,711.22	3,711.22	3,711.22	3,711.22
8000195	201W7	4,839	3,000	3,717.92	5,806.83	5,806.83	5,806.83	5,806.83	5,806.83
8000198	201W8	4,516	2,800	205.16	2,318.86	2,318.86	2,318.86	2,318.86	2,318.86
8000207	151W2	5,162	3,200	1,677.50	4,894.85	4,894.85	4,894.85	4,894.85	4,894.85
8000208	201W9	5,162	3,200	2,986.49	2,341.33	2,341.33	2,341.33	2,341.33	2,341.33
8000210	201W10	5,807	3,600	2,193.43	2,636.94	2,636.94	2,636.94	2,636.94	2,636.94
SUBTOTAL:		36,776	22,800	15,810.33	24,369.55	24,369.55	24,369.55	24,369.55	24,369.55
SUNNY SLOPE WATER COMPANY (2)									
1900026	8	2,645	1,640	300.70	660.00	710.00	750.00	800.00	840.00
1902792	9	3,008	1,763	65.38	710.00	760.00	810.00	860.00	910.00
8000048	10	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000157	13	3,008	1,865	1,498.03	760.00	810.00	860.00	910.00	960.00
SUBTOTAL:		8,662	5,268	1,864.11	2,130.00	2,280.00	2,420.00	2,570.00	2,710.00
TEXACO INC.									
1900001	14	519	322	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		519	322	0.00	0.00	0.00	0.00	0.00	0.00
TRAN, HIEU (1)									
8000218	TRAN	NA	NA	4.55	5.00	5.00	5.00	5.00	5.00
SUBTOTAL:				4.55	5.00	5.00	5.00	5.00	5.00
TYLER NURSERY									
8000049	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
UNITED CONCRETE PIPE CORPORATION									
8000067	NA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
UNITED ROCK PRODUCTS CORPORATION (1)									
1900106	IRW-1	NA	NA	422.19	470.00	470.00	470.00	470.00	470.00
1902532	SIERRA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1903062	IRW-2	NA	NA	170.38	40.00	40.00	40.00	40.00	40.00
PIT 2 PUMP	PIT 2 PUMP	NA	NA	24.58	30.00	30.00	30.00	30.00	30.00
SUBTOTAL:				617.15	540.00	540.00	540.00	540.00	540.00
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY									
NA	EW4-3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
NA	EW4-4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
NA	EW4-8	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
NA	EW4-9	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
VALENCIA HEIGHTS WATER COMPANY (2)									
8000051	1	NA	NA	378.69	0.00	0.00	0.00	0.00	0.00
8000052	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000054	4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000055	3A	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000120	5	0	0	0.00	0.00	0.00	0.00	0.00	0.00
8000180	6	807	500	0.00	352.56	367.52	367.52	371.79	376.07
8000211	7	1,081	670	0.00	472.44	492.48	492.48	498.21	503.93
SUBTOTAL:		1,887	1,170	378.69	825.00	860.00	860.00	870.00	880.00
VALECITO WATER COMPANY									
1901435	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901436	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901437	3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901438	4	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901439	5	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901440	6	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
VALLEY COUNTY WATER DISTRICT (3)									
1900027	E MAIN	2,903	1,800	1,696.85	2,109.59	2,109.59	2,109.59	2,109.59	2,109.59
1900028	W MAIN	2,000	1,240	761.99	947.34	947.34	947.34	947.34	947.34
1900029	MORADA	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900031	PADDY	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900032	E NIXON (JOAN)	5,646	3,500	1,055.21	1,311.88	1,311.88	1,311.88	1,311.88	1,311.88
1900034	ARROW	5,484	3,400	3,676.13	4,033.00	4,033.00	4,033.00	4,033.00	4,033.00
1900035	B DAL	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901307	11	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902356	W NIXON (JOAN)	4,516	2,800	2,152.60	2,676.20	2,676.20	2,676.20	2,676.20	2,676.20
8000039	PALM	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000060	LANTE (SA1-3)	5,484	3,400	319.75	4,033.00	4,033.00	4,033.00	4,033.00	4,033.00
8000185	SA1-1	1,613	1,000	306.75	1,613.00	1,613.00	1,613.00	1,613.00	1,613.00
8000186	SA1-2	0	0	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		27,647	17,140	9,969.28	16,724.00	16,724.00	16,724.00	16,724.00	16,724.00
VALLEY VIEW MUTUAL WATER COMPANY (2)									
1900363	1	310	192	0.00	0.00	0.00	0.00	0.00	0.00
1900364	2	766	475	487.63	529.00	529.00	529.00	529.00	529.00
1900365	3	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		1,076	667	487.63	529.00	529.00	529.00	529.00	529.00
VIA TRUST									
1903012	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
VULCAN MATERIALS COMPANY (CALMAT COMPANY) (1)									
1902920	E DUR	6,386	3,959	0.00	0.00	0.00	0.00	0.00	0.00
1903088	1 REL	4,068	2,522	181.85	210.00	210.00	210.00	210.00	210.00
8000063	W DUR	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000235	TEMP/NEW PERM	NA	NA	721.22	440.00	440.00	440.00	440.00	440.00
SUBTOTAL:		10,454	6,481	903.07	650.00	650.00	650.00	650.00	650.00
WHITTIER, CITY OF (2)									
1901745	9	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901746	10	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901747	11	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901748	12	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1901749	13	1,073	665	261.81	10.00	9.00	8.00	7.00	7.00
8000021	FROM	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
8000071	15	5,968	3,700	1,064.75	56.00	50.00	45.00	41.00	37.00
8000110	16	5,726	3,550	43.53	54.00	48.00	44.00	39.00	35.00
8000135	17	6,775	4,200	0.00	64.00	57.00	51.00	46.00	41.00
8000136	18	6,775	4,200	0.00	64.00	57.00	51.00	46.00	41.00
SUBTOTAL:		26,316	16,315	1,370.09	248.00	221.00	199.00	179.00	161.00

RECORDATION NUMBER	WELL NAME	WELL CAPACITY		2022-23 PRODUCTION	PROJECTED GROUNDWATER DEMANDS				
		ACRE-FEET	GPM		2023-24	2024-25	2025-26	2026-27	2027-28
WILMOTT, ERMA M.									
8000006	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
WOODLAND, RICHARD									
1902949	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1902950	2	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:				0.00	0.00	0.00	0.00	0.00	0.00
WORKMAN MILL INVESTMENT COMPANY (RINCON DITCH COMPANY) (1)									
1902790	4	2,153	1,335	0.00	10.00	10.00	10.00	10.00	10.00
SUBTOTAL:		2,153	1,335	0.00	10.00	10.00	10.00	10.00	10.00
WORKMAN MILL INVESTMENT COMPANY (RINCON IRRIGATION COMPANY) (1)									
1900132	1	NA	NA	0.00	0.00	0.00	0.00	0.00	0.00
1900095	2	1,428	885	0.00	0.00	0.00	0.00	0.00	0.00
SUBTOTAL:		1,428	885	0.00	0.00	0.00	0.00	0.00	0.00
WORKMAN MILL INVESTMENT COMPANY (ROSE HILLS MEMORIAL PARK) (1)									
1900052	3	1,192	739	0.00	0.00	0.00	0.00	0.00	0.00
1900094	1	673	417	0.00	10.00	10.00	10.00	10.00	10.00
SUBTOTAL:		1,865	1,156	0.00	10.00	10.00	10.00	10.00	10.00
TOTAL		**540,775**	**336,734**	**161,603.59**	**206,062.22**	**207,006.79**	**208,135.23**	**208,244.74**	**209,013.51**

NOTES :

GROUNDWATER PRODUCTION AND DEMANDS IN ACRE-FEET
GPM : GALLONS PER MINUTE
NA : NOT AVAILABLE
(1) GROUNDWATER DEMANDS PROJECTED BY WATERMASTER
(2) PROJECTED GROUNDWATER DEMANDS PROVIDED BY PRODUCER
(3) PROJECTED GROUNDWATER DEMANDS PROVIDED BY PRODUCER AND ADJUSTED BY WATERMASTER

APPENDIX B.

Simulated Changes in Groundwater Elevations at Wells or Wellfields in Main San Gabriel Basin

APPENDIX B

SIMULATED CHANGES IN GROUNDWATER ELEVATION AT WELLS OR WELLFIELDS IN MAIN SAN GABRIEL BASIN

UNDER PROJECTED FIVE CONSECUTIVE DRY HYDROLOGICAL CONDITIONS WITH WATER RESOURCE DEVELOPMENT ASSESSMENT

WELL OR WELLFIELD	RECORDATION NUMBER	WELL STATUS	SIMULATED ELEVATION (1)		CHANGE (2) (FEET)	REMARKS
			2022-23	2027-28		
ADAMS RANCH MUTUAL WATER COMPANY						
01	1902106	Inactive	158.30	145.40	-12.90	
02	1902689	Inactive	158.30	145.40	-12.90	
03	8000182	Inactive	157.60	144.70	-12.90	
ALHAMBRA, CITY OF						
MOEL (08)	1900010	Active	142.60	132.50	-10.10	Groundwater Demands Projected by Watermaster
09	1900011	Standby	147.60	140.10	-7.50	Groundwater Demands Projected by Watermaster
10	1900012	Inactive	148.50	139.10	-9.40	
12	1900013	Standby	148.70	140.40	-8.30	Groundwater Demands Projected by Watermaster
13	1900014	Active	146.60	133.90	-12.70	
14	1900015	Active	147.10	136.00	-11.10	Groundwater Demands Projected by Watermaster
15	1900016	Active	142.00	131.20	-10.80	Groundwater Demands Projected by Watermaster
LON 1	1903014	Active	145.40	135.50	-9.90	Groundwater Demands Projected by Watermaster
LON 2	1900017	Active	105.50	101.40	-4.10	Groundwater Demands Projected by Watermaster
GARF	1900018	Inactive	151.60	144.60	-7.00	
11	1903014	Active	145.40	135.50	-9.90	Groundwater Demands Projected by Watermaster
07	1903097	Inactive	145.90	136.30	-9.60	
AMARILLO MUTUAL WATER COMPANY						
01	1900791	Active	156.80	143.50	-13.30	Projected Groundwater Demands Provided by Producer
02	1900792	Active	156.80	143.50	-13.30	Projected Groundwater Demands Provided by Producer
ARCADIA, CITY OF						
LON 1	1901013	Active	200.30	180.30	-20.00	Projected Groundwater Demands Provided by Producer
LON 2	1901014	Active	200.30	180.90	-19.40	Projected Groundwater Demands Provided by Producer
CAM REAL 3	8000213	Active	190.50	166.00	-24.50	Projected Groundwater Demands Provided by Producer
ST JO 2	8000177	Inactive	191.20	171.40	-19.80	Projected Groundwater Demands Provided by Producer
BAL 2	1902791	Inactive	165.80	153.60	-12.20	
PECK 1	1902854	Active	194.30	164.30	-30.00	Projected Groundwater Demands Provided by Producer
L OAK 1	8000127	Active	188.70	165.60	-23.10	Projected Groundwater Demands Provided by Producer
LGY 3	8000214	Active	178.90	152.90	-26.00	Projected Groundwater Demands Provided by Producer
AZUSA, CITY OF (AZUSA AGRICULTURE WATER COMPANY, AZUSA VALLEY WATER COMPANY)						
05 (01)	1902533	Active	551.20	545.10	-6.10	Projected Groundwater Demands Provided by Producer
06 (03)	1902535	Active	551.80	545.00	-6.80	Projected Groundwater Demands Provided by Producer
GENESIS 2 (05)	1902537	Inactive	228.10	211.90	-16.20	
01 (07)	8000072	Active	553.50	545.80	-7.70	Projected Groundwater Demands Provided by Producer
03 (08)	8000086	Active	553.40	545.70	-7.70	Projected Groundwater Demands Provided by Producer

WELL OR WELLFIELD	RECORDATION NUMBER	WELL STATUS	SIMULATED ELEVATION (1)		CHANGE (2) (FEET)	REMARKS
			2022-23	2027-28		
02 (1 NORTH)	1902457	Active	553.50	545.80	-7.70	Projected Groundwater Demands Provided by Producer
04 (2 SOUTH)	1902458	Active	553.40	545.70	-7.70	Projected Groundwater Demands Provided by Producer
08 (AVWC 04)	1902115	Active	592.00	579.70	-12.30	Projected Groundwater Demands Provided by Producer
07 (AVWC 05)	1902116	Active	552.00	545.10	-6.90	Projected Groundwater Demands Provided by Producer
09 (AVWC 06)	1902117	Inactive	225.10	211.00	-14.10	
10 (AVWC 08)	8000103	Active	224.40	210.30	-14.10	Projected Groundwater Demands Provided by Producer
11	8000178	Active	553.60	545.80	-7.80	Projected Groundwater Demands Provided by Producer
12	8000179	Active	553.60	545.80	-7.80	Projected Groundwater Demands Provided by Producer
CALIFORNIA-AMERICAN WATER COMPANY/DUARTE SYSTEM						
STA FE	1900354	Active	258.00	216.00	-42.00	Projected Groundwater Demands Provided by Producer
B V	1900355	Standby	229.90	202.40	-27.50	
B V 2	8000216	Active	229.90	202.40	-27.50	Projected Groundwater Demands Provided by Producer
FISH C	1900358	Inactive	553.80	546.10	-7.70	
WILEY	1902907	Active	552.60	546.90	-5.70	Projected Groundwater Demands Provided by Producer
CR HV	1903018	Active	249.00	208.70	-40.30	Projected Groundwater Demands Provided by Producer
ENCANTO	8000139	Active	590.90	576.40	-14.50	Projected Groundwater Demands Provided by Producer
LAS L2	8000140	Active	590.70	576.30	-14.40	Projected Groundwater Demands Provided by Producer
BACON	1900497	Active	549.90	546.10	-3.80	Projected Groundwater Demands Provided by Producer
Lemon	8000237	Active	228.00	201.80	-26.20	Projected Groundwater Demands Provided by Producer
CALIFORNIA-AMERICAN WATER COMPANY/SAN MARINO SYSTEM						
GUESS	1900918	Inactive	157.30	144.60	-12.70	
MIVW 2	1900920	Inactive	145.50	147.60	2.10	
RIC 3	8000222	Active	150.50	137.20	-13.30	
GRAND	1900926	Inactive	151.10	138.00	-13.10	
ROSEMEAD	1900927	Inactive	150.50	137.20	-13.30	
ROANOKE	1900934	Inactive	148.20	140.70	-7.50	
LONGDEN	1900935	Active	136.50	126.90	-9.60	Projected Groundwater Demands Provided by Producer
HOWLAND	1902424	Active	166.40	152.00	-14.40	Projected Groundwater Demands Provided by Producer
MAR 3	1903019	Active	145.90	143.80	-2.10	Projected Groundwater Demands Provided by Producer
DELMAR	1903059	Active	135.80	124.70	-11.10	Projected Groundwater Demands Provided by Producer
HALL 2	8000175	Active	167.20	145.40	-21.80	Projected Groundwater Demands Provided by Producer

WELL OR WELLFIELD	RECORDATION NUMBER	WELL STATUS	SIMULATED ELEVATION (1)		CHANGE (2) (FEET)	REMARKS
			2022-23	2027-28		
CALIFORNIA COUNTRY CLUB						
ARTES	1902531	Standby	182.90	160.90	-22.00	
SYCAMORE	1903084	Standby	183.00	161.20	-21.80	
CALIFORNIA DOMESTIC WATER COMPANY						
02	1901181	Active	174.90	151.30	-23.60	Projected Groundwater Demands Provided by Producer
06	1902967	Active	180.60	155.70	-24.90	Projected Groundwater Demands Provided by Producer
03	1903057	Active	174.10	150.40	-23.70	Projected Groundwater Demands Provided by Producer
08	1903081	Active	176.70	159.70	-17.00	Projected Groundwater Demands Provided by Producer
05A	8000100	Active	173.20	149.50	-23.70	Projected Groundwater Demands Provided by Producer
14	8000174	Active	177.10	160.80	-16.30	Projected Groundwater Demands Provided by Producer
CITRUS VALLEY MEDICAL CENTER, QUEEN OF THE VALLEY CAMPUS (QUEEN OF THE VALLEY HOSPITAL)						
NA	8000138	Inactive	199.80	177.50	-22.30	
COVINA IRRIGATING COMPANY						
BAL 3	1900882	Active	204.50	181.40	-23.10	Projected Groundwater Demands Provided by Producer
BAL 1	1900885	Active	205.80	181.50	-24.30	Projected Groundwater Demands Provided by Producer
BAL 2	1900883	Active	205.30	181.50	-23.80	Projected Groundwater Demands Provided by Producer
CROWN CITY PLATING COMPANY						
01	8000012	Inactive	166.60	152.50	-14.10	
DEL RIO MUTUAL WATER COMPANY						
BURKETT	1900331	Active	181.60	159.30	-22.30	Groundwater Demands Projected by Watermaster
DRIFTWOOD DAIRY						
01	1902924	Inactive	182.90	160.60	-22.30	
EAST PASADENA WATER COMPANY, LTD.						
09	1901508	Active	131.20	115.90	-15.30	Projected Groundwater Demands Provided by Producer
11	8000217	Active	131.20	115.90	-15.30	Projected Groundwater Demands Provided by Producer
EL MONTE, CITY OF						
02A	1901692	Active	178.60	156.70	-21.90	Groundwater Demands Projected by Watermaster
03	1901693	Standby	181.00	159.50	-21.50	
04	1901694	Standby	180.80	159.90	-20.90	
10	1901699	Active	182.00	159.10	-22.90	Groundwater Demands Projected by Watermaster
12	1903137	Active	177.60	156.50	-21.10	Groundwater Demands Projected by Watermaster
13	8000101	Active	177.60	158.00	-19.60	Groundwater Demands Projected by Watermaster
14	8000231	Active	167.00	152.10	-14.90	
15	8000232	Active	162.00	148.10	-13.90	Groundwater Demands Projected by Watermaster
16	8000233	Active	163.60	149.40	-14.20	Groundwater Demands Projected by Watermaster

WELL OR WELLFIELD	RECORDATION NUMBER	WELL STATUS	SIMULATED ELEVATION (1)		CHANGE (2) (FEET)	REMARKS
			2022-23	2027-28		
GLENDORA, CITY OF						
11-E	1900826	Active	518.50	507.20	-11.30	Projected Groundwater Demands Provided by Producer
08-E	1900829	Active	552.50	545.30	-7.20	Projected Groundwater Demands Provided by Producer
09-E	1900830	Active	552.60	545.30	-7.30	Projected Groundwater Demands Provided by Producer
12-E	1900827	Active	552.50	545.30	-7.20	Projected Groundwater Demands Provided by Producer
10-E	1900828	Active	524.70	515.50	-9.20	Projected Groundwater Demands Provided by Producer
07-G	1900831	Inactive	226.60	211.00	-15.60	
13-E	8000184	Active	529.00	522.90	-6.10	Projected Groundwater Demands Provided by Producer
02-E	1901526	Active	530.70	525.00	-5.70	Projected Groundwater Demands Provided by Producer
03-G	1901525	Inactive	220.70	206.70	-14.00	
04-E	1901524	Inactive	220.80	207.00	-13.80	
05-E	8000149	Active	553.50	546.10	-7.40	Projected Groundwater Demands Provided by Producer
GOLDEN STATE WATER COMPANY (SOUTHERN CALIFORNIA WATER COMPANY)/SAN DIMAS DISTRICT						
BAS-3	1902148	Active	861.30	834.20	-27.10	Groundwater Demands Projected by Watermaster
BAS-4	1902149	Active	850.40	821.60	-28.80	Groundwater Demands Projected by Watermaster
HIGHWAY	1902150	Active	861.30	833.70	-27.60	Groundwater Demands Projected by Watermaster
HIGHWAY 2	8000212	Active	860.40	830.10	-30.30	Groundwater Demands Projected by Watermaster
ART-3	1902842	Active	854.20	825.60	-28.60	Groundwater Demands Projected by Watermaster
COL-4	1902268	Active	604.00	561.80	-42.20	Groundwater Demands Projected by Watermaster
COL-6	1902270	Inactive	605.50	563.20	-42.30	
COL-8	1902272	Inactive	732.80	692.10	-40.70	
CITY	1902286	Active	1159.00	1132.00	-27.00	Groundwater Demands Projected by Watermaster
MALON	1902287	Active	1172.00	1138.00	-34.00	Groundwater Demands Projected by Watermaster
GOLDEN STATE WATER COMPANY (SOUTHERN CALIFORNIA WATER COMPANY)/SAN GABRIEL VALLEY DISTRICT						
S G 1	1900510	Active	147.80	135.70	-12.10	Groundwater Demands Projected by Watermaster
S G 2	1900511	Active	146.30	135.20	-11.10	Groundwater Demands Projected by Watermaster
GAR 3	8000221	Active	151.60	139.20	-12.40	Groundwater Demands Projected by Watermaster
SAX 3	1900514	Active	148.90	136.00	-12.90	Groundwater Demands Projected by Watermaster
SAX 4	8000146	Active	148.90	136.00	-12.90	Groundwater Demands Projected by Watermaster
JEF 1	1902017	Inactive	200.20	181.40	-18.80	
JEF 4	8000111	Active	200.20	181.40	-18.80	Groundwater Demands Projected by Watermaster
ENC 1	1902024	Active	155.70	142.70	-13.00	Groundwater Demands Projected by Watermaster
ENC 2	1902035	Active	155.20	142.00	-13.20	Groundwater Demands Projected by Watermaster
ENC 3	8000073	Active	154.50	141.20	-13.30	Groundwater Demands Projected by Watermaster
PER 1	1902027	Active	182.60	159.60	-23.00	Groundwater Demands Projected by Watermaster
GRA 2	1902461	Inactive	201.70	184.10	-17.60	
FAR 1	1902034	Active	196.10	175.80	-20.30	Groundwater Demands Projected by Watermaster
FAR 2	1902948	Active	195.10	175.10	-20.00	Groundwater Demands Projected by Watermaster

WELL OR WELLFIELD	RECORDATION NUMBER	WELL STATUS	SIMULATED ELEVATION (1)		CHANGE (2) (FEET)	REMARKS
			2022-23	2027-28		
GOULD ELECTRONICS INC. AND JOHNSON CONTROLS INC.						
SEW	NA	Active	169.06	154.50	-14.56	Groundwater Demands Projected by Watermaster
HANSON AGGREGATES WEST, INC. (LIVINGSTON-GRAHAM)						
EL 4	1903006	Active	204.40	186.00	-18.40	Groundwater Demands Projected by Watermaster
EL 1	1901492	Active	205.20	186.50	-18.70	Groundwater Demands Projected by Watermaster
EL 3	1901493	Active	205.40	186.90	-18.50	Groundwater Demands Projected by Watermaster
HEMLOCK MUTUAL WATER COMPANY						
NORTH	1901178	Active	197.90	178.70	-19.20	Groundwater Demands Projected by Watermaster
SOUTH	1902806	Active	197.60	178.50	-19.10	Groundwater Demands Projected by Watermaster
INDUSTRY WATERWORKS SYSTEM, CITY OF						
01	1902581	Inactive	178.30	155.50	-22.80	
03	8000078	Inactive	178.30	155.50	-22.80	
04	8000096	Inactive	177.80	155.00	-22.80	
02	1902582	Inactive	178.90	156.10	-22.80	
05	8000097	Active	178.80	155.30	-23.50	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
LA PUENTE VALLEY COUNTY WATER DISTRICT						
02	1901460	Active	194.50	171.30	-23.20	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
04	8000062	Inactive	194.60	170.80	-23.80	
03	1902859	Active	195.20	171.50	-23.70	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
05	8000209	Active	194.60	170.80	-23.80	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
LOS ANGELES, COUNTY OF						
KEY WELL	3030F	Monitoring	205.40	190.10	-15.30	
WHI 1	1902579	Inactive	180.10	163.10	-17.00	
SF 1	8000070	Active	231.60	207.00	-24.60	Groundwater Demands Projected by Watermaster
BIG RED	8000088	Inactive	180.60	156.80	-23.80	
NEW LAKE	8000089	Inactive	180.00	162.60	-17.40	
MILLERCOORS LLC (MILLER BREWERIES WEST, L.P./MILLER BREWING COMPANY)						
01	8000075	Inactive	236.90	209.70	-27.20	
02	8000076	Active	241.20	211.20	-30.00	Groundwater Demands Projected by Watermaster
MONROVIA, CITY OF						
02	1900418	Active	199.20	180.50	-18.70	Projected Groundwater Demands Provided by Producer
03	1900419	Active	198.30	179.80	-18.50	Projected Groundwater Demands Provided by Producer
04	1900420	Active	202.70	181.60	-21.10	Projected Groundwater Demands Provided by Producer
05	1940104	Active	202.10	179.10	-23.00	Projected Groundwater Demands Provided by Producer
06	8000171	Active	197.10	178.60	-18.50	Projected Groundwater Demands Provided by Producer

WELL OR WELLFIELD	RECORDATION NUMBER	WELL STATUS	SIMULATED ELEVATION (1)		CHANGE (2) (FEET)	REMARKS
			2022-23	2027-28		
PROGRESSIVE BUDDHIST ASSOCIATION						
Progressive	8000228	Active	584.20	574.90	-9.30	
MONTEREY PARK, CITY OF						
01	1900453	Active	151.90	139.50	-12.40	Projected Groundwater Demands Provided by Producer
03	1900455	Inactive	148.50	139.30	-9.20	
05	1900457	Active	152.70	127.70	-25.00	Projected Groundwater Demands Provided by Producer
06	1900458	Inactive	155.80	138.90	-16.90	
07	1902372	Inactive	164.20	145.60	-18.60	
08	1902373	Inactive	165.60	146.60	-19.00	
09	1902690	Active	166.30	144.60	-21.70	Projected Groundwater Demands Provided by Producer
10	1902818	Active	132.70	129.40	-3.30	Projected Groundwater Demands Provided by Producer
12	1903033	Active	166.90	140.60	-26.30	Projected Groundwater Demands Provided by Producer
14	1903092	Inactive	164.80	145.50	-19.30	
FERN	8000126	Active	153.80	138.80	-15.00	Projected Groundwater Demands Provided by Producer
15	8000196	Active	169.40	148.00	-21.40	Projected Groundwater Demands Provided by Producer
MOON VALLEY NURSERY (COINER, JAMES W., DBA COINER NURSERY)						
03	1902951	Inactive	177.30	154.30	-23.00	
05R	1903072	Active	179.80	157.10	-22.70	Groundwater Demands Projected by Watermaster
OWL ROCK PRODUCTS COMPANY						
NA	1902241	Inactive	213.50	193.50	-20.00	
NA	1903119	Inactive	553.20	546.10	-7.10	Impact from Glendora Extraction
POLOPOLUS ET AL.						
01	1902169	Inactive	209.70	193.70	-16.00	
RURBAN HOMES MUTUAL WATER COMPANY						
NORTH 1	1900120	Active	196.00	178.40	-17.60	Groundwater Demands Projected by Watermaster
SOUTH 2	1900121	Inactive	195.50	178.00	-17.50	
SAN GABRIEL COUNTRY CLUB						
01	1900547	Active	133.10	124.30	-8.80	Impact from Alhambra Extraction Groundwater Demands Projected by Watermaster
SAN GABRIEL COUNTY WATER DISTRICT						
05 BRA	1901669	Inactive	147.90	135.30	-12.60	
08	1901672	Inactive	144.40	136.90	-7.50	
09	1902785	Active	136.90	127.70	-9.20	Projected Groundwater Demands Provided by Producer
10	1902786	Inactive	145.90	135.10	-10.80	
11	8000067	Active	147.60	135.30	-12.30	Projected Groundwater Demands Provided by Producer

WELL OR WELLFIELD	RECORDATION NUMBER	WELL STATUS	SIMULATED ELEVATION (1)		CHANGE (2) (FEET)	REMARKS
			2022-23	2027-28		
11D	8000226	Active	182.30	160.10	-22.20	Projected Groundwater Demands Provided by Producer
12	8000123	Active	147.10	133.70	-13.40	Projected Groundwater Demands Provided by Producer
14	8000133	Active	144.80	131.20	-13.60	Projected Groundwater Demands Provided by Producer
15	8000220	Active	134.10	121.20	-12.90	Projected Groundwater Demands Provided by Producer
SAN GABRIEL VALLEY WATER COMPANY						
G4A	1900725	Active	156.30	143.00	-13.30	Groundwater Demands Projected by Watermaster
B1	1902635	Inactive	181.60	158.40	-23.20	
B5A	1900718	Inactive	169.80	147.70	-22.10	
B5B	1900719	Active	169.80	147.70	-22.10	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
B5C	8000112	Inactive	174.40	151.50	-22.90	
B5D	8000160	Active	169.80	147.70	-22.10	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
B5E	8000205	Active	171.10	149.50	-21.60	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
B25A	8000187	Active	183.80	166.40	-17.40	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
B25B	8000188	Active	183.80	166.40	-17.40	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
B26A	8000189	Active	192.20	167.90	-24.30	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
B26B	8000190	Active	192.20	167.90	-24.30	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
8A	1900736	Inactive	164.70	145.30	-19.40	
8B	1900746	Active	160.50	142.90	-17.60	SEMOU Extraction Well Projected Groundwater Demands Provided by Producer
8C	1900747	Active	150.50	136.80	-13.70	SEMOU Extraction Well Projected Groundwater Demands Provided by Producer
8D	1903103	Active	165.40	149.80	-15.60	SEMOU Extraction Well Projected Groundwater Demands Provided by Producer
8E	8000113	Active	150.50	136.80	-13.70	SEMOU Extraction Well Projected Groundwater Demands Provided by
8F	8000169	Active	162.40	142.80	-19.60	SEMOU Extraction Well Projected Groundwater Demands Provided by Producer
1B	1900729	Active	190.60	173.60	-17.00	Groundwater Demands Projected by Watermaster
1C	1902946	Inactive	190.60	173.60	-17.00	
1D	8000102	Active	190.60	173.60	-17.00	Groundwater Demands Projected by Watermaster
1E	8000172	Active	190.90	173.80	-17.10	Groundwater Demands Projected by Watermaster
2D	1902857	Active	184.30	159.80	-24.50	Groundwater Demands Projected by Watermaster
2E	8000065	Active	177.20	156.90	-20.30	Groundwater Demands Projected by Watermaster
2F	8000197	Active	177.20	156.90	-20.30	Groundwater Demands Projected by Watermaster
11A	1900739	Active	182.30	160.20	-22.10	Groundwater Demands Projected by Watermaster

WELL OR WELLFIELD	RECORDATION NUMBER	WELL STATUS	SIMULATED ELEVATION (1)		CHANGE (2) (FEET)	REMARKS
			2022-23	2027-28		
11B	1900745	Active	182.30	160.10	-22.20	Groundwater Demands Projected by Watermaster
11C	1902713	Active	182.30	160.20	-22.10	Groundwater Demands Projected by Watermaster
B4B	1902858	Inactive	188.40	163.90	-24.50	
B4C	1902947	Inactive	188.40	163.90	-24.50	
B6C	1903093	Inactive	194.70	170.80	-23.90	
B6D	8000098	Inactive	194.70	170.80	-23.90	
B7E	8000122	Active	198.30	176.90	-21.40	Groundwater Demands Projected by Watermaster
B2	1902525	Inactive	181.50	158.40	-23.10	
B11A	1901439	Destroyed	196.50	173.40	-23.10	
B11B	8000108	Active	196.60	173.00	-23.60	Groundwater Demands Projected by Watermaster
B9B	8000099	Active	196.50	174.00	-22.50	Groundwater Demands Projected by Watermaster
B24A	8000203	Active	199.20	178.10	-21.10	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
B24B	8000204	Active	198.70	177.40	-21.30	BPOU Extraction Well Projected Groundwater Demands Provided by Producer
SIERRA LA VERNE COUNTRY CLUB						
01	8000124	Inactive	1147.00	1128.00	-19.00	
SONOCO PRODUCTS COMPANY						
02	1902971	Inactive	185.70	163.70	-22.00	
02	8000137	Active	183.70	162.00	-21.70	Groundwater Demands Projected by Watermaster
SOUTH PASADENA, CITY OF						
GRAV 2	1901679	Inactive	150.80	143.50	-7.30	
WIL 2	1901681	Inactive	140.30	134.70	-5.60	
WIL 3	1901682	Active	135.20	134.10	-1.10	Projected Groundwater Demands Provided by Producer
WIL 4	1903086	Active	137.10	134.60	-2.50	Projected Groundwater Demands Provided by Producer
SOUTHERN CALIFORNIA EDISON COMPANY						
110RH	8000046	Active	208.40	190.00	-18.40	Groundwater Demands Projected by Watermaster
STERLING MUTUAL WATER COMPANY						
NEW SO.	8000132	Active	188.20	163.30	-24.90	Groundwater Demands Projected by Watermaster
NORTH	1902096	Active	188.20	163.30	-24.90	Groundwater Demands Projected by Watermaster
SUBURBAN WATER SYSTEMS						
121W-1	8000181	Active	200.20	179.40	-20.80	Projected Groundwater Demands Provided by Producer
125W-2	8000087	Inactive	216.00	200.90	-15.10	
126W-2	8000092	Inactive	217.70	202.30	-15.40	
139W-2	1901599	Inactive	201.00	177.90	-23.10	
139W-4	8000069	Standby	201.00	177.80	-23.20	
139W-5	8000095	Inactive	200.90	177.70	-23.20	
139W-6	8000152	Inactive	200.80	177.90	-22.90	
140W-3	1903067	Standby	195.60	172.50	-23.10	
140W-4	8000093	Inactive	195.60	172.50	-23.10	
140W-5	8000145	Active	195.50	172.30	-23.20	Projected Groundwater Demands Provided by Producer

WELL OR WELLFIELD	RECORDATION NUMBER	WELL STATUS	SIMULATED ELEVATION (1)		CHANGE (2) (FEET)	REMARKS
			2022-23	2027-28		
142W-2	8000183	Active	198.00	175.80	-22.20	Projected Groundwater Demands Provided by Producer
151W-2	8000207	Active	197.50	175.40	-22.10	Projected Groundwater Demands Provided by Producer
155W-1	1902819	Inactive	280.70	273.20	-7.50	
201W-9	8000208	Active	175.50	157.30	-18.20	Projected Groundwater Demands Provided by Producer
201W-4	1901433	Inactive	178.90	161.10	-17.80	
201W-7	8000195	Active	174.90	155.50	-19.40	Projected Groundwater Demands Provided by Producer
201W-8	8000198	Active	177.40	157.90	-19.50	Projected Groundwater Demands Provided by Producer
201W-10	8000210	Active	178.20	159.90	-18.30	Projected Groundwater Demands Provided by Producer
TRAN,HIEU						
TRAN	8000218	Active	531.20	522.70	-8.50	
SUNNY SLOPE WATER COMPANY						
08	1900026	Active	154.40	137.90	-16.50	Groundwater Demands Projected by Watermaster
09	1902792	Active	153.20	137.30	-15.90	Groundwater Demands Projected by Watermaster
10	8000048	Inactive	156.10	146.60	-9.50	
13	8000157	Active	141.30	129.40	-11.90	Groundwater Demands Projected by Watermaster
TYLER NURSERY						
NA	8000049	Inactive	180.30	157.70	-22.60	
UNITED ROCK PRODUCTS CORPORATION						
IRW-1	1900106	Active	215.80	193.90	-21.90	Groundwater Demands Projected by Watermaster
IRW-2	1903062	Active	215.20	193.70	-21.50	Groundwater Demands Projected by Watermaster
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY						
EW4-3	EPAEW403	Remedial	181.10	163.70	-17.40	WNOU Extraction (Inactive)
EW4-4	EPAEW404	Remedial	180.90	163.40	-17.50	WNOU Extraction (Inactive)
EW4-5	EPAEW405	Remedial	180.50	163.10	-17.40	WNOU Extraction (Active) Groundwater Demands Projected by Watermaster
EW4-9	EPAEW409	Remedial	180.50	163.10	-17.40	WNOU Extraction (Inactive)
EW4-6	8000201	Remedial	180.20	162.70	-17.50	WNOU Extraction (Active) Groundwater Demands Projected by Watermaster
EW4-7	EPAEW407	Remedial	180.90	163.40	-17.50	WNOU Extraction (Active) Groundwater Demands Projected by Watermaster
EW4-8	EPAEW408	Remedial	181.20	163.80	-17.40	WNOU Extraction (Inactive)
VALENCIA HEIGHTS WATER COMPANY						
01	8000051	Inactive	223.10	206.40	-16.70	
02	8000052	Inactive	223.10	206.40	-16.70	
03A	8000055	Inactive	233.20	214.10	-19.10	
04	8000054	Inactive	218.70	202.60	-16.10	
05	8000120	Active	233.90	214.00	-19.90	Projected Groundwater Demands Provided by Producer
06	8000180	Active	222.20	204.60	-17.60	Projected Groundwater Demands Provided by Producer
07	8000211	Active	235.30	215.60	-19.70	Projected Groundwater Demands Provided by Producer

WELL OR WELLFIELD	RECORDATION NUMBER	WELL STATUS	SIMULATED ELEVATION (1)		CHANGE (2) (FEET)	REMARKS
			2022-23	2027-28		
VALLEY COUNTY WATER DISTRICT						
E MAINE	1900027	Active	209.80	195.20	-14.60	Projected Groundwater Demands Provided by Producer and Adjusted by Watermaster
W MAINE	1900028	Active	209.80	195.20	-14.60	Projected Groundwater Demands Provided by Producer and Adjusted by Watermaster
MORADA	1900029	Inactive	219.90	204.40	-15.50	
E NIXON (JOAN)	1900032	Active	210.60	195.10	-15.50	Projected Groundwater Demands Provided by Producer and Adjusted by Watermaster
W NIXON (JOAN)	1902356	Active	211.00	195.00	-16.00	Projected Groundwater Demands Provided by Producer and Adjusted by Watermaster
ARROW	1900034	Inactive	210.20	195.40	-14.80	BPOU Extraction
LANTE (SA1-3)	8000060	Active	211.40	195.60	-15.80	Projected Groundwater Demands Provided by Producer and Adjusted by Watermaster
PALM	8000039	Inactive	201.50	186.30	-15.20	
B DALTON	1900035	Inactive	201.10	176.90	-24.20	
PADDY LN	1900031	Inactive	197.40	173.00	-24.40	
SA1-1	8000185	Active	216.20	199.40	-16.80	BPOU Extraction Projected Groundwater Demands Provided by Producer and Adjusted by Watermaster
SA1-2	8000186	Standby	212.90	196.90	-16.00	BPOU Extraction Projected Groundwater Demands Provided by Producer and Adjusted by Watermaster
VALLEY VIEW MUTUAL WATER COMPANY						
01	1900363	Inactive	204.00	187.00	-17.00	
02	1900364	Active	204.00	187.00	-17.00	Projected Groundwater Demands Provided by Producer
VULCAN MATERIALS COMPANY (CALMAT COMPANY)						
REL 1	1903088	Active	237.00	210.50	-26.50	Groundwater Demands Projected by Watermaster
WHITTIER, CITY OF						
13	1901749	Active	179.50	162.40	-17.10	Groundwater Demands Projected by Watermaster
15	8000071	Active	179.80	162.70	-17.10	Groundwater Demands Projected by Watermaster
16	8000110	Active	179.40	162.00	-17.40	Groundwater Demands Projected by Watermaster
17	8000135	Active	179.50	162.20	-17.30	Groundwater Demands Projected by Watermaster
18	8000136	Active	179.80	162.30	-17.50	Groundwater Demands Projected by Watermaster
WORKMAN MILL INVESTMENT COMPANY (RINCON DITCH COMPANY)						
04	1902790	Inactive	180.10	163.10	-17.00	
WORKMAN MILL INVESTMENT COMPANY (RINCON IRRIGATION COMPANY)						
02	1900095	Inactive	179.90	162.90	-17.00	
WORKMAN MILL INVESTMENT COMPANY (ROSE HILLS MEMORIAL PARK)						
03	1900052	Inactive	180.00	162.90	-17.10	
01	1900094	Inactive	180.30	163.50	-16.80	
				AVERAGE CHANGE	**-18.00**	

(1) SIMULATED ELEVATION IN FEET ABOVE MEAN SEA LEVEL
(2) DIFFERENCE BETWEEN 2025-26 AND 2020-21 SIMULATED ELEVATIONS

APPENDIX C.

Highlights of Volatile Organic Compounds and Nitrate Concentrations and Wells Vulnerable to Contamination

APPENDIX C

HIGHLIGHTS OF VOLATILE ORGANIC COMPOUNDS, NITRATE, AND PERCHLORATE CONCENTRATIONS AND WELLS VULNERABLE TO CONTAMINATION (AS OF DECEMBER 31, 2022)

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
9447 SAN GABRIEL CANYON LLC (VIETNAMESE AMERICAN BUDDHIST CONGREGATION TEMPLE)								
VIETNAMESE TEMPLE	IRRIGATION	ACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
ADAMS RANCH MUTUAL WATER COMPANY								
01	MUNICIPAL	INACTIVE	TCE	2.2	05/88	ND	02/97	
			NITRATE (N)	21.9	04/92	8.8	02/97	
			CLO4	NA	NA	NA	NA	
02	MUNICIPAL	INACTIVE	TCE	3.5	08/86	2.5	09/86	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
03	MUNICIPAL	INACTIVE	TCE	22.0	05/15	14.0	02/16	
			PCE	10.0	05/15	6.6	02/16	
			NITRATE (N)	4.7	03/04	4.5	05/15	
			CLO4	ND	08/08	ND	02/16	
			AS	ND	05/03	ND	05/15	
			CR6	1.1	08/13	1.1	08/13	
ALHAMBRA, CITY OF								
07	MUNICIPAL	INACTIVE	TCE	14.0	04/18	14.0	04/18	VULNERABLE
			PCE	0.8	04/07	0.6	04/18	(VOC,NO3(N))
			C-1,2-DCE	2.0	04/18	2.0	04/18	
			CTC	0.6	02/85	ND	04/18	
			NITRATE (N)	12.0	04/18	12.0	04/18	
			CLO4	2.4	10/07	ND	04/18	
			AS	0.7	07/96	ND	05/17	
			CR6	9.0	07/01	8.3	05/17	
09	MUNICIPAL	STANDBY	TCE	21.1	08/08	6.4	12/22	VULNERABLE
			C-1,2-DCE	2.3	10/07	ND	10/22	(VOC, NO3(N),CLO4)
			NITRATE (N)	14.0	12/16	11.0	12/22	
			CLO4	4.7	02/14	3.8	12/22	
			AS	0.9	07/96	ND	01/20	
			CR6	5.7	12/05	4.0	01/20	
10	IRRIGATION	INACTIVE	TCE	30.1	02/09	22.0	10/10	
			C-1,2-DCE	5.8	03/05	ND	10/10	
			1,1-DCE	0.5	03/05	ND	10/10	
			NITRATE (N)	12.7	01/07	12.4	10/10	
			CLO4	ND	08/97	ND	08/97	
11	MUNICIPAL	ACTIVE	PCE	4.7	05/12	3.2	12/22	VULNERABLE
			TCE	4.2	05/89	0.7	12/22	(VOC,NO3(N))
			C-1,2-DCE	1.5	04/08	ND	07/22	
			NITRATE (N)	10.8	10/12	8.0	12/22	
			CLO4	ND	08/97	ND	04/22	
			AS	0.8	07/96	ND	04/21	
			CR6	7.7	06/01	7.3	04/21	
12	MUNICIPAL	STANDBY	TCE	39.4	08/08	20.0	08/21	VULNERABLE
			PCE	2.1	04/21	1.1	10/21	(VOC,NO3(N))
			C-1,2-DCE	41.0	05/17	31.0	08/21	
			1,1-DCE	1.0	04/21	0.8	10/21	
			T-1,2-DCE	0.9	09/08	0.8	10/21	
			NITRATE (N)	9.5	01/14	5.4	07/20	
			CLO4	ND	08/08	ND	04/21	
			AS	ND	08/89	ND	07/20	
			CR6	4.5	09/17	3.5	07/20	
13	IRRIGATION	ACTIVE	TCE	0.5	08/07	ND	04/14	
			NITRATE (N)	13.3	07/13	13.3	07/13	
			CLO4	ND	03/97	ND	01/14	
			AS	8.0	06/78	ND	11/10	
			CR6	7.1	08/01	4.6	09/13	
14	MUNICIPAL	ACTIVE	TCE	2.4	08/08	1.0	10/19	VULNERABLE
			NITRATE (N)	10.4	08/12	2.8	10/19	(NO3(N))
			CLO4	ND	08/97	ND	04/19	
			AS	0.6	07/96	ND	10/19	
			CR6	5.8	06/01	4.9	10/19	
15	MUNICIPAL	ACTIVE	PCE	0.8	10/14	0.5	12/22	VULNERABLE

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			NITRATE (N)	6.3	10/12	3.0	12/22	(NO3(N))
			CLO4	ND	08/97	ND	04/22	
			AS	1.5	07/96	ND	04/22	
			CR6	4.1	12/00	3.4	04/22	
GARF	MUNICIPAL	INACTIVE	TCE	11.0	08/82	ND	09/93	
			PCE	0.5	11/87	ND	09/93	
			CTC	0.1	04/80	ND	09/93	
			1,1,2,2-PCA	1.0	11/87	ND	09/93	
			NITRATE (N)	15.4	08/89	12.1	09/93	
			AS	ND	06/80	ND	08/92	
			CLO4	NA	NA	NA	NA	
LON 1	MUNICIPAL	ACTIVE	PCE	0.6	11/22	0.5	12/22	VULNERABLE
			NITRATE (N)	7.5	09/11	6.2	12/22	(NO3(N),CLO4)
			CLO4	5.0	12/97	ND	04/22	
			AS	2.4	07/95	ND	04/22	
			CR6	7.2	06/01	7.2	04/22	
LON 2	MUNICIPAL	ACTIVE	PCE	1.3	06/10	1.0	12/22	VULNERABLE
			NITRATE (N)	11.4	04/86	6.0	12/22	(NO3(N),CLO4)
			CLO4	5.6	07/97	ND	09/22	
			AS	0.8	07/96	ND	05/20	
			CR6	9.5	06/01	8.6	05/20	
MOEL (8)	MUNICIPAL	ACTIVE	TCE	23.0	07/14	10.0	12/22	VULNERABLE
			PCE	1.6	07/08	0.8	12/22	(VOC,NO3(N))
			C-1,2-DCE	2.9	10/20	1.7	10/22	
			NITRATE (N)	17.2	07/08	5.3	12/22	
			CLO4	ND	12/99	ND	04/22	
			AS	0.9	07/96	ND	07/20	
			CR6	7.2	07/17	6.1	07/20	
AMARILLO MUTUAL WATER COMPANY								
01 (SOUTH)	MUNICIPAL	ACTIVE	PCE	5.5	10/99	2.9	01/20	VULNERABLE
			TCE	3.3	11/18	0.7	01/20	(VOC,NO3(N))
			CTC	0.1	08/82	ND	01/20	
			NITRATE (N)	6.2	10/99	3.6	01/20	
			CLO4	ND	08/97	ND	01/20	
			AS	0.5	07/96	ND	08/19	
			CR6	8.6	08/16	5.5	08/19	
02 (NORTH)	MUNICIPAL	INACTIVE	PCE	6.3	08/16	5.7	11/19	VULNERABLE
			TCE	3.1	05/18	2.6	11/19	(VOC,NO3(N))
			NITRATE (N)	6.8	02/96	4.9	11/19	
			CLO4	ND	08/97	ND	08/19	
			AS	0.4	07/96	ND	08/19	
			CR6	8.7	08/19	8.7	08/19	
ANDERSON FAMILY MARITAL TRUST								
01	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
ARCADIA, CITY OF								
BAL 1	MUNICIPAL	DESTROYED	VOCS	ND	09/98	ND	09/98	
			NITRATE (N)	11.7	04/78	0.7	09/98	
			CLO4	NA	NA	NA	NA	
BAL 2	MUNICIPAL	INACTIVE	VOCS	ND	05/89	ND	06/09	
			NITRATE (N)	7.5	05/08	6.3	06/09	
			CLO4	ND	08/97	ND	07/08	
			AS	0.7	08/96	ND	03/09	
			CR6	11.1	06/01	11.1	06/01	
CAM REAL 1	MUNICIPAL	DESTROYED	VOCS	ND	01/85	ND	05/92	
			NITRATE (N)	6.3	05/91	5.1	08/92	
			CLO4	NA	NA	NA	NA	
			AS	ND	03/09	ND	08/92	
CAM REAL 2	MUNICIPAL	DESTROYED	VOCS	ND	05/89	ND	06/98	
			NITRATE (N)	13.1	05/92	8.8	05/98	
			CLO4	ND	08/97	ND	12/97	
			AS	0.4	08/96	ND	06/98	
CAM REAL 3	MUNICIPAL	ACTIVE	VOCS	ND	03/11	ND	10/22	
			NITRATE (N)	4.6	04/21	3.9	10/22	
			CLO4	2.5	04/22	2.4	10/22	
			AS	ND	03/10	ND	01/22	
			CR6	8.3	01/19	7.8	01/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
L OAK 1	MUNICIPAL	ACTIVE	PCE	1.4	01/08	ND	04/22	VULNERABLE
			TCE	10.0	07/18	3.9	10/22	(VOC,NO3(N))
			NITRATE (N)	7.0	05/15	4.0	10/22	
			CLO4	ND	08/97	ND	04/22	
			AS	0.6	08/96	ND	06/21	
			CR6	4.2	06/21	4.2	06/21	
LGY	MUNICIPAL	DESTROYED	VOCS	ND	01/08	ND	01/08	
			NITRATE (N)	23.5	01/08	23.5	01/08	
			CLO4	6.0	01/08	6.0	01/08	
LGY 3	MUNICIPAL	ACTIVE	VOCS	ND	06/11	ND	10/22	
			NITRATE (N)	2.4	01/20	2.1	01/22	
			CLO4	ND	06/11	ND	01/22	
			AS	ND	03/11	ND	01/20	
			CR6	8.7	01/17	8.1	01/20	
LON 1	MUNICIPAL	ACTIVE	TCE	30.0	07/87	0.7	12/22	VULNERABLE
			PCE	3.1	04/19	ND	12/22	(VOC,NO3(N))
			1,1-DCE	4.1	06/87	ND	07/22	
			1,2-DCA	1.4	07/87	ND	07/22	
			1,1,1-TCA	4.6	07/87	ND	07/22	
			NITRATE (N)	14.0	07/16	9.3	12/22	
			CLO4	ND	12/97	ND	04/22	
			AS	ND	04/85	ND	04/20	
			CR6	3.3	06/17	1.5	04/20	
LON 2	MUNICIPAL	ACTIVE	TCE	62.0	01/85	0.8	12/22	VULNERABLE
			PCE	7.7	01/82	ND	12/22	(VOC,NO3(N))
			CTC	2.6	09/87	ND	07/22	
			1,1-DCE	0.9	05/87	ND	07/22	
			1,1,1-TCA	12.0	01/85	ND	07/22	
			NITRATE (N)	24.6	05/85	13.0	12/22	
			CLO4	2.9	10/22	2.9	10/22	
			AS	0.7	08/96	ND	01/22	
			CR6	5.5	01/22	5.5	01/22	
PECK 1	MUNICIPAL	ACTIVE	VOCS	ND	05/89	ND	04/22	
			NITRATE (N)	2.5	08/09	0.6	04/22	
			CLO4	ND	08/97	ND	04/22	
			AS	2.4	09/94	ND	04/20	
			CR6	1.0	11/00	ND	04/20	
ST JO 1	MUNICIPAL	DESTROYED	TCE	5.4	01/02	4.8	02/02	
			PCE	2.7	08/91	2.2	02/02	
			NITRATE (N)	13.6	06/96	10.4	06/02	
			CLO4	1.0	08/97	ND	01/02	
			AS	0.3	08/96	ND	06/01	
ST JO 2	MUNICIPAL	INACTIVE	TCE	2.4	12/09	1.1	07/17	
			PCE	9.8	09/16	7.8	07/17	
			NITRATE (N)	11.5	12/04	10.0	07/17	
			CLO4	8.6	06/02	ND	07/17	
			AS	ND	06/02	ND	04/17	
			CR6	3.2	11/02	2.6	04/17	
ARCADIA RECLAMATION								
NA	INDUSTRIAL	ACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
ATTALLA, MARY L.								
NA	IRRIGATION	INACTIVE	VOCS	ND	09/96	ND	04/98	
			NITRATE (N)	4.4	04/98	4.4	04/98	
			CLO4	ND	04/98	ND	04/98	
AZUSA ASSOCIATES LLC								
DALTON	IRRIGATION	INACTIVE	VOCS	ND	03/98	ND	03/98	
			NITRATE (N)	1.1	03/98	1.1	03/98	
			CLO4	ND	03/98	ND	03/98	
AZUSA, CITY OF								
AVWC 01	MUNICIPAL	DESTROYED	VOCS	ND	09/97	ND	09/97	
			NITRATE (N)	12.4	08/87	7.3	09/97	
			CLO4	5.6	09/97	5.6	09/97	
AVWC 02	MUNICIPAL	DESTROYED	VOCS	ND	01/98	ND	01/98	
			NITRATE (N)	9.7	01/98	9.7	01/98	
			CLO4	6.9	01/98	6.9	01/98	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
AVWC 07	MUNICIPAL	DESTROYED	TCE	4.5	01/80	ND	03/85	
			NITRATE (N)	24.2	02/77	8.9	12/85	
			CLO4	NA	NA	NA	NA	
GENESIS 1	MUNICIPAL	DESTROYED	MTBE	1.2	11/98	1.1	11/98	
(OLD 04)			NITRATE (N)	28.6	06/87	24.8	11/98	
			CLO4	7.2	11/98	7.2	11/98	
			AS	5.0	08/79	ND	02/88	
GENESIS 2	MUNICIPAL	INACTIVE	TCE	250.0	12/79	3.7	02/08	
(OLD 05)			PCE	95.0	04/80	1.0	02/08	
			1,1-DCE	18.0	02/08	18.0	02/08	
			1,1,1-TCA	2.5	02/08	2.5	02/08	
			NITRATE (N)	23.8	02/93	3.6	02/08	
			CLO4	ND	11/98	ND	02/08	
			AS	ND	12/89	ND	02/08	
GENESIS 3	MUNICIPAL	DESTROYED	PCE	3.5	03/97	ND	03/97	
(OLD 06)			TCE	0.1	01/80	ND	03/97	
			NITRATE (N)	25.5	06/86	ND	04/01	
			CLO4	NA	NA	NA	NA	
01	MUNICIPAL	ACTIVE	VOCS	ND	06/87	ND	11/22	VULNERABLE
(OLD 07)			NITRATE (N)	1.2	08/17	0.5	12/22	(AS)
			CLO4	ND	07/97	ND	08/22	
			AS	5.1	08/95	2.3	08/22	
			CR6	1.0	11/00	0.1	08/22	
02	MUNICIPAL	ACTIVE	VOCS	ND	06/89	ND	08/22	
(01 NORTH)			NITRATE (N)	1.2	03/92	0.5	12/22	
			CLO4	ND	07/97	ND	08/22	
			AS	4.3	07/96	3.6	08/20	
			CR6	1.0	11/00	ND	08/20	
03	MUNICIPAL	ACTIVE	VOCS	ND	06/87	ND	08/22	
(OLD 08)			NITRATE (N)	1.0	03/95	ND	12/22	
			CLO4	ND	07/97	ND	08/22	
			AS	5.0	08/06	3.5	08/18	
			CR6	1.0	11/00	ND	08/18	
04	MUNICIPAL	ACTIVE	VOCS	ND	06/88	ND	08/22	
(02 SOUTH)			NITRATE (N)	1.2	06/89	ND	12/22	
			CLO4	ND	07/97	ND	08/22	
			AS	5.0	08/05	3.5	08/20	
			CR6	1.0	11/00	ND	08/20	
05	MUNICIPAL	ACTIVE	TCE	1.0	12/80	ND	05/22	VULNERABLE
(OLD 01)			PCE	0.3	12/80	ND	05/22	(NO3(N))
			NITRATE (N)	5.2	07/95	1.3	05/22	
			CLO4	ND	07/97	ND	05/22	
			AS	2.6	07/95	ND	05/22	
			CR6	1.0	11/00	0.2	05/22	
06	MUNICIPAL	ACTIVE	VOCS	ND	03/85	ND	08/22	
(OLD 03)			NITRATE (N)	3.2	03/95	1.9	08/22	
			CLO4	ND	07/97	ND	08/22	
			AS	3.5	07/95	1.4	08/22	
			CR6	1.0	11/00	0.1	08/22	
07	MUNICIPAL	ACTIVE	VOCS	ND	06/88	ND	08/22	VULNERABLE
(AVWC 05)			NITRATE (N)	5.6	04/95	0.6	12/22	(NO3(N))
			CLO4	ND	06/97	ND	08/22	
			AS	3.5	08/14	ND	08/20	
			CR6	1.0	11/00	ND	08/20	
08	MUNICIPAL	ACTIVE	TCE	0.8	03/94	ND	08/22	
(AVWC 04)			NITRATE (N)	2.7	09/94	0.9	08/22	
			CLO4	ND	07/97	ND	08/22	
			AS	4.2	07/95	2.5	08/22	
			CR6	1.0	11/00	0.2	08/22	
09	MUNICIPAL	INACTIVE	PCE	7.4	12/87	0.6	01/99	
(AVWC 06)			NITRATE (N)	26.6	12/89	19.0	01/99	
			CLO4	NA	NA	NA	NA	
			AS	ND	02/87	ND	01/99	
10	MUNICIPAL	ACTIVE	PCE	1.2	05/15	ND	11/22	VULNERABLE
(AVWC 08)			NITRATE (N)	14.9	05/08	10.0	11/22	(NO3(N))
			CLO4	12.6	08/05	6.5	11/22	
			AS	1.8	07/96	ND	11/21	
			CR6	2.6	11/18	2.4	11/21	
11	MUNICIPAL	ACTIVE	VOCS	ND	06/02	ND	08/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			NITRATE (N)	0.8	08/08	0.5	08/22	
			CLO4	ND	06/02	ND	08/22	
			AS	4.0	08/05	2.7	08/20	
			CR6	0.2	08/13	ND	08/20	
12	MUNICIPAL	ACTIVE	VOCS	ND	06/02	ND	08/22	
			NITRATE (N)	0.9	08/08	0.4	08/22	
			CLO4	ND	06/02	ND	08/22	
			AS	4.0	08/05	3.2	08/20	
			CR6	0.5	08/13	ND	08/20	
B & B RED-I-MIX CONCRETE INC.								
03	INDUSTRIAL	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
BANKS, GALE & VICKI								
NA	IRRIGATION	ACTIVE	VOCS	ND	08/96	ND	11/20	
			NITRATE (N)	4.7	10/98	4.1	11/20	
			CLO4	ND	09/97	ND	09/97	
BASELINE WATER COMPANY								
01	IRRIGATION	DESTROYED	VOCS	ND	02/98	ND	02/98	
			NITRATE (N)	22.5	02/98	22.5	02/98	
			CLO4	12.9	02/98	12.9	02/98	
02	IRRIGATION	DESTROYED	VOCS	ND	11/98	ND	11/98	
			NITRATE (N)	16.8	11/98	16.8	11/98	
			CLO4	10.6	11/98	10.6	11/98	
03	IRRIGATION	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
BEVERLY ACRES MUTUAL WATER USERS ASSOCIATION								
ROSE HILLS	MUNICIPAL	DESTROYED	TCE	8.4	10/88	2.5	03/93	
			PCE	6.0	10/88	2.8	03/93	
			C-1,2-DCE	8.0	08/86	2.4	03/93	
			NITRATE (N)	5.1	08/86	3.3	09/90	
			CLO4	NA	NA	NA	NA	
			AS	ND	09/89	ND	08/91	
BIRENBAUM, MAX								
NA	NON-POTABLE	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
BOTELLO WATER COMPANY								
NA	MUNICIPAL	INACTIVE	VOCS	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
BURBANK DEVELOPMENT COMPANY								
BURB	NON-POTABLE	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
CALIFORNIA-AMERICAN WATER COMPANY/DUARTE SYSTEM								
B V	MUNICIPAL	STANDBY	VOCS	ND	02/85	ND	02/22	VULNERABLE
			NITRATE (N)	0.9	10/10	0.8	08/22	(AS)
			CLO4	ND	06/97	ND	02/22	
			AS	6.0	07/93	2.0	08/22	
			CR6	1.0	12/00	0.1	08/22	
B V 2	MUNICIPAL	ACTIVE	VOCS	ND	03/12	ND	02/22	
			NITRATE (N)	1.0	08/22	1.0	08/22	
			CLO4	ND	09/12	ND	05/22	
			AS	2.1	08/19	2.0	08/22	
			CR6	1.0	04/11	0.1	08/22	
BACON	MUNICIPAL	ACTIVE	VOCS	ND	09/15	ND	05/22	VULNERABLE
			NITRATE (N)	2.3	10/81	1.1	08/22	(AS)
			CLO4	ND	06/97	ND	05/22	
			AS	6.0	09/93	1.6	08/22	
			CR6	0.5	08/22	0.5	08/22	
CR HV	MUNICIPAL	ACTIVE	VOCS	ND	06/88	ND	02/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			NITRATE (N)	2.5	03/19	1.2	08/22	
			CLO4	ND	06/97	ND	05/22	
			AS	3.0	09/04	1.8	08/22	
			CR6	1.0	12/00	0.3	08/22	
ENCANTO	MUNICIPAL	ACTIVE	VOCS	ND	12/92	ND	02/22	
			NITRATE (N)	2.6	12/92	0.7	08/22	
			CLO4	ND	06/97	ND	05/22	
			AS	4.6	08/95	3.2	08/22	
			CR6	1.0	12/00	0.2	08/22	
FISH C	MUNICIPAL	INACTIVE	VOCS	ND	02/85	ND	03/14	
			NITRATE (N)	1.5	11/94	0.6	12/13	
			CLO4	ND	06/97	ND	09/14	
			AS	13.0	09/80	ND	10/10	
			CR6	1.0	12/00	0.1	03/13	
LAS L	MUNICIPAL	DESTROYED	VOCS	ND	02/85	ND	06/91	
			NITRATE (N)	2.7	08/80	0.9	09/91	
			CLO4	NA	NA	NA	NA	
			AS	18.0	06/78	ND	11/94	
LAS L2	MUNICIPAL	ACTIVE	TCE	1.6	08/96	ND	02/22	
			NITRATE (N)	3.7	12/92	1.0	08/22	
			CLO4	ND	06/97	ND	05/22	
			AS	3.1	08/95	1.8	08/22	
			CR6	1.0	06/01	0.4	08/22	
LEMON	MUNICIPAL	ACTIVE	VOCS	ND	11/19	ND	02/22	
			NITRATE (N)	4.7	12/21	3.6	11/22	
			CLO4	ND	08/19	ND	11/22	
			AS	2.1	02/22	2.1	02/22	
			CR6	0.9	02/22	0.9	02/22	
MT AVE	MUNICIPAL	DESTROYED	TCE	16.5	07/87	ND	09/93	
			PCE	1.0	08/82	ND	09/93	
			1,1,1-TCA	8.4	04/85	ND	09/93	
			1,1-DCE	3.4	07/87	ND	09/93	
			T-1,2-DCE	2.0	04/85	ND	09/93	
			NITRATE (N)	14.7	05/89	2.3	09/93	
			CLO4	NA	NA	NA	NA	
			AS	ND	05/89	ND	05/89	
STA FE	MUNICIPAL	ACTIVE	TCE	3.3	04/84	ND	06/22	VULNERABLE
			NITRATE (N)	1.6	03/82	1.0	06/22	(VOC)
			CLO4	ND	06/97	ND	06/22	
			AS	3.0	08/79	2.1	06/22	
			CR6	1.0	12/00	0.4	06/22	
WILEY	MUNICIPAL	ACTIVE	VOCS	ND	09/01	ND	02/22	
			NITRATE (N)	2.5	03/81	1.7	08/22	
			CLO4	ND	06/97	ND	05/22	
			AS	2.0	09/09	1.6	08/22	
			CR6	1.0	12/00	0.2	08/22	
CALIFORNIA-AMERICAN WATER COMPANY/SAN MARINO SYSTEM								
BR 1	MUNICIPAL	DESTROYED	CTC	0.5	12/96	0.5	12/96	
			TCE	27.0	07/93	27.0	12/96	
			PCE	9.0	07/93	7.7	12/96	
			NITRATE (N)	7.1	12/96	7.1	12/96	
			CLO4	NA	NA	NA	NA	
			AS	1.0	03/81	ND	10/81	
BR 2	MUNICIPAL	DESTROYED	TCE	17.0	12/96	17.0	12/96	
			PCE	6.4	12/96	6.4	12/96	
			NITRATE (N)	5.7	07/93	5.7	12/96	
			CLO4	NA	NA	NA	NA	
			AS	ND	03/81	ND	10/81	
DELMAR	MUNICIPAL	ACTIVE	VOCS	ND	06/88	ND	02/22	VULNERABLE
			NITRATE (N)	5.3	11/22	5.3	11/22	(NO3(N))
			CLO4	ND	06/97	ND	11/22	
			AS	5.0	07/96	3.1	05/22	
			CR6	13.0	07/19	4.9	05/22	
GRAND	MUNICIPAL	ACTIVE	TCE	4.8	03/07	2.6	11/22	VULNERABLE
			PCE	2.6	05/20	1.6	11/22	(VOC)
			NITRATE (N)	2.5	09/03	1.8	05/22	
			CLO4	ND	08/97	ND	05/22	
			AS	0.4	07/96	ND	05/22	
			CR6	11.0	02/22	9.7	11/22	
GUESS	MUNICIPAL	DESTROYED	TCE	5.2	09/99	5.2	12/01	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			PCE	5.4	12/01	5.4	12/01	
			NITRATE (N)	4.5	05/01	4.3	09/01	
			CLO4	ND	08/97	ND	03/00	
			AS	0.4	07/96	ND	02/01	
			CR6	7.8	10/00	4.8	06/01	
HALL	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
HALL 2	MUNICIPAL	ACTIVE	VOCS	ND	03/01	ND	02/22	VULNERABLE
			NITRATE (N)	7.1	11/21	3.0	05/22	(NO3(N))
			CLO4	ND	03/00	ND	05/22	
			AS	ND	09/01	ND	05/22	
			CR6	11.0	08/21	9.3	05/22	
HOWLAND	MUNICIPAL	ACTIVE	TCE	6.9	07/89	ND	11/22	VULNERABLE
			PCE	3.6	03/01	ND	11/22	(VOC)
			C-1,2-DCE	3.3	11/87	ND	02/22	
			NITRATE (N)	4.7	09/16	1.6	05/22	
			CLO4	ND	08/97	ND	08/22	
			AS	0.7	07/96	ND	05/22	
			CR6	7.6	05/22	7.6	05/22	
IVAR 1	MUNICIPAL	DESTROYED	PCE	7.4	06/99	6.2	06/00	
			TCE	1.7	06/99	ND	06/00	
			NITRATE (N)	6.6	09/94	5.9	09/01	
			CLO4	ND	08/97	ND	03/01	
			AS	0.5	10/96	0.5	10/96	
IVAR 2	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	5.4	12/84	5.4	12/84	
			CLO4	NA	NA	NA	NA	
			AS	ND	10/81	ND	10/81	
LONGDEN	MUNICIPAL	ACTIVE	PCE	17.0	09/18	12.0	02/20	VULNERABLE
			TCE	0.9	03/18	0.8	02/20	(VOC,NO3(N),CLO4)
			NITRATE (N)	16.0	03/18	15.0	06/19	
			CLO4	5.5	06/16	ND	02/20	
			AS	4.6	06/01	ND	06/19	
			CR6	4.3	05/15	4.0	06/19	
MAR 1	MUNICIPAL	DESTROYED	VOCS	ND	01/85	ND	01/85	
			NITRATE (N)	20.1	03/79	8.8	01/84	
			CLO4	NA	NA	NA	NA	
			AS	2.0	03/81	ND	10/81	
MAR 2	MUNICIPAL	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	7.5	01/84	7.5	01/84	
			CLO4	NA	NA	NA	NA	
			AS	1.0	03/81	ND	10/81	
MAR 3	MUNICIPAL	ACTIVE	VOCS	ND	01/85	ND	04/22	
			NITRATE (N)	4.0	04/22	2.2	12/22	
			CLO4	ND	06/97	ND	04/22	
			AS	1.0	05/00	ND	04/22	
			CR6	11.0	11/22	11.0	11/22	
MIVW 1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	7.0	03/01	7.0	03/01	
			CLO4	NA	NA	NA	NA	
MIVW 2	MUNICIPAL	ACTIVE	VOCS	ND	07/87	ND	02/22	VULNERABLE
			NITRATE (N)	10.0	03/16	6.6	12/22	(NO3(N))
			CLO4	ND	06/97	2.0	11/22	
			AS	0.6	07/96	ND	05/22	
			CR6	11.0	05/21	11.0	11/22	
RIC 1	MUNICIPAL	DESTROYED	VOCS	ND	02/85	ND	12/90	
			NITRATE (N)	5.3	08/89	2.7	11/94	
			CLO4	NA	NA	NA	NA	
			AS	ND	09/80	ND	11/94	
RIC 2	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
RIC 3	MUNICIPAL	ACTIVE	TCE	1.4	03/19	0.7	08/22	
			PCE	1.1	11/21	0.7	08/22	
			NITRATE (N)	3.3	03/21	3.3	02/22	
			CLO4	ND	09/16	ND	08/22	
			AS	ND	09/16	ND	03/19	
			CR6	10.0	03/21	9.1	08/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
ROANOKE	MUNICIPAL	INACTIVE	TCE	5.0	06/00	4.7	12/00	
			PCE	1.2	04/90	ND	09/00	
			C-1,2-DCE	0.5	09/00	ND	12/00	
			NITRATE (N)	7.5	05/89	6.6	12/00	
			CLO4	5.6	06/97	ND	03/00	
			AS	0.8	07/96	ND	02/01	
			CR6	5.0	10/00	4.9	06/01	
ROSEMEAD	MUNICIPAL	INACTIVE	TCE	6.1	03/12	3.8	05/14	
			PCE	3.4	03/09	ND	05/14	
			NITRATE (N)	8.6	12/13	6.6	05/14	
			CLO4	ND	08/97	ND	05/14	
			AS	0.4	07/96	ND	05/14	
			CR6	11.0	10/00	5.2	06/11	
09	MUNICIPAL	ACTIVE	VOCS	ND	06/88	ND	08/22	
			NITRATE (N)	1.4	09/12	1.0	03/17	
			CLO4	ND	07/97	ND	03/17	
			AS	0.9	08/96	ND	04/15	
			CR6	9.4	07/01	8.4	10/14	
11	MUNICIPAL	ACTIVE	VOCS	ND	12/11	ND	04/22	
			NITRATE (N)	0.8	09/16	0.7	03/17	
			CLO4	ND	12/11	ND	03/17	
			AS	ND	05/14	ND	04/15	
			CR6	5.9	10/14	5.9	10/14	
CALIFORNIA COUNTRY CLUB								
ARTES	IRRIGATION	STANDBY	VOCS	ND	05/87	ND	10/10	
			NITRATE (N)	6.6	10/10	6.6	10/10	
			CLO4	NA	NA	NA	NA	
CLUB	IRRIGATION	INACTIVE	PCE	189.0	11/87	189.0	11/87	
			1,1,2,2-PCA	24.0	11/87	24.0	11/87	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
SYCAMORE	IRRIGATION	STANDBY	PCE	7.1	09/02	0.6	10/10	
			TCE	0.7	09/01	ND	10/10	
			NITRATE (N)	28.9	10/07	4.3	10/10	
			CLO4	ND	02/98	ND	02/98	
CALIFORNIA DOMESTIC WATER COMPANY								
01-E	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
02	MUNICIPAL	DESTROYED	CTC	0.7	09/96	ND	01/20	
			PCE	3.7	09/12	0.6	01/20	
			TCE	4.0	10/99	ND	01/20	
			NITRATE (N)	6.1	02/15	4.5	04/21	
			CLO4	5.6	10/99	ND	05/17	
			AS	7.4	12/11	ND	05/17	
			CR6	5.1	09/18	1.9	04/17	
02A	MUNICIPAL	ACTIVE	VOCS	ND	04/20	ND	01/22	
			NITRATE (N)	2.2	04/20	1.7	12/22	
			AS	2.2	04/20	2.2	04/20	
			CR6	2.3	04/20	2.3	04/20	
03	MUNICIPAL	ACTIVE	CTC	5.3	02/01	1.7	10/22	VULNERABLE
			PCE	32.0	11/12	16.0	12/22	(VOC,NO3(N),CLO4)
			TCE	54.0	10/20	36.0	12/22	
			1,1-DCE	7.1	10/20	3.4	10/22	
			C-1,2-DCE	5.0	10/20	2.4	10/22	
			NITRATE (N)	10.8	01/07	5.0	12/22	
			CLO4	16.0	11/19	14.0	12/22	
			AS	3.3	12/11	2.1	04/20	
			CR6	3.3	11/00	2.8	04/20	
05	MUNICIPAL	DESTROYED	PCE	2.0	02/85	ND	12/90	
			NITRATE (N)	2.9	03/84	2.9	03/84	
			CLO4	NA	NA	NA	NA	
			AS	40.0	06/78	ND	03/84	
05A	MUNICIPAL	ACTIVE	CTC	1.9	08/96	ND	10/22	VULNERABLE
			PCE	20.0	11/15	13.0	12/22	(VOC,NO3(N),AS)
			TCE	19.0	11/15	2.5	12/22	
			1,1-DCE	2.7	10/08	2.6	10/22	
			C-1,2-DCE	1.6	10/08	1.4	10/22	
			NITRATE (N)	8.7	05/22	7.7	12/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			CLO4	5.2	05/22	3.8	12/22	
			AS	7.6	07/17	2.1	04/20	
			CR6	2.0	04/17	1.9	04/20	
06	MUNICIPAL	ACTIVE	CTC	3.5	12/06	ND	10/22	VULNERABLE
			PCE	39.0	10/14	15.0	12/22	(VOC,NO3(N),CLO4)
			TCE	44.0	10/14	16.0	12/22	
			1,1-DCE	6.2	10/14	5.5	10/22	
			C-1,2-DCE	4.5	10/14	3.5	10/22	
			NITRATE (N)	7.7	04/11	2.1	12/22	
			CLO4	7.8	04/17	ND	12/22	
			AS	3.2	04/04	ND	04/20	
			CR6	2.2	04/17	2.1	04/20	
08	MUNICIPAL	ACTIVE	PCE	35.0	10/22	19.0	12/22	VULNERABLE
			TCE	33.0	10/22	21.0	12/22	(VOC,NO3(N),CLO4,AS)
			CTC	1.1	09/93	ND	04/22	
			NITRATE (N)	6.6	10/22	6.0	12/22	
			CLO4	5.1	10/22	4.1	12/22	
			AS	6.0	09/94	2.0	04/20	
			CR6	3.2	11/00	2.4	04/20	
10	MUNICIPAL	ACTIVE	PCE	100.0	01/22	45.0	12/22	VULNERABLE
			TCE	120.0	01/22	41.0	12/22	(VOC,NO3(N), CLO4)
			CTC	1.4	09/19	0.8	10/22	
			1,1-DCE	16.0	01/22	6.9	10/22	
			C-1,2-DCE	10.0	01/22	4.5	10/22	
			NITRATE (N)	7.1	04/21	4.6	12/22	
			CLO4	16.0	01/22	7.3	12/22	
			AS	2.7	12/19	2.7	12/19	
			CR6	2.7	10/16	ND	01/18	
13-N	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
14	MUNICIPAL	INACTIVE	CTC	4.4	10/07	ND	10/22	VULNERABLE
			PCE	16.0	11/12	2.1	12/22	(VOC,NO3(N),CLO4)
			TCE	21.0	10/20	ND	12/22	
			1,2-DCA	1.0	06/08	ND	10/22	
			C-1,2-DCE	2.5	10/20	ND	10/22	
			1,1-DCE	3.3	10/20	0.7	10/22	
			NITRATE (N)	16.9	12/14	2.5	12/22	
			CLO4	16.0	12/12	ND	12/22	
			AS	4.5	04/01	2.0	01/20	
			CR6	5.1	04/17	3.7	01/20	
CEDAR AVENUE MUTUAL WATER COMPANY								
01 SOUTH	MUNICIPAL	DESTROYED	PCE	2.2	09/90	ND	06/94	
			NITRATE (N)	6.1	08/93	2.0	06/94	
			CLO4	NA	NA	NA	NA	
			AS	NA	09/89	ND	08/93	
02 NORTH	MUNICIPAL	DESTROYED	PCE	0.8	04/92	ND	06/94	
			NITRATE (N)	4.5	01/86	1.7	08/93	
			CLO4	NA	NA	NA	NA	
			AS	ND	09/89	ND	09/92	
CEMEX CONSTRUCTION MATERIALS L.P. (AZ TWO)								
02	INDUSTRIAL	DESTROYED	PCE	700.0	01/85	2.8	09/03	
			TCE	940.0	04/85	6.3	09/03	
			CTC	2.2	09/02	ND	09/03	
			1,1-DCE	350.0	01/87	7.2	09/03	
			1,1-DCA	1.0	08/01	ND	09/03	
			1,1,1-TCA	430.0	01/87	3.6	09/03	
			VC	19.0	12/87	ND	09/03	
			NITRATE (N)	17.8	09/02	16.5	09/03	
			CLO4	4.2	06/97	ND	09/98	
CHAMPION MUTUAL WATER COMPANY								
01	MUNICIPAL	DESTROYED	PCE	3.0	09/86	ND	06/98	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
02	MUNICIPAL	DESTROYED	PCE	0.6	06/88	ND	09/13	
			NITRATE (N)	6.3	09/10	5.0	06/14	
			CLO4	ND	09/97	ND	09/13	
			AS	3.6	08/98	2.4	09/13	
			CR6	1.0	06/01	0.7	09/13	
03	MUNICIPAL	DESTROYED	PCE	1.3	09/96	ND	12/14	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			FREON 113	18.0	03/07	ND	03/15	
			NITRATE (N)	5.4	03/09	4.1	03/15	
			CLO4	ND	03/98	ND	12/14	
			AS	13.2	05/98	2.8	03/15	
			CR6	1.0	06/01	ND	09/14	
CHEVRON USA INC.								
TEMP 1	NON-POTABLE	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
CITRUS VALLEY MEDICAL CENTER, QUEEN OF THE VALLEY CAMPUS								
01	NON-POTABLE	DESTROYED	VOCS	ND	09/96	ND	10/10	
			NITRATE (N)	23.7	02/98	18.7	10/10	
			CLO4	24.0	02/98	24.0	02/98	
CLAYTON MANUFACTURING COMPANY								
02	INDUSTRIAL	DESTROYED	TCE	150.0	08/01	47.0	09/03	
			PCE	30.0	08/01	ND	09/03	
			1,1-DCE	10.0	08/01	1.7	09/03	
			C-1,2-DCE	1.7	08/01	ND	09/03	
			1,1-DCA	15.0	08/01	ND	09/03	
			1,2-DCA	13.0	08/01	ND	09/03	
			1,1,1-TCA	1.1	08/01	ND	09/03	
			NITRATE (N)	19.7	08/01	9.0	09/03	
			CLO4	4.0	09/97	4.0	09/97	
CORCORAN BROTHERS								
01	NON-POTABLE	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
COUNTY SANITATION DISTRICT NO. 18								
E08A	REMEDIAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
E09A	REMEDIAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
E10A	REMEDIAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
E11A	REMEDIAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
EX1	REMEDIAL	ACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
EX2	REMEDIAL	ACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
EX3	REMEDIAL	ACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
EX4	REMEDIAL	ACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
LE1	REMEDIAL	DESTROYED	TCE	4.2	06/86	3.7	09/86	
			PCE	0.8	09/86	0.8	09/86	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
LE2	REMEDIAL	DESTROYED	TCE	0.1	06/86	ND	09/86	
			PCE	NA	06/86	ND	09/86	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
LE3	REMEDIAL	DESTROYED	TCE	1.5	06/86	1.2	09/86	
			PCE	1.6	06/86	0.8	09/86	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
LE4	REMEDIAL	DESTROYED	TCE	5.1	09/86	5.1	09/86	
			PCE	2.0	09/86	2.0	09/86	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
COVINA, CITY OF								
01	MUNICIPAL	DESTROYED	PCE	0.6	01/99	0.6	01/99	
			NITRATE (N)	27.1	01/99	27.1	01/99	
			CLO4	NA	NA	NA	NA	
02 (GRAND)	MUNICIPAL	DESTROYED	VOCS	ND	06/88	ND	09/98	
			NITRATE (N)	26.2	08/89	23.3	04/99	
			CLO4	23.0	09/97	22.0	09/98	
			AS	3.3	08/97	3.3	08/97	
03	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	16.3	10/73	16.3	10/73	
			CLO4	NA	NA	NA	NA	
COVINA IRRIGATING COMPANY								
BAL 1	MUNICIPAL	ACTIVE	TCE	200.0	07/80	ND	07/22	VULNERABLE
			PCE	7.6	07/80	ND	07/22	(VOC,NO3(N))
			1,1-DCE	0.5	10/06	ND	07/22	
			NITRATE (N)	9.8	10/21	2.6	12/22	
			CLO4	1.5	10/06	ND	12/22	
			AS	4.7	12/89	3.3	07/21	
			CR6	1.0	10/00	ND	07/21	
BAL 2	MUNICIPAL	ACTIVE	TCE	195.0	06/80	ND	04/22	VULNERABLE
			PCE	7.9	06/80	ND	04/22	(VOC,NO3(N),CLO4)
			1,1-DCE	0.8	07/07	ND	10/22	
			NITRATE (N)	10.6	03/10	7.3	10/22	
			CLO4	5.5	03/09	3.4	10/22	
			AS	4.0	08/76	3.4	07/21	
			CR6	3.5	10/19	1.4	07/21	
BAL 3	MUNICIPAL	ACTIVE	TCE	225.0	01/80	ND	07/22	VULNERABLE
			PCE	10.0	02/85	ND	07/22	(VOC,NO3(N),CLO4)
			CTC	3.0	04/85	ND	07/22	
			1,1-DCA	4.0	04/85	ND	07/22	
			1,2-DCA	3.7	02/85	ND	07/22	
			1,1-DCE	2.1	04/85	ND	07/22	
			T-1,2-DCE	2.9	02/85	ND	07/22	
			1,1,1-TCA	5.2	04/85	ND	07/22	
			NITRATE (N)	12.9	08/89	4.6	12/22	
			CLO4	5.6	09/08	2.4	12/22	
			AS	3.5	08/18	3.2	07/21	
			CR6	3.5	08/18	ND	07/21	
CONTR	MUNICIPAL	DESTROYED	PCE	1.4	12/92	1.3	03/94	
			NITRATE (N)	28.3	12/89	24.4	03/94	
			CLO4	NA	NA	NA	NA	
			AS	ND	12/89	ND	12/92	
VALEN	MUNICIPAL	DESTROYED	PCE	2.4	08/85	0.6	09/97	
			NITRATE (N)	16.5	06/81	15.7	09/97	
			CLO4	6.4	09/97	6.4	09/97	
CREVOLIN, A.J.								
NA	DOMESTIC	DESTROYED	VOCS	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
CROWN CITY PLATING COMPANY								
01	INDUSTRIAL	INACTIVE	TCE	1.2	09/04	1.2	09/04	
			T-1,2-DCE	1.4	05/87	ND	09/04	
			NITRATE (N)	1.7	09/04	0.8	09/08	
			CLO4	ND	09/97	ND	10/07	
DAVIDSON OPTRONICS INC.								
NA	INDUSTRIAL	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
DAWES, MARY K.								
04	IRRIGATION	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			CLO4	NA	NA	NA	NA	
DEL RIO MUTUAL WATER COMPANY								
BURKETT	MUNICIPAL	ACTIVE	TCE	2.2	06/90	ND	07/22	VULNERABLE
			PCE	3.7	03/97	ND	07/22	(VOC,NO3(N))
			NITRATE (N)	7.0	12/03	1.1	07/22	
			CLO4	ND	09/97	ND	07/21	
			AS	2.6	03/02	2.1	09/20	
			CR6	3.4	07/01	ND	09/20	
KLING	MUNICIPAL	INACTIVE	PCE	1.3	08/86	ND	02/89	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
DRIFTWOOD DAIRY								
01	INDUSTRIAL	INACTIVE	PCE	13.9	06/98	13.9	06/98	
			1,1,1-TCA	0.3	03/93	ND	06/98	
			NITRATE (N)	14.7	03/93	10.6	06/98	
			CLO4	ND	06/98	ND	06/98	
DUNNING, GEORGE								
1910	IRRIGATION	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
EL MONTE, CITY OF								
02A	MUNICIPAL	ACTIVE	PCE	13.0	03/98	2.3	12/22	VULNERABLE
			TCE	5.3	01/95	ND	12/22	(VOC,NO3(N),AS)
			NITRATE (N)	8.5	06/16	5.7	12/22	
			CLO4	ND	07/97	ND	07/22	
			AS	10.0	03/73	ND	07/20	
			CR6	4.0	07/20	4.0	07/20	
03	MUNICIPAL	STANDBY	PCE	23.6	12/00	10.0	12/22	VULNERABLE
			1,1,1-TCA	1.0	11/93	ND	10/22	(VOC,NO3(N),AS)
			NITRATE (N)	16.2	08/89	8.6	12/22	
			CLO4	ND	07/97	ND	10/22	
			AS	10.0	03/73	ND	10/20	
			CR6	3.2	12/17	3.2	10/20	
04	MUNICIPAL	STANDBY	PCE	60.0	12/19	60.0	12/19	VULNERABLE
			TCE	7.8	02/80	ND	12/19	(VOC,NO3(N),AS)
			NITRATE (N)	13.1	11/14	5.8	12/19	
			CLO4	ND	07/97	ND	12/19	
			AS	10.0	03/73	ND	12/19	
			CR6	2.8	07/01	1.1	12/19	
05	MUNICIPAL	DESTROYED	TCE	150.0	07/93	70.0	12/96	
			PCE	51.0	07/93	32.0	12/96	
			CTC	4.3	07/93	1.4	12/96	
			NITRATE (N)	12.2	12/96	5.9	06/99	
			CLO4	5.9	06/97	5.9	06/97	
			AS	10.0	04/73	10.0	04/73	
10	MUNICIPAL	ACTIVE	TCE	7.2	09/81	ND	12/22	VULNERABLE
			PCE	17.7	12/93	1.2	10/22	(VOC,NO3(N),AS)
			NITRATE (N)	9.3	04/16	3.9	12/22	
			CLO4	2.2	07/22	2.1	10/22	
			AS	20.0	03/73	ND	05/20	
			CR6	1.8	05/20	1.8	05/20	
11	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	4.9	07/79	4.9	07/79	
			CLO4	NA	NA	NA	NA	
			AS	20.0	03/73	3.0	08/79	
12	MUNICIPAL	ACTIVE	TCE	87.0	04/19	40.0	12/22	VULNERABLE
			PCE	39.0	04/19	17.0	12/22	(VOC,NO3(N))
			CTC	1.0	06/92	ND	10/22	
			C-1,2-DCE	0.9	10/16	ND	10/22	
			NITRATE (N)	9.3	06/05	7.7	12/22	
			CLO4	1.1	07/21	ND	07/22	
			AS	ND	05/84	ND	07/22	
			CR6	5.7	08/22	5.7	08/22	
13	MUNICIPAL	ACTIVE	PCE	8.8	10/21	7.3	12/22	VULNERABLE
			TCE	21.0	10/21	13.0	12/22	(VOC,NO3(N))
			NITRATE (N)	5.3	06/16	3.4	12/22	
			CLO4	ND	07/97	ND	08/22	
			AS	1.3	08/96	0.9	08/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			CR6	5.3	07/16	5.2	08/22	
14	MUNICIPAL	ACTIVE	PCE	4.4	05/20	2.1	12/22	VULNERABLE
(DEW-1)			TCE	12.0	05/19	8.9	12/22	(VOC)
			C-1,2-DCE	2.0	07/22	1.0	10/22	
			NITRATE (N)	3.4	08/22	2.8	12/22	
			CLO4	1.2	07/21	ND	10/22	
			AS	ND	05/19	ND	04/22	
			CR6	5.6	04/22	0.5	10/22	
15	MUNICIPAL	ACTIVE	PCE	6.6	05/20	5.0	12/22	VULNERABLE
(DEW-2)			TCE	10.0	07/22	10.0	12/22	(VOC,NO3(N),CLO4)
			NITRATE (N)	6.3	07/21	4.9	12/22	
			CLO4	8.9	12/19	ND	10/22	
			AS	ND	05/19	ND	04/22	
			CR6	4.4	10/20	0.2	10/22	
16	MUNICIPAL	ACTIVE	PCE	15.0	05/20	11.0	12/22	VULNERABLE
(DEW-3)			TCE	42.0	04/22	35.0	12/22	(VOC,NO3(N))
			CTC	0.6	05/19	ND	10/22	
			NITRATE (N)	7.3	11/22	6.4	12/22	
			CLO4	1.6	07/21	ND	10/22	
			AS	ND	05/19	ND	04/22	
			CR6	6.1	07/21	5.9	10/22	
MT VW	IRRIGATION	DESTROYED	PCE	2.1	08/85	ND	01/01	
			TCE	2.0	01/85	ND	01/01	
			NITRATE (N)	6.8	02/87	2.3	01/01	
			CLO4	ND	09/97	ND	11/97	
			AS	ND	02/84	ND	02/84	
EL MONTE CEMETERY ASSOCIATION								
NA	IRRIGATION	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
FRUIT STREET WATER COMPANY								
NA	IRRIGATION	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
GATES, JAMES RICHARD								
GATES 1	IRRIGATION	ACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
01	NA	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
GLENDORA, CITY OF								
01-E	MUNICIPAL	DESTROYED	TCE	0.8	12/80	ND	09/07	
			NITRATE (N)	8.6	10/88	7.9	08/08	
			CLO4	ND	06/97	ND	03/03	
			AS	2.8	07/98	ND	03/08	
			CR6	1.0	05/01	1.0	05/01	
02-E	MUNICIPAL	ACTIVE	VOCS	ND	03/85	ND	01/22	VULNERABLE
			NITRATE (N)	15.8	05/78	1.2	12/22	(NO3(N))
			CLO4	ND	07/97	ND	01/22	
			AS	0.7	08/96	ND	01/22	
			CR6	1.3	09/16	0.2	01/22	
03-G	MUNICIPAL	INACTIVE	TCE	0.5	12/79	ND	05/97	
			PCE	0.5	05/97	0.5	05/97	
			NITRATE (N)	36.7	08/83	25.1	08/99	
			CLO4	NA	NA	NA	NA	
04-E	MUNICIPAL	INACTIVE	TCE	0.7	08/80	ND	08/91	
			PCE	0.1	07/81	ND	08/91	
			NITRATE (N)	28.5	06/83	12.8	08/91	
			CLO4	NA	NA	NA	NA	
			AS	ND	07/74	ND	07/74	
05-E	MUNICIPAL	ACTIVE	VOCS	ND	02/95	ND	07/22	VULNERABLE
			NITRATE (N)	0.7	05/95	0.4	04/22	(AS)
			CLO4	ND	07/97	ND	04/22	
			AS	5.3	04/98	3.1	04/22	
			CR6	1.0	11/00	0.1	04/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
07-G	MUNICIPAL	INACTIVE	TCE	302.0	01/81	ND	04/98	
			PCE	25.0	01/81	1.9	04/98	
			1,1-DCE	435.0	05/84	ND	04/98	
			C-1,2-DCE	21.0	05/82	ND	04/98	
			1,1-DCA	5.0	05/84	ND	04/98	
			1,2-DCA	12.1	12/93	ND	04/98	
			1,1,1-TCA	3200.0	05/84	64	04/98	
			NITRATE (N)	23.9	04/98	17.1	04/98	
			CLO4	5.3	04/98	5.3	04/98	
			AS	ND	07/74	ND	08/95	
08-E	MUNICIPAL	ACTIVE	VOCS	ND	08/02	ND	01/22	
			NITRATE (N)	1.5	08/86	0.3	07/22	
			CLO4	ND	07/97	ND	07/22	
			AS	3.2	08/96	2.1	09/20	
			CR6	1.0	11/00	ND	09/20	
09-E	MUNICIPAL	ACTIVE	VOCS	ND	05/89	ND	07/22	
			NITRATE (N)	0.9	08/96	0.4	07/22	
			CLO4	ND	07/97	ND	07/22	
			AS	2.6	09/17	2.0	09/20	
			CR6	1.0	11/00	ND	09/20	
10-E	MUNICIPAL	ACTIVE	VOCS	ND	07/97	ND	01/22	VULNERABLE
			NITRATE (N)	17.6	05/77	6.8	12/22	(NO3(N),AS)
			CLO4	ND	07/97	ND	01/22	
			AS	7.0	08/79	ND	03/20	
			CR6	1.2	03/17	ND	03/20	
11-E	MUNICIPAL	ACTIVE	VOCS	ND	05/82	ND	07/22	VULNERABLE
			NITRATE (N)	26.5	08/73	8.3	12/22	(NO3(N),CLO4)
			CLO4	4.9	12/10	2.0	10/22	
			AS	3.2	07/98	ND	07/22	
			CR6	1.9	07/22	1.9	07/22	
12-E	MUNICIPAL	ACTIVE	TCE	0.9	12/80	ND	07/22	
			NITRATE (N)	1.1	07/98	0.4	07/22	
			CLO4	ND	06/97	ND	07/22	
			AS	4.4	07/97	2.2	07/21	
			CR6	1.0	11/00	ND	07/21	
13-E	MUNICIPAL	ACTIVE	VOCS	ND	06/04	ND	01/22	VULNERABLE
			NITRATE (N)	6.6	12/09	2.9	12/22	(NO3(N))
			CLO4	ND	06/04	ND	04/22	
			AS	2.2	09/15	ND	04/22	
			CR6	0.6	09/13	0.3	04/22	
GOEDERT, LILLIAN								
GOEDERT	IRRIGATION	DESTROYED	VOCS	ND	06/98	ND	06/98	
			NITRATE (N)	1.6	06/98	1.6	06/98	
			CLO4	ND	06/98	ND	06/98	
GOLDEN STATE WATER COMPANY/SAN DIMAS DISTRICT								
ART-1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	13.6	10/74	13.6	10/74	
			CLO4	NA	NA	NA	NA	
			AS	ND	07/74	ND	07/74	
ART-2	MUNICIPAL	DESTROYED	VOCS	ND	06/89	ND	05/07	
			NITRATE (N)	5.9	08/07	2.1	09/07	
			CLO4	ND	08/97	ND	09/07	
			AS	0.8	08/96	ND	05/07	
ART-3	MUNICIPAL	ACTIVE	VOCS	ND	05/89	ND	11/21	VULNERABLE
			NITRATE (N)	31.6	05/14	14.0	08/22	(NO3(N),CLO4)
			CLO4	21.0	05/14	7.1	09/22	
			AS	0.7	08/96	ND	05/22	
			CR6	2.0	05/22	2.0	05/22	
BAS-3	MUNICIPAL	ACTIVE	VOCS	ND	06/89	ND	09/19	VULNERABLE
			NITRATE (N)	28.0	05/16	5.2	11/19	(NO3(N),CLO4)
			CLO4	21.0	10/14	4.3	11/19	
			AS	4.0	08/76	ND	09/19	
			CR6	1.8	05/16	ND	09/19	
BAS-4	MUNICIPAL	DESTROYED	VOCS	ND	03/85	ND	06/16	
			NITRATE (N)	24.8	01/13	12.0	12/16	
			CLO4	23.0	03/13	7.6	12/16	
			AS	1.0	08/96	ND	05/16	
			CR6	2.3	05/16	2.3	05/16	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
CITY	IRRIGATION	ACTIVE	VOCS	ND	06/88	ND	05/08	VULNERABLE
			NITRATE (N)	10.1	09/93	7.0	11/08	(NO3(N))
			CLO4	ND	08/97	ND	08/08	
			AS	0.7	08/96	ND	08/06	
			CR6	0.2	12/00	ND	07/01	
COL-1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	21.0	09/75	2.3	10/76	
			CLO4	NA	NA	NA	NA	
COL-2	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	26.5	10/76	26.5	10/76	
			CLO4	NA	NA	NA	NA	
			AS	18.0	06/78	18.0	06/78	
COL-4	MUNICIPAL	DESTROYED	VOCS	ND	09/97	ND	05/19	
			NITRATE (N)	14.5	03/83	5.4	11/19	
			CLO4	2.9	04/11	ND	05/19	
			AS	0.7	08/96	ND	05/19	
			CR6	1.7	02/17	ND	05/19	
COL-5	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
COL-6	MUNICIPAL	DESTROYED	PCE	7.2	07/85	ND	02/11	
			NITRATE (N)	12.7	06/85	8.1	03/11	
			CLO4	2.1	03/11	2.1	03/11	
			AS	4.0	08/76	ND	05/10	
			CR6	1.0	07/01	1.0	07/01	
COL-7	MUNICIPAL	DESTROYED	PCE	22.0	12/87	3.1	11/99	
			TCE	9.9	01/80	ND	09/99	
			1,1-DCE	1.1	03/85	ND	09/99	
			1,1,1-TCA	1.7	07/85	ND	09/99	
			NITRATE (N)	26.7	05/79	15.4	01/00	
			CLO4	4.2	01/02	4.2	01/02	
			AS	0.9	08/96	ND	01/00	
COL-8	MUNICIPAL	INACTIVE	PCE	0.2	09/80	ND	12/96	
			NITRATE (N)	27.1	06/83	11.5	12/96	
			CLO4	NA	NA	NA	NA	
			AS	6.0	08/79	ND	03/85	
HIGHWAY	MUNICIPAL	ACTIVE	TCE	0.6	12/80	ND	08/22	VULNERABLE
			PCE	0.1	12/80	ND	08/22	(NO3(N),CLO4)
			NITRATE (N)	19.0	08/15	6.1	09/22	
			CLO4	12.0	08/15	ND	09/22	
			AS	0.8	08/96	0.7	08/22	
			CR6	1.0	07/01	0.9	08/22	
HIGHWAY 2	MUNICIPAL	ACTIVE	VOCS	ND	10/10	ND	02/22	VULNERABLE
			NITRATE (N)	6.1	11/15	3.7	12/22	(NO3(N))
			CLO4	ND	10/10	ND	11/22	
			AS	0.8	11/22	0.8	11/22	
			CR6	1.7	10/10	0.6	11/22	
L HILL 2	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
MALON	MUNICIPAL	ACTIVE	VOCS	ND	08/96	ND	08/21	VULNERABLE
			NITRATE (N)	9.5	09/87	5.7	12/22	(NO3(N))
			CLO4	ND	08/97	ND	08/22	
			AS	0.7	08/96	ND	08/18	
			CR6	1.0	07/01	ND	09/15	
GOLDEN STATE WATER COMPANY/SAN GABRIEL VALLEY DISTRICT (SOUTH ARCADIA)								
AZU 1	MUNICIPAL	DESTROYED	TCE	15.0	07/93	0.6	01/95	
			PCE	1.9	07/93	ND	01/95	
			NITRATE (N)	16.5	12/90	7.9	07/02	
			CLO4	NA	NA	NA	NA	
			AS	0.6	08/96	0.6	08/96	
EARL 1	MUNICIPAL	DESTROYED	PCE	6.0	09/03	6.0	09/03	
			NITRATE (N)	1.6	08/03	1.6	09/03	
			CLO4	ND	08/97	ND	08/03	
			AS	0.5	08/96	ND	07/01	
ENC 1	MUNICIPAL	ACTIVE	TCE	21.0	04/03	1.6	12/22	VULNERABLE
			PCE	3.5	04/03	0.5	12/22	(VOC,NO3(N),CLO4)
			NITRATE (N)	17.5	08/91	1.8	11/22	
			CLO4	5.7	02/13	ND	12/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			AS	ND	07/89	ND	05/22	
			CR6	9.3	05/22	9.3	05/22	
ENC 2	MUNICIPAL	ACTIVE	TCE	29.1	02/01	1.3	12/22	VULNERABLE
			PCE	6.4	02/15	0.5	12/22	(VOC)
			NITRATE (N)	4.7	02/09	1.5	12/22	
			CLO4	1.5	03/10	ND	12/22	
			AS	0.7	08/96	ND	08/20	
			CR6	7.9	08/17	6.2	08/20	
ENC 3	MUNICIPAL	ACTIVE	TCE	23.0	08/21	13.0	12/22	VULNERABLE
			PCE	8.1	08/21	6.4	12/22	(VOC,NO3(N),AS)
			NITRATE (N)	9.8	07/93	3.7	11/22	
			CLO4	1.9	03/10	ND	12/22	
			AS	16.3	07/90	ND	08/20	
			CR6	8.1	08/20	8.1	08/20	
FAR 1	MUNICIPAL	ACTIVE	TCE	11.9	10/80	ND	11/22	VULNERABLE
			PCE	3.1	10/87	ND	02/22	(VOC)
			NITRATE (N)	2.9	07/89	0.4	05/22	
			CLO4	ND	08/97	ND	05/22	
			AS	2.7	08/97	ND	05/22	
			CR6	1.6	05/16	0.4	05/22	
FAR 2	MUNICIPAL	ACTIVE	TCE	12.9	07/80	ND	11/22	VULNERABLE
			PCE	2.6	10/87	ND	08/22	(VOC)
			NITRATE (N)	2.8	07/90	0.9	08/22	
			CLO4	ND	08/97	ND	08/21	
			AS	0.9	08/96	ND	08/20	
			CR6	2.6	08/17	1.1	08/20	
GAR 1	MUNICIPAL	DESTROYED	VOCS	ND	08/99	ND	07/03	
			PCE	4.5	10/03	4.5	10/03	
			NITRATE (N)	1.9	08/03	1.7	09/03	
			CLO4	ND	08/97	ND	08/03	
			AS	0.5	08/96	ND	08/03	
GAR 2	MUNICIPAL	DESTROYED	PCE	12.0	07/03	11.0	08/03	
			TCE	2.2	08/03	2.2	08/03	
			NITRATE (N)	1.6	08/97	1.0	07/02	
			CLO4	ND	08/97	ND	08/03	
			AS	0.5	08/96	ND	08/00	
GAR 3	MUNICIPAL	ACTIVE	TCE	0.8	02/17	ND	05/18	VULNERABLE
			PCE	17.0	12/22	17.0	12/22	(VOC)
			NITRATE (N)	3.8	02/17	2.0	12/22	
			CLO4	ND	06/16	ND	12/22	
			AS	ND	06/16	ND	05/22	
			CR6	7.2	05/22	7.2	05/22	
GID 1	MUNICIPAL	DESTROYED	TCE	6.6	04/85	4.1	09/93	
			PCE	0.9	09/93	0.9	09/93	
			NITRATE (N)	9.2	09/93	9.2	09/93	
			CLO4	NA	NA	NA	NA	
GID 2	MUNICIPAL	DESTROYED	TCE	86.0	05/87	5.2	09/93	
			PCE	20.0	05/87	1.5	09/93	
			CTC	3.0	05/87	ND	09/93	
			NITRATE (N)	10.3	09/93	10.3	09/93	
			CLO4	NA	NA	NA	NA	
GRA 1	MUNICIPAL	DESTROYED	TCE	33.0	09/88	25.4	11/94	
			PCE	2.5	11/93	0.6	11/94	
			NITRATE (N)	19.6	08/89	10.0	07/95	
			CLO4	NA	NA	NA	NA	
			AS	18.0	06/78	ND	08/94	
GRA 2	MUNICIPAL	INACTIVE	TCE	31.3	08/89	24.6	08/94	
			PCE	3.3	09/94	3.3	09/94	
			1,1-DCE	4.8	08/94	4.8	08/94	
			NITRATE (N)	18.5	07/90	10.0	07/95	
			CLO4	NA	NA	NA	NA	
			AS	ND	01/89	ND	08/94	
JEF 1	MUNICIPAL	INACTIVE	TCE	340.0	01/80	98.0	01/85	
			PCE	23.0	03/81	8.0	01/85	
			1,1,1-TCA	31.0	01/85	31.0	01/85	
			NITRATE (N)	11.7	07/83	11.0	03/86	
			CLO4	NA	NA	NA	NA	
JEF 2	MUNICIPAL	DESTROYED	TCE	260.0	01/80	140.0	01/85	
			PCE	15.0	03/81	6.0	01/85	
			1,1-DCE	20.0	01/85	20.0	01/85	
			1,1,1-TCA	54.0	01/85	54.0	01/85	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			NITRATE (N)	15.4	06/77	13.8	06/79	
			CLO4	NA	NA	NA	NA	
JEF 3	MUNICIPAL	DESTROYED	TCE	121.0	02/81	4.9	08/92	
			PCE	12.0	03/81	0.6	08/92	
			1,1,1-TCA	29.0	04/85	ND	08/92	
			T-1,2-DCE	2.4	04/85	ND	08/92	
			NITRATE (N)	11.7	12/84	5.3	08/92	
			CLO4	NA	NA	NA	NA	
			AS	ND	12/84	ND	08/86	
JEF 4	MUNICIPAL	ACTIVE	VOCS	ND	08/89	ND	08/22	
			NITRATE (N)	3.3	07/89	0.8	08/22	
			CLO4	ND	08/97	ND	08/22	
			AS	0.7	08/96	ND	08/18	
			CR6	1.3	07/01	ND	08/15	
PER 1	MUNICIPAL	ACTIVE	TCE	25.8	10/80	0.8	11/22	VULNERABLE
			PCE	6.8	07/87	ND	11/22	(VOC,NO3(N))
			NITRATE (N)	8.6	12/11	3.1	11/22	
			CLO4	ND	08/97	ND	11/22	
			AS	0.9	08/96	ND	08/18	
			CR6	5.6	08/15	5.6	08/15	
S G 1	MUNICIPAL	ACTIVE	PCE	46.0	04/06	9.2	12/22	VULNERABLE
			TCE	6.8	12/03	0.7	12/22	(VOC,NO3(N),CLO4)
			C-1,2-DCE	1.8	11/04	ND	11/22	
			1,1-DCA	1.8	06/04	ND	11/22	
			1,1-DCE	0.7	11/04	ND	11/22	
			FREON 11	1.2	08/03	ND	11/21	
			NITRATE (N)	6.1	04/02	3.1	12/22	
			CLO4	8.1	08/03	2.0	12/22	
			AS	2.7	08/94	0.7	08/22	
			CR6	5.9	12/01	5.8	08/22	
S G 2	MUNICIPAL	ACTIVE	PCE	28.0	05/11	1.5	12/22	VULNERABLE
			TCE	3.6	06/99	ND	11/22	(VOC,NO3(N),CLO4)
			1,1-DCE	0.7	04/11	ND	11/22	
			C-1,2-DCE	1.2	02/01	ND	08/22	
			NITRATE (N)	17.0	08/16	10.0	12/22	
			CLO4	7.0	02/03	2.0	12/22	
			AS	0.8	08/96	ND	08/18	
			CR6	8.0	08/15	8.0	08/15	
SAX 1	MUNICIPAL	DESTROYED	PCE	1.4	04/97	0.9	12/97	
			NITRATE (N)	7.5	10/97	7.5	10/97	
			CLO4	ND	08/97	ND	12/97	
			AS	0.3	08/96	0.3	08/96	
SAX 3	MUNICIPAL	INACTIVE	PCE	1.3	09/19	1.3	09/19	VULNERABLE
			NITRATE (N)	6.2	11/96	2.4	06/19	(NO3(N))
			CLO4	ND	08/97	ND	06/19	
			AS	0.4	08/96	ND	06/19	
			CR6	5.8	08/16	4.2	06/19	
SAX 4	MINICIPAL	ACTIVE	PCE	1.1	05/22	ND	11/22	VULNERABLE
			TCE	0.5	12/16	ND	11/22	(AS)
			NITRATE (N)	2.7	08/99	1.4	11/22	
			CLO4	ND	08/97	ND	11/22	
			AS	8.0	11/19	3.9	11/22	
			CR6	4.8	11/14	2.0	11/22	
GREEN, WALTER								
NA	IRRIGATION	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
NA	NON-POTABLE	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
HALL (W.E.) COMPANY								
NA	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
HANSEN, ALICE								
2946C	IRRIGATION	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
HANSON AGGREGATES WEST, INC. (FORMERLY LIVINGSTON-GRAHAM)								
DUA 1	INDUSTRIAL	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
EL 1	INDUSTRIAL	ACTIVE	VOCS	ND	05/98	ND	10/20	
			NITRATE (N)	3.8	02/93	2.7	10/20	
			CLO4	ND	03/98	ND	03/98	
EL 3	INDUSTRIAL	ACTIVE	VOCS	ND	06/98	ND	10/20	
			NITRATE (N)	5.0	05/93	1.5	10/20	
			CLO4	ND	03/98	ND	03/98	
EL 4	INDUSTRIAL	INACTIVE	VOCS	ND	12/87	ND	10/17	
			NITRATE (N)	1.4	06/98	1.0	10/17	
			CLO4	NA	NA	NA	NA	
KIN 1	INDUSTRIAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
HARTLEY, DAVID								
NA	DOMESTIC	INACTIVE	VOCS	ND	10/95	ND	10/95	
			NITRATE (N)	25.1	01/96	16.9	04/96	
			CLO4	NA	NA	NA	NA	
HEMLOCK MUTUAL WATER COMPANY								
NORTH	MUNICIPAL	ACTIVE	PCE	51.7	04/82	ND	07/22	VULNERABLE
			TCE	0.7	12/87	ND	07/22	(VOC)
			NITRATE (N)	4.3	12/06	0.6	10/22	
			CLO4	ND	09/97	ND	10/22	
			AS	2.7	12/08	ND	11/20	
			CR6	1.0	12/00	ND	11/20	
SOUTH	MUNICIPAL	ACTIVE	PCE	210.0	12/87	ND	10/22	VULNERABLE
			TCE	0.9	04/89	ND	07/22	(VOC,NO3(N))
			NITRATE (N)	7.4	12/94	0.5	10/22	
			CLO4	ND	09/97	ND	07/22	
			AS	2.1	08/96	ND	09/20	
			CR6	1.1	12/00	ND	09/20	
IBY PROPERTY OWNER, LLC (MOLSON COORS USA LLC/MILLERCOORS LLC)								
01	INDUSTRIAL	INACTIVE	VOCS	ND	01/92	ND	10/09	
			NITRATE (N)	2.2	01/93	1.0	10/09	
			CLO4	ND	06/97	ND	06/08	
			AS	3.9	06/08	3.9	06/08	
02	INDUSTRIAL	ACTIVE	VOCS	ND	01/92	ND	11/19	
			NITRATE (N)	3.2	10/92	0.7	11/19	
			CLO4	ND	06/97	ND	06/14	
			AS	3.5	05/08	3.3	06/13	
			CR6	ND	12/14	ND	12/14	
N BREWER	INDUSTRIAL	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
INDUSTRY WATERWORKS SYSTEM, CITY OF								
01	MUNICIPAL	INACTIVE	TCE	40.0	01/80	1.7	10/92	
			PCE	9.0	04/80	5.0	10/92	
			CTC	5.7	10/92	5.7	10/92	
			1,1-DCE	15.3	10/92	15.3	10/92	
			1,2-DCA	0.6	10/92	0.6	10/92	
			NITRATE (N)	13.6	10/92	13.6	10/92	
			CLO4	NA	NA	NA	NA	
			AS	ND	01/80	ND	01/80	
02	MUNICIPAL	INACTIVE	TCE	19.0	01/80	2.3	04/81	
			PCE	10.0	04/81	10.0	04/81	
			NITRATE (N)	12.5	02/86	12.5	02/86	
			CLO4	100.0	04/99	100.0	04/99	
			AS	ND	01/80	ND	01/80	
03	MUNICIPAL	INACTIVE	PCE	2.6	09/80	1.6	07/06	
			TCE	12.0	07/06	12.0	07/06	
			CTC	0.5	07/06	0.5	07/06	
			1,2-DCA	0.5	07/06	0.5	07/06	
			NITRATE (N)	7.0	08/00	ND	07/06	
			CLO4	120.0	04/99	ND	07/06	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			AS	5.4	07/95	ND	08/04	
			CR6	6.9	11/00	6.9	11/00	
04	MUNICIPAL	INACTIVE	PCE	2.4	08/01	0.5	07/06	
			TCE	8.0	11/01	1.7	07/06	
			1,1-DCE	0.9	09/02	0.6	07/06	
			1,2-DCA	1.0	11/01	ND	07/06	
			CTC	0.7	11/01	ND	07/05	
			NITRATE (N)	9.5	06/02	7.5	04/07	
			CLO4	14.8	06/01	6.5	01/06	
			AS	6.9	07/95	2.8	08/01	
			CR6	8.9	11/00	8.4	06/01	
05	MUNICIPAL	ACTIVE	PCE	14.0	11/19	7.9	11/22	VULNERABLE
			TCE	6.8	04/96	3.1	11/22	(VOC,NO3(N),CLO4,AS)
			1,2-DCA	0.7	09/02	ND	08/22	
			1,1-DCE	3.6	11/19	2.6	11/22	
			NITRATE (N)	7.3	07/16	6.2	11/22	
			CLO4	11.0	04/04	ND	05/17	
			AS	6.8	07/95	2.3	11/21	
			CR6	8.3	05/11	7.9	11/21	
05TH AVE	MUNICIPAL	DESTROYED	TCE	0.3	12/80	0.3	12/80	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
KNIGHT, KATHRYN M.								
NA	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
LANDEROS, JOHN								
NA	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
LA PUENTE VALLEY COUNTY WATER DISTRICT								
01	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
02	MUNICIPAL	ACTIVE	TCE	120.0	12/12	25.0	12/22	VULNERABLE
			PCE	6.6	03/00	1.1	12/22	(VOC,NO3(N),CLO4)
			CTC	8.5	12/02	1.5	10/22	
			1,1-DCA	2.1	11/03	ND	10/22	
			1,2-DCA	6.1	03/00	0.9	10/22	
			1,1-DCE	1.6	12/00	ND	10/22	
			C-1,2-DCE	1.9	04/10	0.5	10/22	
			NITRATE (N)	8.2	05/22	6.5	12/22	
			CLO4	183.0	02/98	20.0	12/22	
			AS	1.9	04/06	ND	06/22	
			CR6	4.2	06/22	4.2	06/22	
03	MUNICIPAL	ACTIVE	TCE	72.0	03/11	ND	06/22	VULNERABLE
			PCE	6.3	04/85	ND	06/22	(VOC,NO3(N),CLO4)
			CTC	8.5	11/04	ND	06/22	
			1,1-DCE	0.9	10/95	ND	06/22	
			1,2-DCA	6.7	02/99	ND	06/22	
			C-1,2-DCE	1.4	01/97	ND	06/22	
			1,1-DCA	0.5	09/01	ND	06/22	
			NITRATE (N)	21.5	01/80	8.5	10/22	
			CLO4	174.0	02/98	8.3	12/22	
			AS	2.1	08/04	1.2	10/22	
			CR6	4.6	10/22	4.6	10/22	
04	MUNICIPAL	INACTIVE	TCE	84.3	03/00	46.0	04/04	
			PCE	6.6	03/00	2.9	04/04	
			CTC	7.6	04/95	1.9	04/04	
			1,1-DCA	0.7	04/04	0.7	04/04	
			1,2-DCA	8.1	03/00	4.4	04/04	
			1,1-DCE	1.3	04/97	0.5	04/04	
			C-1,2-DCE	15.6	11/98	1.7	04/04	
			NITRATE (N)	5.6	04/95	4.1	04/04	
			CLO4	159.0	06/97	71.2	04/04	
			AS	2.3	09/94	ND	11/98	
			CR6	4.3	11/00	4.3	11/00	
05	MUNICIPAL	ACTIVE	TCE	43.0	03/08	4.1	12/22	VULNERABLE
			PCE	3.8	03/08	0.5	03/22	(VOC,NO3(N),CLO4)
			CTC	2.3	03/08	ND	03/22	
			1,1-DCA	0.5	03/08	ND	03/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			1,2-DCA	2.7	03/08	ND	03/22	
			1,1-DCE	0.5	03/08	ND	03/22	
			C-1,2-DCE	0.8	11/08	ND	03/22	
			NITRATE (N)	8.3	03/21	8.3	12/22	
			CLO4	65.0	03/08	12.0	12/22	
			AS	1.1	03/08	ND	03/21	
			CR6	4.1	03/21	4.1	03/21	
LA VERNE, CITY OF								
SNIDO	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
W15-L	MUNICUPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
W24-L	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
LEE, PAUL								
01	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
02	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
03	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
04	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
LOS ANGELES, COUNTY OF								
02	NON POTABLE	DESTROYED	PCE	6.6	09/04	6.6	09/04	
			TCE	1.3	09/04	1.3	09/04	
			1,2-DCA	0.5	01/96	ND	09/04	
			NITRATE (N)	2.4	09/04	2.4	09/04	
			CLO4	ND	08/97	ND	08/97	
03	IRRIGATION	DESTROYED	PCE	2.1	06/94	2.1	06/94	
			TCE	0.7	06/94	0.7	06/94	
			NITRATE (N)	1.1	06/94	1.1	06/94	
			CLO4	NA	NA	NA	NA	
03A	IRRIGATION	DESTROYED	PCE	2.5	11/99	ND	10/08	
			NITRATE (N)	0.5	08/96	ND	10/08	
			CLO4	ND	08/97	ND	08/97	
04	IRRIGATION	DESTROYED	1,1,1-TCA	0.7	05/87	ND	11/87	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
05	IRRIGATION	DESTROYED	PCE	39.0	09/03	35.7	10/08	
			TCE	1.3	09/03	ND	10/08	
			NITRATE (N)	4.1	09/03	3.2	10/08	
			CLO4	ND	08/97	ND	08/97	
06	IRRIGATION	DESTROYED	PCE	7.4	08/96	2.8	11/99	
			TCE	8.3	08/96	2.9	11/99	
			1,1-DCA	2.0	08/96	ND	11/99	
			1,1-DCE	1.4	08/96	ND	11/99	
			C-1,2-DCE	4.5	08/96	0.8	11/99	
			NITRATE (N)	2.6	08/96	1.9	11/99	
			CLO4	NA	NA	NA	NA	
600	IRRIGATION	INACTIVE	VOCS	ND	07/98	ND	07/98	
			NITRATE (N)	1.1	07/98	1.1	07/98	
			CLO4	ND	07/98	ND	07/98	
BIG RED	NON POTABLE	INACTIVE	1,2-DCA	0.6	01/96	ND	10/09	
			NITRATE (N)	2.7	09/02	ND	10/09	
			CLO4	ND	08/97	ND	08/97	
NEW LAKE	NON POTABLE	INACTIVE	PCE	19.7	02/00	ND	11/10	
			TCE	0.9	02/00	ND	11/10	
			NITRATE (N)	5.0	02/00	4.1	11/10	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			CLO4	ND	08/97	ND	08/97	
SF 1	NON POTABLE	ACTIVE	TCE	4.3	09/04	ND	10/20	
			PCE	7.6	09/04	ND	10/20	
			VC	1.4	12/87	ND	10/20	
			NITRATE (N)	3.6	09/02	1.9	10/20	
			CLO4	ND	06/97	ND	05/10	
SF 2	NON POTABLE	ACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
WHI 1	NON POTABLE	INACTIVE	PCE	3.8	09/04	1.4	11/10	
			TCE	1.0	09/04	ND	11/10	
			NITRATE (N)	1.7	10/09	1.2	11/10	
			CLO4	ND	08/97	ND	08/97	
LOS FLORES MUTUAL WATER COMPANY								
HI 1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
LO 1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
LOUCKS, DAVID								
NA	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
MAECHTLEN ESTATE								
M-N	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
OLD60	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
SNIDO	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
MANNING BROTHERS ROCK AND SAND COMPANY								
36230	INDUSTRIAL	DESTROYED	TCE	520.0	12/79	100.0	01/80	
			CLO4	NA	NA	NA	NA	
MAPLE WATER COMPANY								
01	MUNICIPAL	DESTROYED	VOCS	ND	06/89	ND	07/96	
			NITRATE (N)	15.4	09/94	12.5	07/96	
			CLO4	NA	NA	NA	NA	
			AS	1.3	07/96	1.3	07/96	
02	MUNICIPAL	DESTROYED	VOCS	ND	06/89	ND	07/96	
			NITRATE (N)	14.2	11/89	12.5	07/96	
			CLO4	NA	NA	NA	NA	
			AS	1.3	07/96	1.3	07/96	
MARTINEZ, FRANCES M.								
NA	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA								
02	NON-POTABLE	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
03	NON-POTABLE	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
MOON VALLEY NURSERY (COINER, JAMES W., DBA COINER NURSERY)								
03	NON-POTABLE	INACTIVE	PCE	293.5	02/98	170.0	10/01	
			TCE	10.2	11/87	3.4	10/01	
			CTC	1.6	08/87	1.6	10/01	
			1,1-DCE	6.7	02/98	4.6	10/01	
			C-1,2-DCE	6.8	07/96	2.7	10/01	
			1,1,1-TCA	22.0	02/98	12.0	10/01	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			NITRATE (N)	15.1	10/01	10.1	09/07	
			CLO4	9.0	02/98	ND	09/98	
05R	NON-POTABLE	ACTIVE	PCE	7.7	02/98	1.0	10/20	
			TCE	1.6	10/01	ND	10/20	
			CTC	2.7	07/96	ND	10/20	
			1,1-DCE	5.5	10/01	ND	10/20	
			NITRATE (N)	24.8	10/09	7.7	10/20	
			CLO4	9.0	02/98	4.0	09/98	
MONROVIA, CITY OF								
01	MUNICIPAL	DESTROYED	TCE	46.8	11/92	12.0	04/02	
			PCE	3.9	03/81	0.8	04/02	
			1,1-DCE	1.2	08/96	0.9	04/02	
			1,1,1-TCA	2.1	08/87	ND	07/01	
			NITRATE (N)	17.6	02/01	13.6	03/02	
			CLO4	11.1	02/01	8.4	04/02	
			AS	2.5	10/00	2.5	10/00	
02	MUNICIPAL	ACTIVE	TCE	167.0	08/82	9.5	12/22	VULNERABLE
			PCE	11.0	08/82	0.6	12/22	(VOC,CLO4,NO3(N))
			1,1,1-TCA	7.1	02/87	ND	07/22	
			1,1-DCE	3.4	06/87	0.7	10/22	
			1,2-DCA	1.5	02/87	ND	07/22	
			NITRATE (N)	16.0	04/18	14.0	12/22	
			CLO4	6.9	04/15	5.3	12/22	
			AS	0.9	08/96	ND	04/22	
			CR6	7.1	04/16	4.0	04/22	
03	MUNICIPAL	ACTIVE	TCE	18.0	08/82	1.9	12/22	VULNERABLE
			PCE	17.0	08/82	ND	12/22	(VOC,NO3(N))
			1,1-DCE	0.8	12/08	ND	10/22	
			NITRATE (N)	11.2	05/76	2.6	12/22	
			CLO4	ND	08/97	ND	12/22	
			AS	3.6	08/97	ND	04/22	
			CR6	5.8	08/13	1.7	04/22	
04	MUNICIPAL	ACTIVE	TCE	6.5	02/91	ND	12/22	VULNERABLE
			PCE	1.0	02/91	ND	12/22	(VOC,NO3(N))
			1,1-DCE	1.1	01/05	ND	10/22	
			NITRATE (N)	6.5	06/91	1.5	12/22	
			CLO4	ND	08/97	ND	12/22	
			AS	3.8	08/97	0.9	10/22	
			CR6	1.1	07/01	2.9	10/22	
05	MUNICIPAL	ACTIVE	TCE	8.2	10/18	1.4	12/22	VULNERABLE
			PCE	1.0	10/02	ND	12/22	(VOC,NO3(N))
			1,1-DCE	1.0	10/02	ND	10/22	
			NITRATE (N)	6.6	01/91	3.6	12/22	
			CLO4	ND	08/97	ND	12/22	
			AS	1.0	08/96	ND	05/22	
			CR6	1.5	04/16	0.8	05/22	
06	MUNICIPAL	ACTIVE	TCE	28.0	10/20	14.0	12/22	VULNERABLE
			PCE	2.8	01/19	1.6	10/22	(VOC,NO3(N),CLO4)
			1,1-DCE	0.8	10/07	0.6	10/22	
			NITRATE (N)	9.5	06/14	5.7	12/22	
			CLO4	4.9	06/14	ND	12/22	
			AS	ND	10/99	ND	04/22	
			CR6	3.5	04/16	3.0	04/22	
MONROVIA NURSERY								
DIV 4	IRRIGATION	DESTROYED	VOCS	ND	08/96	ND	02/07	
			NITRATE (N)	48.1	09/04	45.6	02/07	
			CLO4	ND	02/98	ND	02/98	
DIV 8	IRRIGATION	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
MONTEREY PARK, CITY OF								
01	MUNICIPAL	ACTIVE	PCE	64.1	12/08	21.0	12/22	VULNERABLE
			TCE	4.1	05/04	ND	11/22	(VOC,NO3(N),CLO4)
			1,1-DCE	0.6	05/04	ND	11/22	
			1,1-DCA	1.0	05/04	ND	11/22	
			C-1,2-DCE	1.0	03/04	ND	11/22	
			NITRATE (N)	5.4	12/12	2.4	12/22	
			CLO4	4.7	05/04	ND	12/22	
			AS	0.5	07/96	ND	08/20	
			CR6	6.2	11/00	4.7	08/20	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
02	MUNICIPAL	DESTROYED	PCE	6.4	04/98	6.4	04/98	
			NITRATE (N)	4.1	07/95	2.9	07/97	
			CLO4	3.0	07/97	ND	03/98	
			AS	0.4	07/96	0.4	07/96	
03	MUNICIPAL	ACTIVE	PCE	39.0	08/22	35.0	12/22	VULNERABLE
			TCE	2.7	05/04	1.1	12/22	(VOC,CLO4,AS)
			C-1,2-DCE	0.8	05/04	ND	11/22	
			NITRATE (N)	3.0	07/97	2.2	12/22	
			CLO4	4.2	05/04	ND	12/22	
			AS	12.9	08/89	2.7	08/22	
			CR6	3.5	08/22	3.5	08/22	
04	MUNICIPAL	DESTROYED	PCE	0.4	01/80	ND	11/87	
			NITRATE (N)	1.4	09/87	1.4	09/87	
			CLO4	NA	NA	NA	NA	
05	MUNICIPAL	ACTIVE	PCE	40.0	06/13	2.9	11/22	VULNERABLE
			TCE	7.0	01/92	ND	11/22	(VOC,NO3(N),CLO4)
			C-1,2-DCE	2.0	11/01	ND	11/22	
			1,1-DCA	1.1	11/01	ND	11/22	
			1,1-DCE	0.7	11/01	ND	11/22	
			NITRATE (N)	6.1	11/15	4.6	11/22	
			CLO4	6.5	02/01	ND	11/22	
			AS	1.5	10/12	ND	11/21	
			CR6	4.9	11/21	4.9	11/21	
06	MUNICIPAL	INACTIVE	PCE	13.6	03/01	3.1	05/05	
			TCE	6.4	05/89	3.1	05/05	
			C-1,2-DCE	1.3	01/99	1.2	05/05	
			1,1-DCA	0.8	11/01	0.6	05/05	
			NITRATE (N)	6.8	06/03	5.6	05/05	
			CLO4	5.9	04/02	5.9	04/02	
			AS	2.2	09/00	ND	08/02	
			CR6	4.1	11/00	3.4	05/01	
07	MUNICIPAL	INACTIVE	PCE	6.0	09/10	6.0	09/10	
			NITRATE (N)	2.9	08/89	0.6	08/10	
			CLO4	ND	08/97	ND	08/10	
			AS	28.4	07/96	2.1	08/09	
			CR6	5.3	02/07	5.1	01/10	
08	MUNICIPAL	INACTIVE	PCE	2.5	02/05	1.9	03/09	
			NITRATE (N)	3.8	08/05	ND	11/08	
			CLO4	ND	08/97	ND	11/08	
			AS	45.0	03/09	45.0	03/09	
			CR6	6.7	12/01	6.7	12/01	
09	MUNICIPAL	ACTIVE	PCE	13.0	05/15	ND	11/22	VULNERABLE
			TCE	1.3	04/97	ND	11/22	(VOC,AS)
			NITRATE (N)	4.1	07/12	ND	11/22	
			CLO4	ND	08/97	ND	11/22	
			AS	15.0	06/07	13.0	02/22	
			CR6	3.4	11/00	2.6	02/22	
10	MUNICIPAL	ACTIVE	PCE	17.0	02/12	14.0	12/22	VULNERABLE
			TCE	2.6	05/04	0.7	12/22	(VOC,NO3(N),CLO4,AS)
			C-1,2-DCE	0.8	05/04	ND	11/22	
			NITRATE (N)	7.3	12/22	7.3	12/22	
			CLO4	4.3	05/04	ND	12/22	
			AS	6.7	07/98	1.9	08/22	
			CR6	6.6	11/00	6.5	08/22	
12	MUNICIPAL	ACTIVE	PCE	85.0	05/02	37.0	12/22	VULNERABLE
			TCE	5.4	10/95	2.0	12/22	(VOC,NO3(N),CLO4)
			1,1-DCA	1.3	05/12	0.7	11/22	
			1,1-DCE	0.5	05/12	ND	11/22	
			C-1,2-DCE	1.4	05/12	ND	11/22	
			NITRATE (N)	6.1	08/07	2.6	12/22	
			CLO4	15.0	09/97	ND	12/22	
			AS	ND	04/81	ND	08/22	
			CR6	4.6	02/07	3.6	08/22	
14	MUNICIPAL	INACTIVE	PCE	2.2	05/02	0.7	05/06	
			TCE	2.9	11/02	1.5	05/06	
			1,1-DCA	0.8	08/02	ND	05/06	
			C-1,2-DCE	1.0	11/02	ND	05/06	
			NITRATE (N)	2.3	10/06	2.3	10/06	
			CLO4	ND	08/97	ND	05/03	
			AS	41.0	08/05	39.0	03/06	
			CR6	1.0	11/00	1.0	05/01	
15	MUNICIPAL	ACTIVE	PCE	190.0	02/12	40.0	12/22	VULNERABLE
			TCE	3.6	03/15	2.2	12/22	(VOC,NO3(N))

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			C-1,2-DCE	0.8	08/16	0.7	11/22	
			1,1-DCA	0.7	08/16	ND	11/22	
			NITRATE (N)	5.2	11/08	3.4	12/22	
			CLO4	2.4	07/06	ND	12/22	
			AS	ND	09/06	ND	08/18	
			CR6	2.9	02/07	ND	08/15	
FERN	MUNICIPAL	ACTIVE	PCE	12.0	08/10	ND	12/22	VULNERABLE
			TCE	2.8	10/16	ND	12/22	(VOC,AS)
			C-1,2-DCE	0.7	03/04	ND	11/22	
			NITRATE (N)	1.5	03/04	ND	12/22	
			CLO4	2.0	08/97	ND	12/22	
			AS	16.0	07/16	16.0	11/22	
			CR6	1.5	11/00	ND	11/22	
MUNOZ, RALPH								
MUNOZ	IRRIGATION	ACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
NAMIMATSU FARMS								
NA	IRRIGATION	INACTIVE	VOCS	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
OWL ROCK PRODUCTS COMPANY								
NA	INDUSTRIAL	INACTIVE	VOCS	ND	05/87	ND	10/09	
			NITRATE (N)	2.0	08/89	ND	10/09	
			CLO4	NA	NA	NA	NA	
NA	INDUSTRIAL	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
NA	INDUSTRIAL	INACTIVE	VOCS	ND	10/02	ND	10/20	
			NITRATE (N)	ND	10/17	ND	10/20	
			CLO4	NA	NA	NA	NA	
PICO COUNTY WATER DISTRICT								
NA	MUNICIPAL	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
POLOPOLUS ET AL.								
01	IRRIGATION	INACTIVE	PCE	330.0	10/96	270.0	03/98	
			TCE	498.9	09/92	180.0	03/98	
			1,1-DCA	22.0	03/98	22.0	03/98	
			1,2-DCA	1.2	06/96	0.9	03/98	
			1,1-DCE	115.3	09/92	22.0	03/98	
			T-1,2-DCE	1.5	06/87	ND	03/98	
			1,1,1-TCA	53.0	09/92	12.0	03/98	
			CTC	0.8	06/96	0.6	03/98	
			NITRATE (N)	11.5	07/91	6.7	03/98	
			CLO4	ND	03/98	ND	03/98	
PROGRESSIVE BUDDHIST ASSOCIATION								
NA	IRRIGATION	ACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
RICHWOOD MUTUAL WATER COMPANY								
NORTH 2	MUNICIPAL	DESTROYED	PCE	93.0	05/83	4.0	12/93	
			TCE	3.0	03/81	ND	05/92	
			CTC	0.2	10/80	ND	05/92	
			NITRATE (N)	5.6	02/84	4.5	06/99	
			CLO4	NA	NA	NA	NA	
			AS	ND	06/90	ND	09/92	
SOUTH 1	MUNICIPAL	DESTROYED	PCE	96.0	05/83	3.4	12/93	
			TCE	0.7	12/82	ND	05/92	
			NITRATE (N)	6.5	06/99	6.5	06/99	
			CLO4	NA	NA	NA	NA	
			AS	ND	06/90	ND	09/92	
ROY, RUTH								
NA	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			CLO4	NA	NA	NA	NA	
RURBAN HOMES MUTUAL WATER COMPANY								
NORTH 1	MUNICIPAL	INACTIVE	PCE	16.0	11/80	ND	09/18	VULNERABLE
			1,1-DCE	0.9	09/08	ND	09/18	(VOC,NO3(N))
			FREON 11	13.3	05/04	ND	09/18	
			FREON 113	64.4	05/04	ND	09/18	
			NITRATE (N)	6.8	03/01	2.4	09/18	
			CLO4	ND	09/97	ND	09/18	
			AS	3.0	08/03	2.6	09/18	
			CR6	1.0	06/01	ND	09/15	
SOUTH 2	MUNICIPAL	INACTIVE	PCE	24.3	02/81	ND	03/13	
			1,1-DCE	1.7	10/08	ND	03/13	
			FREON 11	14.1	05/04	ND	03/13	
			FREON 113	54.2	05/04	ND	03/13	
			NITRATE (N)	8.6	03/07	4.7	03/13	
			CLO4	ND	09/97	ND	06/11	
			AS	3.0	08/03	2.1	09/12	
			CR6	1.0	06/01	ND	12/01	
SAN GABRIEL COUNTRY CLUB								
01	IRRIGATION	ACTIVE	PCE	3.8	12/20	3.8	12/20	
			NITRATE (N)	15.1	07/96	8.0	12/20	
			CLO4	8.5	07/97	5.4	08/05	
02	IRRIGATION	ACTIVE	VOCS	ND	05/87	ND	12/20	
			NITRATE (N)	12.0	12/19	12.0	12/20	
			CLO4	1.4	12/97	1.1	08/05	
SAN GABRIEL COUNTY WATER DISTRICT								
05 BRA	MUNICIPAL	INACTIVE	TCE	0.9	01/97	ND	03/01	
			PCE	1.9	02/99	1.0	03/01	
			NITRATE (N)	19.0	08/89	16.0	03/01	
			CLO4	ND	09/97	ND	09/00	
			AS	0.6	08/96	ND	08/98	
			CR6	7.0	12/00	7.0	12/00	
06 BRA	MUNICIPAL	DESTROYED	VOCS	ND	02/99	ND	02/99	
			NITRATE (N)	24.6	08/72	13.0	03/00	
			CLO4	3.0	02/99	3.0	02/99	
07	MUNICIPAL	DESTROYED	VOCS	ND	09/89	ND	10/11	
			NITRATE (N)	10.8	03/03	7.9	10/11	
			CLO4	5.6	03/03	ND	10/11	
			AS	1.3	08/96	ND	07/09	
			CR6	4.5	07/01	4.5	07/01	
08	MUNICIPAL	INACTIVE	VOCS	ND	01/90	ND	03/91	
			NITRATE (N)	17.2	01/82	5.3	08/93	
			CLO4	NA	NA	NA	NA	
			AS	ND	06/78	ND	08/90	
09	MUNICIPAL	ACTIVE	PCE	3.9	07/18	3.3	10/22	VULNERABLE
			NITRATE (N)	11.5	03/03	5.1	12/22	(VOC,NO3(N))
			CLO4	ND	09/97	ND	07/22	
			AS	ND	09/89	ND	07/21	
			CR6	8.1	12/02	7.8	07/21	
10	MUNICIPAL	INACTIVE	PCE	18.0	08/93	1.9	11/98	
			NITRATE (N)	11.3	05/89	7.0	11/98	
			CLO4	5.5	11/98	5.5	11/98	
			AS	ND	06/78	ND	11/98	
11	MUNICIPAL	ACTIVE	PCE	5.0	01/19	4.7	10/22	VULNERABLE
			TCE	0.7	10/18	ND	10/22	(VOC,NO3(N))
			NITRATE (N)	16.0	10/20	13.0	12/22	
			CLO4	2.4	10/21	2.2	10/22	
			AS	ND	06/78	ND	07/22	
			CR6	25.0	12/00	7.6	07/22	
12	MUNICIPAL	ACTIVE	TCE	0.8	09/02	ND	07/22	VULNERABLE
			PCE	1.2	10/18	ND	10/22	(AS)
			NITRATE (N)	2.3	07/21	1.0	12/22	
			CLO4	ND	09/97	ND	07/22	
			AS	7.0	10/96	5.9	07/20	
			CR6	7.6	07/01	6.3	07/20	
14	MUNICIPAL	ACTIVE	PCE	0.6	09/02	ND	07/22	
			NITRATE (N)	4.4	02/17	1.0	11/22	
			CLO4	ND	09/97	ND	07/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			AS	3.1	07/08	2.9	07/20	
			CR6	4.6	07/01	3.1	07/20	
15	MUNICIPAL	ACTIVE	TCE	0.6	09/21	ND	10/22	VULNERABLE
			PCE	3.4	04/19	2.3	10/22	(VOC,NO3(N))
			NITRATE (N)	7.6	09/21	6.6	12/22	
			CLO4	ND	12/14	ND	04/22	
			AS	2.7	04/20	2.7	04/20	
			CR6	3.6	11/14	1.7	04/20	
SAN GABRIEL VALLEY WATER COMPANY								
1B	MUNICIPAL	ACTIVE	PCE	46.0	04/81	ND	05/22	VULNERABLE
			TCE	1.8	02/80	ND	11/21	(VOC,NO3(N))
			FREON 113	22.3	08/08	ND	05/22	
			NITRATE (N)	5.1	05/08	1.6	05/22	
			CLO4	ND	08/97	ND	08/21	
			AS	2.9	07/96	2.0	08/20	
			CR6	1.0	05/14	1.0	08/20	
1C	MUNICIPAL	DESTROYED	VOCS	ND	07/98	ND	08/17	
			NITRATE (N)	1.9	08/11	1.1	08/17	
			CLO4	ND	10/99	ND	08/17	
			AS	2.6	09/94	2.1	08/15	
			CR6	1.0	05/01	ND	08/15	
1D	MUNICIPAL	ACTIVE	VOCS	ND	07/98	ND	09/22	
			NITRATE (N)	1.1	07/89	0.8	09/22	
			CLO4	ND	08/97	ND	09/22	
			AS	2.0	11/06	ND	08/21	
			CR6	1.0	05/01	ND	11/15	
1E	MUNICIPAL	ACTIVE	PCE	0.7	09/02	ND	11/22	VULNERABLE
			NITRATE (N)	1.1	11/16	0.9	09/22	(CLO4)
			CLO4	5.0	06/00	ND	09/22	
			AS	2.7	11/08	ND	08/20	
			CR6	1.0	05/01	ND	08/20	
2C	MUNICIPAL	DESTROYED	TCE	15.2	12/80	ND	11/05	
			PCE	3.0	10/87	ND	11/05	
			NITRATE (N)	3.7	08/04	1.2	08/05	
			CLO4	ND	08/97	ND	02/03	
			AS	ND	07/89	ND	08/05	
2D	MUNICIPAL	ACTIVE	TCE	25.0	12/80	ND	11/22	VULNERABLE
			PCE	0.9	03/17	ND	11/22	(VOC)
			NITRATE (N)	1.9	08/15	1.2	11/22	
			CLO4	ND	08/97	ND	11/22	
			AS	ND	07/89	ND	08/20	
			CR6	3.2	08/17	1.3	08/20	
2E	MUNICIPAL	ACTIVE	TCE	18.0	01/80	ND	12/22	VULNERABLE
			PCE	3.6	09/16	1.2	12/22	(VOC)
			NITRATE (N)	4.5	08/15	2.0	11/22	
			CLO4	ND	08/97	ND	11/22	
			AS	ND	07/89	ND	08/20	
			CR6	3.8	08/17	1.7	08/20	
2F	MUNICIPAL	ACTIVE	TCE	1.3	02/15	ND	12/22	
			PCE	1.4	11/18	ND	12/22	
			NITRATE (N)	2.5	08/15	1.0	12/22	
			CLO4	ND	09/06	ND	11/22	
			AS	0.7	03/06	ND	12/21	
			CR6	3.1	08/15	2.0	12/21	
8A	MUNICIPAL	INACTIVE	PCE	0.6	11/87	ND	02/97	
			NITRATE (N)	9.1	02/97	9.1	02/97	
			CLO4	NA	NA	NA	NA	
			AS	ND	07/89	ND	07/89	
8B	MUNICIPAL	ACTIVE	PCE	220.0	02/09	110.0	12/22	VULNERABLE
			TCE	1.2	11/15	1.1	12/22	(VOC,NO3(N))
			NITRATE (N)	5.2	08/08	4.0	10/22	
			CLO4	3.0	08/97	ND	12/22	
			AS	0.4	07/96	ND	08/21	
			CR6	2.9	11/02	2.4	08/15	
8C	MUNICIPAL	ACTIVE	PCE	170.0	05/09	160.0	11/22	VULNERABLE
			TCE	1.5	11/22	1.5	11/22	(VOC,CLO4)
			NITRATE (N)	4.5	07/98	2.2	12/22	
			CLO4	4.0	03/08	ND	12/22	
			AS	0.5	07/96	ND	08/21	
			CR6	3.5	08/21	3.5	08/21	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
8D	MUNICIPAL	ACTIVE	PCE	180.0	11/18	120.0	12/22	VULNERABLE
			TCE	1.8	12/22	1.8	12/22	(VOC,NO3(N),AS)
			C-1,2 DCE	0.8	05/04	ND	05/22	
			CTC	0.6	06/88	ND	05/22	
			NITRATE (N)	6.6	06/09	4.0	12/22	
			CLO4	2.3	03/08	ND	12/22	
			AS	29.5	09/94	ND	05/20	
			CR6	3.3	11/00	3.0	05/20	
8E	MUNICIPAL	ACTIVE	PCE	19.0	08/22	0.8	11/22	VULNERABLE
			NITRATE (N)	1.6	07/01	0.3	12/22	(VOC)
			CLO4	ND	08/97	ND	12/22	
			AS	2.8	08/95	0.9	08/22	
			CR6	4.8	08/16	4.3	08/22	
8F	MUNICIPAL	ACTIVE	VOCS	ND	10/98	ND	08/22	
			NITRATE (N)	4.3	11/10	0.3	08/22	
			CLO4	ND	01/99	ND	12/22	
			AS	2.9	11/19	1.8	08/22	
			CR6	8.4	11/19	6.0	08/22	
11A	MUNICIPAL	ACTIVE	PCE	1.5	02/08	ND	12/22	
			NITRATE (N)	3.3	07/89	1.4	08/22	
			CLO4	ND	08/97	ND	08/22	
			AS	3.9	07/96	3.3	08/21	
			CR6	7.3	05/01	7.3	08/21	
11B	MUNICIPAL	ACTIVE	PCE	17.8	04/90	ND	11/22	VULNERABLE
			TCE	4.0	04/90	ND	11/22	(VOC)
			1,1-DCE	0.2	04/89	ND	02/22	
			C-1,2-DCE	3.0	04/89	ND	02/22	
			NITRATE (N)	4.7	11/20	4.4	02/22	
			CLO4	ND	06/97	ND	02/22	
			AS	4.8	09/94	2.1	02/22	
			CR6	6.1	11/00	1.8	02/22	
11C	MUNICIPAL	ACTIVE	PCE	4.1	12/91	ND	12/22	VULNERABLE
			TCE	0.6	12/91	ND	12/22	(VOC,AS)
			1,1-DCE	1.1	08/08	ND	08/22	
			C-1,2-DCE	2.5	03/92	ND	11/22	
			NITRATE (N)	2.7	08/06	0.9	08/22	
			CLO4	ND	08/97	ND	08/22	
			AS	7.5	07/96	2.6	08/21	
			CR6	4.8	05/01	0.6	08/21	
11D	MUNICIPAL	ACTIVE	VOCS	ND	05/19	ND	08/22	
			NITRATE (N)	1.2	11/20	1.2	05/22	
			CLO4	ND	05/19	ND	05/22	
			AS	2.4	05/21	2.4	05/21	
			CR6	1.2	05/21	1.2	05/21	
B1	MUNICIPAL	INACTIVE	TCE	12.0	04/85	ND	08/06	
			PCE	7.3	05/88	ND	08/06	
			C-1,2-DCE	7.2	12/92	ND	08/06	
			1,1-DCE	2.1	08/89	ND	08/06	
			NITRATE (N)	3.9	02/87	0.8	03/05	
			CLO4	ND	08/97	ND	02/03	
			AS	2.8	07/96	2.3	02/05	
B2	MUNICIPAL	INACTIVE	TCE	17.0	03/80	ND	11/98	
			PCE	15.8	06/80	0.7	11/98	
			CTC	1.7	05/82	ND	11/98	
			1,2-DCA	7.7	07/82	ND	11/98	
			1,1,1-TCA	7.6	07/82	ND	11/98	
			C-1,2-DCE	2.6	08/93	ND	11/98	
			NITRATE (N)	2.0	11/98	2.0	11/98	
			CLO4	ND	11/98	ND	11/98	
B4B	MUNICIPAL	INACTIVE	TCE	25.2	02/08	25.2	02/08	
			PCE	43.0	11/07	5.8	02/08	
			CTC	10.0	11/03	6.6	02/08	
			1,2-DCA	1.0	09/07	0.5	02/08	
			1,1-DCE	3.2	11/07	2.3	02/08	
			C-1,2-DCE	4.2	11/07	2.7	02/08	
			NITRATE (N)	3.0	11/07	3.0	11/07	
			CLO4	24.5	04/08	24.5	04/08	
			AS	6.3	08/95	2.0	02/08	
			CR6	4.1	05/01	4.1	05/01	
B4C	MUNICIPAL	INACTIVE	CTC	22.3	02/01	14.0	08/01	
			TCE	15.5	02/01	9.3	08/01	
			PCE	3.4	02/01	2.2	08/01	
			1,1-DCE	2.3	09/01	2.3	09/01	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			C-1,2-DCE	2.4	09/01	2.4	09/01	
			NITRATE (N)	3.2	02/01	3.2	02/01	
			CLO4	6.0	06/00	ND	07/00	
			AS	5.8	08/95	ND	03/99	
			CR6	3.3	05/01	3.3	05/01	
B5A	MUNICIPAL	INACTIVE	PCE	17.5	03/91	ND	11/05	
			TCE	5.2	03/98	ND	11/05	
			1,1-DCE	2.5	03/85	ND	08/05	
			CTC	1.1	12/91	ND	11/05	
			1,1,1-TCA	3.7	03/90	ND	08/05	
			NITRATE (N)	10.4	07/96	5.7	11/05	
			CLO4	14.0	06/97	4.0	08/05	
			AS	2.8	07/96	2.0	08/05	
			CR6	6.4	11/00	6.2	05/01	
B5B	MUNICIPAL	ACTIVE	TCE	5.8	02/97	2.3	12/22	VULNERABLE
			PCE	19.0	10/22	13.0	12/22	(VOC,NO3(N),CLO4)
			CTC	2.3	02/85	ND	11/22	
			1,1-DCE	1.1	11/19	1.1	11/22	
			1,2-DCA	0.6	09/07	ND	11/22	
			NITRATE (N)	12.7	12/12	9.2	12/22	
			CLO4	12.0	06/97	4.7	12/22	
			AS	2.4	08/16	2.0	11/22	
			CR6	7.1	08/16	5.2	11/22	
B5C	MUNICIPAL	INACTIVE	VOCS	ND	05/89	ND	08/07	
			NITRATE (N)	0.9	05/07	0.9	05/07	
			CLO4	ND	06/97	ND	03/08	
			AS	5.8	08/95	2.0	08/07	
			CR6	5.8	05/01	5.8	05/01	
B5D	MUNICIPAL	ACTIVE	CTC	1.2	11/15	0.9	11/22	VULNERABLE
			NITRATE (N)	7.4	08/18	0.8	12/22	(VOC,NO3(N),CLO4)
			CLO4	5.4	08/20	ND	12/22	
			AS	2.5	08/22	2.5	08/22	
			CR6	4.6	05/01	4.1	08/22	
B5E	MUNICIPAL	ACTIVE	TCE	27.0	11/19	19.0	12/22	VULNERABLE
			PCE	4.8	05/20	3.9	12/22	(VOC,NO3(N),CLO4)
			CTC	5.2	05/07	2.2	11/22	
			1,2-DCA	1.4	11/19	1.0	11/22	
			1,1-DCE	1.6	11/19	1.1	11/22	
			C-1,2-DCE	1.6	10/16	1.3	11/22	
			NITRATE (N)	5.9	08/15	4.6	12/22	
			CLO4	23.0	05/21	22.0	12/22	
			AS	3.0	08/07	2.7	08/19	
			CR6	7.0	02/09	6.7	08/19	
B6B	MUNICIPAL	DESTROYED	TCE	111.0	02/85	35.8	09/92	
			PCE	6.4	10/81	4.3	09/92	
			CTC	17.0	02/85	5.0	09/92	
			1,1-DCE	1.1	04/85	0.5	09/92	
			1,1-DCA	0.6	09/92	0.6	09/92	
			1,2-DCA	8.3	09/92	8.3	09/92	
			NITRATE (N)	19.3	02/91	12.9	09/92	
			CLO4	NA	NA	NA	NA	
B6C	MUNICIPAL	INACTIVE	TCE	84.0	03/88	1.3	08/16	VULNERABLE
			PCE	12.0	11/81	ND	08/16	(VOC,NO3(N),CLO4)
			CTC	13.0	02/85	ND	08/16	
			1,2-DCA	9.0	05/88	ND	08/16	
			1,1-DCE	1.5	06/94	ND	08/16	
			C-1,2-DCE	6.2	04/88	ND	08/16	
			NITRATE (N)	22.0	08/16	22.0	08/16	
			CLO4	370.0	11/05	18.0	08/16	
			AS	3.7	07/96	2.2	08/14	
			CR6	3.9	03/10	2.3	10/14	
B6D	MUNICIPAL	INACTIVE	TCE	140.0	05/11	45.0	05/17	VULNERABLE
			PCE	7.1	05/09	2.3	05/17	(VOC,NO3(N),CLO4)
			CTC	14.0	05/11	4.9	05/17	
			1,1-DCA	1.1	05/09	ND	05/17	
			1,2-DCA	3.7	05/11	1.1	05/17	
			1,1-DCE	1.0	08/08	ND	05/17	
			C-1,2-DCE	2.8	05/09	0.9	05/17	
			NITRATE (N)	6.6	05/15	5.5	08/17	
			CLO4	390.0	11/05	23.0	05/17	
			AS	3.1	07/96	2.4	08/17	
			CR6	2.9	10/14	2.6	08/17	
B7B	MUNICIPAL	DESTROYED	TCE	2.4	03/85	2.4	03/85	
			PCE	1.4	03/85	1.2	03/85	
			NITRATE (N)	2.8	08/87	2.8	08/87	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			CLO4	NA	NA	NA	NA	
B7C	MUNICIPAL	DESTROYED	TCE	15.0	11/10	4.8	11/14	
			PCE	35.0	03/03	15.0	11/14	
			1,1-DCE	6.7	12/89	2.9	11/14	
			C-1,2-DCE	4.7	12/93	0.9	11/14	
			CTC	0.6	02/89	ND	08/14	
			NITRATE (N)	6.4	08/92	3.4	08/14	
			CLO4	ND	06/97	ND	08/14	
			AS	2.0	08/05	ND	08/14	
			CR6	5.0	05/01	3.5	05/11	
B7D	MUNICIPAL	DESTROYED	PCE	5.3	07/87	3.5	09/87	
			TCE	3.9	07/87	3.3	09/87	
			1,1-DCE	5.3	05/87	5.0	09/87	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
B7E	MUNICIPAL	ACTIVE	PCE	1.1	08/15	ND	12/22	
			NITRATE (N)	3.6	11/08	0.6	12/22	
			CLO4	ND	06/97	ND	05/22	
			AS	4.6	03/97	3.1	05/21	
			CR6	4.6	05/18	3.9	05/21	
B8	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
B9	MUNICIPAL	INACTIVE	TCE	37.0	02/85	34.7	01/87	
			PCE	4.9	01/87	4.9	01/87	
			CTC	8.3	01/87	8.3	01/87	
			NITRATE (N)	19.1	02/86	15.4	02/87	
			CLO4	NA	NA	NA	NA	
B9B	MUNICIPAL	ACTIVE	VOCS	ND	06/87	ND	08/22	
			NITRATE (N)	3.4	08/19	0.7	08/22	
			CLO4	1.2	03/08	ND	08/22	
			AS	3.5	08/95	1.5	08/22	
			CR6	9.8	05/01	9.0	08/22	
B11A	MUNICIPAL	DESTROYED	TCE	9.8	08/01	5.8	08/04	
			PCE	21.7	05/92	8.5	08/04	
			1,1-DCE	14.0	08/01	2.8	08/04	
			CTC	0.9	01/88	ND	08/04	
			C-1,2-DCE	1.5	08/01	0.6	09/04	
			1,1-DCA	1.0	08/01	ND	08/04	
			NITRATE (N)	8.5	03/00	8.2	08/04	
			CLO4	8.0	12/97	ND	08/04	
			AS	2.7	07/96	ND	09/02	
			CR6	10.0	06/01	10.0	06/01	
B11B	MUNICIPAL	ACTIVE	TCE	33.0	11/14	4.1	12/22	VULNERABLE
			PCE	34.5	06/92	5.6	12/22	(VOC,NO3(N),CLO4)
			CTC	0.8	08/16	ND	11/22	
			1,1-DCE	64.0	11/14	6.2	11/22	
			1,1-DCA	4.7	11/14	ND	11/22	
			1,1,1-TCA	2.9	10/88	ND	08/22	
			C-1,2-DCE	5.1	11/14	0.6	11/22	
			NITRATE (N)	10.4	11/14	3.6	11/22	
			CLO4	7.0	06/00	2.7	11/22	
			AS	2.2	07/96	ND	09/20	
			CR6	10.3	05/01	8.0	09/20	
B24A	MUNICIPAL	ACTIVE	PCE	0.5	02/19	ND	12/22	
			NITRATE (N)	2.9	02/15	0.4	02/22	
			CLO4	ND	01/07	ND	10/22	
			AS	2.4	02/16	ND	02/22	
			CR6	1.2	08/13	1.1	02/22	
B24B	MUNICIPAL	ACTIVE	PCE	9.2	08/18	ND	11/22	VULNERABLE
			TCE	0.7	05/07	0.5	02/22	(VOC)
			NITRATE (N)	3.4	02/14	1.2	02/22	
			CLO4	ND	01/07	ND	02/22	
			AS	2.8	02/16	ND	02/22	
			CR6	3.3	08/13	2.7	02/22	
B25A (SA3-1S)	MUNICIPAL	ACTIVE	TCE	120.0	11/21	68.0	12/22	VULNERABLE
			PCE	45.0	02/21	23.0	12/22	(VOC,NO3(N),CLO4)
			CTC	5.9	10/07	1.6	11/22	
			1,1-DCA	1.1	05/21	0.9	11/22	
			1,2-DCA	2.0	11/19	1.4	11/22	
			1,1-DCE	8.7	11/19	0.9	11/22	
			C-1,2-DCE	6.3	08/07	4.5	11/22	
			NITRATE (N)	17.6	05/09	11.0	12/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			CLO4	55.0	05/19	47.0	12/22	
			AS	3.2	03/10	2.0	06/22	
			CR6	4.0	06/22	4.0	06/22	
B25B	MUNICIPAL	ACTIVE	TCE	70.0	11/21	52.0	12/22	VULNERABLE
(SA3-1D)			PCE	13.0	08/16	5.9	12/22	(VOC,NO3(N),CLO4)
			CTC	10.0	09/04	4.4	11/22	
			1,1-DCA	1.2	10/07	ND	06/22	
			1,2-DCA	1.6	11/22	1.6	11/22	
			1,1-DCE	4.8	08/14	2.0	11/22	
			C-1,2-DCE	3.1	08/16	2.3	11/22	
			NITRATE (N)	6.1	05/09	2.2	12/22	
			CLO4	43.0	11/21	40.0	12/22	
			AS	3.0	03/06	2.6	06/22	
			CR6	2.8	06/22	2.8	06/22	
B26A	MUNICIPAL	ACTIVE	TCE	57.0	05/09	10.0	12/22	VULNERABLE
(SA3-2S)			PCE	6.8	12/10	1.0	12/22	(VOC,NO3(N),CLO4)
			CTC	5.4	12/10	ND	11/22	
			1,1-DCA	0.8	05/09	ND	11/22	
			1,2-DCA	4.3	11/04	0.6	11/22	
			1,1-DCE	2.0	12/10	ND	11/22	
			C-1,2-DCE	3.3	05/06	ND	11/22	
			NITRATE (N)	20.0	08/21	16.0	12/22	
			CLO4	87.0	07/06	25.0	12/22	
			AS	3.0	03/06	2.2	02/21	
			CR6	5.0	02/21	5.0	02/21	
B26B	MUNICIPAL	ACTIVE	TCE	200.0	11/21	94.0	12/22	VULNERABLE
(SA3-2D)			PCE	4.1	11/21	2.6	12/22	(VOC,NO3(N),CLO4)
			CTC	17.0	08/16	9.4	11/22	
			1,2-DCA	3.7	11/19	2.5	11/22	
			1,1-DCE	0.6	08/16	0.5	11/22	
			C-1,2-DCE	1.9	11/21	1.4	11/22	
			NITRATE (N)	6.0	05/21	4.0	12/22	
			CLO4	73.0	11/21	56.0	12/22	
			AS	2.9	11/04	2.4	02/21	
			CR6	4.1	02/21	4.1	02/21	
EW4-5	MUNICIPAL	ACTIVE	PCE	29.0	10/06	22.0	12/11	VULNERABLE
			TCE	4.1	10/06	1.6	12/11	(VOC)
			NITRATE (N)	3.6	12/05	2.9	11/11	
			CLO4	ND	12/05	ND	11/11	
			AS	1.1	08/09	1.1	08/09	
EW4-6	MUNICIPAL	ACTIVE	PCE	8.1	06/06	4.7	12/11	VULNERABLE
			TCE	1.1	10/06	0.7	12/11	(VOC)
			NITRATE (N)	3.4	11/06	3.4	11/11	
			CLO4	ND	05/06	ND	11/11	
			AS	1.0	08/09	1.0	08/09	
EW4-7	MUNICIPAL	ACTIVE	PCE	8.2	01/06	2.0	12/11	VULNERABLE
			TCE	1.8	02/06	ND	12/11	(VOC)
			NITRATE (N)	4.1	01/06	2.9	11/11	
			CLO4	ND	12/05	ND	11/11	
			AS	1.8	08/09	1.8	08/09	
G4A	MUNICIPAL	ACTIVE	PCE	27.0	05/22	21.0	12/22	VULNERABLE
			TCE	1.8	11/18	0.7	12/22	(VOC, NO3(N))
			NITRATE (N)	6.3	05/14	4.7	11/22	
			CLO4	1.0	03/08	ND	10/22	
			AS	0.5	07/96	ND	02/21	
			CR6	4.4	11/00	4.4	02/21	
SLOAN RANCHES								
01	IRRIGATION	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
02	IRRIGATION	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
SOL LONG TERM LLC (SIERRA LA VERNE COUNTRY CLUB)								
01	IRRIGATION	INACTIVE	VOCS	ND	08/96	ND	10/07	
			NITRATE (N)	2.4	05/99	ND	10/07	
			CLO4	ND	03/98	ND	03/98	
02	IRRIGATION	INACTIVE	VOCS	ND	10/08	ND	10/10	
			NITRATE (N)	3.9	08/96	ND	10/10	
			CLO4	28.0	03/98	ND	04/98	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
15	IRRIGATION	INACTIVE	VOCS	NA	NA	NA	NA	
OFFSITE			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
SONOCO PRODUCTS COMPANY								
01	INDUSTRIAL	INACTIVE	TCE	28.6	12/99	1.9	10/17	
			PCE	8.5	12/99	3.4	10/17	
			1,1-DCE	113.0	12/99	2.0	10/17	
			1,1,1-TCA	71.8	12/99	ND	10/17	
			CTC	1.2	07/96	ND	10/17	
			NITRATE (N)	16.4	12/05	14.0	10/17	
			CLO4	ND	06/98	ND	07/04	
02	INDUSTRIAL	ACTIVE	TCE	16.0	10/03	0.7	10/20	
			PCE	1.8	10/03	1.5	10/20	
			1,1-DCE	5.9	02/98	2.0	10/20	
			1,1,1-TCA	2.0	11/87	ND	10/20	
			CTC	0.9	11/87	ND	10/20	
			NITRATE (N)	16.8	12/05	15.0	10/20	
			CLO4	10.0	02/98	ND	07/04	
SOUTH COVINA WATER SERVICE								
102W-1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
SOUTHERN CALIFORNIA EDISON COMPANY								
110RH	NON-POTABLE	ACTIVE	VOCS	ND	08/89	ND	02/07	
			NITRATE (N)	2.0	02/07	2.0	02/07	
			CLO4	ND	11/97	ND	11/97	
			AS	ND	08/98	ND	08/98	
1EB86	NON-POTABLE	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
2EB76	IRRIGATION	DESTROYED	PCE	4.3	09/04	4.1	02/07	
			TCE	1.3	09/04	0.7	02/07	
			NITRATE (N)	11.6	09/98	6.0	02/07	
			CLO4	2.0	11/97	2.0	11/97	
38EIS	NON-POTABLE	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
38W	NON-POTABLE	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
MURAT	IRRIGATION	DESTROYED	PCE	4.1	09/02	0.6	10/08	
			TCE	0.9	09/02	ND	10/08	
			NITRATE (N)	6.1	09/04	3.2	10/08	
			CLO4	ND	04/98	ND	04/98	
			AS	ND	04/98	ND	04/98	
SOUTH PASADENA, CITY OF								
GRAV 2	MUNICIPAL	ACTIVE	PCE	16.0	07/08	14.0	12/22	VULNERABLE
			CTC	0.9	07/08	0.6	12/22	(VOC,NO3(N),CLO4)
			NITRATE (N)	13.1	04/87	9.1	12/22	
			CLO4	6.9	02/03	3.9	12/22	
			AS	0.7	07/96	0.6	12/22	
			CR6	4.0	06/01	2.5	12/22	
WIL 2	MUNICIPAL	INACTIVE	PCE	23.0	01/88	9.1	03/01	
			TCE	4.6	03/00	4.6	03/01	
			NITRATE (N)	19.6	03/00	17.6	02/01	
			CLO4	5.0	07/97	ND	12/99	
			AS	0.6	07/96	ND	08/99	
WIL 3	MUNICIPAL	ACTIVE	PCE	9.5	08/94	1.5	12/22	VULNERABLE
			TCE	1.9	04/13	1.0	12/22	(VOC,NO3(N))
			NITRATE (N)	14.9	01/83	4.1	12/22	
			CLO4	ND	07/97	ND	12/22	
			AS	2.5	06/18	1.6	08/22	
			CR6	4.2	08/22	4.2	08/22	
WIL 4	MUNICIPAL	ACTIVE	PCE	8.1	06/00	2.3	12/22	VULNERABLE
			TCE	2.1	05/07	1.5	12/22	(VOC,NO3(N))
			NITRATE (N)	7.1	11/22	6.7	12/22	
			CLO4	ND	07/97	ND	12/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			AS	2.0	02/03	ND	05/21	
			CR6	6.0	05/21	6.0	05/21	
SPEEDWAY 605 INC.								
NA	NON-POTABLE	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
STERLING MUTUAL WATER COMPANY								
NEW SO.	MUNICIPAL	ACTIVE	VOCS	ND	06/91	ND	07/22	VULNERABLE
			NITRATE (N)	7.9	02/10	3.9	10/22	(NO3(N))
			CLO4	ND	10/97	ND	07/22	
			AS	2.9	12/00	2.4	08/20	
			CR6	1.1	08/20	1.1	08/20	
NORTH	MUNICIPAL	ACTIVE	VOCS	ND	06/88	ND	07/22	VULNERABLE
			NITRATE (N)	9.8	02/07	4.6	10/22	(NO3(N))
			CLO4	ND	09/97	ND	07/22	
			AS	4.6	08/95	2.6	07/22	
			CR6	1.0	06/01	1.2	07/22	
SOUTH	MUNICIPAL	DESTROYED	VOCS	ND	01/85	ND	06/91	
			NITRATE (N)	5.0	08/18	4.1	05/21	
			CLO4	NA	NA	NA	NA	
			AS	2.6	08/11	2.2	08/17	
SUBURBAN WATER SYSTEMS								
101W-1	MUNICIPAL	DESTROYED	TCE	1.5	07/87	ND	08/89	
			NITRATE (N)	12.2	08/89	12.2	08/89	
			CLO4	NA	NA	NA	NA	
			AS	ND	02/88	ND	08/89	
102W-1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
102W-2	MUNICIPAL	DESTROYED	TCE	2.0	01/80	ND	06/85	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
103W-1	MUNICIPAL	DESTROYED	TCE	2.5	06/80	ND	07/82	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
105W-1	MUNICIPAL	DESTROYED	PCE	1.4	01/96	1.4	01/96	
			NITRATE (N)	10.4	04/95	10.4	04/95	
			CLO4	NA	NA	NA	NA	
			AS	ND	06/88	ND	06/94	
106W-1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
111W-1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	18.6	03/73	18.6	03/73	
			CLO4	NA	NA	NA	NA	
112W-1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	22.4	07/69	22.4	07/69	
			CLO4	NA	NA	NA	NA	
113W-1	MUNICIPAL	DESTROYED	TCE	0.7	02/80	0.5	03/85	
			NITRATE (N)	19.2	10/85	15.3	02/88	
			CLO4	NA	NA	NA	NA	
114W-1	MUNICIPAL	DESTROYED	TCE	2.9	01/80	ND	07/95	
			PCE	0.5	12/93	ND	07/95	
			NITRATE (N)	10.5	08/91	9.0	04/95	
			CLO4	NA	NA	NA	NA	
			AS	ND	11/88	ND	11/94	
117W-1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
120W-1	MUNICIPAL	DESTROYED	TCE	0.3	07/82	ND	08/96	
			NITRATE (N)	14.9	07/88	13.7	08/96	
			CLO4	NA	NA	NA	NA	
121W-1	MUNICIPAL	ACTIVE	VOCS	ND	10/02	ND	12/22	VULNERABLE
			NITRATE (N)	7.0	07/22	5.3	12/22	(NO3(N),CLO4)

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			CLO4	11.0	02/19	7.3	12/22	
			AS	1.6	02/04	ND	05/20	
			CR6	9.6	02/05	6.4	04/13	
122W-1	MUNICIPAL	DESTROYED	TCE	2.6	08/96	2.6	08/96	
			NITRATE (N)	20.3	05/86	13.7	08/96	
			CLO4	NA	NA	NA	NA	
			AS	3.0	08/79	ND	05/85	
123W-1	MUNICIPAL	DESTROYED	TCE	26.8	04/81	ND	08/96	
			PCE	33.0	04/81	ND	08/96	
			NITRATE (N)	10.6	05/76	0.9	08/96	
			CLO4	NA	NA	NA	NA	
124W-1	MUNICIPAL	DESTROYED	TCE	0.5	06/83	ND	08/89	
			NITRATE (N)	13.6	09/84	12.1	08/89	
			CLO4	NA	NA	NA	NA	
			AS	ND	06/80	ND	08/89	
125W-1	MUNICIPAL	DESTROYED	VOCS	ND	01/80	ND	09/81	
			NITRATE (N)	6.8	05/76	4.7	05/79	
			CLO4	NA	NA	NA	NA	
125W-2	MUNICIPAL	INACTIVE	VOCS	ND	03/83	ND	07/95	
			NITRATE (N)	11.3	08/87	9.2	03/95	
			CLO4	NA	NA	NA	NA	
			AS	ND	05/88	ND	08/94	
126W-1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	4.1	05/75	4.1	05/75	
			CLO4	NA	NA	NA	NA	
126W-2	MUNICIPAL	INACTIVE	VOCS	ND	03/85	ND	08/00	
			NITRATE (N)	8.8	07/91	7.9	03/01	
			CLO4	4.8	07/97	ND	01/98	
			AS	1.3	07/96	ND	08/00	
131W-1	MUNICIPAL	DESTROYED	TCE	56.0	10/93	56.0	10/93	
			PCE	227.0	04/80	52.0	10/93	
			CTC	2.7	10/93	2.7	10/93	
			1,1-DCE	40.0	10/93	40.0	10/93	
			1,1,1-TCA	5.3	10/93	5.3	10/93	
			NITRATE (N)	14.0	09/81	12.5	10/93	
			CLO4	NA	NA	NA	NA	
133W-1	MUNICIPAL	DESTROYED	TCE	0.5	07/87	ND	08/89	
			CTC	0.5	08/89	0.5	08/89	
			NITRATE (N)	11.1	08/89	10.8	09/89	
			CLO4	NA	NA	NA	NA	
			AS	ND	04/81	ND	08/89	
134W-1	MUNICIPAL	DESTROYED	TCE	56.0	10/93	56.0	10/93	
			PCE	0.1	12/80	ND	10/93	
			1,1-DCE	8.6	10/93	8.6	10/93	
			1,1,1-TCA	13.2	03/83	ND	10/93	
			NITRATE (N)	9.7	06/87	9.2	10/93	
			CLO4	NA	NA	NA	NA	
			AS	ND	03/88	ND	07/89	
135W-1	MUNICIPAL	DESTROYED	TCE	0.8	03/85	0.3	05/85	
			NITRATE (N)	13.3	02/86	10.7	09/86	
			CLO4	NA	NA	NA	NA	
136W-1	MUNICIPAL	DESTROYED	PCE	335.0	03/80	66.0	10/93	
			TCE	53.0	03/80	9.1	10/93	
			CTC	2.4	10/93	2.4	10/93	
			1,1-DCE	15.0	10/93	15.0	10/93	
			NITRATE (N)	10.8	01/77	8.5	10/93	
			CLO4	NA	NA	NA	NA	
			AS	5.0	08/79	5.0	08/79	
139W-1	MUNICIPAL	DESTROYED	TCE	34.8	06/81	ND	01/97	
			PCE	5.0	02/88	ND	01/97	
			CTC	0.8	09/80	ND	07/96	
			NITRATE (N)	22.4	05/94	21.0	07/96	
			CLO4	NA	NA	NA	NA	
			AS	3.6	07/95	2.6	07/96	
139W-2	MUNICIPAL	INACTIVE	TCE	18.7	09/80	ND	05/10	
			PCE	12.1	03/80	ND	05/10	
			CTC	0.8	09/80	ND	05/10	
			NITRATE (N)	23.4	10/08	13.2	05/10	
			CLO4	34.0	10/08	15.0	05/10	
			AS	3.2	07/95	2.6	08/01	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
139W-4	MUNICIPAL	STANDBY	TCE	4.7	04/97	ND	11/20	VULNERABLE
			NITRATE (N)	14.0	11/22	14.0	11/22	(VOC,NO3(N),CLO4)
			CLO4	15.0	11/22	15.0	11/22	
			AS	1.5	07/96	ND	12/14	
			CR6	4.1	11/00	3.5	12/14	
139W-5	MUNICIPAL	INACTIVE	TCE	19.0	08/01	19.0	08/01	
			PCE	10.8	05/99	0.7	08/01	
			CTC	1.0	08/01	1.0	08/01	
			1,2-DCA	1.0	02/00	ND	08/01	
			NITRATE (N)	8.2	06/01	8.2	10/09	
			CLO4	12.0	09/97	12.0	10/09	
			AS	1.6	07/96	ND	08/01	
139W-6	MUNICIPAL	INACTIVE	TCE	51.2	02/01	ND	05/10	
			PCE	2.8	02/01	ND	05/10	
			CTC	1.9	02/01	ND	05/10	
			1,2-DCA	1.6	02/01	ND	05/10	
			NITRATE (N)	9.7	10/08	8.2	05/10	
			CLO4	35.4	11/00	2.0	05/10	
			AS	2.7	05/96	ND	05/99	
140W-1	MUNICIPAL	DESTROYED	TCE	1.0	01/80	1.0	01/80	
			NITRATE (N)	19.6	04/73	15.4	05/75	
			CLO4	NA	NA	NA	NA	
			AS	ND	01/02	ND	01/02	
140W-3	MUNICIPAL	STANDBY	TCE	13.6	03/80	0.7	11/20	VULNERABLE
			PCE	6.1	06/88	6.1	11/20	(VOC,NO3(N),CLO4)
			CTC	1.0	09/81	ND	11/20	
			1,1-DCE	7.9	11/20	7.9	11/20	
			1,1-DCA	0.6	11/20	0.6	11/20	
			NITRATE (N)	17.6	03/85	13.0	11/21	
			CLO4	16.0	12/05	7.3	11/21	
			AS	4.0	08/76	2.5	12/14	
			CR6	12.7	06/01	8.7	12/14	
140W-4	MUNICIPAL	INACTIVE	TCE	7.0	01/96	1.5	11/06	
			NITRATE (N)	8.2	10/03	8.2	12/04	
			CLO4	12.6	10/03	11.6	12/04	
			AS	2.4	07/95	ND	12/04	
140W-5	MUNICIPAL	ACTIVE	TCE	21.0	02/91	ND	05/18	VULNERABLE
			PCE	1.0	06/07	ND	05/18	(VOC,NO3(N),CLO4)
			NITRATE (N)	8.1	02/14	7.4	11/21	
			CLO4	15.0	10/12	ND	05/18	
			AS	1.9	07/96	ND	11/21	
			CR6	9.8	02/05	6.8	04/13	
142W-1	MUNICIPAL	DESTROYED	VOCS	ND	02/80	ND	07/82	
			NITRATE (N)	16.7	06/81	16.7	06/81	
			CLO4	NA	NA	NA	NA	
142W-2	MUNICIPAL	ACTIVE	VOCS	ND	03/04	ND	12/22	VULNERABLE
			NITRATE (N)	7.3	02/19	4.2	11/22	(NO3(N),CLO4)
			CLO4	4.3	12/22	4.3	12/22	
			AS	1.6	07/04	ND	08/21	
			CR6	12.0	02/05	6.8	04/13	
147W-1	MUNICIPAL	DESTROYED	TCE	23.0	03/85	23.0	03/85	
			PCE	1.2	03/85	1.2	03/85	
			NITRATE (N)	22.6	03/85	22.6	03/85	
			CLO4	NA	NA	NA	NA	
147W-2	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	12.2	09/74	12.2	09/74	
			CLO4	NA	NA	NA	NA	
147W-3	MUNICIPAL	DESTROYED	TCE	4.1	01/92	2.7	11/16	
			PCE	4.4	04/89	1.9	11/16	
			1,1-DCE	8.9	01/89	3.6	11/16	
			1,1-DCA	4.8	05/89	ND	11/16	
			NITRATE (N)	4.5	09/88	2.0	11/16	
			CLO4	3.0	04/10	ND	11/16	
			AS	1.8	07/04	ND	08/14	
			CR6	13.0	04/05	11.0	11/16	
148W-1	MUNICIPAL	DESTROYED	TCE	0.8	06/80	ND	04/97	
			NITRATE (N)	10.6	02/76	7.9	04/97	
			CLO4	NA	NA	NA	NA	
			AS	26.0	06/78	26.0	06/78	
149W-1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
150W-1	MUNICIPAL	DESTROYED	TCE	6.0	09/81	ND	08/93	
			NITRATE (N)	12.0	03/86	3.0	08/94	
			CLO4	NA	NA	NA	NA	
			AS	ND	07/89	ND	08/94	
151W-1	MUNICIPAL	DESTROYED	VOCS	ND	01/80	ND	03/98	
			NITRATE (N)	26.2	03/98	26.2	03/98	
			CLO4	21.6	03/98	21.6	03/98	
			AS	7.0	08/79	7.0	08/79	
151W-2	MUNICIPAL	ACTIVE	PCE	0.6	03/19	ND	12/22	VULNERABLE
			TCE	6.9	05/22	0.5	12/22	(VOC,CLO4)
			NITRATE (N)	2.6	02/19	2.6	11/22	
			CLO4	5.5	01/17	ND	12/22	
			AS	1.4	02/19	ND	03/22	
			CR6	12.0	04/05	8.1	04/13	
152W-1	MUNICIPAL	DESTROYED	TCE	12.8	11/82	8.0	03/85	
			PCE	0.8	11/82	0.3	03/85	
			NITRATE (N)	9.8	05/86	9.8	05/86	
			CLO4	NA	NA	NA	NA	
153W-1	MUNICIPAL	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
154W-1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	18.3	05/79	18.3	05/79	
			CLO4	NA	NA	NA	NA	
155W-1	MUNICIPAL	INACTIVE	PCE	190.0	11/80	90.0	11/98	
			TCE	50.0	07/81	24.0	11/98	
			CTC	19.0	02/82	ND	11/98	
			1,1-DCE	16.0	03/85	13.0	11/98	
			NITRATE (N)	13.6	11/80	11.2	11/98	
			CLO4	5.4	11/98	5.4	11/98	
			AS	4.0	08/76	ND	03/85	
155W-2	MUNICIPAL	DESTROYED	PCE	190.0	09/93	76.0	11/98	
			TCE	39.0	04/80	22.0	11/98	
			1,1-DCE	21.0	09/93	11.0	11/98	
			1,1-DCA	3.0	09/93	1.4	11/98	
			C-1,2-DCE	16.0	03/85	1.8	11/98	
			NITRATE (N)	11.1	11/98	11.1	11/98	
			CLO4	4.3	11/98	ND	11/98	
157W-1	MUNICIPAL	DESTROYED	TCE	12.2	02/80	ND	03/85	
			NITRATE (N)	13.1	02/86	13.1	02/86	
			CLO4	NA	NA	NA	NA	
201W-1	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
201W-2	MUNICIPAL	DESTROYED	TCE	6.8	04/89	1.7	08/06	
			PCE	3.9	09/88	1.4	08/06	
			1,1-DCE	3.2	08/89	ND	08/06	
			C-1,2-DCE	6.1	02/91	4.3	08/06	
			NITRATE (N)	1.5	08/94	1.4	08/06	
			CLO4	ND	08/97	ND	09/03	
			AS	8.5	08/97	3.0	08/06	
201W-3	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
201W-4	MUNICIPAL	INACTIVE	TCE	6.4	09/89	ND	06/14	
			PCE	4.1	09/88	ND	06/14	
			1,1-DCE	2.0	07/88	ND	06/14	
			C-1,2-DCE	5.2	05/97	ND	06/14	
			NITRATE (N)	4.7	11/14	4.7	11/14	
			CLO4	ND	06/97	ND	07/14	
			AS	4.0	08/97	ND	06/14	
			CR6	1.9	05/01	ND	11/14	
201W-5	MUNICIPAL	DESTROYED	TCE	6.4	09/89	ND	03/08	
			PCE	3.8	09/89	ND	03/08	
			1,1-DCE	2.9	09/88	ND	03/08	
			C-1,2-DCE	4.9	08/88	ND	03/08	
			NITRATE (N)	2.7	08/94	2.7	08/07	
			CLO4	ND	06/97	ND	06/03	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			AS	8.9	09/89	4.0	09/05	
201W-6	MUNICIPAL	DESTROYED	TCE	3.9	05/88	ND	09/05	
			PCE	3.3	05/88	ND	09/05	
			1,1-DCE	3.2	09/88	ND	09/05	
			C-1,2-DCE	8.7	05/88	ND	09/05	
			NITRATE (N)	4.5	06/85	1.7	05/05	
			CLO4	ND	06/97	ND	06/03	
			AS	9.2	08/95	2.0	09/04	
201W-7	MUNICIPAL	ACTIVE	PCE	0.7	05/19	ND	04/22	
			C-1,2-DCE	0.9	08/08	ND	04/22	
			NITRATE (N)	3.7	07/21	3.2	07/22	
			CLO4	ND	08/08	ND	07/22	
			AS	2.0	08/08	ND	08/20	
			CR6	0.8	04/13	0.8	04/13	
201W-8	MUNICIPAL	ACTIVE	TCE	0.5	05/07	ND	04/22	
			C-1,2-DCE	1.1	05/07	ND	04/22	
			NITRATE (N)	3.7	07/21	3.7	07/22	
			CLO4	2.1	07/06	ND	07/22	
			AS	2.7	08/09	ND	07/21	
			CR6	1.1	05/07	0.9	04/13	
201W-9	MUNICIPAL	ACTIVE	PCE	1.2	11/19	0.9	10/22	
			NITRATE (N)	5.0	02/19	3.6	04/22	
			CLO4	ND	03/08	ND	07/22	
			AS	1.5	05/07	ND	02/20	
			CR6	0.6	04/13	0.6	04/13	
201W-10	MUNICIPAL	ACTIVE	TCE	1.4	09/07	ND	04/22	
			PCE	1.3	09/07	ND	04/22	
			C-1,2-DCE	3.0	09/07	ND	04/22	
			NITRATE (N)	1.8	05/17	1.5	04/22	
			CLO4	ND	09/07	ND	04/22	
			AS	3.8	05/21	3.8	05/21	
			CR6	2.1	05/21	2.1	05/21	
202W-1	MUNICIPAL	DESTROYED	TCE	4.3	09/81	ND	01/89	
			PCE	15.0	10/88	12.1	01/89	
			NITRATE (N)	5.4	07/87	5.2	10/88	
			CLO4	NA	NA	NA	NA	
			AS	ND	09/88	ND	09/88	
SUNNY SLOPE WATER COMPANY								
08	MUNICIPAL	ACTIVE	VOCS	ND	01/87	ND	12/22	VULNERABLE
			NITRATE (N)	6.3	10/22	5.4	12/22	(NO3(N))
			CLO4	ND	07/97	ND	09/22	
			AS	ND	09/89	ND	09/20	
			CR6	7.1	12/00	3.5	09/20	
09	MUNICIPAL	ACTIVE	VOCS	ND	01/85	ND	12/22	VULNERABLE
			NITRATE (N)	8.1	06/03	5.1	12/22	(NO3(N))
			CLO4	ND	07/97	ND	09/22	
			AS	3.6	08/96	ND	09/21	
			CR6	7.0	03/17	6.5	09/21	
10	MUNICIPAL	INACTIVE	VOCS	ND	01/85	ND	08/96	
			NITRATE (N)	14.4	12/94	0.5	05/19	
			CLO4	NA	NA	NA	NA	
			AS	0.7	08/96	0.7	08/96	
13	MUNICIPAL	ACTIVE	VOCS	ND	08/96	ND	12/22	
			NITRATE (N)	1.6	09/09	1.2	12/22	
			CLO4	ND	07/97	ND	09/22	
			AS	3.3	06/21	3.3	06/21	
			CR6	15.0	06/22	11.0	12/22	
TAYLOR HERB GARDEN								
NA	IRRIGATION	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
TEXACO INC.								
14	INDUSTRIAL	DESTROYED	PCE	40.0	07/01	2.8	09/03	
			TCE	5.0	05/85	ND	09/03	
			1,2-DCA	0.6	01/96	ND	09/03	
			NITRATE (N)	7.5	07/01	1.4	09/03	
			CLO4	ND	09/97	ND	09/97	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
THOMPSON, EARL W.								
01	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
TOMOVICH (NICK) & SON								
NA	DOMESTIC	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
TRAN, HIEU								
TRAN	IRRIGATION	ACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
TYLER NURSERY								
NA	IRRIGATION	INACTIVE	TCE	12.9	12/99	1.2	09/04	
			PCE	44.6	12/99	1.2	09/04	
			1,1-DCE	0.6	09/02	ND	09/04	
			1,1-DCA	0.9	09/02	ND	09/04	
			C-1,2-DCE	8.7	09/02	ND	09/04	
			NITRATE (N)	7.0	09/02	ND	09/04	
			CLO4	NA	NA	NA	NA	
UNITED CONCRETE PIPE CORPORATION								
NA	INDUSTRIAL	DESTROYED	VOCS	ND	08/89	ND	10/08	
			NITRATE (N)	1.0	08/89	1.0	08/89	
			CLO4	NA	NA	NA	NA	
UNITED ROCK PRODUCTS CORPORATION								
IRW-1	INDUSTRIAL	ACTIVE	VOCS	ND	08/89	ND	10/20	
			NITRATE (N)	1.4	07/96	1.1	10/20	
			CLO4	ND	02/98	ND	02/98	
			AS	ND	04/98	ND	04/98	
IRW-2	INDUSTRIAL	ACTIVE	VOCS	ND	07/96	ND	10/20	
			NITRATE (N)	1.3	12/19	1.2	10/20	
			CLO4	ND	02/98	ND	02/98	
SIERRA	INDUSTRIAL	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
VALENCIA HEIGHTS WATER COMPANY								
01	MUNICIPAL	INACTIVE	VOCS	ND	06/89	ND	07/09	
			NITRATE (N)	10.5	04/99	7.4	07/07	
			CLO4	8.5	08/00	ND	07/09	
			AS	0.7	08/96	ND	07/07	
02	MUNICIPAL	INACTIVE	TCE	0.2	01/80	ND	07/08	
			NITRATE (N)	12.1	07/97	6.1	07/06	
			CLO4	8.0	10/98	4.2	07/08	
			AS	0.9	08/96	ND	07/06	
03A	MUNICIPAL	INACTIVE	VOCS	ND	03/85	ND	03/92	
			NITRATE (N)	7.9	09/89	2.7	08/92	
			CLO4	NA	NA	NA	NA	
04	MUNICIPAL	INACTIVE	PCE	1.0	09/99	ND	09/01	
			NITRATE (N)	20.3	11/97	17.6	03/02	
			CLO4	32.6	11/00	28.0	03/02	
			AS	2.2	07/00	ND	08/00	
			CR6	5.0	11/00	5.0	11/00	
05	MUNICIPAL	ACTIVE	VOCS	ND	06/90	ND	04/22	VULNERABLE
			NITRATE (N)	9.5	08/12	0.5	09/22	(NO3(N),CLO4)
			CLO4	7.2	11/00	ND	10/22	
			AS	0.9	08/96	ND	07/21	
			CR6	1.7	08/13	ND	07/21	
06	MUNICIPAL	ACTIVE	VOCS	ND	12/02	ND	07/22	VULNERABLE
			NITRATE (N)	11.1	06/04	9.1	12/22	(NO3(N),CLO4)
			CLO4	8.9	01/07	4.9	12/22	
			AS	ND	12/02	ND	10/20	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			CR6	8.0	12/02	3.1	10/20	
07	MUNICIPAL	ACTIVE	VOCS	ND	05/08	ND	07/22	VULNERABLE
			NITRATE (N)	9.8	10/18	5.1	12/22	(NO3(N),CLO4)
			CLO4	5.4	10/12	ND	12/22	
			AS	ND	12/09	ND	04/21	
			CR6	2.0	04/21	2.0	04/21	
VALLEY COUNTY WATER DISTRICT								
ARROW	MUNICIPAL	ACTIVE	TCE	700.0	07/82	18.0	11/22	VULNERABLE
			PCE	980.0	12/96	36.0	11/22	(VOC,NO3(N),CLO4)
			1,1-DCE	64.0	12/96	3.8	11/22	
			C-1,2-DCE	59.0	12/96	0.9	11/22	
			CTC	14.5	09/92	ND	11/22	
			1,2-DCA	9.0	02/92	ND	11/22	
			1,1,1-TCA	45.0	12/96	ND	11/22	
			1,1-DCA	2.9	02/95	ND	11/22	
			NITRATE (N)	6.9	11/22	6.9	11/22	
			CLO4	4.3	08/22	4.3	11/22	
			AS	1.6	11/22	1.6	11/22	
			CR6	2.7	11/22	2.7	11/22	
B DALTON	MUNICIPAL	INACTIVE	TCE	137.0	04/85	ND	05/11	
			PCE	8.0	04/85	ND	05/11	
			1,1-DCA	0.9	05/96	ND	05/11	
			C-1,2-DCE	2.0	11/95	ND	05/11	
			CTC	9.9	04/85	ND	05/11	
			1,2-DCA	11.0	12/98	ND	05/11	
			NITRATE (N)	16.3	10/09	16.3	05/11	
			CLO4	99.1	12/98	11.0	05/11	
			AS	5.0	11/95	2.7	09/07	
E NIXON	MUNICIPAL	ACTIVE	TCE	7.0	11/08	ND	12/22	VULNERABLE
(E JOAN)			PCE	11.0	10/04	ND	12/22	(VOC)
			1,1-DCE	1.3	10/04	ND	12/22	
			C-1,2-DCE	1.7	10/04	ND	12/22	
			NITRATE (N)	3.1	02/05	0.7	12/22	
			CLO4	ND	05/97	2.0	12/22	
			AS	3.0	08/06	2.0	08/22	
			CR6	1.0	05/01	0.4	08/22	
E MAINE	MUNICIPAL	ACTIVE	TCE	36.0	10/04	ND	12/22	VULNERABLE
			PCE	110.0	10/04	ND	12/22	(VOC,CLO4)
			1,1-DCE	10.1	02/91	ND	11/22	
			1,2-DCA	1.4	10/04	ND	11/22	
			1,1,1-TCA	9.1	02/91	ND	11/22	
			C-1,2-DCE	13.0	06/03	ND	11/22	
			NITRATE (N)	4.7	02/11	1.0	12/22	
			CLO4	7.8	10/04	2.0	12/22	
			AS	4.4	08/89	2.1	08/20	
			CR6	1.0	05/01	ND	08/20	
LANTE	MUNICIPAL	ACTIVE	TCE	1315.0	04/98	20.0	05/22	VULNERABLE
(SA1-3)			PCE	1200.0	11/96	35.0	05/22	(VOC,NO3(N),CLO4)
			1,1-DCE	110.0	11/96	3.1	08/21	
			C-1,2-DCE	90.0	11/96	1.4	08/21	
			T-1,2-DCE	110.0	04/85	ND	08/21	
			1,1-DCA	18.0	08/04	ND	08/21	
			1,2-DCA	12.5	01/92	ND	08/21	
			CTC	17.6	01/92	ND	08/21	
			1,1,1-TCA	170.0	04/85	ND	08/21	
			NITRATE (N)	11.0	11/18	7.5	05/22	
			CLO4	94.0	04/98	5.2	05/22	
			AS	2.4	01/05	ND	08/21	
			CR6	18.0	01/05	3.3	08/21	
MORADA	MUNICIPAL	INACTIVE	TCE	770.0	03/80	ND	05/11	
			PCE	100.0	02/85	2.2	05/11	
			CTC	29.0	04/84	ND	05/11	
			1,1-DCE	2.5	04/88	ND	05/11	
			1,1-DCA	8.5	02/85	ND	05/11	
			1,2-DCA	0.7	04/88	ND	05/11	
			C-1,2-DCE	8.1	08/95	ND	05/11	
			NITRATE (N)	25.0	11/90	19.3	05/11	
			CLO4	21.0	02/04	11.0	05/11	
			AS	3.6	08/95	3.6	08/95	
PADDY LN	MUNICIPAL	INACTIVE	TCE	166.0	04/94	29.0	05/11	
			PCE	42.0	11/93	3.5	05/11	
			CTC	15.0	12/87	1.0	05/11	
			1,1-DCE	17.2	11/93	1.6	05/11	
			C-1,2-DCE	23.8	11/93	1.9	05/11	
			1,2-DCA	6.6	02/04	2.6	05/11	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			NITRATE (N)	14.2	05/10	8.9	05/11	
			CLO4	154.0	02/98	38.0	05/11	
			AS	ND	06/80	ND	11/94	
PALM	MUNICIPAL	INACTIVE	CTC	48.0	07/82	0.8	02/04	
			TCE	56.0	02/04	56.0	02/04	
			PCE	51.0	02/04	51.0	02/04	
			C-1,2-DCE	7.1	02/04	7.1	02/04	
			1,1,1-TCA	1.8	02/04	1.8	02/04	
			NITRATE (N)	2.5	12/94	2.3	02/04	
			CLO4	5.6	02/04	5.6	02/04	
			AS	ND	10/87	ND	11/92	
W NIXON (W JOAN)	MUNICIPAL	ACTIVE	TCE	4.0	11/04	ND	12/22	VULNERABLE (VOC)
			PCE	8.0	11/04	ND	12/22	
			NITRATE (N)	1.9	08/13	1.0	12/22	
			CLO4	ND	05/97	ND	12/22	
			AS	3.1	08/95	1.9	08/22	
			CR6	1.0	05/01	0.6	08/22	
W MAINE	MUNICIPAL	ACTIVE	TCE	47.3	02/91	ND	12/22	VULNERABLE (VOC,CLO4)
			PCE	70.0	02/03	ND	12/22	
			1,1-DCE	14.2	02/91	ND	11/22	
			1,2-DCA	0.8	08/04	ND	11/22	
			1,1,1-TCA	10.6	02/91	ND	11/22	
			C-1,2-DCE	9.0	02/03	ND	11/22	
			NITRATE (N)	4.7	05/90	0.9	12/22	
			CLO4	6.3	10/04	ND	12/22	
			AS	2.6	07/96	2.1	08/20	
			CR6	1.0	05/01	ND	08/20	
SA1-1	MUNICIPAL	ACTIVE	TCE	34.0	07/05	6.3	09/22	VULNERABLE (VOC,CLO4,NO3(N))
			PCE	47.0	04/07	1.9	09/22	
			1,1-DCA	11.0	07/05	ND	03/22	
			1,1-DCE	110.0	07/05	7.9	03/22	
			1,2-DCA	1.0	07/05	ND	03/22	
			C-1,2-DCE	4.1	07/05	ND	03/22	
			1,1,1-TCA	6.0	05/06	ND	03/22	
			FREON 11	21.0	03/22	21.0	03/22	
			NITRATE (N)	21.0	05/18	17.0	09/22	
			CLO4	17.0	01/05	3.7	09/22	
			AS	1.3	06/03	ND	03/22	
			CR6	2.4	03/06	1.6	03/22	
SA1-2	MUNICIPAL	INACTIVE	TCE	25.0	04/06	2.0	12/09	
			PCE	37.0	05/06	4.8	12/09	
			1,1-DCA	8.7	07/05	ND	12/09	
			1,1-DCE	62.0	04/06	1.2	12/09	
			1,2-DCA	1.0	07/05	ND	12/09	
			C-1,2-DCE	6.2	07/05	ND	12/09	
			1,1,1-TCA	2.2	05/06	ND	12/09	
			NITRATE (N)	16.3	03/05	16.3	05/12	
			CLO4	15.0	03/05	11.0	12/09	
			AS	2.0	03/06	ND	02/09	
			CR6	2.6	03/06	2.0	09/07	
VALLEY VIEW MUTUAL WATER COMPANY								
01	MUNICIPAL	INACTIVE	VOCS	ND	06/89	ND	09/10	
			NITRATE (N)	1.4	09/09	1.3	09/10	
			CLO4	ND	08/97	ND	09/10	
			AS	3.0	09/07	ND	09/10	
			CR6	1.0	11/00	1.0	05/01	
02	MUNICIPAL	ACTIVE	PCE	2.1	09/16	ND	10/22	
			TCE	0.7	09/16	ND	10/22	
			NITRATE (N)	1.8	09/15	1.4	07/22	
			CLO4	ND	08/97	ND	07/22	
			AS	2.0	09/96	ND	07/22	
			CR6	2.5	05/01	0.7	07/22	
03	MUNICIPAL	INACTIVE	TCE	1.3	01/80	ND	03/98	
			NITRATE (N)	6.1	03/98	6.1	03/98	
			CLO4	18.6	03/98	18.6	03/98	
VIA TRUST								
01	NON-POTABLE	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
VULCAN MATERIALS COMPANY (CALMAT COMPANY)								
DUR E	INDUSTRIAL	DESTROYED	TCE	32.0	11/04	ND	10/10	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
			PCE	27.0	11/04	0.9	10/10	
			1,1-DCE	5.3	11/04	ND	10/10	
			C-1,2-DCE	2.8	11/04	ND	10/10	
			1,1,1-TCA	0.7	11/04	ND	10/10	
			NITRATE (N)	3.7	10/04	1.6	10/10	
			CLO4	ND	04/98	ND	10/08	
			AS	ND	04/98	ND	04/98	
DUR W	INDUSTRIAL	DESTROYED	PCE	0.8	02/07	ND	10/09	
			NITRATE (N)	3.6	07/01	3.2	10/09	
			CLO4	4.0	05/98	4.0	05/98	
			AS	2.9	05/98	2.9	05/98	
REL 1	INDUSTRIAL	ACTIVE	VOCS	ND	05/94	ND	10/20	
			NITRATE (N)	1.5	09/02	0.5	10/20	
			CLO4	ND	05/98	ND	05/98	
			AS	4.8	05/94	3.5	07/94	
WADE, RICHARD I.								
NA	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
WEST COVINA VENTURE LIMITED								
NA	NA	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
WHITTIER, CITY OF								
09	MUNICIPAL	DESTROYED	TCE	1.4	04/85	ND	08/89	
			PCE	1.9	10/88	0.6	08/89	
			NITRATE (N)	2.0	08/89	2.0	08/89	
			CLO4	NA	NA	NA	NA	
			AS	ND	07/74	ND	08/89	
10	MUNICIPAL	DESTROYED	VOCS	NA	NA	NA	NA	
			NITRATE (N)	1.5	01/74	1.5	01/74	
			CLO4	NA	NA	NA	NA	
11	MUNICIPAL	DESTROYED	VOCS	ND	06/87	ND	11/90	
			NITRATE (N)	2.3	01/90	2.3	01/90	
			CLO4	NA	NA	NA	NA	
			AS	ND	04/80	ND	08/89	
12	MUNICIPAL	INACTIVE	TCE	1.5	07/88	1.5	07/88	
			PCE	0.7	07/88	0.7	07/88	
			NITRATE (N)	2.3	12/84	1.9	12/85	
			CLO4	NA	NA	NA	NA	
13	MUNICIPAL	ACTIVE	PCE	4.9	11/87	ND	12/22	VULNERABLE
			TCE	1.1	06/87	ND	12/22	(VOC)
			MTBE	6.4	03/02	ND	09/22	
			NITRATE (N)	3.8	03/11	3.0	09/22	
			CLO4	ND	08/97	ND	09/22	
			AS	4.1	03/02	ND	09/20	
			CR6	1.0	05/01	ND	09/20	
15	MUNICIPAL	ACTIVE	PCE	9.4	03/03	ND	12/22	VULNERABLE
			TCE	0.7	09/04	ND	12/22	(VOC)
			C-1,2-DCE	2.5	12/93	ND	12/22	
			NITRATE (N)	2.9	08/89	2.0	09/22	
			CLO4	ND	08/97	ND	09/22	
			AS	3.5	03/02	1.4	09/22	
			CR6	2.2	10/00	0.5	09/22	
16	MUNICIPAL	ACTIVE	PCE	3.4	12/02	1.5	12/22	VULNERABLE
			TCE	1.4	01/97	ND	12/22	(VOC,AS)
			C-1,2-DCE	2.5	10/96	ND	12/22	
			NITRATE (N)	3.0	03/16	2.4	03/22	
			CLO4	ND	08/97	ND	03/22	
			AS	5.8	03/02	2.2	03/20	
			CR6	2.5	05/01	ND	03/20	
17	MUNICIPAL	ACTIVE	PCE	12.0	12/02	2.5	12/22	VULNERABLE
			TCE	2.2	05/92	ND	12/22	(VOC)
			C-1,2-DCE	1.2	04/95	ND	03/22	
			NITRATE (N)	2.9	03/03	2.0	03/22	
			CLO4	ND	08/97	ND	03/22	
			AS	3.4	03/02	ND	03/22	
			CR6	1.6	10/00	1.1	03/22	

WELL NAME	USAGE	STATUS	CONCENTRATION (NITRATE IN MG/L, OTHERS IN UG/L)					REMARKS
			CONTAMINANT OF CONCERN	HISTORIC HIGH		MOST RECENT		
				VALUE	DATE	VALUE	DATE	
18	MUNICIPAL	ACTIVE	PCE	9.3	12/18	5.6	12/20	VULNERABLE
			TCE	2.4	11/95	0.6	06/21	(VOC)
			C-1,2-DCE	0.7	10/96	ND	06/21	
			NITRATE (N)	3.4	03/17	3.0	03/21	
			CLO4	ND	08/97	ND	03/21	
			AS	4.1	03/02	ND	03/21	
			CR6	1.0	10/00	ND	03/21	
WILMOTT, ERMA M.								
01	DOMESTIC	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
WOODLAND, RICHARD								
01	NON-POTABLE	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
02	NON-POTABLE	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
WORKMAN MILL INVESTMENT COMPANY (ROSE HILLS MEMORIAL PARK)								
04	IRRIGATION	INACTIVE	PCE	5.3	08/87	ND	10/09	
			TCE	11.0	04/85	ND	10/09	
			1,1-DCE	14.0	04/85	ND	10/09	
			1,1,1-TCA	3.3	04/85	ND	10/09	
			NITRATE (N)	11.9	02/07	9.7	10/10	
			CLO4	ND	06/98	ND	06/98	
01	IRRIGATION	INACTIVE	VOCS	NA	NA	NA	NA	
			NITRATE (N)	NA	NA	NA	NA	
			CLO4	NA	NA	NA	NA	
02	IRRIGATION	INACTIVE	PCE	8.6	04/85	ND	10/04	
			TCE	11.0	04/85	ND	10/04	
			NITRATE (N)	20.6	10/04	20.6	10/04	
			CLO4	ND	06/98	ND	06/98	
01	IRRIGATION	INACTIVE	TCE	6.1	04/87	ND	10/10	
			PCE	6.4	11/87	1.1	10/10	
			1,2-DCA	0.8	01/96	ND	10/10	
			1,1-DCE	1.0	04/87	ND	10/10	
			C-1,2-DCE	2.6	05/85	ND	10/10	
			NITRATE (N)	10.2	02/98	7.0	10/10	
			CLO4	ND	02/98	ND	02/98	
			AS	3.0	06/95	2.1	06/96	
03	IRRIGATION	INACTIVE	TCE	21.0	05/85	ND	09/05	
			PCE	7.4	05/85	ND	09/05	
			1,1-DCE	2.7	05/85	ND	09/05	
			C-1,2-DCE	28.0	05/85	ND	09/05	
			1,1-DCA	1.1	05/85	ND	09/05	
			1,1,1-TCA	7.5	05/85	ND	09/05	
			NITRATE (N)	10.5	08/00	5.8	09/05	
			CLO4	ND	02/98	ND	02/98	

NOTES	CONTAMINANT	MAXIMUM CONTAMINANT LEVEL	REPORTING LIMIT	REMARKS	
	1,1-Dichloroethane (1,1-DCA)	5 micrograms per liter (ug/L)	0.5 ug/L	NA	Not Available
	1,1-Dichloroethylene (1,1-DCE)	6 ug/L	0.5 ug/L	ND	Not Detected above Reporting Limit
	1,1,1-Trichloroethane (1,1,1-TCA)	200 ug/L	0.5 ug/L	NL	Notification Level
	1,1,2,2-Tetrachloroethane (1,1,2,2-PCA)	1 ug/L	0.5 ug/L	VOCS	Volatile Organic Compounds
	1,2-Dichloroethane (1,2-DCA)	0.5 ug/L	0.5 ug/L		
	Arsenic (AS)	10 ug/L	2.0 ug/L		
	Perchlorate (CLO4)	6 ug/L	2.0 ug/L (1.0 ug/L effective 01/01/2024)		
	Carbon Tetrachloride (CTC)	0.5 ug/L	0.5 ug/L		
	Cis-1,2-Dichloroethylene (c-1,2-DCE)	6 ug/L	0.5 ug/L		
	Hexavalent Chromium (CR6)	NA	NA		
	Trichlorofluoromethane (Freon 11)	150 ug/L	5.0 ug/L		
	Trichlorotrifluoroethane (Freon 113)	1200 ug/L	10.0 ug/L		
	Methyl Tert-Butyl Ether (MTBE)	13 ug/L	3.0 ug/L		
	Nitrate as Nitrogen (NITRATE [N])	10 mg/L	0.4 mg/L		
	Tetrachloroethylene (PCE)	5 ug/L	0.5 ug/L		
	Trichloroethylene (TCE)	5 ug/L	0.5 ug/L		
	Trans-1,2-Dichloroethylene (t-1,2-DCE)	10 ug/L	0.5 ug/L		
	Vinyl Chloride (VC)	0.5 ug/L	0.5 ug/L		

APPENDIX D.
POTENTIAL SITES FOR AQUIFER PERFORMANCE TESTS

APPENDIX D
POTENTIAL SITES FOR AQUIFER PERFORMANCE TESTS

NAME	RECORD.	USAGE	STATUS	PERF. (1)	FUNCTION	REMARKS
ALHAMBRA, CITY OF						
LON 1	1902789	MUNICIPAL	ACTIVE	411-800	MONITORING	
LON 2	1900017	MUNICIPAL	ACTIVE	296-563	PUMPING	
AZUSA, CITY OF						
NO. 12	8000179	MUNICIPAL	ACTIVE	206-311	PUMPING	
NO. 11	8000178	MUNICIPAL	ACTIVE	200-320	MONITORING	
CALIFORNIA AMERICAN WATER COMPANY/DUARTE						
B V	1900035	MUNICIPAL	STANDBY	300-580	PUMPING	
B V 2	8000216	MUNICIPAL	ACTIVE	300-700	MONITORING	
CALIFORNIA DOMESTIC WATER COMPANY						
05A	8000100	MUNICIPAL	ACTIVE	?-920	PUMPING	
06	1902967	MUNICIPAL	ACTIVE	200-800	MONITORING	
GLENDORA, CITY OF						
05-E	8000149	MUNICIPAL	ACTIVE	150-400	PUMPING	
NA	1903119	INDUSTRIAL	INACTIVE	?-220	MONITORING	OWL ROCK PRODUCTS WELL
GOLDEN STATE WATER COMPANY (SOUTHERN CALIFORNIA WATER COMPANY)/SAN DIMAS DISTRICT						
COL-4	1902268	MUNICIPAL	ACTIVE	122-190	PUMPING	
COL-6	1902270	MUNICIPAL	INACTIVE	?-414	MONITORING	
GOLDEN STATE WATER COMPANY (SOUTHERN CALIFORNIA WATER COMPANY)/SAN GABRIEL VALLEY DISTRICT						
FAR 1	1902034	MUNICIPAL	ACTIVE	274-455	PUMPING	
FAR 2	1902948	MUNICIPAL	ACTIVE	229-600	MONITORING	
SG 1	1900510	MUNICIPAL	ACTIVE	190-411	MONITORING	
SG 2	1900511	MUNICIPAL	ACTIVE	209-393	PUMPING	
RURBAN HOMES MUTUAL WATER COMPANY						
NORTH 1	1900120	MUNICIPAL	ACTIVE	140-190	MONITORING	
SOUTH 2	1900121	MUNICIPAL	INACTIVE	125-165	PUMPING	
SAN GABRIEL COUNTY WATER DISTRICT						
05 BRA	1901669	MUNICIPAL	INACTIVE	450-800	MONITORING	
11	8000067	MUNICIPAL	ACTIVE	350-800	PUMPING	
12	8000123	MUNICIPAL	ACTIVE	470-1320	MONITORING	
SAN GABRIEL VALLEY WATER COMPANY						
B24A	8000203	MUNICIPAL	ACTIVE	600-1150	PUMPING	
B24B	8000204	MUNICIPAL	ACTIVE	600-1150	MONITORING	

NAME	RECORD.	USAGE	STATUS	PERF. (1)	FUNCTION	REMARKS
SUBURBAN WATER SYSTEMS						
201W-9	8000208	MUNICIPAL	ACTIVE	260-650	PUMPING	
201W-7	8000195	MUNICIPAL	ACTIVE	200-650	MONITORING	
201W-8	8000198	MUNICIPAL	ACTIVE	200-650	MONITORING	
201W-10	8000210	MUNICIPAL	ACTIVE	NA	MONITORING	
VALLEY COUNTY WATER DISTRICT						
E NIXON (JOANBRIDGE)	1900032	MUNICIPAL	ACTIVE	300-586	MONITORING	ALTERNATE FOR MAINE SITE
W NIXON (JOANBRIDGE)	1902356	MUNICIPAL	ACTIVE	300-584	PUMPING	
E MAINE	1900027	MUNICIPAL	ACTIVE	250-580	PUMPING	ALTERNATE FOR NIXON SITE
W MAINE	1900028	MUNICIPAL	ACTIVE	250-580	MONITORING	
VALLEY VIEW MUTUAL WATER COMPANY						
01	1900363	MUNICIPAL	INACTIVE	300-585	MONITORING	
02	1900364	MUNICIPAL	ACTIVE	300-535	PUMPING	
03	1900365	MUNICIPAL	INACTIVE	100-200	MONITORING	
WORKMAN MILL INVESTMENT COMPANY (ROSE HILLS MEMORIAL PARK)						
01	1900094	IRRIGATION	INACTIVE	137-264	PUMPING	
ROSE HILLS	8000004	MUNICIPAL	INACTIVE	?-200	MONITORING	BEVERLY ACRES MWC

NOTES

NA: NOT AVAILABLE
RECORD.: RECORDATION NUMBER
PERF.: PERFORATION INTERVAL
(1) TOP OF THE TOP INTERVAL - BOTTOM OF THE BOTTOM INTERVAL (DEPTH BELOW GROUND SURFACE IN FEET)

APPENDIX E.

SUMMARY OF TREATMENT FACILITY ACTIVITY IN THE MAIN SAN GABRIEL BASIN

APPENDIX E
SUMMARY OF HISTORY AND ACTIVITIES OF OPERABLE UNITS

BALDWIN PARK OPERABLE UNIT (BPOU)

BPOU Background. The BPOU is a seven-mile-long, one-mile-wide area of groundwater contamination east of the San Gabriel River, stretching from north of the I-210 Freeway in Azusa to south of the I-10 Freeway in Baldwin Park (see Figure 12). The contamination primarily has resulted from the improper use and disposal of industrial chemicals in the Azusa area, and it continues to spread generally in a southwesterly direction.

BPOU Cleanup Progress. The United States Environmental Protection Agency (USEPA) originally issued its Record of Decision (ROD), or cleanup plan, for the BPOU in the mid-1990s. The ROD calls for pumping and treating groundwater in the northern area, where contaminant concentrations are highest, and in the southern area to limit further migration of contaminants. The ROD initially involved pumping and treating an average of about 7,000 gallons per minute (gpm) in the northern area and 16,000 gpm in the southern area. During 2015, the extraction rates were modified and now require pumping and treating an average of about 6,000 gpm in the northern area and 23,750 gpm in the southern area. The ROD also recommends using existing water supply wells, treatment systems, and pipelines when feasible. Importantly, the plan encourages adding the treated water to the potable supply rather than simply recharging it back into the ground or discharging it to storm drains.

In 2002, after several years of negotiation led by Watermaster, 8 of the BPOU Responsible Parties (called Cooperating Respondents, or CRs) and 7 water entities signed the BPOU Project Agreement. Under this landmark agreement, Watermaster provides overall project management and project coordination services. Under the original agreement, the CRs paid the cost to construct the USEPA-required BPOU cleanup facilities and were required to continue to provide funding to operate the facilities for about 15 years—through 2017. Subsequently, the BPOU Project Agreement was extended an additional 10 years through 2027.

The BPOU Project consists of 4 centralized treatment facilities with a combined extraction and treatment capacity of up to 33,900 gpm and a target average pumping and treatment rate of 29,750 gpm. Those treatment facilities are located at Valley County Water District's Lante Plant (7,800 gpm), San Gabriel Valley Water Company's Plant B6 (7,800 gpm) and Plant B5 (7,800 gpm), California Domestic Water Company's (CDWC) Bassett Plant (8,000 gpm), and La Puente Valley County Water District's (LPVCWD) site (2,500 gpm).

Valley County Water District (VCWD) Project. In the northerly portion of the BPOU, the VCWD Project consists of 3 extraction wells. The wells pump up to 7,800 gpm (target average annual pumping rate of 6,000 gpm) to a centralized treatment facility at the VCWD Lante Plant. The VCWD Project consists of separate facilities to treat Volatile Organic Compounds (VOCs), 1,2,3-TCP, perchlorate, N-nitrosodimethylamine (NDMA), and 1,4- dioxane. In addition, a treated-water pipeline provides up to 6,000 gpm of fully treated water to Suburban Water Systems (SWS) to offset production lost due to contamination of some of its wells; VCWD can use the remaining portion of the treated water. The VCWD Project began operation for contamination cleanup in 2006 and received its Department of Drinking Water (DDW)operating permit in July 2007 to provide potable water to customers. Since operation began in 2006, the VCWD treatment facility has treated about 93,500 acre-feet, and has removed about 46,000 pounds of contaminants, as shown in the table at the end of this Appendix (E).

LPVCWD Project. The LPVCWD consists of 3 existing production wells. Well-pumping capacity is limited to 2,500 gpm to equal the capacity of the treatment facility (target average annual pumping rate of 2,250 gpm). The LPVCWD project consists of separate facilities to treat VOCs, perchlorate, NDMA, 1,4-dioxane and nitrate. The LPVCWD project is permitted by DDW and has been operating since March 2001. Treated water in excess of LPVCWD's needs is provided to SWS to enable the treatment facility to operate continuously. Since operation

began, the LPVCWD treatment facility has treated about 90,400 acre-feet (including prior operations with only VOC treatment) and removed about 13,800 pounds of contaminants, as shown in the table at the end of this Appendix (E).

San Gabriel Valley Water Company (SGVWC) B6 Project. The SGVWC B6 project is permitted by DDW and has been operational since July 2005. The B6 project consists of 4 extraction wells and a centralized treatment facility that treats up to 7,800 gpm (target average annual pumping rate of 6,500 gpm). The facility treats the contaminated groundwater for VOCs, perchlorate, NDMA, 1,4-dioxane, and nitrate. The treated water is provided to SGVWC customers. Since operation began, the SGVWC B6 treatment facility has treated about 176,000 acre-feet (including prior operations with only VOC treatment) and removed about 34,100 pounds of contaminants, as shown in the table at the end of this Appendix (E).

SGVWC B5 Project. The SGVWC B5 Project consists of 4 wells that provide up to 7,800 gpm (target average annual pumping rate of 7,000 gpm) to a centralized treatment facility located at the SGVWC B5 site. The facility treats the contaminated water for VOCs, perchlorate, NDMA, and 1,4-dioxane. The treated water is provided to City of Industry customers (1,000 gpm), and the balance (6,000 gpm) is provided to SGVWC customers. DDW permitted the SGVWC B5 Project in fiscal year 2007–08. Since operation began in 2007, the SGVWC B5 treatment facility has treated about 164,600 acre-feet and has removed about 6,500 pounds of contaminants, as shown in the table at the end of this Appendix (E).

CDWC Project. The CDWC Project consists of 6 existing wells that provide up to 15,000 gpm (target average annual pumping rate of 8,000 gpm) to a centralized treatment facility located at the CDWC Bassett site. The facility treats the contaminated water for VOCs, perchlorate, and NDMA. The treated water is provided to CDWC customers. DDW permitted the CDWC Project in 1993. Since operation began in 1993, the CDWC treatment facility has treated about 427,400 acre-feet and has removed about 26,200 pounds of contaminants, as shown in the table at the end of this Appendix (E).

Purveyor Projects. In addition to the USEPA-required BPOU facilities, Watermaster has issued permits under Section 28 of its Rules and Regulations to SWS to construct new wells that are also used to blend with wells impacted by contaminants. These activities reduce reliance on expensive imported water and contribute to contaminant removal.

BPOU Current and Upcoming Activities. Watermaster regularly reviews water quality data to evaluate the impact the production wells and specially constructed extraction wells have on control of contamination migration. It is difficult to develop a precise picture of the geographic extent of contamination because water quality is obtained from numerous wells that produce water from different depths below the groundwater table. Figure 18 (see Appendix F) shows the approximate extent of VOC contamination from about 5 years ago and from current data. It also shows the approximate geographic extent of VOC contamination, using engineering judgment, for 5 years into the future. The 2022–23 plume indicates treatment facilities are controlling plume movement. Watermaster anticipates that the area of the VOC plume will continue to decrease, as shown on the 2027–28 plume. Similarly, Figure 19 (see Appendix F) shows the approximate extent of perchlorate. The series of 3 plume characterizations indicate that plume movement is expected to be controlled and, similar to VOCs, continue to decrease in the future (2027–28).

Watermaster routinely assess water quality data and the potential impact from production wells and USEPA remedy wells to ensure an effective control of plume movement. Unlike the depth specific monitoring well, the water quality data collected from production wells is a composite of samples from various depths, making it challenging to precisely map the spatial and vertical extent of contaminant plume. Figure 18 (see Appendix F) shows the changes in VOC plumes from fiscal year 2017-18, the present, and fiscal year 2027-28. The VOC plume maps for fiscal year 2017-18 and the present were delineated based on the available measurements, while the fiscal year 2027-28 VOC plume relied on the general water quality trend and engineering-informed

approximations. The current plume, observed in fiscal year 2022–23, suggests that treatment facilities effectively control plume movement. Due to this effective control and continuous decrease in VOC concentrations, Watermaster anticipates the the area covered by the VCO plume will continue its decline trend, as demonstrated by the fiscal year 2027-28 VOC plume projection. LIkewise, Figure 19 (see Appendix F) illustrates an approximation of the extent of perchlorate contamination. A series of 3 plume delineations indicates that the movement of perchlorate can be effectively managed and, similar to VOCs, is expected to decrease in the future (fiscal year 2027–28).

In coordination with BPOU Producers, the CRs, and USEPA, Watermaster will continue to investigate, test, construct, and permit more efficient treatment facilities that provide the necessary treatment, reliability, and water quality at the lowest possible long-term cost. This includes using different granular activated carbons to remove VOCs, ion-exchange resins to remove perchlorate, and pressurized ultraviolet light vessels to remove NDMA and 1,4-dioxane. Watermaster updates records on all treatment facilities every quarter.

In September 2022, USEPA completed the fourth Five-Year Review Report for the BPOU. In April 2023, USEPA completed the 2022 Annual Performance Evaluation Report for the BPOU.

Watermaster will continue coordinating BPOU cleanup activities among the various parties to the BPOU Project Agreement through at least 2027, interfacing with USEPA and overseeing agreements between water purveyors to use the treated water. With all of the BPOU facilities now operational, Watermaster is also coordinating the collection of field data, such as water production, water quality, and water levels, and is providing BPOU Project performance reports to USEPA in cooperation with the CRs. The projects will ensure an adequate water supply for the BPOU area. These projects are consistent with the USEPA ROD, meet contaminant removal and containment requirements, and meet local water supply needs.

SOUTH EL MONTE OPERABLE UNIT (SEMOU)

SEMOU Background. The SEMOU covers approximately 8 square miles in the south-central portion of the Basin. It is bounded by the I-10 Freeway, the 60 Freeway, the I-605 Freeway, and San Gabriel Boulevard (see Figure 12).

SEMOU Cleanup Progress. A ROD for the SEMOU was issued in 2000, addressing VOC contamination in a limited area. Subsequently, additional water supply wells became contaminated, and new contaminants, including perchlorate, were detected in wells in the SEMOU area.

In November 2005, USEPA revisited its ROD and issued an Explanation of Significant Differences (ESD) indicating that SEMOU cleanup projects would also address the treatment of perchlorate. In the meantime, area water purveyors impacted by contaminant migration and new perchlorate detections were forced to construct new or additional treatment facilities to maintain safe, reliable water supplies. The City of Monterey Park, SGVWC, and Golden State Water Company (GSWC) have all constructed new or additional treatment facilities within SEMOU. The San Gabriel Basin Water Quality Authority (WQA) has assisted the Producers by securing outside funding to help offset project costs.

Monterey Park Project. Monterey Park constructed a water treatment facility at its Delta Plant to treat VOCs and perchlorate. Monterey Park Well No. 9 (which only had detectable concentrations of VOCs) began operating through the VOC treatment facility in April 2002. Following construction and permitting of the perchlorate treatment facility, Monterey Park Well No. 12 began operation in spring 2005.

Monterey Park began operation of Well No. 15 in summer 2006. Monterey Park Wells No. 12 and No. 15 are operated consistent with the SEMOU ROD. Watermaster and Monterey Park maintain data on water quality in monitoring wells located up-gradient of wells No. 9, 12, and 15. Since the treatment facility began operation, about 103,800 acre-feet of water have been treated and about 16,600 pounds of contaminants removed from the groundwater, as shown in the table at the end of this Appendix (E).

SGVWC Plant 8 Project. SGVWC Plant 8 VOC Treatment Facility has a capacity of 5,000 gpm and has been in operation since fiscal year 2001–02. In response to increasing VOC concentrations, SGVWC voluntarily constructed supplemental VOC treatment at Plant 8. The supplemental VOC treatment facility was permitted by DDW in September 2006 and went online in December 2006. SGVWC plans to construct a 1,4-dioxane treatment facility within the next 5 years. Since the original VOC treatment facility began operation, about 62,200 acre-feet of water have been treated, and about 10,800 pounds of contaminants have been removed from the groundwater, as shown in the table at the end of this Appendix (E).

GSWC Project. GSWC VOC treatment facility at San Gabriel wells No. 1 and 2 had been permitted and operating but were voluntarily removed from operation after establishing the revised Perchlorate Notification Level (NL) in 2002. Subsequently, GSWC installed an ion-exchange system to remove perchlorate and has resumed operation at its San Gabriel Well No. 1. The facility has treated about 29,800 acre-feet of water and removed about 800 pounds of contaminants, as shown in the table at the end of this Appendix (E).

SEMOU Current and Upcoming Activities. USEPA prepared a SEMOU/WNOU Supplemental Feasibility Study, which would evaluate remedial alternatives with different goals and was made available in early 2021. In addition, USEPA also prepared an Enhanced Remedial Alternative Study for the SEMOU/WNOU, which would evaluate a range of potential remedy enhancements and was made available in early 2021. In September 2021, USEPA completed a Five-Year Review of the current cleanup plan. In October 2022, USEPA completed an Enhanced Remedial Alternatives Study for the SEMOU.

Over the next 5 years, Watermaster will continue reviewing all proposed treatment facilities modifications through the Section 28 permitting process. In addition, Watermaster will participate in planning/progress meetings which are held every quarter. Watermaster maintains records on all treatment facilities every quarter.

EL MONTE OPERABLE UNIT (EMOU)

EMOU Background. The EMOU covers an area of about 10 square miles in the south-central portion of the Basin. It is bounded by the I-10 Freeway on the south, Rosemead Boulevard on the west, and Santa Anita Avenue and Rio Hondo on the east. The northern boundary generally follows Lower Azusa Road (see Figure 12). While shallow contamination is found throughout the EMOU, deep (intermediate zone) contamination is found in the northwest and eastern area of the EMOU.

EMOU Cleanup Progress. The USEPA's ROD for the EMOU includes numerous small, shallow extraction wells and treatment, along with 2 areas of deep extraction and treatment. Due to generally poor water quality in the area, the shallow groundwater will not be used for a potable supply. The deep extractions are recommended for potable use by local water purveyors. The remediation efforts are separated into "Westside" and "Eastside" activities.

EMOU Westside Projects. There are plans to clean up contaminants in the shallow aquifer. The shallow-zone water is treated for VOCs, discharged to an adjacent channel, and infiltrated back into the Basin as fully treated water. The treatment facility (Hermetic Seal) has treated about 600 acre-feet and removed about 60 pounds of contaminants, as shown in the table at the end of this Appendix (E). The deep-zone extraction and treatment in the northwest area are being accomplished by the existing Encinitas Wellfield and Treatment Facility owned by GSWC, which began operation in 1998. The GSWC treatment facility has treated about 37,100 acre-feet of water and has removed about 800 pounds of contaminants, as shown in the table at the end of this Appendix (E). In July 2002, USEPA issued an ESD, which indicated that perchlorate, NDMA, 1,4-dioxane, and hexavalent chromium had been detected in excess of DDW notification levels. In the event that water from extraction wells cannot be blended to acceptable levels, additional treatment facilities will need to be installed, significantly increasing cleanup costs. Thus far, extraction and treatment of VOCs at GSWC Encinitas Plant have not been impacted.

EMOU Eastside Projects. On the Eastside, the shallow-zone water is treated for VOCs, discharged to an adjacent channel, and infiltrated back into the Basin as fully treated water. The treatment facility (Gould/Johnson Controls) has treated about 300 acre-feet and removed about 50 pounds of contaminants, as shown in the table at the end of this Appendix (E). The deep-zone extraction and treatment in the northwest area are being accomplished by 3 new extraction wells that began operation during 2015–16. The operation of the treatment facility and use of the treated water were transferred to the City of El Monte in early 2019. The treatment facility has treated about 6,700 acre-feet of water and has removed about 400 pounds of contaminants, as shown in the table at the end of this Appendix (E).

EMOU Current and Upcoming Activities. In September 2021, USEPA completed a Five-Year Review of the current cleanup plan. Over the next 5 years, Watermaster will continue reviewing all proposed treatment facilities modifications through the Section 28 permitting process. In addition, Watermaster will participate in planning/progress meetings held every quarter and will maintain records on all treatment facilities every quarter.

PUENTE VALLEY OPERABLE UNIT (PVOU)

PVOU Background. The PVOU lies in the southeastern portion of the Basin, essentially bounded by the 60 Freeway on the south, Azusa Avenue on the east, and the I-10 Freeway on the north (see Figure 12). The PVOU encompasses the Puente Valley, which is tributary to the southeasterly portion of the Basin. Contamination in the PVOU includes various VOCs. All aquifers within the PVOU (shallow, intermediate, and deep) are considered sources of municipal water supplies. When significant, but not fundamental changes are needed in a Superfund cleanup plan, EPA informs the community through an ESD. The 1998 Interim Record of Decision (IROD) was updated through an ESD in June 2005 to add 2 emergent chemicals, 1,4-dioxane and perchlorate.

PVOU Cleanup Progress. The USEPA issued a ROD for the PVOU. The plan identified in the ROD includes extraction and treatment of groundwater within the shallow and intermediate zones from wells located in the center of the PVOU.

PVOU Shallow-Zone Project. The cleanup plan for shallow-zone contamination includes 9 wells that will collectively produce about 1,000 gpm. Due to the poor quality of shallow-zone water (which is high in naturally occurring dissolved solids), the water will not be used as drinking water but will instead be treated to remove VOCs and then recharged back into the Basin. Watermaster has developed an agreement with the Responsible Party to allow production and discharge of the PVOU shallow-zone water.

PVOU Intermediate Zone. Watermaster is working with USEPA, Responsible Parties, and local water entities to develop a cleanup solution that meets potable water supply needs. The intermediate zone extraction and treatment are being accomplished by 7 extraction wells that will begin operation during 2023-24. La Puente Valley Water Company will operate the treatment facility and be the end user of the treated water and can distribute the treated water to other purveyors including SWS.

PVOU Current and Upcoming Activities. The USEPA updated the Superfund cleanup plan for the PVOU through an ESD in August 2022 to allow reinjection as a discharge option for treated groundwater water; to provide a response to the detection of hexavalent chromium in PVOU groundwater; to define the discharge of treated groundwater to surface water as an offsite activity; to describe updates to the conceptual site model; to update levels at which site contaminants require containment; to clarify lead agency regulatory oversight for the shallow zone south of Puente Creek; and to update groundwater monitoring requirements for the interim groundwater remedy. USEPA completed the third Five-Year Review in 2021. Over the next 5 years, it is anticipated that the intermediate-zone extraction wells and treatment facility will be permitted and begin supplying treated water. Watermaster will continue to review all proposed modifications to the treatment facilities through the Section 28 permitting process. In addition, Watermaster will participate in

planning/progress meetings, which are held every quarter. Watermaster also maintains records on all treatment facilities every quarter.

WHITTIER NARROWS OPERABLE UNIT (WNOU)

WNOU Background. The USEPA declared the WNOU a "fund-lead" project, meaning that the USEPA (with the State) has funded the design, construction, and operation of the remedy and will seek cost recovery from Responsible Parties later. The USEPA cleanup plan involves a series of shallow- and intermediate-zone extraction wells with treatment (see Figure 11).

WNOU Cleanup Progress. As of May 2013, the responsibility for the WNOU was transferred from USEPA to the California Department of Toxic Substances Control (DTSC). Furthermore, the WNOU Shallow-Zone Project (as described below) ceased operation in 2013 due to improved water quality.

WNOU Shallow-Zone Project Ceased Operation in 2012–13. During fiscal year 2002–03, NDMA was detected in some shallow extraction wells, prolonging the testing and review process for the shallow-zone water through June 2007. Studies indicated that the shallow-zone contamination could be adequately contained at an extraction rate of 2,500 gpm. Treated shallow-zone water has been discharged for conservation and recreational use at Legg Lake. Watermaster entered into a production agreement with USEPA and the County of Los Angeles regarding the accounting of that water. Since production began at the WNOU facility, over 30,000 acre-feet of groundwater have been treated, and over 1,620 pounds of contaminants have been removed. During fiscal year 2012–13, the WNOU's Shallow-Zone Project ceased operation.

WNOU Intermediate-Zone Project. The City of Whittier obtained a DDW permit to use the 6,000 gpm of treated intermediate-zone water for municipal use instead of producing water from its existing wells. In April 2013, the City of Whittier ceased taking treated intermediate-zone water. Subsequently, the treated intermediate-zone water production was increased, and the balance was delivered to Legg Lake while DTSC negotiates with a municipal water supplier to accept additional treated intermediate-zone water. Since production began in late 2005, about 65,800 acre-feet of groundwater have been treated and about 1,900 pounds of contaminants removed, as shown in the table at the end of this Appendix (E).

WNOU Current and Upcoming Activities. In early 2021, USEPA made available: a SEMOU/WNOU Supplemental Feasibility Study that evaluated remedial alternatives with different goals. In the same month, USEPA also made available an Enhanced Remedial Alternative Study for the SEMOU/WNOU to evaluate a range of potential remedy enhancements. In September 2021, USEPA completed a Five-Year Review of the current cleanup plan.

Over the next 5 years, it is anticipated that SGVWC will operate the intermediate-zone extraction wells and treatment facility, including a blend plan, and will take treated water for potable use in addition to continued deliveries to Legg Lake. This will enable the WNOU treatment facility to produce more water and put all the water to beneficial uses. Watermaster will continue to review all proposed modifications to the treatment facility through the Section 28 permitting process. In addition, Watermaster will participate in planning/progress meetings, which are held every quarter. Watermaster maintains records on all treatment facilities every quarter.

AREA 3 OPERABLE UNIT

Area 3 Background. The Area 3 Operable Unit is located in the western portion of the Basin. It is generally bounded on the south by the I-10 Freeway, on the east by Rosemead Boulevard, on the north by Huntington Drive, and the west by the boundary of the Main Basin (see Figure 12).

Area 3 Cleanup Progress. USEPA has installed a series of monitoring wells to collect water quality data to supplement data collected from water supply wells and has initiated a Remedial Investigation and Feasibility Study to identify the extent of the contamination and evaluate appropriate cleanup remedies.

Watermaster issued a permit during 2005–06 to the City of Alhambra to construct a treatment facility to remove VOCs from wells No. 7, 8, 11, and 12. The treatment facility became operational in April 2009, prior to USEPA's

development of a final remedy, but it is necessary for Alhambra to receive a reliable source of supply from the groundwater Basin. The facility has treated about 35,000 acre-feet and has removed about 1,400 pounds of contaminants, as shown in the table at the end of this Appendix (E).

Area 3 Current and Upcoming Activities. USEPA will finish the groundwater investigation and develop the next steps for potential action. Watermaster will continue to review all proposed modifications to the treatment facility through the Section 28 permitting process. In addition, Watermaster will participate in planning/progress meetings held every quarter.

Watermaster maintains records on all treatment facilities every quarter.

APPENDIX E

SUMMARY OF TREATMENT FACILITY ACTIVITY IN THE MAIN SAN GABRIEL BASIN AS OF JUNE 30, 2023

Operable Unit / Treatment Facilty Owner	Treatment Facility(s)	Start Date 1/	Total Water Treated		Total Contaminants Removed	
			Fiscal Year 2022-23 (Acre-feet)	Accum. Total (Acre-feet)	Fiscal Year 2022-23 (Pounds)	Accum. Total (Pounds)
AREA 3						
ALHAMBRA, CITY OF	Well No. 7	July 2001	—	7,582.35	—	130.1
	Well No. 7, 8, 11 & 12	April 2009	1,401.24	34,967.96	25.7	1,363.0
BPOU						
CALIFORNIA DOMESTIC WATER COMPANY	Well No. 3, Well No. 5A Well No. 6, & Well No. 10	September 1993 April 1997	13,570.18	427,360.92	2,030.7	26,170.7
LA PUENTE VALLEY COUNTY WATER DISTRICT	Well No. 2, 3 & 4	August 1992	—	11,493.13	—	826.9
	Well No. 2, 3 & 5 (BPOU)	January 2000	3,722.64	78,879.15	412.6	12,924.2
SAN GABRIEL VALLEY WATER COMPANY	Well B6C 2/	April 1994	—	5,194.17	—	856.2
	Well B6D 2/	April 1994	—	14,526.27	—	421.7
	Plant B5 (BPOU)	January 2007	10,760.52	164,603.86	398.7	6,529.4
	Plant B6 (BPOU)	September 2004	8,179.95	156,251.06	1,782.6	32,782.9
VALLEY COUNTY WATER DISTRICT	Lante	June 1984	—	7,719.61	—	10,356.7
	Lante, SA1-1, SA1-2, & SA1-4 (BPOU)	December 2004	4,289.87	93,520.23	643.4	46,024.4
EMOU						
ADAMS RANCH MUTUAL WATER COMPANY	Well No. 3 2/	November 2003	—	881.58	—	32.7
EL MONTE, CITY OF	Well No. 14, 15 & 16 3/	January 2019	923.00	6,689.31	80.4	434.8
GOULD AND JOHNSON CONTROLS	EMOU (Shallow Zone)	October 2015	25.81	317.60	2.9	47.7
GOLDEN STATE WATER COMPANY (SGV)	Encinita No. 1, 2 & 3	April 1998	1,633.97	37,125.27	28.0	825.7
HERMETIC SEAL CORPORATION	Hermetic Seal	May 2012	37.97	584.18	3.6	57.3
PVOU						
BDP - CARRIER	Carrier 2/	April 1988	0.00	6,789.57	0.0	2,843.1
SEMOU						
MONTEREY PARK, CITY OF	Well No. 5	September 1999	0.00	20,090.00	0.0	1,404.2
	Well No. 9 & 12, 15	April 2002	3,649.46	103,809.55	365.2	16,643.4
SAN GABRIEL VALLEY WATER COMPANY	Well 8B, 8C, 8D & 8E	August 2002	3,011.58	62,180.70	643.0	10,753.6
GOLDEN STATE WATER COMPANY (SGV)	San Gabriel No.1 & 2	November 2001	1,461.15	29,757.84	35.5	827.8
WNOU						
EPA	WNOU (Shallow Zone) 2/	December 1999	—	30,065.52	—	1,618.9
SAN GABRIEL VALLEY WATER COMPANY	WNOU (Intermediate Zone) 4/	December 2005	1,838.23	65,832.23	4.2	1,892.2
PRODUCER FACILITY						
ARCADIA, CITY OF	Longden 1 & 2	January 1985	161.28	73,140.38	0.6	762.3
	Live Oak 1	July 2021	3,612.75	6,912.73	26.4	62.0
BOZUNG	Well B36, F38, F39 & BC34 5/	October 1994	—	233.00	—	131.3
COVINA IRRIGATING COMPANY	Baldwin 1, Baldwin 2, & Baldwin 3	April 2021	2,283.62	5,310.46	9.4	13.0
EL MONTE, CITY OF	Well No. 12	February 1997	47.36	16,641.24	9.1	1,209.3
	Well No. 10 2/	May 2004	—	6,380.82	—	43.4
	Well No. 2A	July 1999	378.83	13,054.89	4.0	172.0
EPA	Richwood (North Well) 6/	April 1990	—	451.98	—	5.8
	Richwood (South Well) 6/	April 1990				

Operable Unit Treatment Facilty Owner	Treatment Facility(s)	Start Date 1/	Total Water Treated Fiscal Year 2022-23 (Acre-feet)	 Accum. Total (Acre-feet)	Total Contaminants Removed Fiscal Year 2022-23 (Pounds)	 Accum. Total (Pounds)
PRODUCER FACILITY						
GOLDEN STATE WATER COMPANY (SD)	Art 2 & 3, Base 3 & 4, Hwy 1	May 2005	0.00	19,839.17	0.0	367.7
GOLDEN STATE WATER COMPANY (SGV)	Garvey No. 3	June 2016	656.26	3,696.42	7.2	36.6
HEMLOCK MUTUAL WATER COMPANY	Hemlock (North Well) 2/	April 1986	—	2,553.65	—	44.6
	Hemlock (South Well) 2/	April 1986				
MONROVIA, CITY OF	Wells No. 2 & 6	March 1996	2,613.51	56,884.39	81.3	1,239.3
	Wells No. 3, 4 & 5	October 2007	1,602.57	29,809.02	7.4	248.8
MONTEREY PARK, CITY OF	Well No. 1, 3, 10 & Fern	June 2004	2,464.17	37,596.48	85.4	1,963.0
SAN GABRIEL VALLEY WATER COMPANY	Well 11B	March 1991	0.00	45,136.03	0.0	320.1
	Well B11B	March 1993	578.46	52,425.36	26.2	3,548.6
	Well B7C 7/	March 1993	—	46,711.28	—	1,824.2
	Well B4B & B4C	January 1999	—	24,093.04	—	1,233.5
	Well G4A	December 2005	600.31	6,869.27	42.7	193.3
SOUTH PASADENA, CITY OF	Wilson 3 & Wilson 4	January 2019	2,779.27	14,361.99	216.8	1,034.0
SUBURBAN WATER SYSTEMS	Well No. 140W-4 2/	May 2001	—	2,247.59	—	16.2
VALLEY COUNTY WATER DISTRICT	Maine East & West	June 1990	2,438.36	68,238.53	0.2	1,831.6
	Nixon East & West	January 2004	3,224.85	71,179.35	3.4	337.6
WATER QUALITY AUTHORITY	Arrow (Project No. 1) 2/	February 1992	—	7,250.41	—	17,423.0
	Big Dalton (Project No. 2) 2/	March 1997	—	1,229.02	—	82.5
	Whitmore Street	January 2008	12.98	373.50	6.7	211.1
	SEMOU	July 1999	—	3,885.19	—	1,558.5
		TOTAL	77,960.15	1,982,727.25	6,983.4	211,681.0

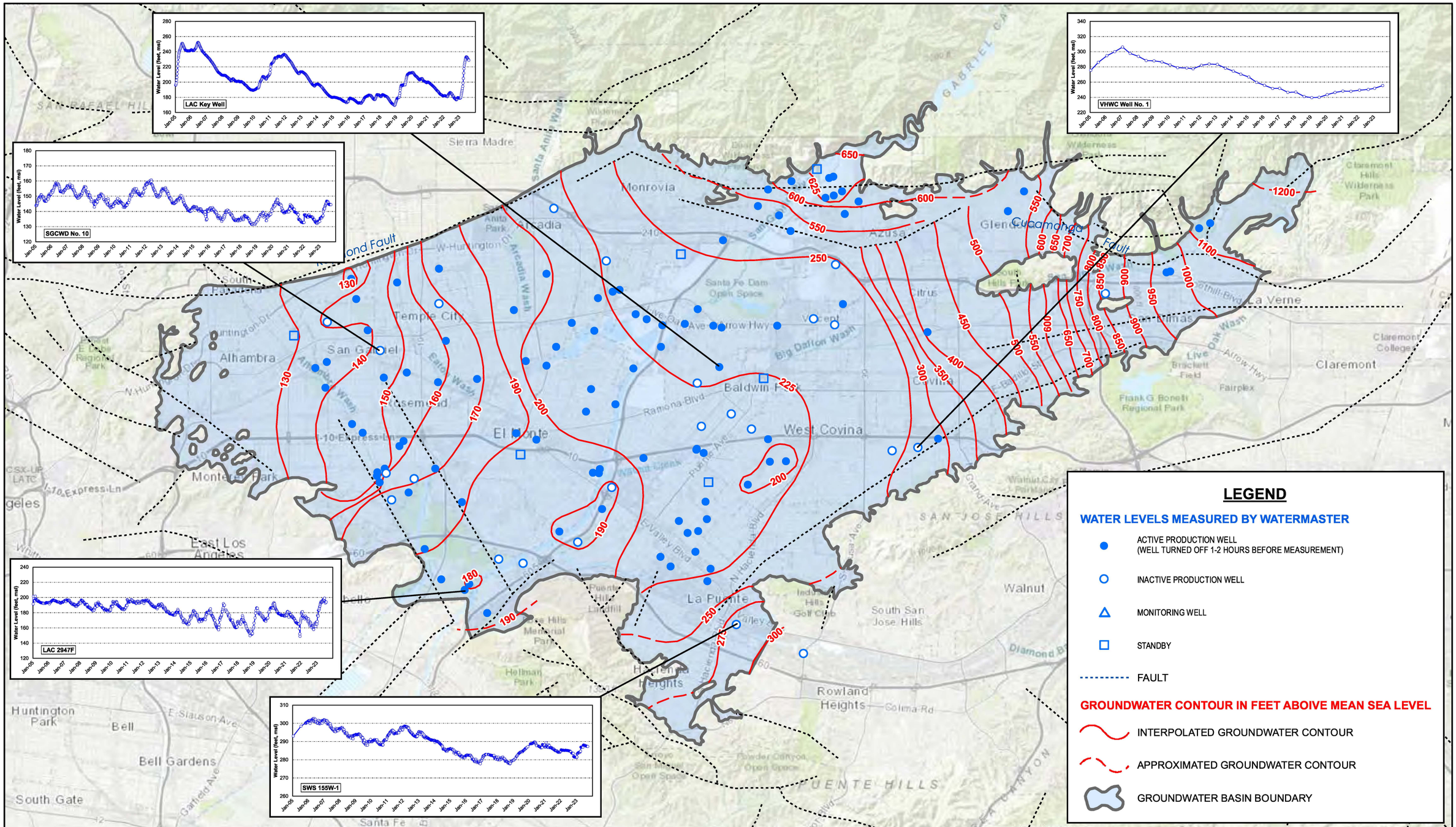
Footnotes:
1/ From date of beginning of operation.
2/ Well(s) no longer pumps to treatment facility.
3/ EMOU (Deep Zone) operation transferred to City of El Monte in January 2019.
4/ Previously operated by City of Whittier from December 2005 to May 2013.
5/ Treatment facility has been permanently dismantled.
6/ Wells destroyed in June 1999.
7/ Well destroyed in October 2016.

APPENDIX F.

Simulated Basin Groundwater Contours 2022–23 and 2027–28 (Figures 15 and 16),

Simulated Groundwater Elevation Changes Between FY 2022–23 and FY 2027–28 (Figure 17),

VOC Plume Map in BPOU and Perchlorate Plume Map in BPOU (Figures 18 and 19)



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San Rafael California 94901

2651 W Guadalupe Rd., Suite A209
Mesa Arizona 85202

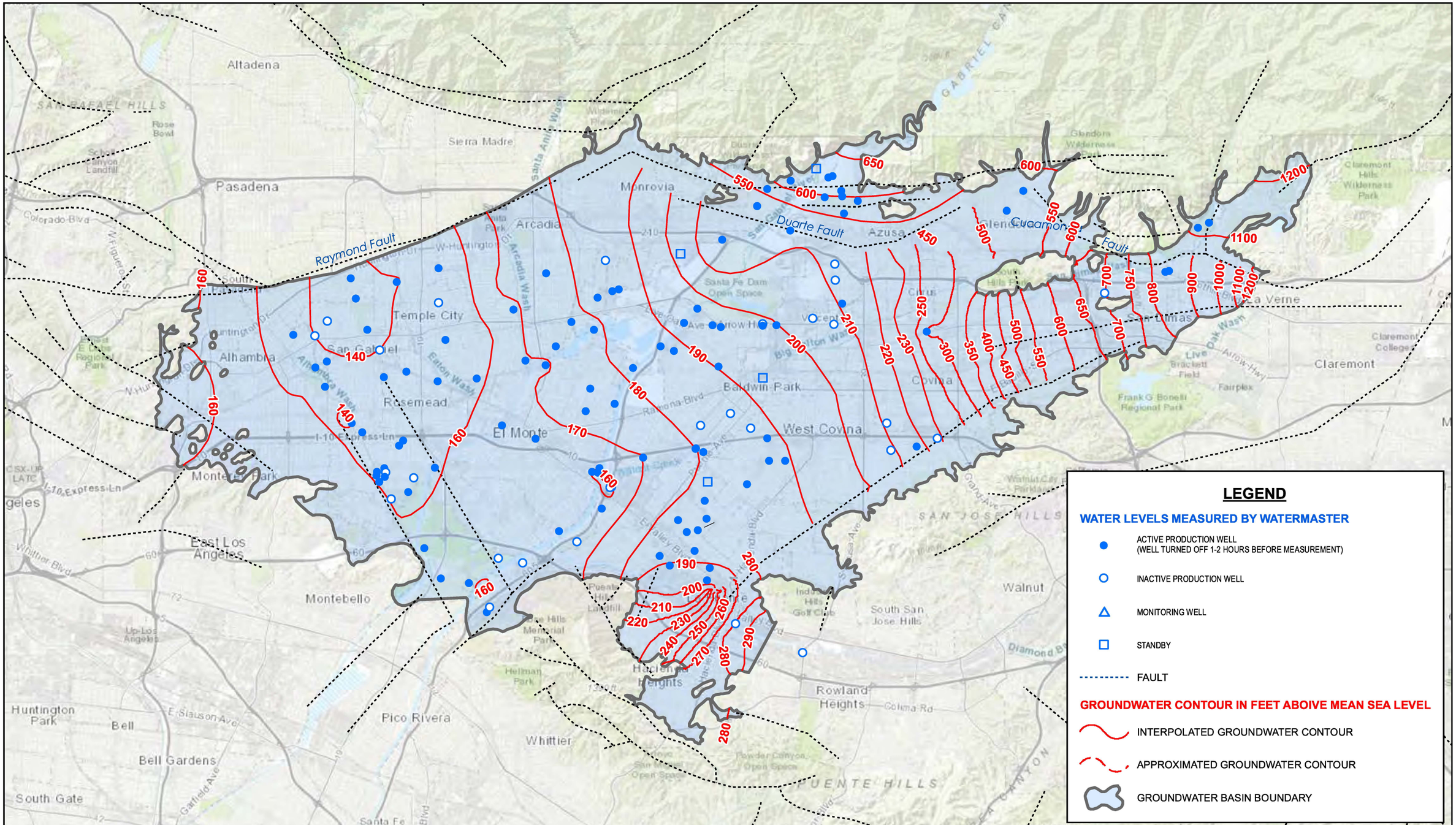
N

0 1 2
Miles

MAIN SAN GABRIEL BASIN WATERMASTER

GROUNDWATER CONTOUR MAP FOR SAN GABRIEL BASIN - JULY 2023

MainSanGabrielBasin WATERMASTER



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0 1 2
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MAIN SAN GABRIEL BASIN WATERMASTER

2027-28 SAN GABRIEL BASIN GROUNDWATER CONTOUR MAP

MainSanGabrielBasin WATERMASTER

SIMULATED GROUNDWATER ELEVATION CHANGES BETWEEN FY 2022-23 AND FY 2027-28

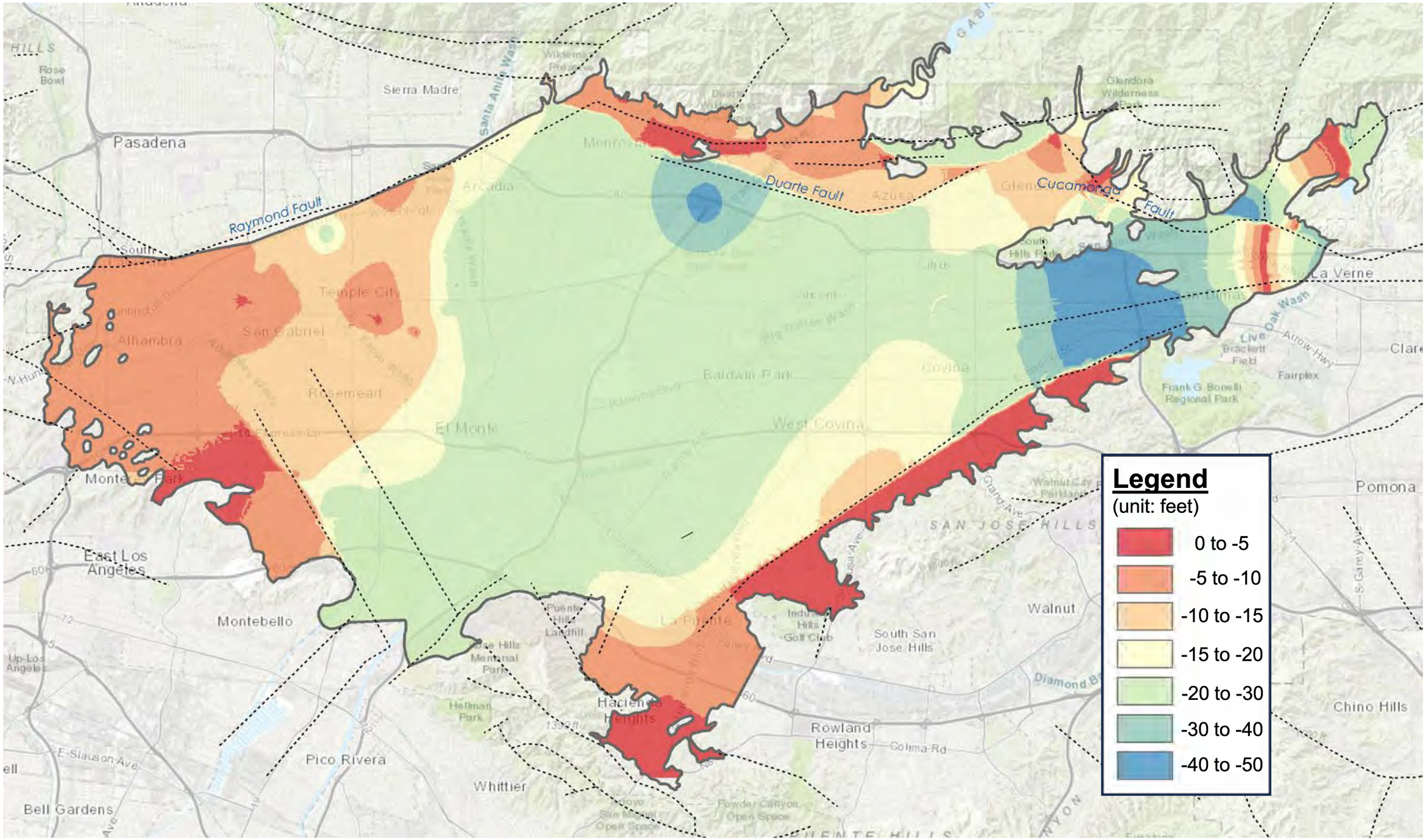
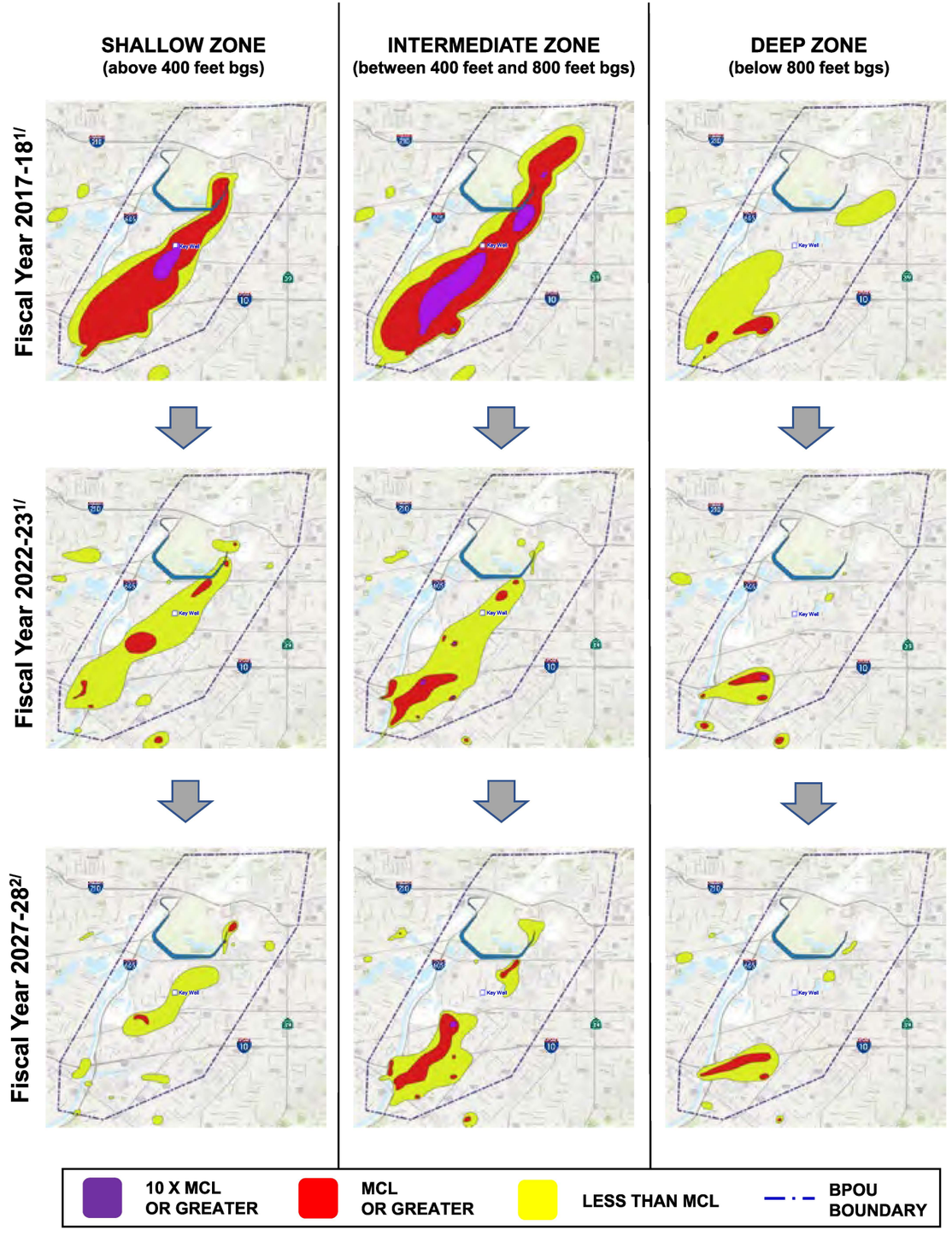
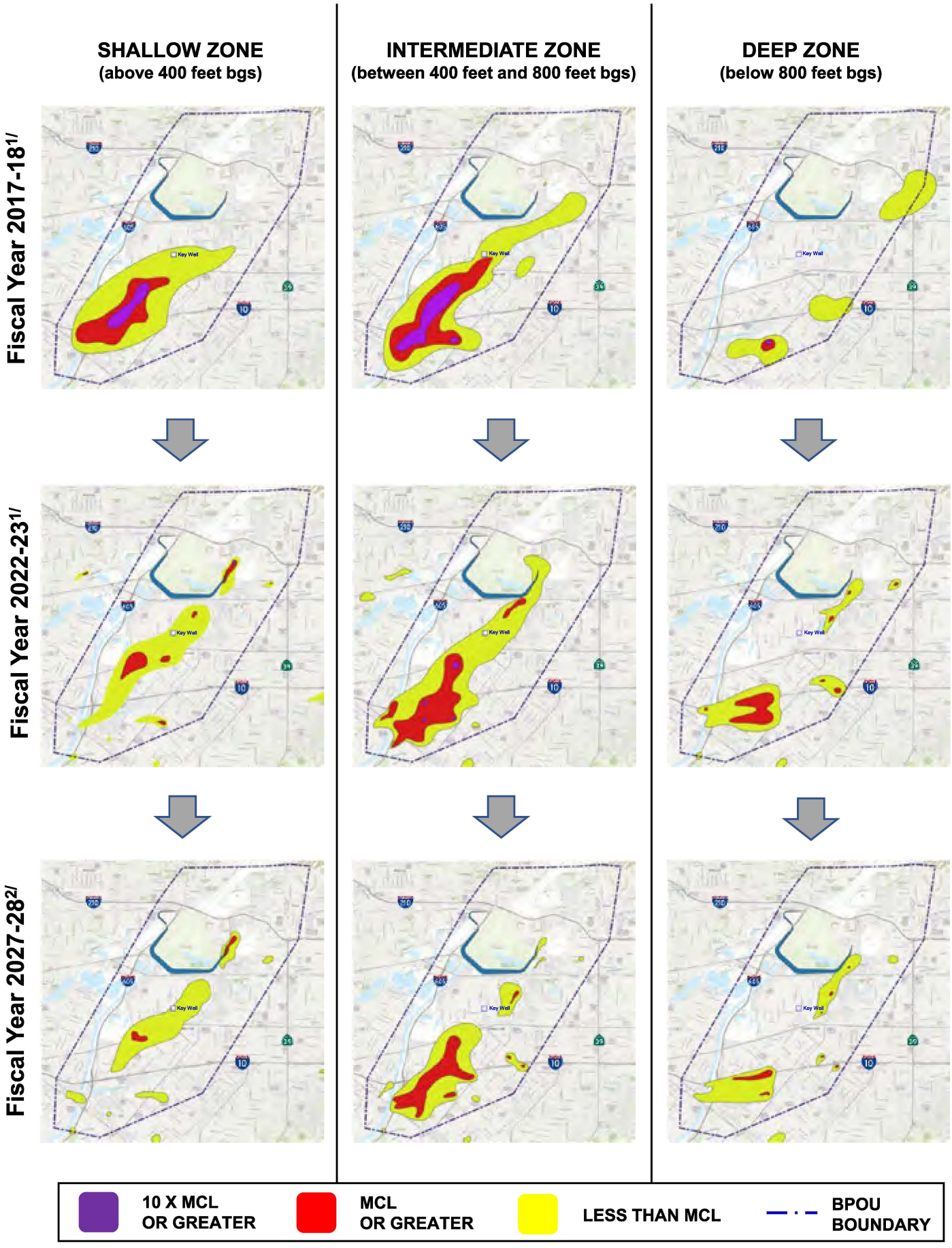


FIGURE 18 VOC PLUME MAPS



1/ Interpolated composite VOC plumes based on existing water quality data
2/ Projected composite VOC plume

FIGURE 19 PLUME MAPS



1/ Interpolated Perchlorate plumes based on existing water quality data
2/ Projected Perchlorate plume



WATERMASTER BOARD

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Appendix B MSGB Adjudication

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 28, 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

AMENDED JUDGMENT
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Amended Judgment Sections
Identified With Prior Judgment
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EXHIBITS

"A" -- Map entitled "San Gabriel River Watershed Tributary to Whittier Narrows"

Exhibits Continued

"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

"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)

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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 "K", 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

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Attorney for Watermaster - Petitioner

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STETSON ENGINEERS INC.

SUPERIOR COURT OF CALIFORNIA, COUNTY OF LOS ANGELES

UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT, Plaintiff, vs. CITY OF ALHAMBRA, et al., Defendants.	No. 924129 ORDER AMENDING JUDGMENT TO EXPAND WATERMASTER'S POWERS TO INCLUDE MAINTENANCE, IMPROVEMENT, AND CONTROL OF BASIN WATER QUALITY WITH ALLOWABLE FUNDING THROUGH IN-LIEU ASSESSMENTS Hearing: August 7, 1990 Department 38, 9:15 A. M.

The Petition of the Main San Gabriel Basin Watermaster (Watermaster) for Amendment to Judgment herein to expand its powers to include maintenance, improvement, and control of Basin water quality by controlling pumping in the Basin, with allowable funding for associated costs to be paid through its In-Lieu Assessments, was continued on July 31, 1990, to August 7, 1990, when it duly and regularly came on for hearing, at 9:15 o'clock A. M. in Department 38 of the above entitled Court, the Honorable FLORENCE T. PICKARD, Assigned Judge Presiding. Ralph B. Helm appeared as Attorney for Watermaster - Petitioner; Wayne K. Lemieux appeared for Defendant, San Gabriel Valley Municipal Water District, in support of the Petition; Fred Vendig, General

Counsel, Karen L. Tachiki, Assistant General Counsel, and Victor E. Gleason, Senior Deputy General Counsel, by Victor E. Gleason, appeared for Defendant, The Metropolitan Water District of Southern California, in support of the Petition; Timothy J. Ryan appeared for Defendant, San Gabriel Valley Water Company, in opposition to the Petition; Lagerlof, Senecal, Drescher & Swift, by H. Jess Senecal, appeared for Defendants, Calmat Company, Livingston-Graham, Owl Rock Products, AZ-Two, Inc., and Sully-Miller Contracting Company, in opposition to the Petition; Ira Reiner, Los Angeles County District Attorney, by Jan Chatten-Brown, Special Assistant to the District Attorney, appeared in opposition to the Petition; and Sarah F. Bates and Laurens H. Silver, by Sarah F. Bates, appeared on behalf of Amicus Curiae Sierra Club, in opposition to the Petition.

The Court acknowledged receipt and consideration of: letters in support of the Petition by the California Regional Water Quality Control Board - Los Angeles Region and by the State Water Resources Control Board; a copy of a letter addressed to the Attorney for Petitioner, from the US Environmental Protection Agency - Region IX, by Mark J. Klaiman, Assistant Regional Counsel, regarding several matters of federal law which EPA believed might ultimately affect the subject Petition; a letter in opposition to the Petition by East Valleys Organization; and a FAX communication to the Court, in opposition to the Petition, from Congressman Esteban E. Torres, which was not communicated to nor seen by the parties.

Members of the public, present in Court, were invited to, and did, present oral testimony during the hearing.

Under date of December 10, 1990 the Court entered its Intended Decision Re Amendment To Judgment and, by minute order duly entered and mailed to Counsel for Petitioner, ordered copies thereof mailed forthwith to all appearing parties, including those appearing as friends of the court, and to all other affected parties on the case's current mailing list.

A Proof Of Service by mail on December 13, 1990, Of Intended Decision Re Amendment To Judgment, as ordered, has been filed with the Court.

Opposition to Petitioner's Proposed Order were filed by Amicus Curiae Sierra Club, Amicus Curiae Los Angeles District Attorney, and by Producer Parties Calmat Co., Livingston-Graham, Owl Rock Products Company, AZ-Two, Inc., and Sully-Miller Contracting Company.

Proof being made to the satisfaction of the Court and good cause appearing:

IT IS, HEREBY, ORDERED:

1. That the Amended Judgment herein be further amended by amending Subsection (j) of Section 10 thereof, Definitions, and Section 40 thereof, Division F, Physical Solution, to read as follows:

"10 (j) <u>In-Lieu Water Cost</u> - - 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 from the Basin.

"40. <u>Watermaster Control.</u> (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. 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. 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.

"(b) Watermaster shall have the power to control pumping in 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.

"(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 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.

"(d) For 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.

"(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.

"(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."

2. This Amended Judgment shall continue in full force and effect as hereby Ordered and Amended.

Dated: January 29, 1991.

/s/Florence T. Pickard
FLORENCE T. PICKARD
Judge of the Superior Court,
Specially Assigned

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

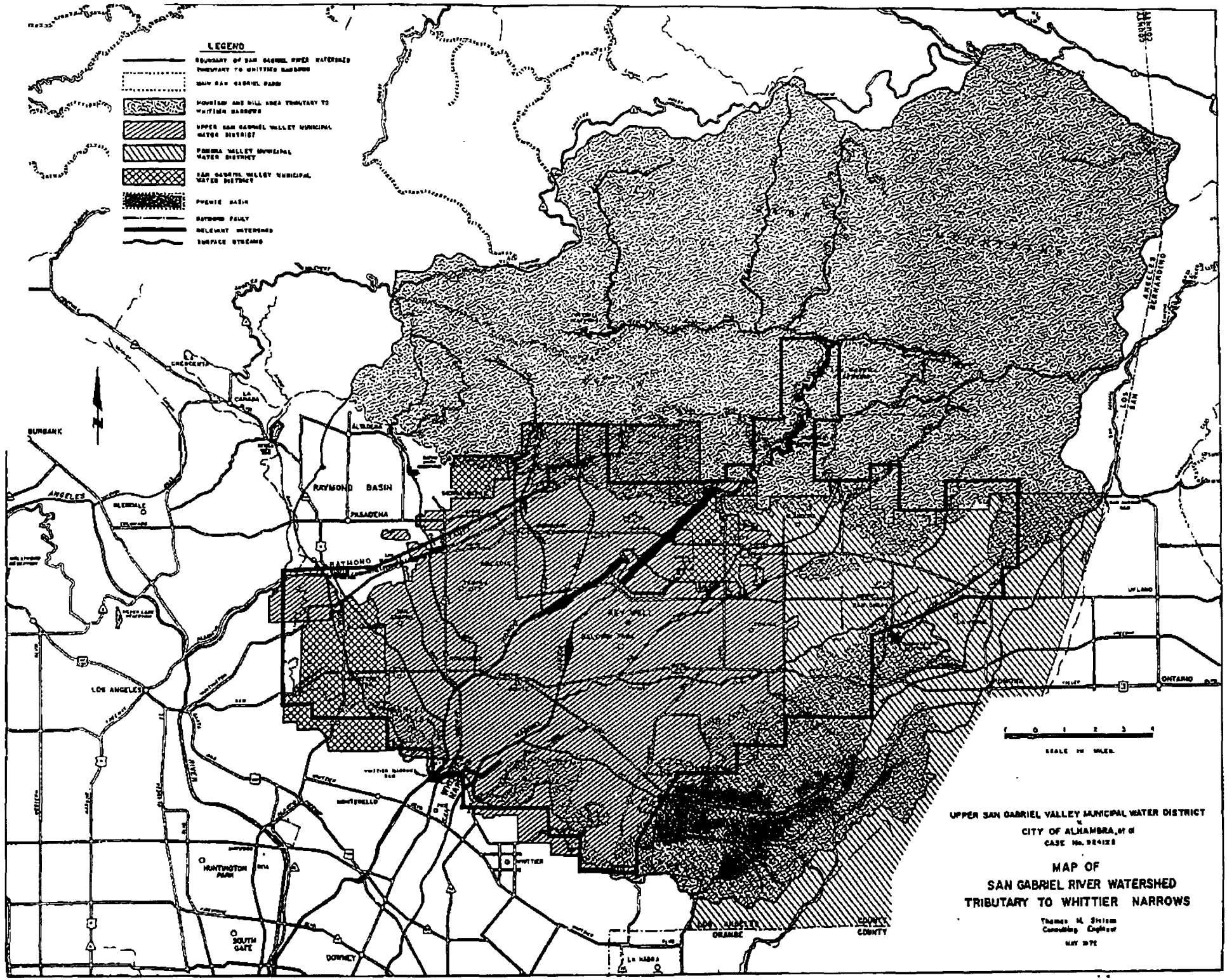

LEGEND
RAYMOND BASIN
PASADENA
BURBANK
LOS ANGELES
HUNTINGTON PARK
SOUTH GATE
DOWNEY
WHITTIER
ONTARIO
UPLAND
ORANGE
COUNTY
SCALE IN MILES
UPPER SAN GABRIEL VALLEY MUNICIPAL WATER DISTRICT
CITY OF ALHAMBRA, et al
MAP OF
SAN GABRIEL RIVER WATERSHED
TRIBUTARY TO WHITTIER NARROWS
Thomas M. Stetson
Consulting Engineer

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 67° 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 4,500 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	11,024.82	5.57839
(Successor to:		
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
	547.00	0.27677
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 B. (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)	33.40	0.01690
	1,130.40	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 (Successor to: Maechtlen, Estate of J. J. Phillips, Alice B., et al)	111.01 151.50 50.00 312.51	0.05617 0.07666 0.02530 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 (Successor to Los Flores Mutual Water Co.)	6,677.48 26.60 6,704.08	3.37870 0.01346 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	16,659.00	8.42920
(Successor to:		
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 Madruga)	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	155.25	0.07855
(Successor to: Associated		
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	7,620.23	3.85672
(Successor to:		
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"	41 833.75 ~~38,826.25~~	21.16724 ~~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	1.84634
California Cities Water Company (See Southern California Water Company, San Dimas District)	-	-	-
Covina Irrigating Company (Successor to:	2,514.00	4,140.00	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	4.32971
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.	0.50	100.50	0.05085
(Transferred to:			
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	1,098.00	5,042.22	2.55129
(Sucessor to:			
Eckis, Rollin		123.00	0.06224
City of Arcadia)		951.00	0.48119
	1,098.00	6,116.22	3.09472
Monrovia, Nursery Company	239.50	0	0
(Successor to:			
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.)	500.00	3,242.53	1.64076
(Formerly California Cities Water Company)			
(Successor to:			
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.

Exhibit "G"

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 problems 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 relevant 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 _____
Howard H. Hawkins
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

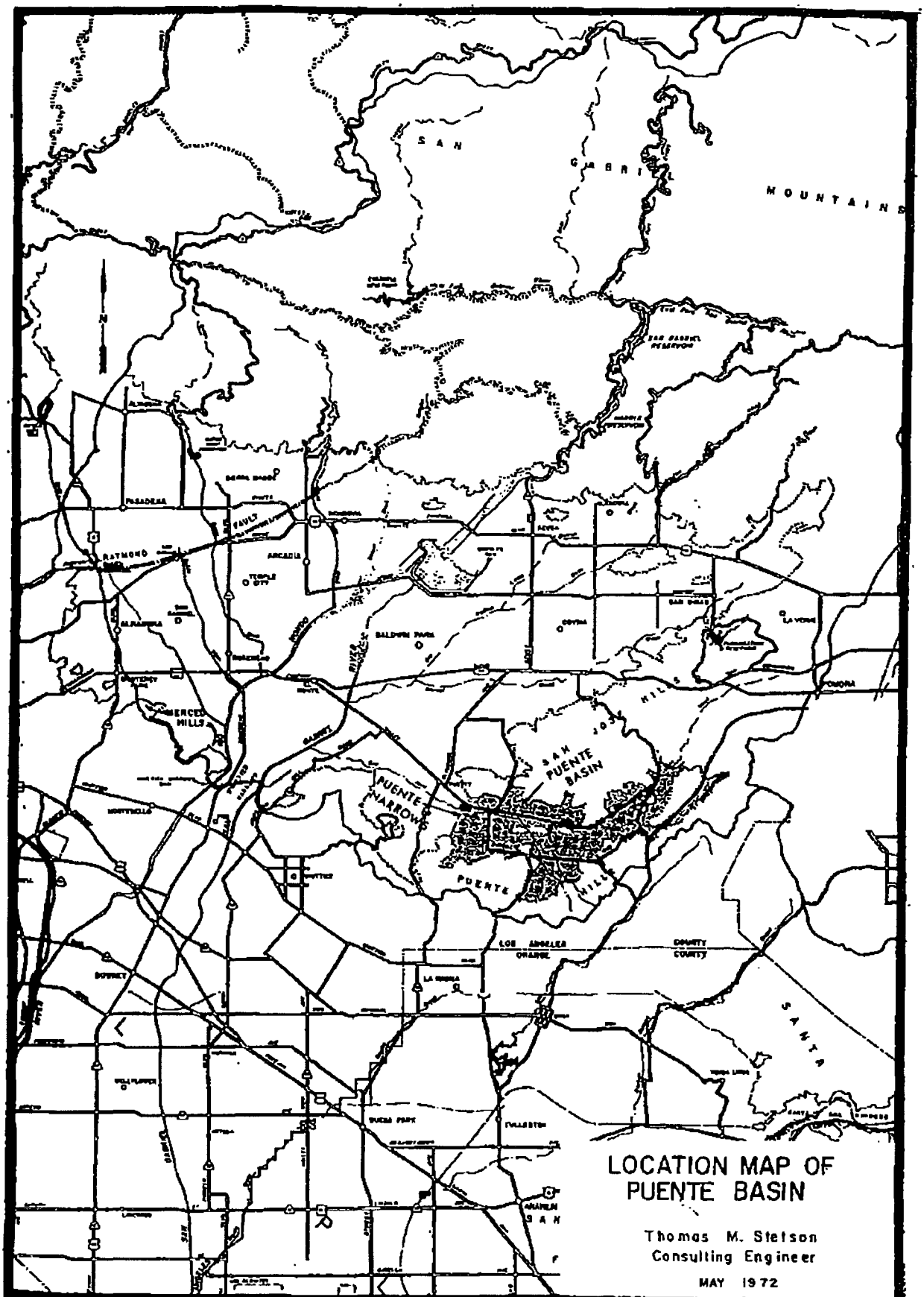
By _____
P. BOURDET
Vice President

Approved as to form:

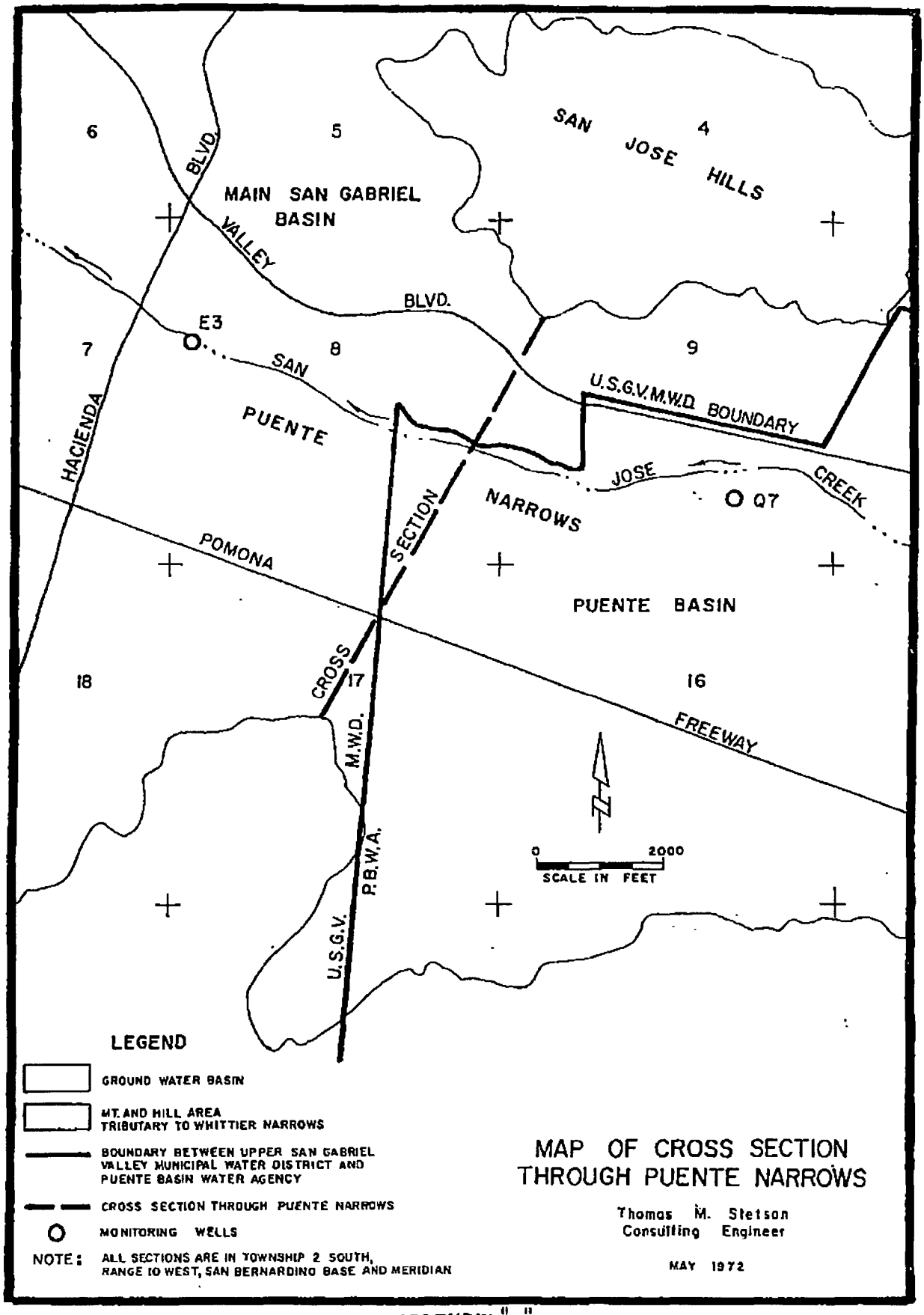
_____
Attorneys for Rowland District

ROWLAND AREA COUNTY WATER DISTRICT

By _____
President
Wm. A. Simmons



APPENDIX "A"
EXHIBIT "J"



MAP OF CROSS SECTION
THROUGH PUENTE NARROWS

Thomas M. Stetson
Consulting Engineer

MAY 1972

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.

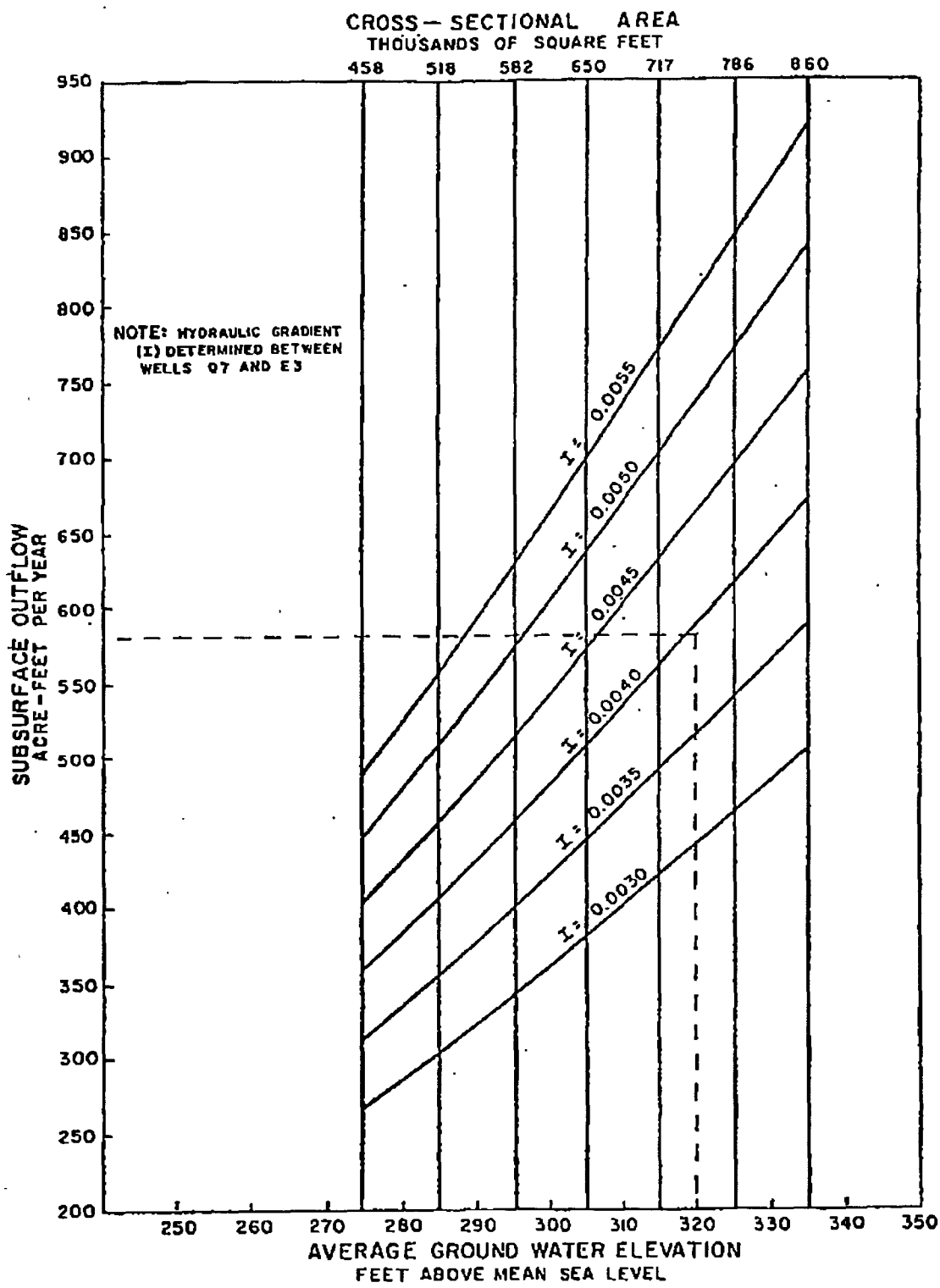
2. Measurement. Each monitoring well shall be measured and the ground water elevation determined semi-annually on or about April 1 and October 1 of each year. Prior to each measurement, the pump shall be turned off for a sufficient period to insure that the water table has recovered to a static or near 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. Stetson
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

Exhibit "L"

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

Exhibit "L"

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

Exhibit "L"

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 M.	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 B. Puffer
Mnoian, Paul, et al.	Mal Gatherer
Monrovia, City of	Robert K. Sandwick
Monrovia Nursery	Miles R. Rosedale
Monterey Park, City of	Nels Palm

Exhibit "L"

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

Exhibit "L"

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 Secrretary-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

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Ralph B. Helm, Attorney
Thomas M. Stetson. Engineer

FOR CALENDAR YEAR 1981

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L. E. MOELLER (Producer Member)

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Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1982

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R. H. NICHOLSON, JR. (Producer Member), Vice Chairman

WILLIAM M. WHITESIDE (Public Member), Secretary

CONRAD T. REIBOLD (Public Member), Treasurer

ROBERT T. BALCH (Producer Member)

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ANTON C. GARNIER (Producer Member)

L. E. MOELLER (Producer Member)

ALFRED F. WITTIG (Public Member)

STAFF

Jane M. Bray, Assistant Secrretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1983

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

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ANTON C. GARNIER (Producer Member)

L. E. MOELLER (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 1984

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

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ALFRED R. WITTIG (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1985

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 (Producr Member)

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ALFRED R. WITTIG (Public Member)

STAFF

Jane M. Bray, Assistant Secretary-Assistant Treasurer
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)

JOHN E. MAULDING (Public Member)

STAFF

Robert G. Berlien, Assistant Secretary-Assistant Treasurer
Ralph B. Helm, Attorney
Thomas M. Stetson, Engineer

FOR CALENDAR YEAR 1989

LINN E. MAGOFFIN (Producer Member), Chairman

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.

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Summary

File Name on Meter	WGar1_LT.001.s
File Name on PC	LxT_0005065-20240529 111500-WGar1_LT.001.ldbin
Serial Number	0005065
Model	SoundTrack LxT®
Firmware Version	2.404
User	
Location	
Job Description	
Note	

Measurement

Description	L2 Westminster Gardens May 29-30, 2024. Duarte. LT	
Start	2024-05-29 11:15:00	
Stop	2024-05-30 11:20:34	
Duration	24:05:34.703	
Run Time	24:05:34.703	
Pause	00:00:00.0	
Pre-Calibration	2024-05-29 11:08:20	
Post-Calibration	2024-05-30 11:23:34	
Calibration Deviation	0.00	dB

Overall Settings

RMS Weight	A Weighting	
Peak Weight	A Weighting	
Detector	Slow	
Preamplifier	Direct	
Microphone Correction	Off	
Integration Method	Exponential	
OBA Range	Normal	
OBA Bandwidth	1/1 and 1/3	
OBA Frequency Weighting	A Weighting	
OBA Max Spectrum	Bin Max	
Overload	122.6	dB

	A	C	Z	
Under Range Peak	**78.8**	75.8	80.8	dB
Under Range Limit	**14.7**	13.2	17.5	dB
Noise Floor	5.6	4.1	8.4	dB

	First	Second	Third
Instrument Identification	L02	MIG INC -956-3802	

Results

L_{ASeq}		56.0	dB
LASE		105.4	dB
EAS		3.837	mPa²h
EAS8		1.274	mPa²h
EAS40		6.370	mPa²h
$L_{Apk\ (max)}$	2024-05-29 11:37:51	110.1	dB
L_{ASmax}	2024-05-30 08:00:49	80.8	dB
L_{ASmin}	2024-05-30 03:30:49	44.2	dB
SEA		-99.9	dB

	Exceedance Counts	Duration	
LAS > 70.0 dB	45	173.8	s
LAS > 80.0 dB	2	4.4	s
L_{Apk} > 115.0 dB	0	0.0	s
L_{Apk} > 135.0 dB	0	0.0	s
L_{Apk} > 140.0 dB	0	0.0	s

Community Noise	LDN	LDay 07:00-22:00	LNight 22:00-07:00	LDEN	LDay 07:00-19:00	LEvening 19:00-22:00	LNight 22:00-07:00
	60.2	57.2	52.8	60.8	56.9	58.1	52.8

L_{CSeq}	64.3	dB
L_{ASeq}	56.0	dB
L_{CSeq} - L_{ASeq}	8.3	dB
L_{AIeq}	58.4	dB
L_{Aeq}	56.0	dB
L_{AIeq} - L_{Aeq}	2.4	dB

	A		C		Z	
	dB	Time Stamp	dB	Time Stamp	dB	Time Stamp
L_{eq}	56.0					
$L_{S(max)}$	80.8	2024/05/30 8:00:49				
$L_{S(min)}$	44.2	2024/05/30 3:30:49				
$L_{pk(max)}$	110.1	2024/05/29 11:37:51				

Overload Count	0	
Overload Duration	0.0	s
OBA Overload Count	0	

OBA Overload		
Duration	0.0	s

Dose Settings			
Dose Name	OSHA-1	OSHA-2	
Exchange Rate	5	5	dB
Threshold	90	80	dB
Criterion Level	90	90	dB
Criterion Duration	8	8	h

Results			
Dose	-99.94	0.00	%
Projected Dose	-99.94	0.00	%
TWA (Projected)	-99.9	2.8	dB
TWA (t)	-99.9	10.8	dB
Lep (t)	60.8	60.8	dB

Ln Percentiles		
LAS 1.67	61.1	dB
LAS 8.34	58.4	dB
LAS 16.70	57.5	dB
LAS 25.00	56.9	dB
LAS 50.00	54.6	dB
LAS 90.00	48.1	dB

Table 1: Short-Term Hourly Averages															
Site	Start Time	LAeq	LASmin	LASmax	LAS1%	LAS2%	LAS5%	LAS8%	LAS10%	LAS25%	LAS50%	LAS90%	LAS95%	LAS99%	LCeq
Colocation	11:15 AM	56.3	52.4	76.0	58.9	58.8	58.2	57.8	57.6	56.7	55.9	55.2	55.1	55.0	65.0
ST-1	11:51 AM	61.6	58.0	68.6	62.4	62.4	62.3	62.2	62.2	61.9	61.5	61.0	60.9	60.9	70.6
ST-2	1:00 PM	52.8	45.9	67.7	54.6	54.5	54.4	54.2	54.1	53.3	52.5	51.6	51.5	51.4	65.5
ST-3	2:15 PM	54.3	46.1	69.8	57.9	57.8	57.5	57.1	56.9	55.4	53.4	51.3	51.1	50.9	64.4
ST-4	3:20 PM	61.1	50.0	73.6	63.7	63.6	63.4	63.2	63.0	62.1	60.8	58.8	58.5	58.4	69.8

Table 2: Long-Term Hourly Averages Compared with Short-Term Data												
Long-Term Comparison with Short-Term	Date	Time	Duration (Minutes)	LASeq	LASmin	LASmax	LAS1.67	LAS8.34	LAS16.70	LAS25.00	LAS50.00	LAS90.00
Comparison w/ ST-1	5/29/24	11:51 AM	60	56.43778	51.6	74.1	61.06276	57.83902	56.93413	56.49145	55.9169	55.05269
Comparison w/ ST-2	5/29/24	1:00 PM	60	55.31051	51.1	67.9	57.74586	56.31102	55.88537	55.63347	55.09173	54.35192
Comparison w/ ST-3	5/29/24	2:15 PM	60	54.91966	48.6	71.8	59.34879	57.4566	56.4731	55.81576	53.77682	52.53487
Comparison w/ ST-4	5/29/24	3:20 PM	60	57.04223	51.2	67.9	58.83341	58.08096	57.68253	57.42066	56.88481	56.07508

Table 3: Long-Term Hourly Averages												
Site	Date	Time	Duration (Minutes)	LASeq	LASmin	LASmax	LAS1.67	LAS8.34	LAS16.70	LAS25.00	LAS50.00	LAS90.00
LT-1	5/29/24	11:15 AM	45	56.79451	51.5	78.5	62.91151	58.50088	57.0563	56.59692	55.78525	54.89994
LT-1	5/29/24	12:00 PM	60	56.49816	52.7	72.1	60.06917	57.86123	57.10993	56.68347	56.12355	55.26489
LT-1	5/29/24	1:00 PM	60	55.31051	51.1	67.9	57.74586	56.31102	55.88537	55.63347	55.09173	54.35192
LT-1	5/29/24	2:00 PM	60	55.36536	48.6	71.8	60.30278	57.86585	56.75383	56.09021	54.14585	53.07334
LT-1	5/29/24	3:00 PM	60	55.76168	48.8	67.9	57.85164	56.90308	56.42937	56.15847	55.60786	54.65933
LT-1	5/29/24	4:00 PM	60	57.75354	54.3	62.7	59.23992	58.73001	58.38453	58.13074	57.61645	56.88361
LT-1	5/29/24	5:00 PM	60	57.7289	54.5	68.2	59.99497	58.92963	58.40913	58.10543	57.51144	56.65722
LT-1	5/29/24	6:00 PM	60	57.77583	54	74	61.55584	59.67426	58.76811	58.1482	57.19486	56.17552
LT-1	5/29/24	7:00 PM	60	58.95537	54.1	80.3	64.09148	62.74141	60.30968	58.91474	57.42239	56.53031
LT-1	5/29/24	8:00 PM	60	57.98299	55	66.3	59.65177	59.0498	58.6548	58.43344	57.85282	56.98171
LT-1	5/29/24	9:00 PM	60	57.09722	53.9	63.6	58.69388	58.10984	57.72648	57.51847	56.964	56.19258
LT-1	5/29/24	10:00 PM	60	57.90324	51.7	79.5	63.51108	61.25099	59.09517	57.9462	56.41946	55.2744
LT-1	5/29/24	11:00 PM	60	55.09993	50.6	61.8	57.53148	56.51876	56.02395	55.66667	54.88994	53.59313
LT-1	5/30/24	12:00 AM	60	52.66532	48.1	59.3	55.36377	54.26045	53.6524	53.21363	52.40597	51.03946
LT-1	5/30/24	1:00 AM	60	51.45311	45	59.7	54.27423	53.02036	52.40959	52.04295	51.15871	49.86596
LT-1	5/30/24	2:00 AM	60	49.12013	45.2	56.2	50.85113	50.24705	49.88343	49.61379	48.98703	47.98525
LT-1	5/30/24	3:00 AM	60	50.97393	44.2	66.5	57.59591	54.63888	52.15098	50.18011	49.09504	48.27165
LT-1	5/30/24	4:00 AM	60	48.27166	45.5	53.3	49.45055	49.01053	48.76272	48.60255	48.20314	47.58238
LT-1	5/30/24	5:00 AM	60	50.42982	46.7	62.7	52.91703	51.67704	50.98987	50.66341	50.18668	49.4666
LT-1	5/30/24	6:00 AM	60	47.76856	44.4	63.2	52.48176	49.65662	48.31599	47.71541	47.07709	46.27971
LT-1	5/30/24	7:00 AM	60	56.99432	45.8	79.5	64.94563	61.96961	59.41523	56.75438	52.92592	50.37933
LT-1	5/30/24	8:00 AM	60	59.01485	48.8	80.8	67.10933	62.09196	60.25255	58.99983	56.50681	54.04195
LT-1	5/30/24	9:00 AM	60	56.17851	49.5	74.2	60.23416	58.11207	56.94602	56.49791	55.66289	54.32013
LT-1	5/30/24	10:00 AM	60	56.46589	50	75.1	61.00548	59.32171	58.75084	57.36559	55.13146	53.64604

Table 4: LT-1 Noise Levels		
CNEL	**Leq**	**D/N Adj Leq**
7:00 AM	57.0	57.0
8:00 AM	59.0	59.0
9:00 AM	56.2	56.2
10:00 AM	56.5	56.5
11:00 AM	56.8	56.8
12:00 PM	56.5	56.5
1:00 PM	55.3	55.3
2:00 PM	55.4	55.4
3:00 PM	55.8	55.8
4:00 PM	57.8	57.8
5:00 PM	57.7	57.7
6:00 PM	57.8	57.8
7:00 PM	59.0	64.0
8:00 PM	58.0	63.0
9:00 PM	57.1	62.1
10:00 PM	57.9	67.9
11:00 PM	55.1	65.1
12:00 AM	52.7	62.7
1:00 AM	51.5	61.5
2:00 AM	49.1	59.1
3:00 AM	51.0	61.0
4:00 AM	48.3	58.3
5:00 AM	50.4	60.4
6:00 AM	47.8	57.8
	CNEL	60.8

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TRANSPORTATION ASSESSMENT REPORT

WESTMINSTER GARDENS SPECIFIC PLAN

City of Duarte, California
July 23, 2026

Prepared for:

MIG, Inc.
537 South Raymond Avenue
Pasadena, California 91105

LLG Ref: 1-23-4581-1





Prepared by:
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LIST OF ABBREVIATIONS

ABBREVIATION	MEANING
ADA	Americans with Disabilities Act
AWSC	All-Way Stop Control
CA MUTCD	California Manual on Uniform Traffic Control Devices
CEQA	California Environmental Quality Act
CMP	Congestion Management Program
HCM	Highway Capacity Manual
ITE	Institute of Transportation Engineers
LCI	Governor's Office Land Use and Climate Innovation
LD-IGR	Local Development and Intergovernmental Review
LOS	Level of Service
PHF	Peak Hour Factor
PRC	Public Resources Code
SB	Senate Bill
TPA	Transit Priority Area
TWSC	Two-Way Stop Control
VMT	Vehicle Miles Traveled

TRANSPORTATION ASSESSMENT REPORT

WESTMINSTER GARDENS SPECIFIC PLAN

City of Duarte, California
July 23, 2026

1.0 INTRODUCTION

1.1 Transportation Assessment Overview

This transportation assessment report has been prepared to identify and evaluate the potential effects on the transportation network resulting from the proposed Westminster Gardens Specific Plan project (the "Project") located in the City of Duarte (the "City"). The proposed project site and general vicinity are shown in ***Figure 1-1***.

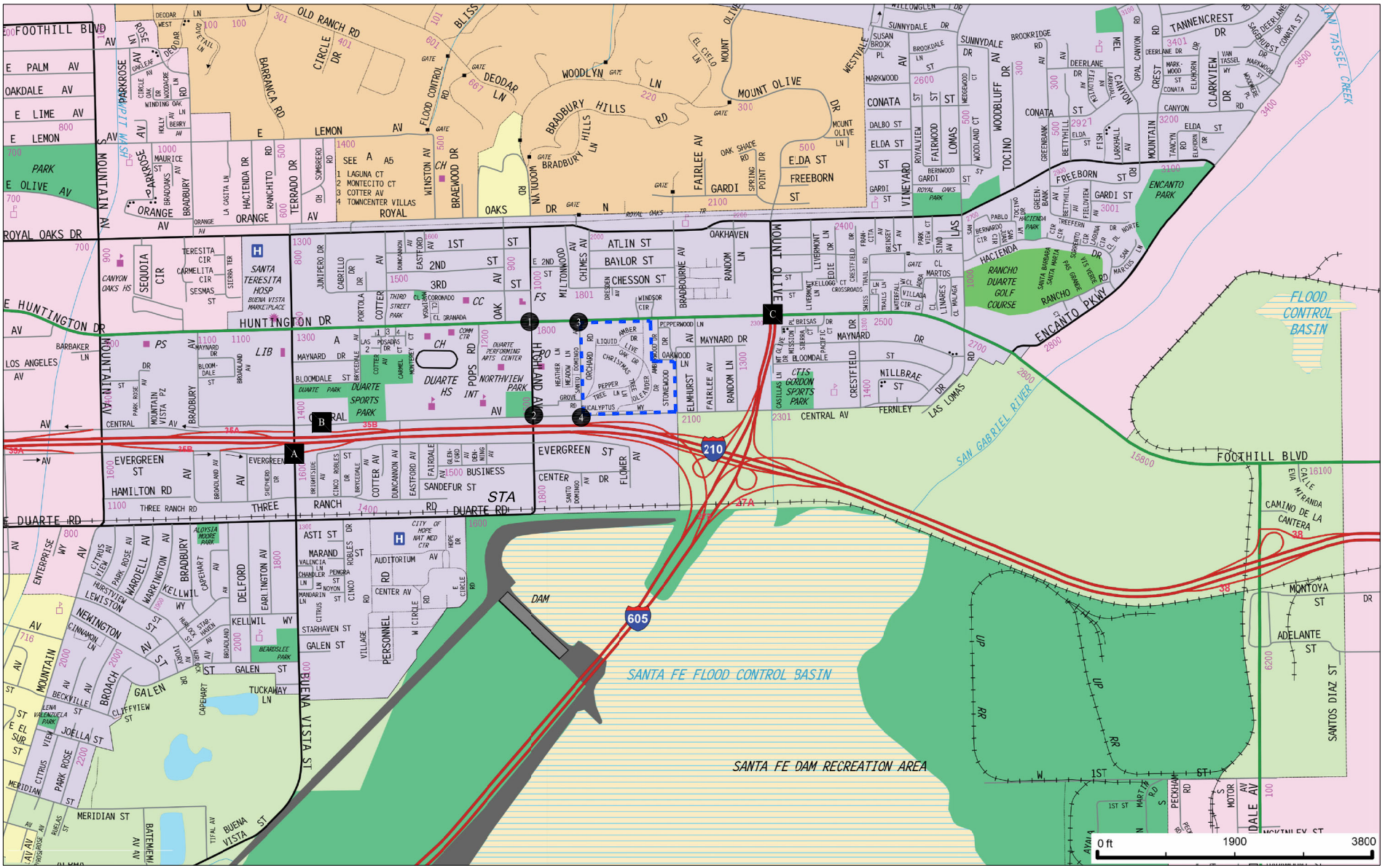
The transportation impact analysis follows the requirements set forth in the City of Duarte "Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment"[1] ("Guidelines"). Specifically, in compliance with California Environmental Quality Act (CEQA) Sections 15064.3 and 15064.7, this transportation impact analysis utilizes Vehicle Miles Traveled (VMT) for the purpose of analyzing transportation impacts under CEQA. In addition, the City of Duarte requires additional site access studies in order to identify a proposed project's effect on local transportation infrastructure. The site access studies prepared for the Specific Plan evaluate the potential project-related effects on intersection operations and Level of Service (LOS) at four key intersections in the vicinity of the project site. Further, a queuing analysis was also completed as it relates to the State Highway System at three (3) freeway ramp intersections under the jurisdiction of the California Department of Transportation (Caltrans).

In summary, this report (i) presents the Specific Plan's existing transportation network context, (ii) presents existing traffic volumes, (iii) forecasts cumulative baseline conditions, (iv) forecasts project-generated traffic, (v) assesses the potential for project-related transportation impacts consistent with the required CEQA metrics and recommends transportation mitigation measures as necessary, and (vi) assesses the non-CEQA-based metrics and recommends transportation network improvement measures, where necessary.

1.2 Study Methodology

The local transportation analysis criteria for this assessment were identified in consultation with City of Duarte staff. The analysis criteria were determined based on the City's requirements, the proposed project description and location, and the characteristics of the surrounding transportation system. City of Duarte staff confirmed the appropriateness of the analysis criteria when it

[1] "City of Duarte Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment," November 2024.



Project Site

Study Intersection

Ramp Intersections

Figure 1-1
Vicinity Map

o:\job_file\4581\dwg\f1-1.dwg 04/28/2026 15:36:27 rodriquez

approved the scoping document. The approved scoping document is attached to this report in ***Appendix A***.

On September 27, 2013, Governor Brown signed Senate Bill (SB) 743 (Steinberg, 2013). Among other things, SB 743 created a process to change the methodology to analyze transportation impacts under CEQA (Public Resources Code Section 21000 and following) in order to promote 1) the reduction of greenhouse gas emissions, 2) the development of multimodal transportation networks, and 3) a diversity of land uses. On December 30, 2013, the State of California Governor's Land Use and Climate Innovation ("LCI") released a preliminary evaluation of alternative methods of transportation analysis, which included analysis based on project VMT rather than impacts to intersection LOS. LCI issued other draft discussion documents in March 2015 and January 2016, suggesting new revisions to the CEQA Guidelines. Concurrently, LCI developed the *Technical Advisory on Evaluating Transportation Impacts in CEQA*[2] *("Technical Advisory")*, which provides non-binding recommendations on the implementation of VMT methodology and which has significantly informed the way VMT analyses are conducted in the State. In November 2017, LCI submitted the proposed amendments to the CEQA Guidelines to the State's Natural Resources Agency (including the new Guidelines Section 15064.3 which governs how analyses of potential traffic impacts should be conducted). On January 26, 2018, the Natural Resources Agency published a Notice of Rulemaking, commencing the formal rulemaking process for the amendments to the CEQA Guidelines. On December 28, 2018, the California Office of Administrative Law adopted the proposed amendments, formally implementing the use of VMT as the metric for transportation analysis under CEQA. State-wide implementation of the new metric was required by July 1, 2020.

The passage of SB 743 and the resulting amendment to the CEQA Guidelines does not prevent agencies from continuing to analyze delay or LOS outside of CEQA review for other transportation planning or analysis purposes (i.e., general plans, impact fee programs, corridor studies, congestion reduction, or ongoing network monitoring). These analysis requirements and LOS standards apply to discretionary approvals of new land use development projects. This assessment utilizes the latest version of the City-approved Highway Capacity Manual (HCM) methodology to evaluate intersection LOS, which is then compared to the City's LOS standards and reviewed for detrimental effects on circulation within the existing transportation network. For purposes of this analysis, four (4) intersections in the vicinity of the project have been identified for intersection LOS analysis. The locations of the study intersections are presented in *Figure 1-1*, and listed below:

1. Highland Avenue/Huntington Drive (Signalized)
2. Highland Avenue/Central Avenue (Signalized)
3. Santo Domingo Avenue/Huntington Drive (Unsignalized)

[2] *Technical Advisory on Evaluating Transportation Impacts in CEQA*, Governor's Office of Planning and Research, December 2018.

4. Santo Domingo Avenue/Central Avenue (Unsignalized)

As required by State law, the California Department of Transportation (Caltrans) has also formally adopted VMT as the metric for evaluating the transportation impacts of local development projects on the State Highway System. Caltrans' "Transportation Impact Study Guide"[3] (TISG) relies on the December 2018 *Technical Advisory* prepared by LCI as the basis for its guidance on VMT assessment. For the purpose of this transportation impact analysis, it is understood that the VMT analysis prepared for the City of Duarte satisfies Caltrans' VMT analysis requirements as well. Therefore, no separate VMT analysis has been prepared for Caltrans' review of the Specific Plan. Caltrans' TISG states, "Additional future guidance will include the basis for requesting transportation impact analysis that is not based on VMT. This guidance will include a simplified safety analysis approach that reduces risks to all road users and that focuses on multi-modal conflict analysis as well as access management issues." Caltrans has subsequently released the "Local Development Review (LDR) Safety Review Practitioner's Guidance."[4] The Specific Plan site does not take direct access to/from a State facility; however, it is situated in the vicinity of the I-210 and I-605 Freeways and is expected to generate net new project trips at nearby ramp intersections. The off-ramp locations selected for further study are summarized in *Figure 1-1*. Therefore, the Caltrans Safety Review Practitioner's Guidance was reviewed and analyses relevant to the Specific Plan were identified for inclusion in the transportation impact analysis.

In summary, the Specific Plan's CEQA transportation impacts have been evaluated based on the VMT screening criteria, methodology, and thresholds set forth in the City's Guidelines. In order to evaluate the Specific Plan's effect on local transportation infrastructure, a non-CEQA analysis of four (4) study intersections has been conducted for the weekday AM and PM peak hours, utilizing the City-approved HCM operational methodologies. Further, the I-210 and I-605 Freeway ramp intersections under Caltrans' jurisdiction were also evaluated based on HCM operational analysis methodologies.

[3] "Vehicle Miles Traveled-Focused Transportation Impact Study Guide," Caltrans, May 20, 2020.
[4] "Local Development Review (LDR) Safety Review Practitioner's Guidance", Caltrans Division of Safety Programs, February 2024.

2.0 PROJECT DESCRIPTION

2.1 Existing Project Site

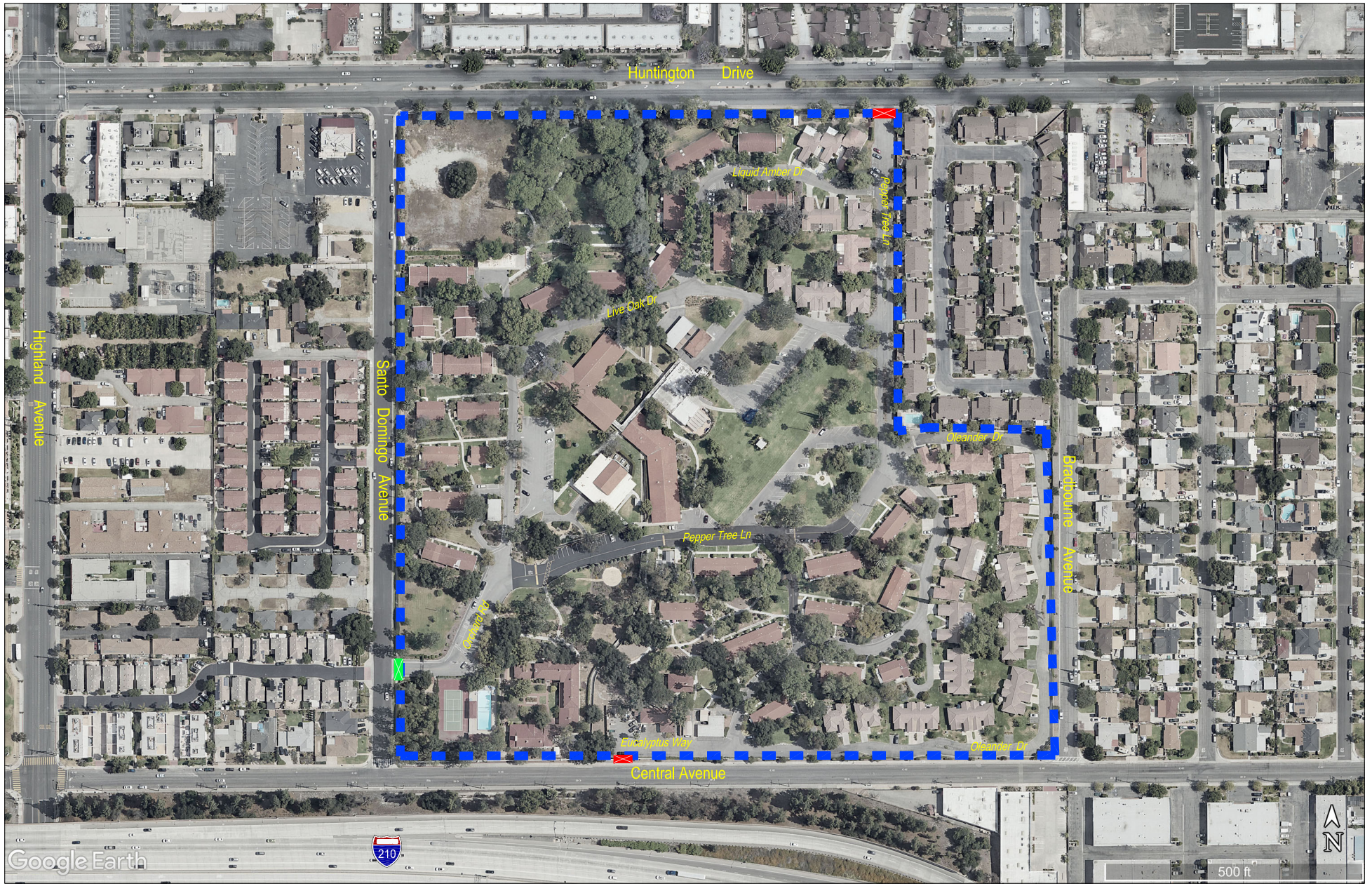
The project site is located at 1420 Santo Domingo Avenue in the City of Duarte. The project site is bordered by Huntington Drive to the north, Central Avenue to the south, Bradbourne Avenue and existing residential homes to the east and Santo Domingo Street to the west. The project vicinity is shown in *Figure 1-1*.

Vehicular access to the existing project site is currently provided via one driveway on the east side of Santo Domingo Avenue. The existing driveway currently accommodate full access (i.e., left-turn and right-turn ingress and egress traffic movements). Emergency access driveways are also provided for the site: one driveway on the south side of Huntington Drive and one driveway on the north side of Central Avenue. An aerial photograph of the existing site is presented in ***Figure 2-1***.

2.2 Proposed Project Description

The current Westminster Gardens Specific Plan (WGSP) was adopted by the City of Duarte on November 27, 1990, and minor modifications were approved administratively in 1998. The 4-parcel, 32-acre site is developed with a senior residential community as a Life Plan Community (LPC). LPCs, also formerly known as Continuing Care Retirement Communities (CCRCs), provide residential and assisted living housing options for adults age 60+ by providing a wide range of care, services, and activities in one place, offering residents a sense of stability and familiarity as their abilities or health conditions change. The Westminster Gardens LPC campus is currently licensed by the California Department of Social Services (CDSS), which oversees the Senior Care Licensing Programs for both CCRCs and Residential Care Facilities for the Elderly (RCFE), for a capacity of 200 senior residents. The current campus comprises of a total of 165,171 square feet of building area (inclusive of 149 residential units/beds, offices, resident amenities, and maintenance buildings), 74 garage/carport parking spaces, 204 parking spaces, and a private park with a small amphitheater, covered patio area, and shuffleboard courts for use exclusively by Westminster Gardens LPC residents. The Morrison House, a historic building that is now used for administrative offices, mail room, library, offices, restrooms, and a social hall will remain as is and will not be modified as part of this project. The existing LPC campus is illustrated in ***Figure 2-2***.

The proposed project will amend the WGSP through a comprehensive update, repealing in its entirety the 1990 Specific Plan, inclusive of the 1998 administratively approved minor modification, replacing it with a new Specific Plan to facilitate redevelopment of the existing LPC. The updated WGSP identifies the long-term vision and objectives for private redevelopment, new residential and non-residential development capacity, and associated public and private improvements within the WGSP area over a 15-to-20-year span.



MAP SOURCE: GOOGLE EARTH

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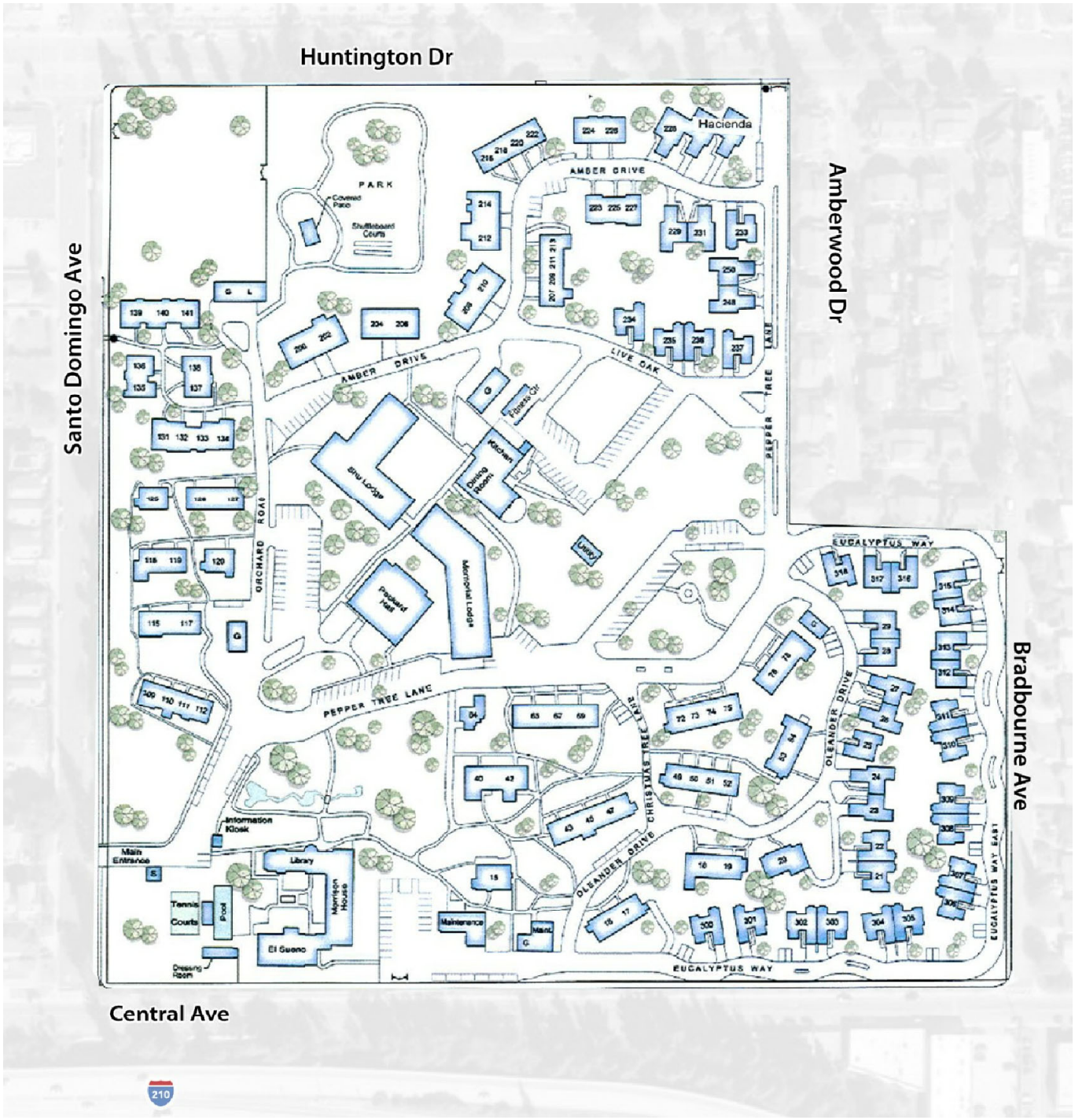
Project Site

Main Driveway

Gated Emergency Driveway

Figure 2-1

Aerial Photograph of Existing Project Site



SOURCE: MIG, INC.

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Figure 2-2
Existing Campus Map

To identify specific areas for certain allowed uses and development standards, the Specific Plan establishes four land use districts:

- LPC: Life Plan Community – LPC is the underlying district for the entire Specific Plan area, except for the northwestern corner, which is designated as the Mixed-Use district. LPC uses include independent living, assisted living, skilled nursing, and memory support, along with a variety of common facilities that provide amenities and supportive services for residents.

- AR: Affordable Residential – The AR district is intended to support development of affordable housing for seniors. The district may be applied either to the Santo Domingo Avenue or Central Avenue frontage, providing flexibility in the location of affordable independent living units.

- MU: Mixed-Use – The MU district, in the northwest area of the Specific Plan area, allows for a mix of residential, retail, and office uses that serve daily needs of city residents.

- OS: Open Space – The OS district is designed to preserve and improve existing open spaces on the Westminster Gardens LPC campus. Alternatively, open space areas may be relocated in conjunction with redevelopment activity, provided open space of equal or greater area and amenities are provided.

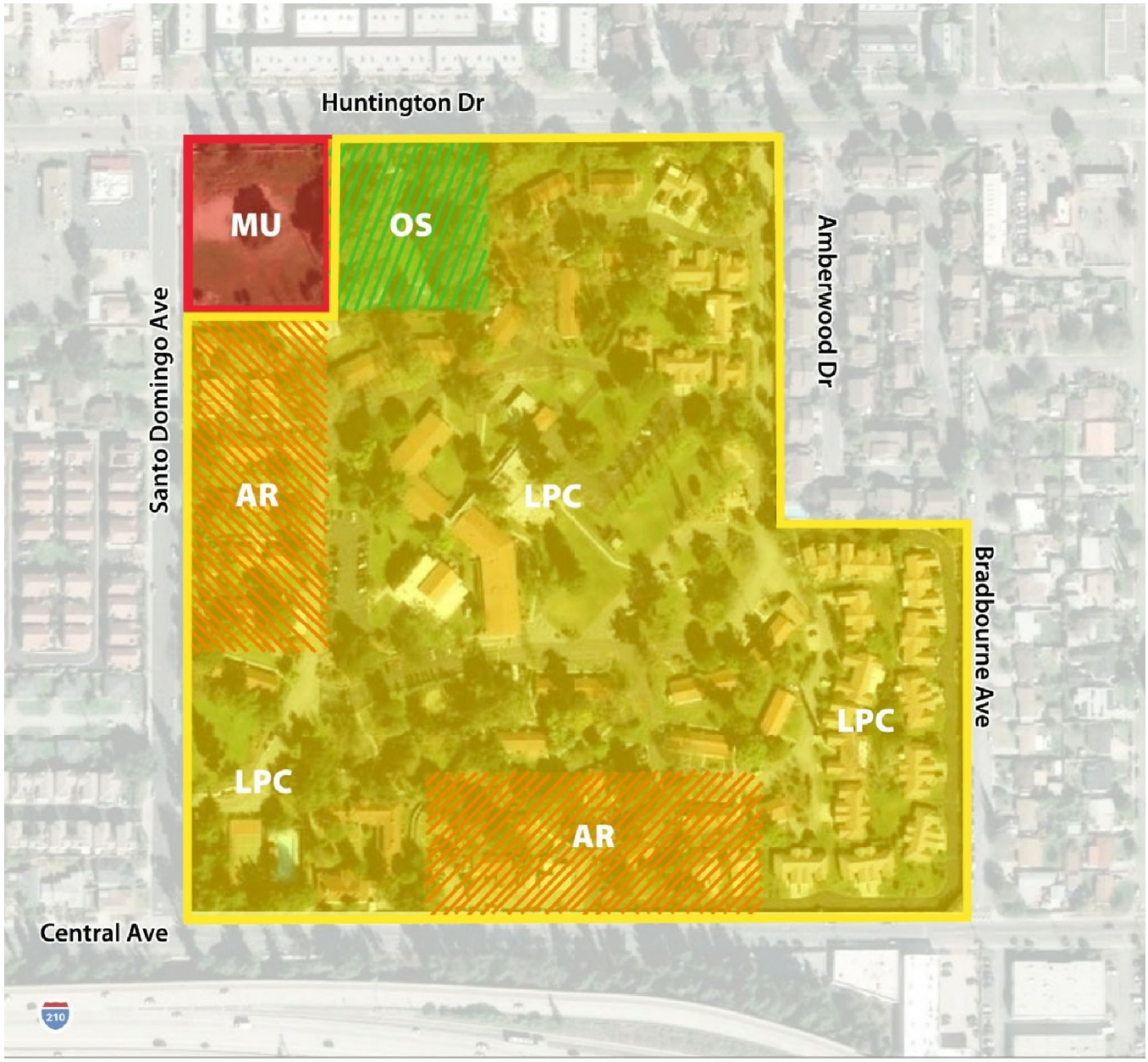
Implementation of the amendment allows for redevelopment of the Westminster Gardens LPC campus to allow for the development of the following components:

- Main LPC Campus:
  - 160 Independent Senior Living Units
  - 90 Assisted Living/Memory Care Units/Beds
  - 15,650 square feet (SF) of Administration and Corporate Office
  - 65,000 SF of Resident Amenities
  - 7,000 SF of Utility/Maintenance

- Affordable Housing:
  - 75 Very Low Affordable Senior Units
  - 75 Moderate Affordable Senior Units

- Mixed-Use Building:
  - 150 Independent Senior Living Units
  - 9,350 SF of Professional Office
  - 15,000 SF of Retail

The WGSP land use map is illustrated in ***Figure 2-3***. This Specific Plan does not define any specific project phasing for redevelopment nor define the ultimate locations of buildings within the campus. Redevelopment will occur gradually in multiple phases, with buildout assumed to be achieved by 2045.



Land Use Plan

- LPC | Life Plan Community
- AR | Affordable Residential *
- MU | Mixed-Use
- OS | Open Space **

SOURCE: MIG, INC.

* *AR is allowed in either location shown. LPC use is the overall underlying use and permitted in any location, except OS.*

** *OS is allowed in the identified location or, if equivalent in size, may be located elsewhere within the LPC campus.*

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Figure 2-3
Specific Plan Land Use Map

2.3 Project Site Access

2.3.1 *Vehicular Site Access*

Vehicular access to the LPC campus will continue to be provided via the existing main entrance driveway on Santo Domingo Avenue. A separate access driveway is planned to be provided on Santo Domingo Avenue north of the existing main entrance driveway for the proposed multi-use building. An additional driveway is planned to be provided on Central Avenue east of Santo Domingo Avenue for the proposed affordable housing units. Alternatively, the affordable housing units may be located along Santo Domingo Avenue and accessed via the same access driveway as the proposed multi-use building. The actual locations of certain ingress/egress points will depend upon the ultimate implementation of the flexible land use districts. No more than two ingress/egress points will be located on Santo Domingo Avenue. All project driveways are anticipated to accommodate full access (i.e., left-turn and right-turn ingress and egress traffic movements). The existing gated emergency access driveway on Huntington Drive will remain unchanged.

As an alternate site access scheme for the proposed project, the existing emergency access driveway on Huntington Drive is proposed to be utilized as an additional entrance/exit for the LPC campus. This project driveway will be limited to right-turn ingress and egress traffic movements only due to the presence of the existing raised median on Huntington Drive. The proposed circulation plan is illustrated in ***Figure 2-4***.

2.3.2 *Non-Vehicular Site Access*

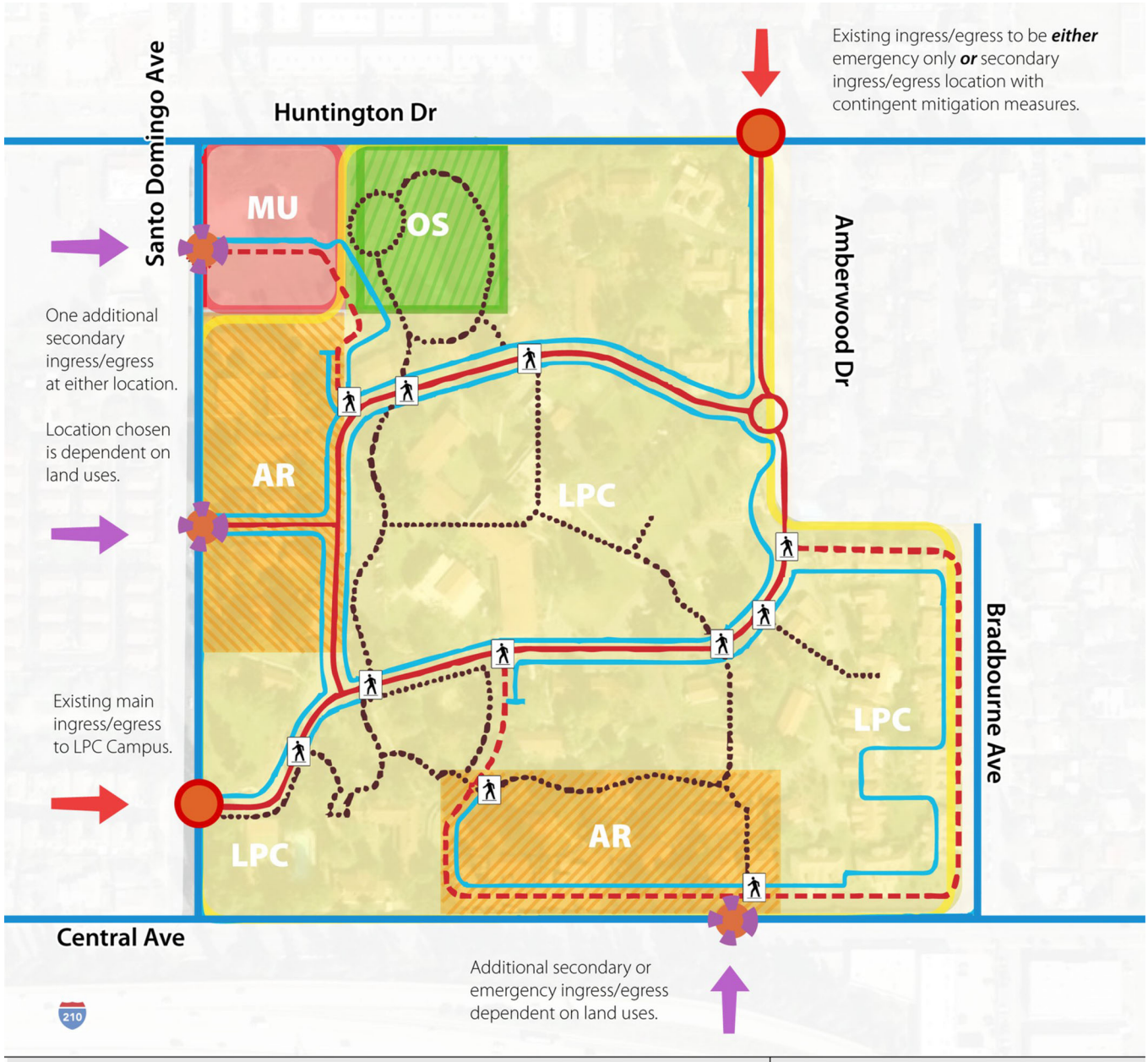
Pedestrian access to the project site will be accommodated via the existing public sidewalks and pedestrian facilities provided along Santo Domingo Drive, Huntington Drive, and Central Avenue. Pedestrian access within the project site will be accommodated by Americans with Disabilities Act (ADA) compliant walkways and curb ramps that will connect the building entrances to the public right-of-way. The walkways will provide exclusive pedestrian and bicycle access from the public sidewalk to the proposed project, thus minimizing the extent of pedestrian and bicycle interaction with vehicles at the site and providing a comfortable, convenient, and safe environment for pedestrians and bicyclists to access the proposed project from the public right-of-way. Pedestrian pathways will also be constructed surrounding the proposed buildings.

2.4 Project Trip Generation and Distribution

2.4.1 *Project Trip Generation Forecast*

Traffic volumes to be generated by the proposed project were forecast for the weekday AM and PM peak hours, and over a 24-hour period. Trip generation rates provided in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*[5] were utilized to forecast vehicular traffic generation for existing conditions, in order to identify the net change resulting from the proposed project.

[5] Institute of Transportation Engineers *Trip Generation Manual*, 11th Edition, Washington, D.C., 2021.



Land Use Plan

- LPC | Life Plan Community
- AR | Affordable Residential *
- MU | Mixed-Use
- OS | Open Space **

* *AR is allowed in either location shown. LPC use is the overall underlying use and permitted in any location, except OS.*

** *OS is allowed in the identified location or, if equivalent in size, may be located elsewhere within the LPC campus.*

Note: This internal circulation plan is a concept plan, subject to change based on ultimate building locations.

0 140 280 560 Feet

Circulation Plan

- Primary Streets
- Secondary Streets
- Trails
- Internal Sidewalk Network
- Public Sidewalk
- New/Relocated Entries
- Existing Entries
- Crosswalks

SOURCE: CITY OF DUARTE 2025 SPECIFIC PLAN

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Figure 2-4
Specific Plan Circulation Plan

Specifically, the following land use trip rates were utilized to forecast the traffic volumes generated by the existing land uses present on each of the parcels identified for redevelopment:

- ITE Land Use 252: Senior Adult Housing – Multifamily
- ITE Land Use 254: Assisted Living

The trip generation forecast for the existing land uses provided on-site is summarized in ***Table 2-1***.

The following land use trip rates were utilized to forecast the traffic volumes expected to be generated by the proposed land uses:

- ITE Land Use 223: Affordable Housing
- ITE Land Use 252: Senior Adult Housing – Multifamily
- ITE Land Use 254: Assisted Living
- ITE Land Use 710: General Office Building
- ITE Land Use 822: Strip Retail Plaza (<40K)

The trips generated by the existing land uses are assumed to be removed (with the exception of the Morrison House) in order to accommodate full build-out of the Specific Plan. Therefore, the existing trips have been applied as a credit towards the proposed project's trip generation forecast.

The trip generation forecast for the proposed Specific Plan is summarized in ***Table 2-2***. As presented in *Table 2-2*, the proposed project is expected to generate 173 net new vehicle trips (74 net new inbound trips and 99 net new outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 244 net new vehicle trips (127 net new inbound trips and 117 net new outbound trips). Over a 24-hour period, the proposed project is forecast to generate 2,422 net new trip ends during a typical weekday (approximately 1,211 net new inbound trips and approximately 1,211 net new outbound trips).

2.4.2 *Project Trip Distribution and Assignment*

Project traffic volumes both entering and exiting the site have been distributed and assigned to the adjacent street system based on the following considerations:

- The site's proximity to major traffic corridors (i.e., Huntington Drive, Highland Avenue, Central Avenue, etc.);
- Expected localized traffic flow patterns based on adjacent roadway channelization and presence of traffic signals;

Table 2-1
EXISTING USE TRIP GENERATION FORECAST [1]

TRIP GENERATION RATES [1]									
	ITE			WEEKDAY			WEEKDAY		
	LAND USE		WEEKDAY	AM PEAK HOUR			PM PEAK HOUR		
ITE LAND USE CATEGORY	CODE	VARIABLE	DAILY	IN (%)	OUT (%)	TOTAL	IN (%)	OUT (%)	TOTAL
Senior Housing	252	Per Dwelling Unit	3.24	34%	66%	0.20	56%	44%	0.25
Assisted Living	254	Per Bed	2.60	60%	40%	0.18	39%	61%	0.24

PROJECT TRIP GENERATION FORECAST									
	ITE		DAILY	AM PEAK HOUR			PM PEAK HOUR		
	LAND USE		TRIP ENDS [2]	VOLUMES [2]			VOLUMES [2]		
LAND USE	CODE	SIZE	VOLUMES	IN	OUT	TOTAL	IN	OUT	TOTAL
Senior Housing	252	107 DU	347	7	14	21	15	12	27
Assisted Living [3]	254	42 Beds	109	5	3	8	4	6	10
Total Existing Uses		***149 DU***	***456***	***12***	***17***	***29***	***19***	***18***	***37***

[1] Source: ITE "Trip Generation Manual", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] The trip generation forecast is based on one bed per unit.

Table 2-2
SPECIFIC PLAN TRIP GENERATION FORECAST [1]

TRIP GENERATION RATES [1]									
	ITE			WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
ITE LAND USE CATEGORY	LAND USE CODE	VARIABLE	WEEKDAY DAILY	IN (%)	OUT (%)	TOTAL	IN (%)	OUT (%)	TOTAL
Affordable Housing - Income Limits	223	Per Dwelling Unit	4.81	29%	71%	0.50	59%	41%	0.46
Senior Housing	252	Per Dwelling Unit	3.24	34%	66%	0.20	56%	44%	0.25
Assisted Living	254	Per Bed	2.60	60%	40%	0.18	39%	61%	0.24
General Office Building	710	Per 1,000 SF	10.84	88%	12%	1.52	17%	83%	1.44
Strip Retail Plaza (<40K)	822	Per 1,000 SF	54.45	60%	40%	2.36	50%	50%	6.59

PROJECT TRIP GENERATION FORECAST									
	ITE		DAILY	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
LAND USE	LAND USE CODE	SIZE	TRIP ENDS [2] VOLUMES	IN	OUT	TOTAL	IN	OUT	TOTAL
Affordable Housing	223	150 DU	722	22	53	75	41	28	69
Senior Housing	252	310 DU	1,004	21	41	62	44	34	78
Assisted Living [3]	254	90 Beds	234	10	6	16	9	13	22
General Office	710	9,350 SF	101	12	2	14	2	11	13
Retail	822	15,000 SF	817	21	14	35	50	49	99
Subtotal Specific Plan Buildout			*2,878*	*86*	*116*	*202*	*146*	*135*	*281*
Less Existing Uses (Refer to Table 2-1)			*(456)*	*(12)*	*(17)*	*(29)*	*(19)*	*(18)*	*(37)*
NET NEW PROJECT TRIPS			***2,422***	***74***	***99***	***173***	***127***	***117***	***244***

[1] Source: ITE "Trip Generation Manual", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] The trip generation forecast is based on one occupied bed per unit.

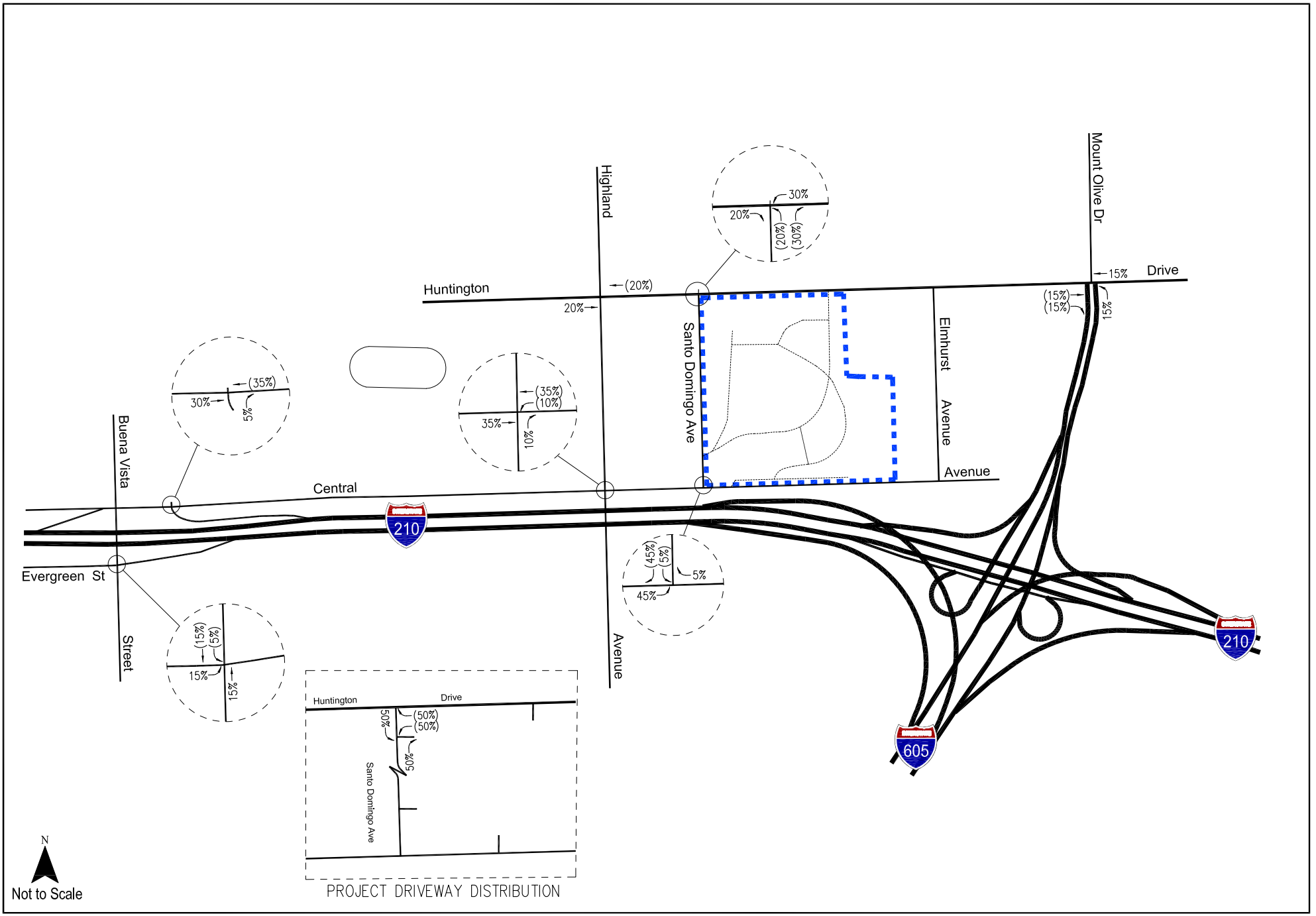
- Existing intersection traffic volumes;
- Ingress/egress scheme planned for the proposed project;
- Nearby population and employment centers; and
- Input from City of Duarte staff.

The general, directional traffic distribution patterns for the proposed project are presented in ***Figures 2-5*** through ***2-6***. *Figure 2-5* presents the distribution pattern for the office/retail component. *Figure 2-6* presents the distribution pattern for the residential component. For purposes of this analysis, it is conservatively assumed that the access for the office/retail and affordable housing components of the project are separate from the LPC campus (i.e., the components of the project are not interconnected).

An alternative site access scheme is also proposed utilizing the existing driveway on Huntington Drive as an additional entrance/exit for the LPC component of the project. ***Figure 2-7*** presents the distribution pattern for the residential component alternative access.

The forecast net new weekday AM and PM peak hour project traffic volumes at the study intersections associated with the proposed project are presented in ***Figures 2-8*** and ***2-9***, respectively. The traffic volume assignments presented in *Figures 2-8* through *2-9* reflect the traffic distribution characteristics shown in *Figures 2-5* through *2-6* and the project trip generation forecasts presented in *Table 2-2*.

The forecast net new weekday AM and PM peak hour project traffic volumes at the study intersections associated with the alternative site access scheme are presented in ***Figures 2-10*** and ***2-11***, respectively.

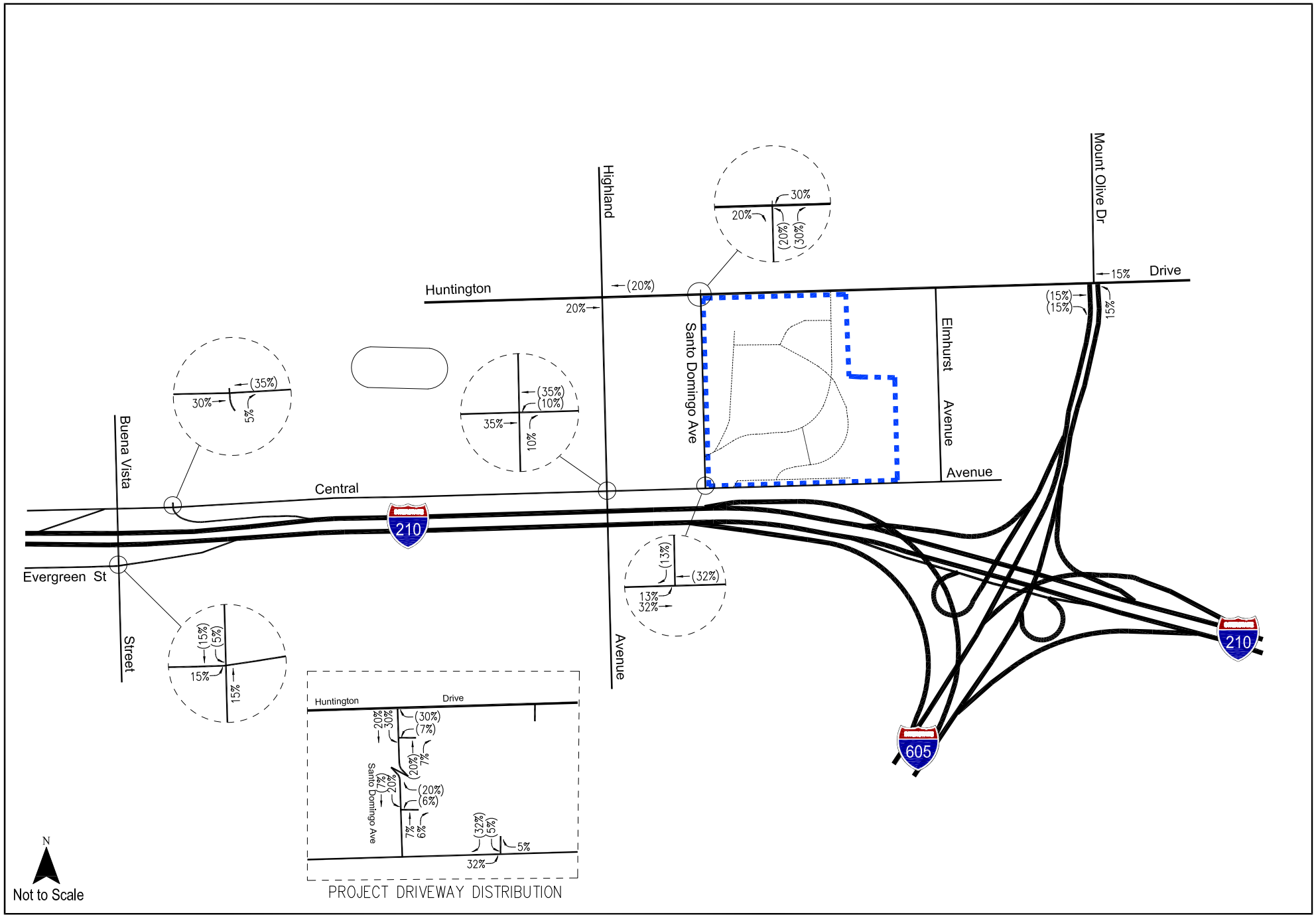


Project Site

XX = Inbound Percentage

(XX) = Outbound Percentage

Figure 2-5
Project Trip Distribution
Office/Retail Component
Westminster Gardens Specific Plan



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Project Site

XX = Inbound Percentage

(XX) = Outbound Percentage

Figure 2-6
Project Trip Distribution
Residential Component
Westminster Gardens Specific Plan

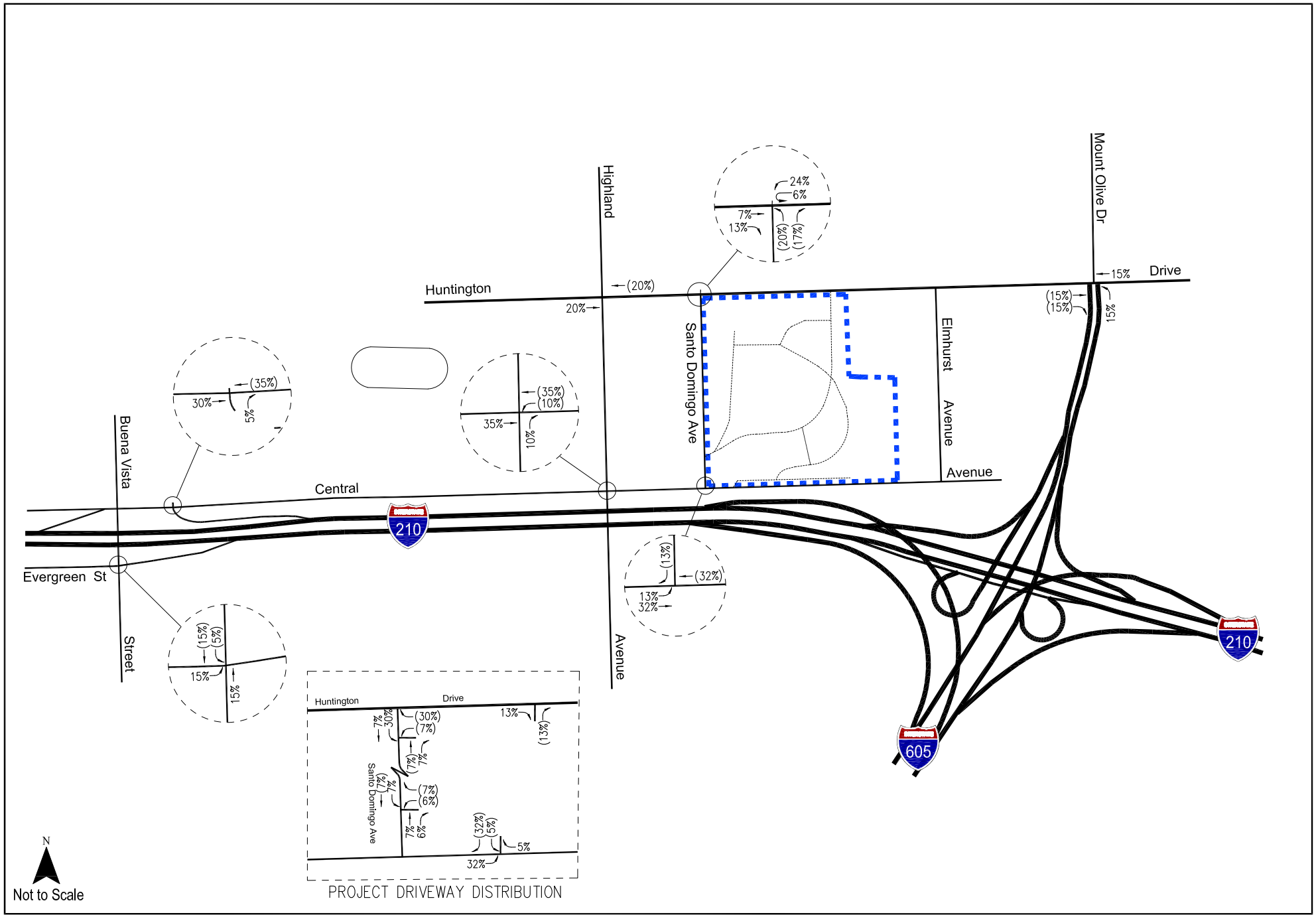

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Figure 2-7
Project Trip Distribution
Residential Component - Alternate Access
Westminster Gardens Specific Plan

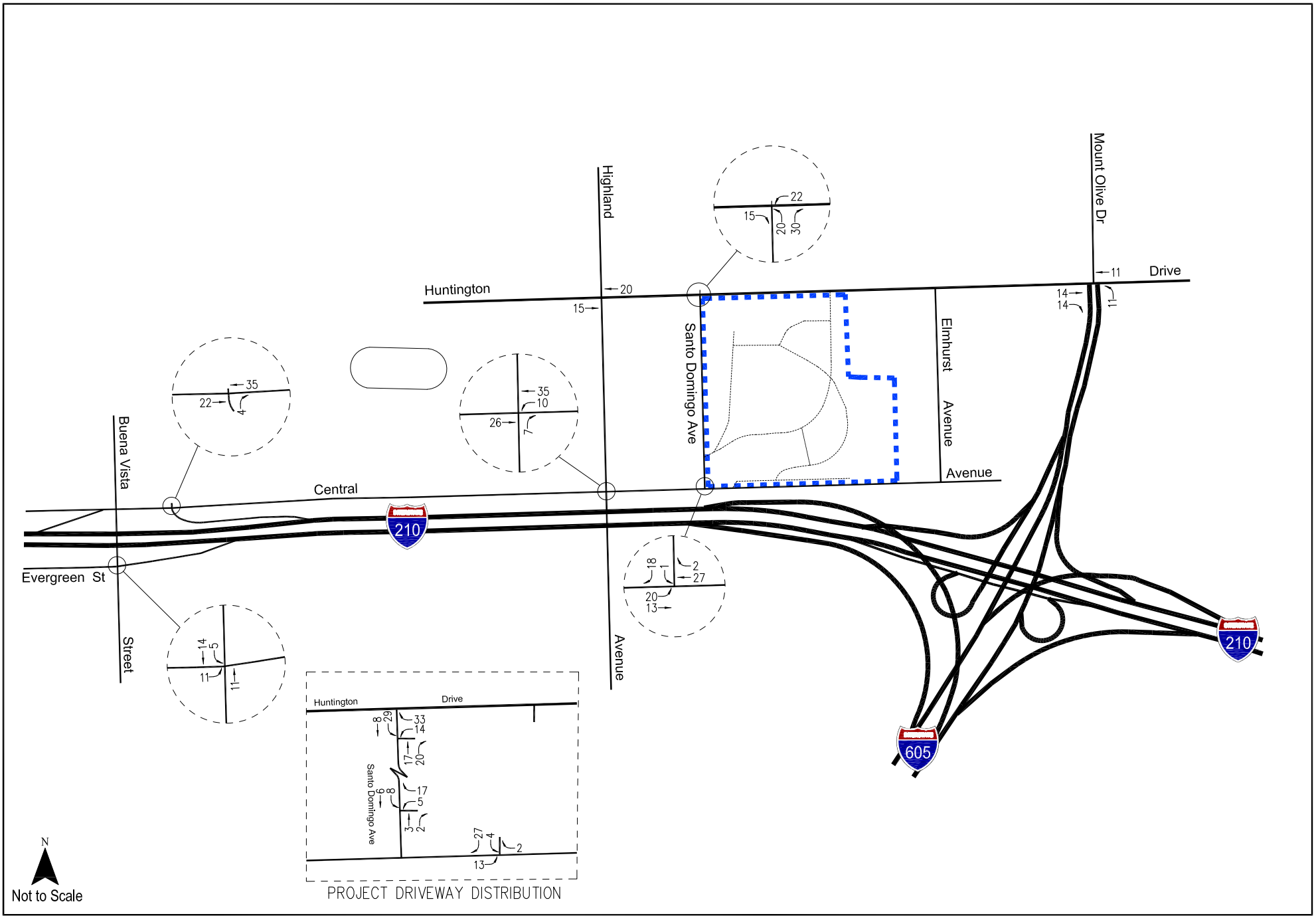

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Figure 2-8
Net New Project Traffic Volumes
Weekday AM Peak Hour
Westminster Gardens Specific Plan

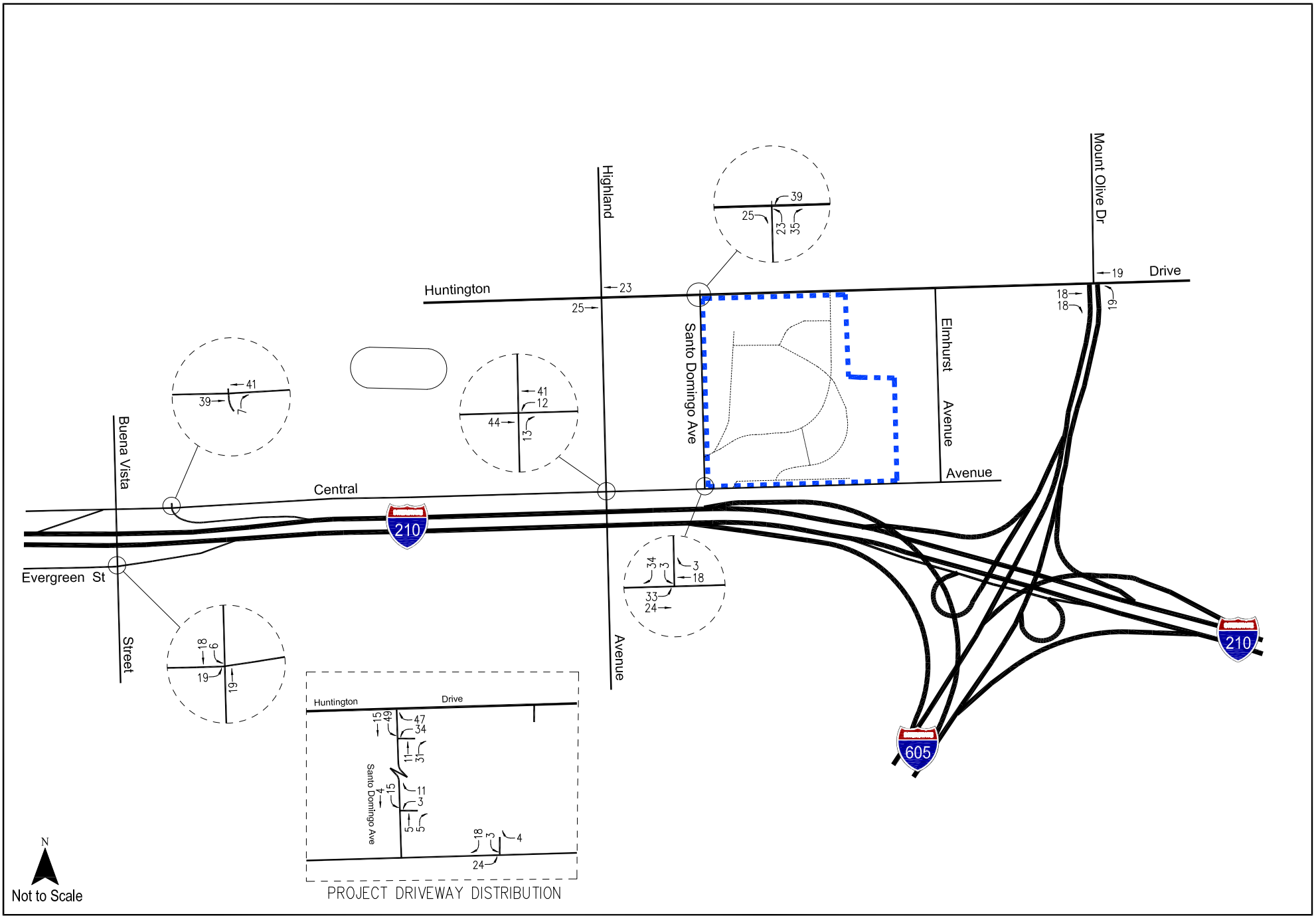

Figure 2-9
Net New Project Traffic Volumes
Weekday PM Peak Hour
Westminster Gardens Specific Plan

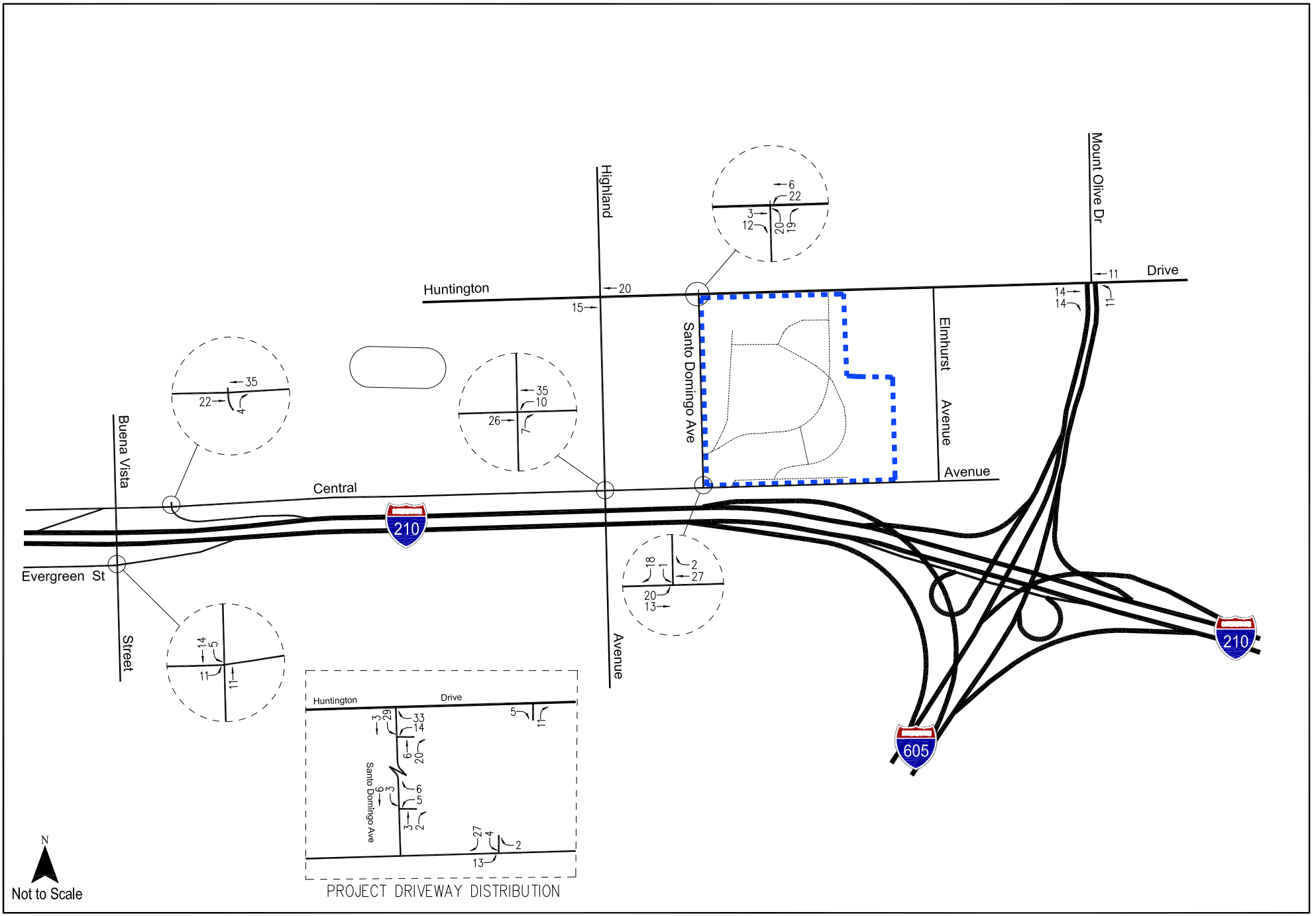

Figure 2-10

Net New Project Traffic Volumes

Weekday AM Peak Hour - Alternate Access

Westminster Gardens Specific Plan

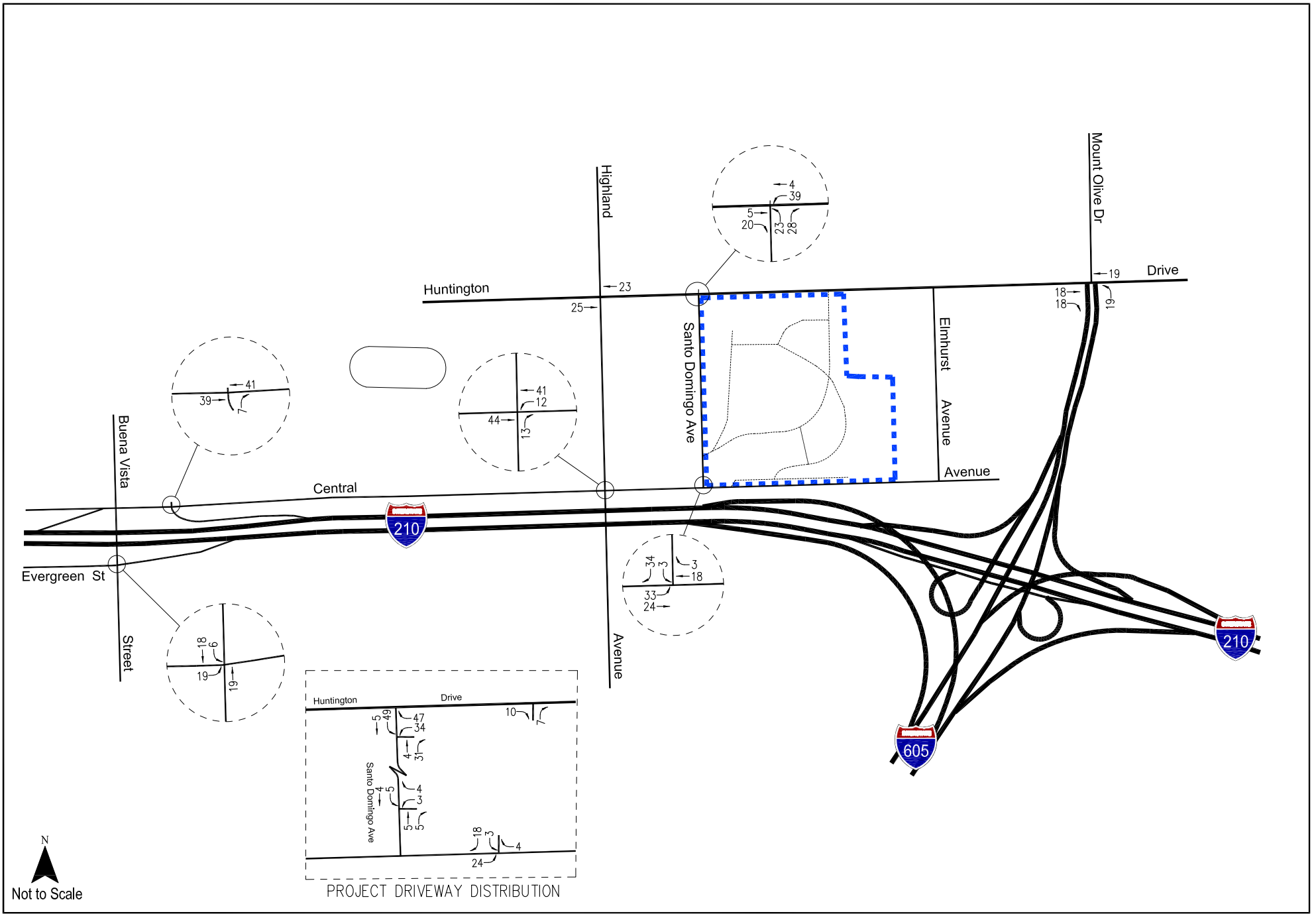

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Figure 2-11

Net New Project Traffic Volumes

Weekday PM Peak Hour - Alternate Access

Westminster Gardens Specific Plan

3.0 PROJECT SITE CONTEXT

The following sections provide an overview of the transportation infrastructure in the vicinity of the proposed project, including infrastructure which supports both motorized and non-motorized transportation modes.

3.1 Non-Vehicle Network

Non-vehicular transportation generally encompasses walking, biking, and other active transportation modes. Distinct facilities are often provided for these non-vehicular modes. Most prominently, paved sidewalks are typically provided to facilitate pedestrian travel outside of the roadway. In some cases, bicycle facilities such as painted bike lanes or separated bike paths are provided within the roadway in order to separate bike traffic from vehicular traffic. Roadways which are designed to prioritize non-vehicular transportation modes utilize complimentary non-vehicular infrastructure in order to promote comfortable, safe travel for both pedestrians and bicyclists. A review of the pedestrian and bicycle infrastructure provided in the vicinity of the project site is provided below.

3.1.1 *Pedestrian System*

Pedestrian infrastructure consists of facilities such as sidewalks, crosswalks, pedestrian signals, curb access ramps, Americans with Disabilities Act (ADA) compliant tactile warning strips, and curb extensions, among other things. These facilities are generally provided within the study area. Public sidewalks and pedestrian facilities are provided on all streets within the project vicinity, including Huntington Drive, Santo Domingo Avenue, and Central Avenue.

The project frontage along Santo Domingo Avenue is currently improved with sidewalk, landscaping strips along the east side of the sidewalk, curb, and gutter. The project frontages along Huntington Drive and Central Avenue are currently improved with sidewalks, curb, and gutter. As described in *Section 2.3, Project Site Access*, the proposed project will utilize the existing driveways on Huntington Drive, Santo Domingo Avenue, and Central Avenue and will maintain public sidewalk access across the driveway opening. The proposed project therefore will not result in the removal, degradation, or loss of access to any existing pedestrian facilities in the vicinity. Additionally, the project will provide an ADA compliant pedestrian walkway connecting the existing public sidewalks surrounding the project site to the walkways within the proposed development.

Walkability indicates walking is readily available as a safe, connected, accessible and pleasant mode of transport. Several criteria are widely accepted as key aspects of walkability of urban areas that should be satisfied. The underlying principle is that pedestrians should not be delayed, diverted, or placed in danger. These criteria include:

- Connectivity: People can walk from one place to another without encountering major obstacles, obstructions, or loss of connectivity.

- Convivial: Pedestrian routes are friendly and attractive, and perceived as such by pedestrians.

- Conspicuous: Suitable levels of lighting, visibility and surveillance over its entire length, with high quality delineation and signage.

- Comfortable: High quality and well-maintained footpaths of suitable widths, attractive landscaping and architecture, shelter and rest spaces, and a suitable allocation of roadspace to pedestrians.

- Convenient: Walking is a realistic travel choice, partly because of the impact of the other criteria set forth above, but also because walking routes are of a suitable length as a result of land use planning with minimal delays.

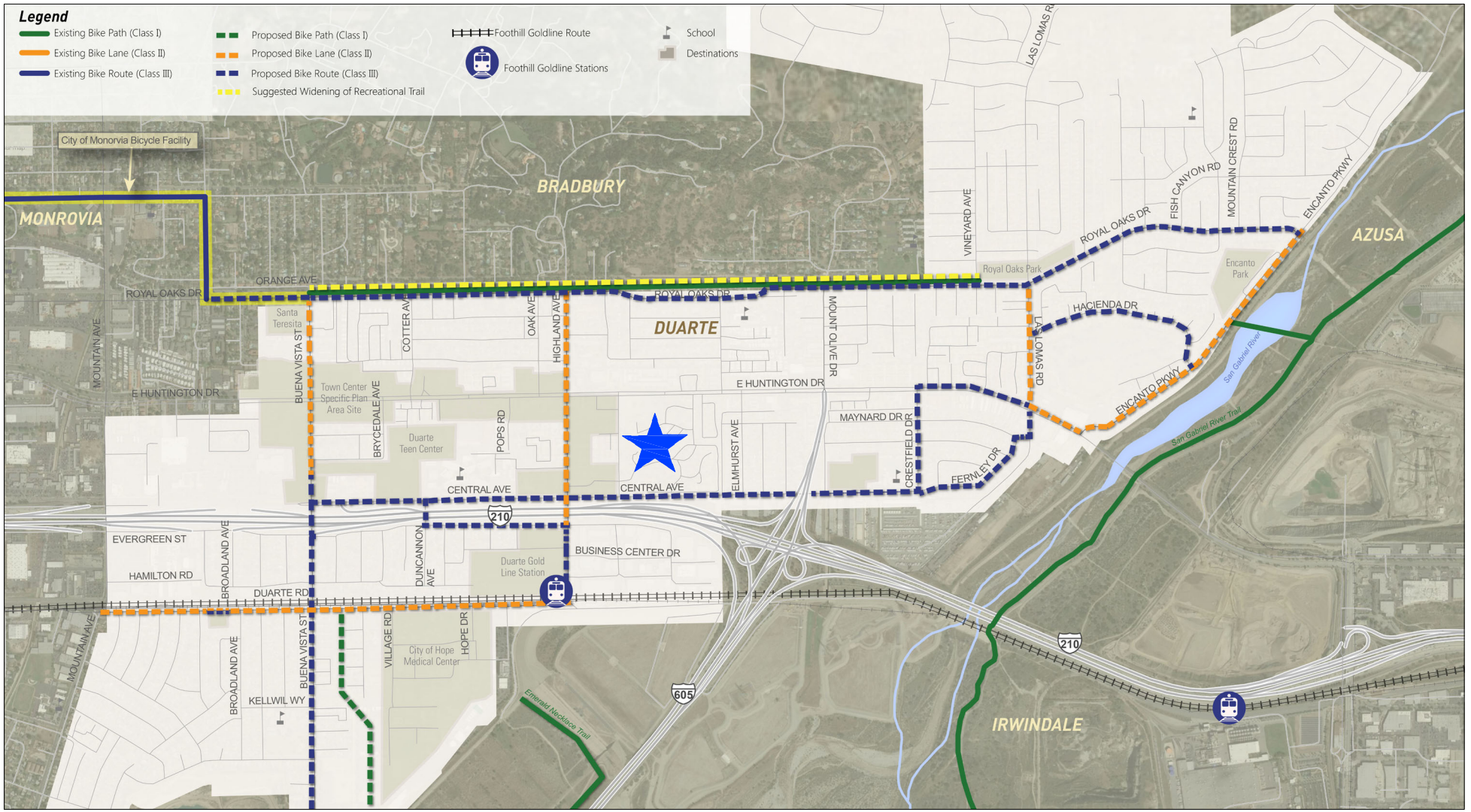
A review of the proposed project pedestrian walkways indicates that these primary characteristics are accommodated within and adjacent to the project. Proposed project features would include landscaped and lighted pedestrian walkways connecting facilities within the site, as well as connections with the adjacent public sidewalks along the project frontage. Street trees and streetscape plantings should be introduced along the same public frontages in accordance with the City's standards. In addition, project signage could include general ground level and wayfinding pedestrian signage around the perimeter of the project site, building identification signs, and other sign types. Wayfinding signs would be located at access points to the on-site amenities and facilities, parking area/s, and building entrances.

3.1.2 *Bicycle System*

Bicycle infrastructure consists of both facilities within the roadway as well as public bicycle parking spaces. The Federal and State transportation systems recognize 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 arterial streets.

Bicycle access to the project site will be facilitated by the City's bicycle roadway network. Existing and proposed bicycle facilities (e.g., Class I Bicycle Path, Class II Bicycle Lanes, Class III Bicycle Routes, Proposed Bicycle Routes, Bicycle Boulevards, etc.) are identified in the City's Citywide Bicycle Master Plan.[6] The location of the existing and proposed bicycle lane network for the City in close proximity to the project site and in the surrounding area is illustrated in ***Figure 3-1***. An existing Class III Bicycle Route is provided along Central Avenue and Highland Avenue within the project vicinity. In addition, a Class II Bicycle Lane is planned for Highland Avenue within the project vicinity per the City's Citywide Bicycle Master Plan.

[6] City of Duarte Citywide Bicycle Master Plan.



MAP SOURCE: DUARTE CITYWIDE BICYCLE MASTER PLAN (EXHIBIT 2), 2025

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Project Site

Figure 3-1
Existing and Proposed Bikeways

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3.2 Transit Network

Public transit services are provided within the project study area by Foothill Transit and Los Angeles County Metropolitan Transportation Authority (LA Metro). The existing public transit routes in the vicinity of the project site are illustrated in ***Figure 3-2***. A summary of the existing transit service within approximately 1.0 mile of the project site, including the transit line number, corridor(s) served, nearest stop, and typical number of buses or trains per hour is presented in ***Table 3-1***. As summarized in *Table 3-1*, a total of three (3) public transit bus routes provide service in the vicinity of the project site. Each line provides service approximately every 15-60 minutes during the morning and evening peak commute hours.

As summarized in *Table 3-1*, public light rail transit is provided in the vicinity by the LA Metro A (previously L/Gold) Line. The Duarte/City of Hope Station is located approximately 0.4 miles from the project site. Light rail transit service is provided approximately every 7-8 minutes during the morning and evening peak commute hours.

3.3 Vehicle Network

3.3.1 *Roadway Classifications*

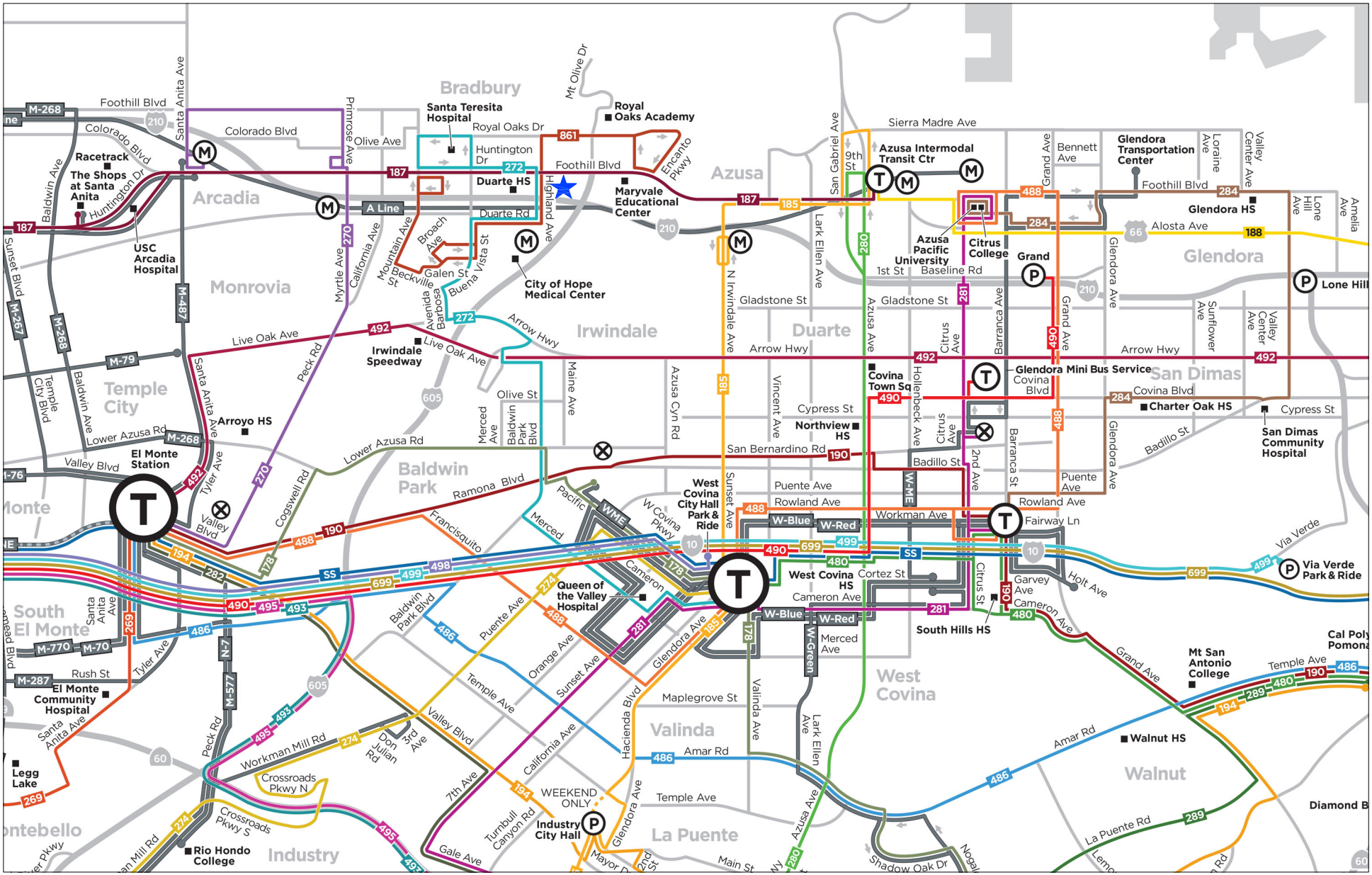
The City of Duarte utilizes the roadway categories recognized by regional, state and federal transportation agencies. There are four (4) categories in the roadway hierarchy, ranging from freeways with the highest capacity to two-lane undivided roadways with the lowest capacity. The roadway categories are summarized as follows:

- *Freeways* are limited-access and high speed travel ways included in the state and federal highway systems. Their purpose is to carry regional through-traffic. Access is provided by interchanges with typical spacing of one mile or greater. No local access is provided to adjacent land uses.

- *Arterial* roadways are major streets that primarily accommodate regional, subregional, and intra-city travel. Through traffic comprises the bulk of traffic volumes on arterial roadways. In the City of Duarte, this roadway type is divided into two categories: Major and Minor arterials. Major arterial roadways are designed to move relatively high volumes of traffic between the freeway and local circulation system. Intersections along major arterials are at-grade and typically signalized. Access from private property and collector streets is limited, as is on-street parking. Minor arterial roadways are similar to major arterials, but serve a more localized function. Minor arterials generally have less access and parking restrictions and a narrower right-of-way than major arterials.

- *Collector* roadways are designed to distribute traffic from higher classified arterial streets to local access streets and adjacent properties.

- *Local* roadways are designed to be low-volume and low-speed streets that provide access to individual properties. Residential streets are generally not intended to handle through traffic.



MAP SOURCE: FOOTHILL TRANSIT TRANSPORTATION AUTHORITY WEBSITE, 2025

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★ Project Site

Figure 3-2
Existing Transit Routes

Table 3-1
EXISTING TRANSIT ROUTES [1]

ROUTE	DESTINATIONS	ROADWAY(S) NEAR SITE	NO. OF BUSES/TRAINS DURING PEAK HOUR		
			DIR	AM	PM
FT 187	Azusa, Duarte, Monrovia, Arcadia, Pasadena	Highland Avenue, Huntington Drive, Mt. Olive Drive, I-605 Ramps	EB WB	4 3	4 4
FT 272	Duarte, Baldwin Park, West Covina	Huntington Drive, Highland Ave, Buena Vista St	NB SB	2 2	1 2
FT861	Duarte Mountian Vista Plaza, Huntington Dr-Royal Oaks	Highland Avenue, Huntington Drive	NB SB	1 1	1 1
Metro A Line	Azusa to Long Beach via Duarte, Carson, Compton, Willowbrook,Watts, Florence, Los Angeles, Downtown Los Angeles, Los Angeles, Pasadena, Duarte, Azusa	Highland Avenue, Huntington Drive, Central Ave	EB WB	8 7	8 8
TOTAL				28	29

[1] Sources: Los Angeles County Metropolitan Transportation Authority (Metro), and Foothill Transit (FT) websites, 2024.

3.3.2 *Roadway Descriptions*

Immediate access to the project site is provided via Huntington Drive, Santo Domingo Avenue, and Central Avenue. The current lane configurations and traffic control measures at each study intersection are presented in ***Figure 3-3***. Descriptions of the roadways which make up the study area are provided in ***Table 3-2***, including the roadway classification, number of lanes, median types, and speed limits designated by the City of Duarte.

3.3.3 *Traffic Count Data*

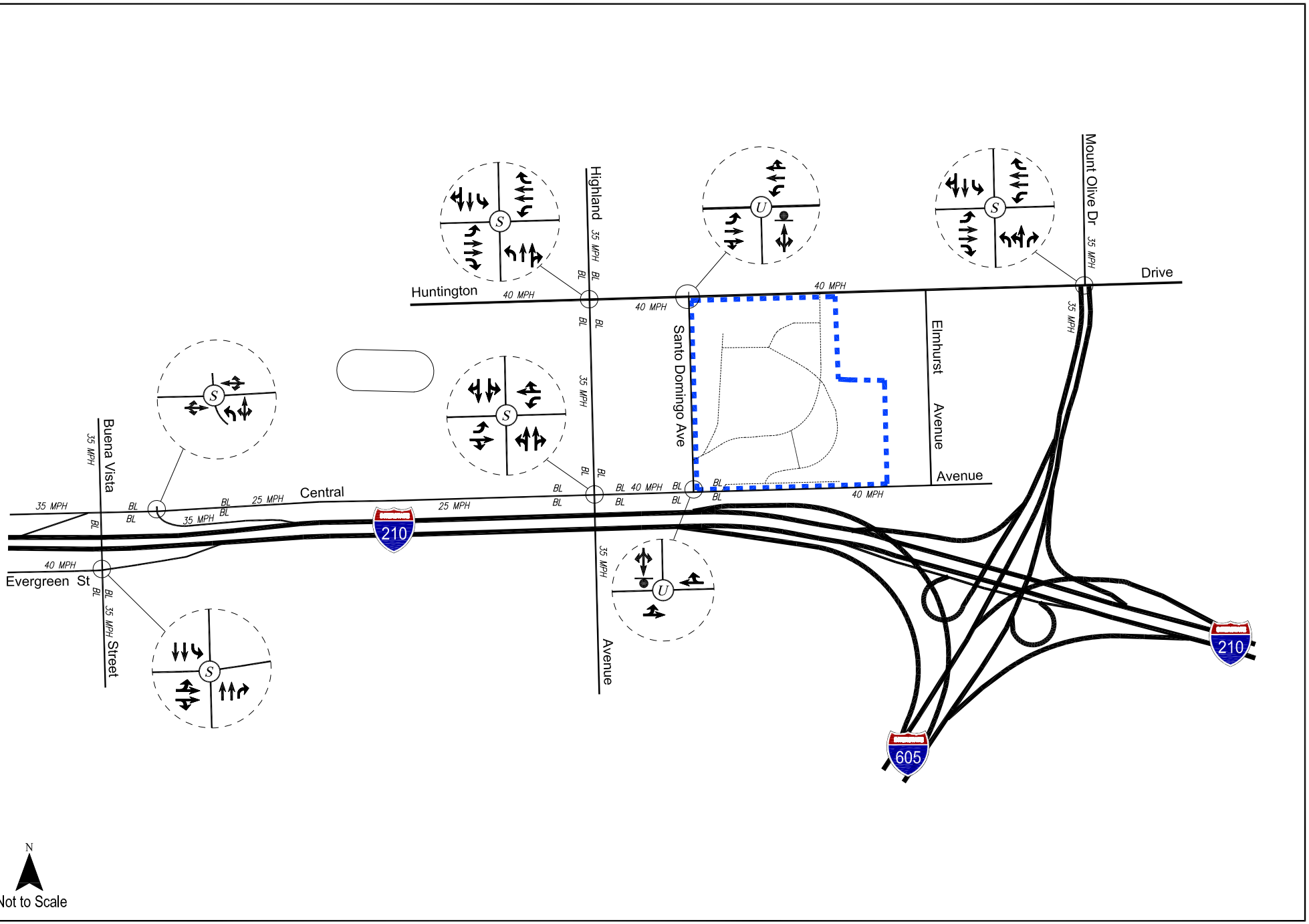
Manual counts of vehicular turning movements were conducted at the study intersections identified for review in consultation with City staff. The manual traffic counts were conducted at the intersections during the weekday morning (AM) and afternoon (PM) commute periods to determine the peak hour traffic volumes. The manual counts were conducted in May 2024 by an independent traffic count subconsultant (The Traffic Solution) at the study intersections on a typical weekday from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM to determine the AM and PM peak commute hours, respectively. In conjunction with the manual turning movement vehicle counts, counts of bicycle and pedestrian volumes were also collected during the peak periods. It is noted that all of the traffic counts were conducted when local schools were in session. The traffic count data for the project driveway locations were derived from the traffic count data for the adjacent intersections (i.e., the northbound and southbound volumes on Santo Domingo Avenue and the eastbound and westbound volumes on Huntington Drive and Central Avenue).

The existing weekday AM and PM peak hour intersection vehicle traffic volumes by approach are summarized in ***Table 3-3***. The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are shown in ***Figures 3-4*** and ***3-5***, respectively. Summary data worksheets of the manual traffic counts at the study intersections are contained in ***Appendix B***.

3.4 Cumulative Development Projects

The forecast of future pre-project conditions was prepared in accordance to procedures outlined in Section 15130 of the CEQA Guidelines. Specifically, the CEQA Guidelines provide two (2) options for developing the future traffic volume forecast:

> "(A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the [lead] agency, or
>
> (B) A summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect. Such plans may include: a general plan, regional transportation plan, or plans for the reduction of greenhouse gas emissions. A summary of projections may also be contained in an adopted or certified prior environmental document for such a plan. Such projections may be supplemented with additional information such as a regional modeling program. Any such document shall be referenced and made available to the public at a location specified by the lead agency."



Project Site

(S) Signalized

(U) Unsignalized

Stop

BL Bike Lane / Bike Route

Figure 3-3
Existing Lane Configurations

Table 3-2
EXISTING ROADWAY DESCRIPTIONS

ROADWAY	CLASSIFICATION [1]	TRAVEL LANES		MEDIAN TYPES [4]	SPEED LIMIT
		DIRECTION [2]	NO. LANES [3]		
Buena Vista Street					
-North of Bloomdale Street	Minor Arterial	NB-SB	4 [5]	N/A	35
-South of Bloomdale Street	Minor Arterial	NB-SB	4 [5]	RMI and N/A	35
-South of Duarte Road	Minor Arterial	NB-SB	4 [5]	N/A	35
Highland Avenue	Minor Arterial	NB-SB	4 [5]	N/A	25/35
Santo Domingo Avenue	Local Street	NB-SB	2 [5]	N/A	25
Mount Olive Drive	Minor Arterial	NB-SB	2	N/A	35
Huntington Drive	Principal Arterial	EB-WB	4	RMI	40
Central Avenue					
-West of Buena Vista Street	Collector	EB-WB	2	RMI and N/A	25
-West of Duncannon Avenue	Collector	EB-WB	2 [5]	RMI and N/A	25
-East of Duncannon Avenue	Collector	EB-WB	2 [5]	N/A	25/40
Evergreen Street					
-West of Buena Vista Street	Collector	EB	2	N/A	45

Notes:
[1] Roadway classifications obtained from the *City of Duarte Comprehensive General Plan 2005- 2020* , adopted August 2007.
[2] Direction of roadways in the project area: NB-SB = northbound and southbound; and EB-WB = eastbound and westbound.
[3] Number of lanes in both directions on the roadway. Variations in number of travel lanes due to time restricted on-street parallel parking are noted below.
[4] Median type of the road: RMI = Raised Median Island; 2WLT = 2-Way Left-Turn Lane; and N/A = Not Applicable.
[5] Class II Bike Lane.

Table 3-3
EXISTING TRAFFIC VOLUMES [1]
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	DATE	DIR	AM PEAK HOUR		PM PEAK HOUR	
				BEGAN	VOLUME	BEGAN	VOLUME
1	Buena Vista Street / Evergreen St - I-210 EB On-Ramp	05/22/2024	NB	4:30 PM	537	5:00 PM	675
			SB		643		562
			EB		637		509
			WB		0		0
2	I-210 Fwy WB Off-Ramp / Central Ave	05/22/2024	NB	4:30 PM	618	5:00 PM	343
			SB		0		0
			EB		316		225
			WB		388		167
3	Highland Ave / Huntington Dr	05/22/2024	NB	4:15 PM	282	5:00 PM	389
			SB		192		174
			EB		445		1,075
			WB		1,358		624
4	Highland Ave / Central Ave	05/22/2024	NB	4:00 PM	235	5:00 PM	460
			SB		443		188
			EB		224		192
			WB		305		135
5	Santo Domingo Ave / Huntington Dr	05/22/2024	NB	4:45 PM	30	5:00 PM	32
			SB		0		0
			EB		533		1,385
			WB		1,393		638
6	Santo Domingo Ave / Central Ave	05/22/2024	NB	4:00 PM	0	5:00 PM	0
			SB		85		46
			EB		177		319
			WB		231		98
7	I-605 Fwy On-Off Ramps - Mt Olive Dr / Huntington Dr	05/22/2024	NB	4:45 PM	925	5:00 PM	854
			SB		352		203
			EB		658		1,347
			WB		1,296		832

[1] Counts conducted by The Traffic Solution.

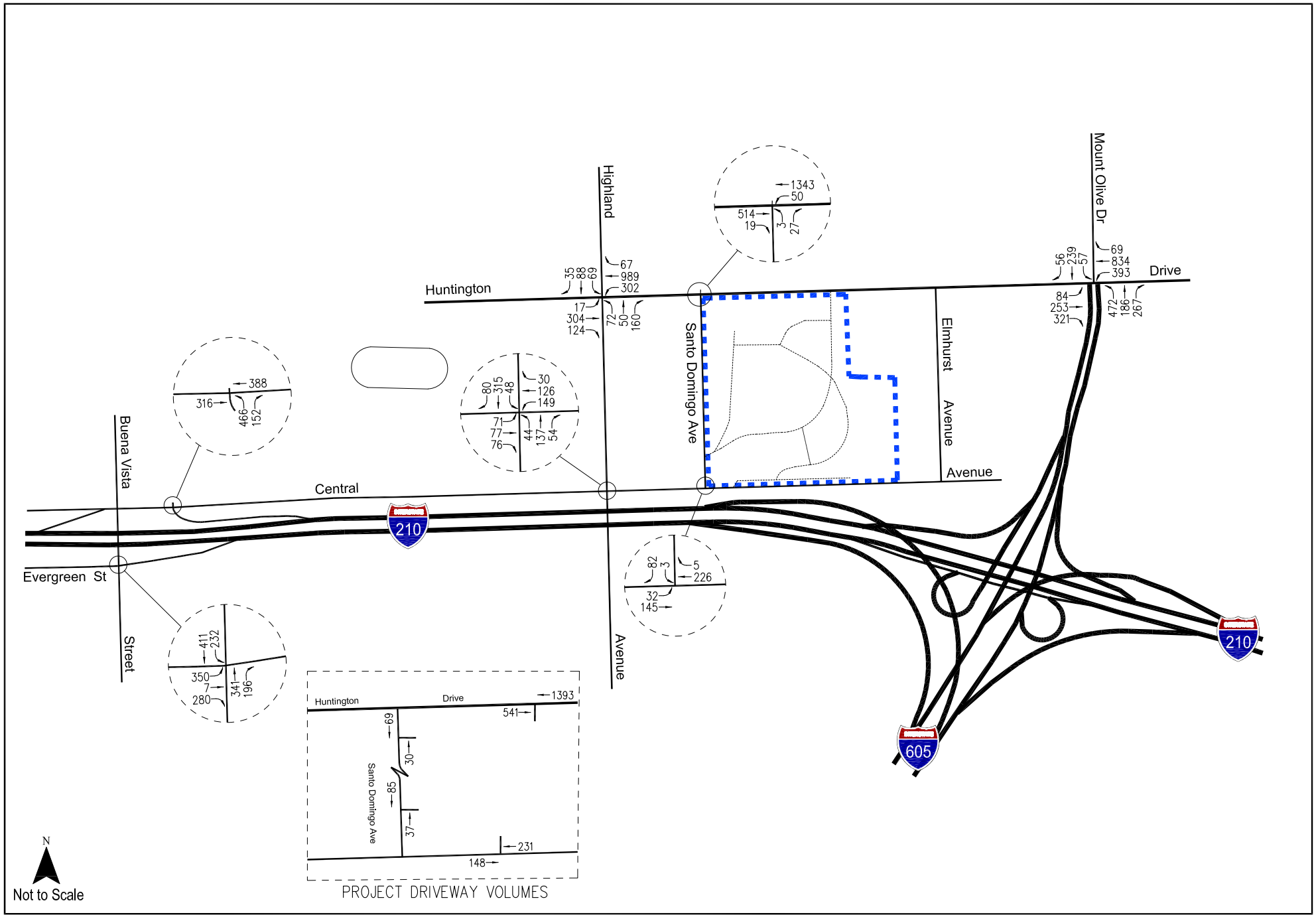


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Figure 3-4
Existing Traffic Volumes
Weekday AM Peak Hour
Westminster Gardens Specific Plan

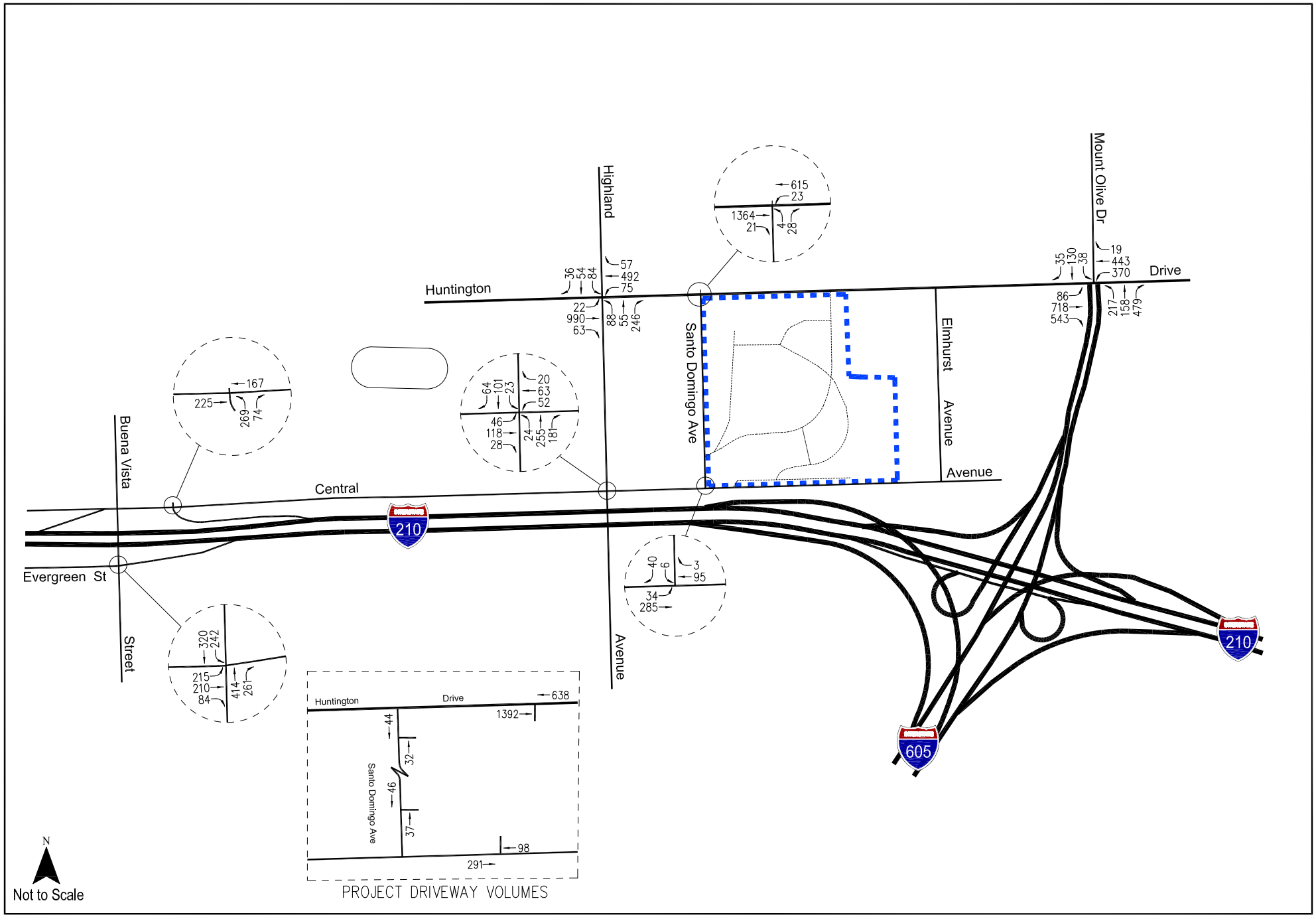

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Figure 3-5
Existing Traffic Volumes
Weekday PM Peak Hour
Westminster Gardens Specific Plan

Although the CEQA Guidelines do not strictly apply to the local transportation assessment required by the City of Duarte, this transportation analysis provides a highly conservative estimate of future pre-project traffic volumes as it incorporates both the "A" and "B" options outlined in the CEQA Guidelines for purposes of developing the forecast.

3.4.1 *Related Projects*

A forecast of on-street traffic conditions prior to occupancy of the proposed project was prepared by incorporating the potential trips associated with other known development projects (related projects) in the area. With this information, the potential impact of the proposed project can be evaluated within the context of the cumulative impacts of all ongoing development. The related projects research was based on information on file with the City of Duarte, the County of Los Angeles, and the City of Los Angeles. The list of related projects in the project site area is presented in ***Table 3-4***. The location of the related projects is shown in ***Figure 3-6***.

Traffic volumes expected to be generated by the related projects were calculated using rates provided in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*. The related projects' respective traffic generation for the weekday AM and PM peak hours, as well as on a daily basis for a typical weekday, is summarized in *Table 3-4*. The related projects traffic volumes were distributed and assigned to the street system based on the projects' locations in relation to the study intersections, their proximity to major traffic corridors, proposed land uses, nearby population and employment centers, etc. The assignment of the related projects traffic volumes to the study intersections during the weekday AM and PM peak hours are displayed in ***Figures 3-7*** and ***3-8***, respectively.

3.4.2 *Ambient Traffic Growth Factor*

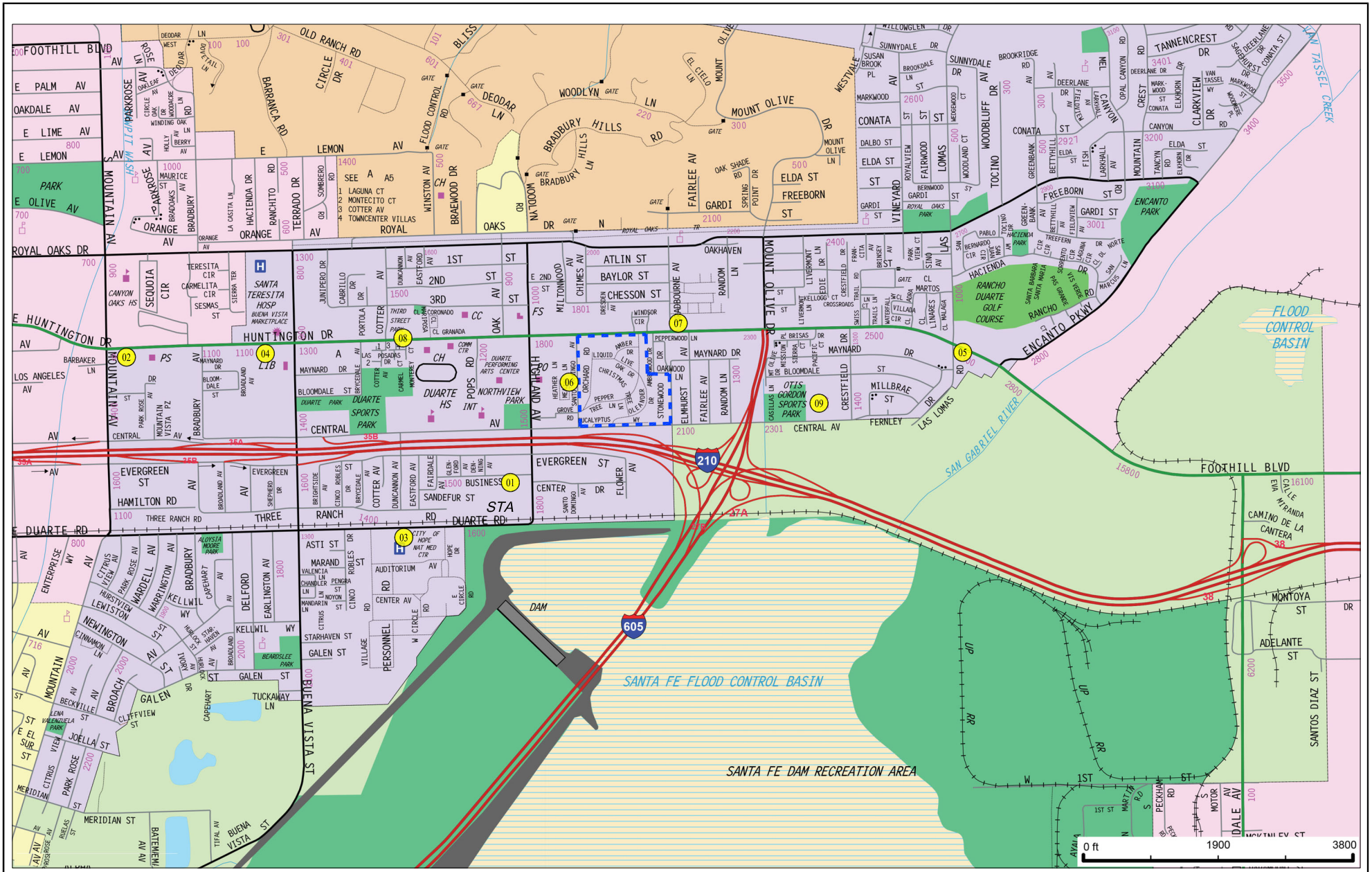
Horizon year background traffic growth estimates have been calculated using an ambient traffic growth factor. The ambient traffic growth factor is intended to include unknown related projects in the study area as well as account for typical growth in traffic volumes due to the development of projects outside the study area. Based on review of the general traffic growth factors provided in the Los Angeles County 2010 Congestion Management Program[7] (CMP) for the project study area (i.e., RSA 25, Pasadena which includes the City of Duarte), it is anticipated that existing traffic volumes in the vicinity are expected to increase at an annual rate of 0.33% per year between the years 2020 and 2035. An annual growth rate of 0.33 percent (0.33%) until the year 2045 (i.e., the anticipated project build-out year) has been utilized for this analysis. Therefore, application of this 0.33 percent (0.33%) ambient growth factor in addition to the forecast traffic generated by the related projects allows for a conservative forecast of future traffic volumes in the project study area as incorporation of both (i.e., an ambient traffic growth rate and a detailed list of cumulative development projects) is expected to overstate potential future traffic volumes. The cumulative development projects should already be incorporated as part of the growth rate projection per the adopted, local and regional planning documents (i.e., which account for the future population, housing, and employment [socio-economic data] projections).

[7] Los Angeles County Metropolitan Transportation Authority (Metro) 2010 Congestion Management Program.

Table 3-4
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
1	Built	Solana The Residences at Duarte Station 1750 Business Center Drive	Apartments	292 DU	[3]	1,387	33	60	93	55	30	85
2	Under Construction	928 Huntington Dr.	Apartments	16 DU	[4]	108	1	5	6	5	3	8
3	Built	City of Hope 1500 Duarte Rd.	Medical Outpatient Clinic	9,393 Persons	[5]	4,753	448	66	514	74	388	462
4	Approved	Hawthorne Suites 1230 Huntington Dr.	Hotel	178 Rooms	[6]	783	32	29	61	31	33	64
5	Approved	Duarte-Azusa Animal Hospital 2714 Huntington Dr.	Animal Hospital	291 GSF	[7]	6	1	0	1	0	1	1
6	Approved	1401 Santo Domingo Dr.	Apartments	20 DU	[3]	95	2	4	6	4	2	6
7	Built	BP ElectricVehicle Charging Station 2107 Huntington Drive	Electric Charging Station	26 Superchargers	[8]	910	29	36	65	25	30	55
8	Approved	Town Center Specific Plan 1200 Huntington Dr	Apartments Commercial Hotel	800 DU 703,000 GLSF 450 Rooms	[9]	3,776	91	224	315	550	366	916
9	Proposed	Andres Duarte School Project 1433 Crestfield Drive	Public Park (Passive Uses) Public Park (Ball Fields) Multi Family Housing	6 Acres 2 Fields 169 DU	[10]	646	(50)	4	(46)	16	(11)	5
TOTAL						**12,464**	**587**	**428**	**1,015**	**760**	**842**	**1,602**

[1] Source: City of Duarte Department of City Planning, except as noted below. The peak hour traffic volumes were forecast on trip data provided in the ITE "Trip Generation", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] ITE Land Use Code 221 Multifamily Housing (Mid-Rise) Close to Rail Transit trip generation average rates.
[4] ITE Land Use Code 220 Multifamily Housing (Low-Rise) Not Close to Rail Transit trip generation average rates.
[5] Source: "City of Hope Campus Plan Draft EIR Transportation Impact Study", prepared by Fehr & Peers, July 2017.
[6] ITE Land Use Code 311 All Suites Hotel trip generation average rates.
[7] ITE Land Use Code 640 Animal Hospital/Veterinary Clinic trip generation average rates.
[8] Source: "7001-7003 Santa Monica PDM - Trip Generation" prepared by LLG Engineers for the City of Los Angeles, dated June 17, 2022.
[9] Source: "Duarte Town Center Specific Plan Traffic Study" prepared by Cambridge Systematics, Inc., May 26, 2016.
[10] Source: "1433 Crestfield Residential Project Transportation Impact Study" prepared by Ganddini Group Inc., January 31, 2025.



Project Site

XX Related Project

Figure 3-6
Location of Related Projects

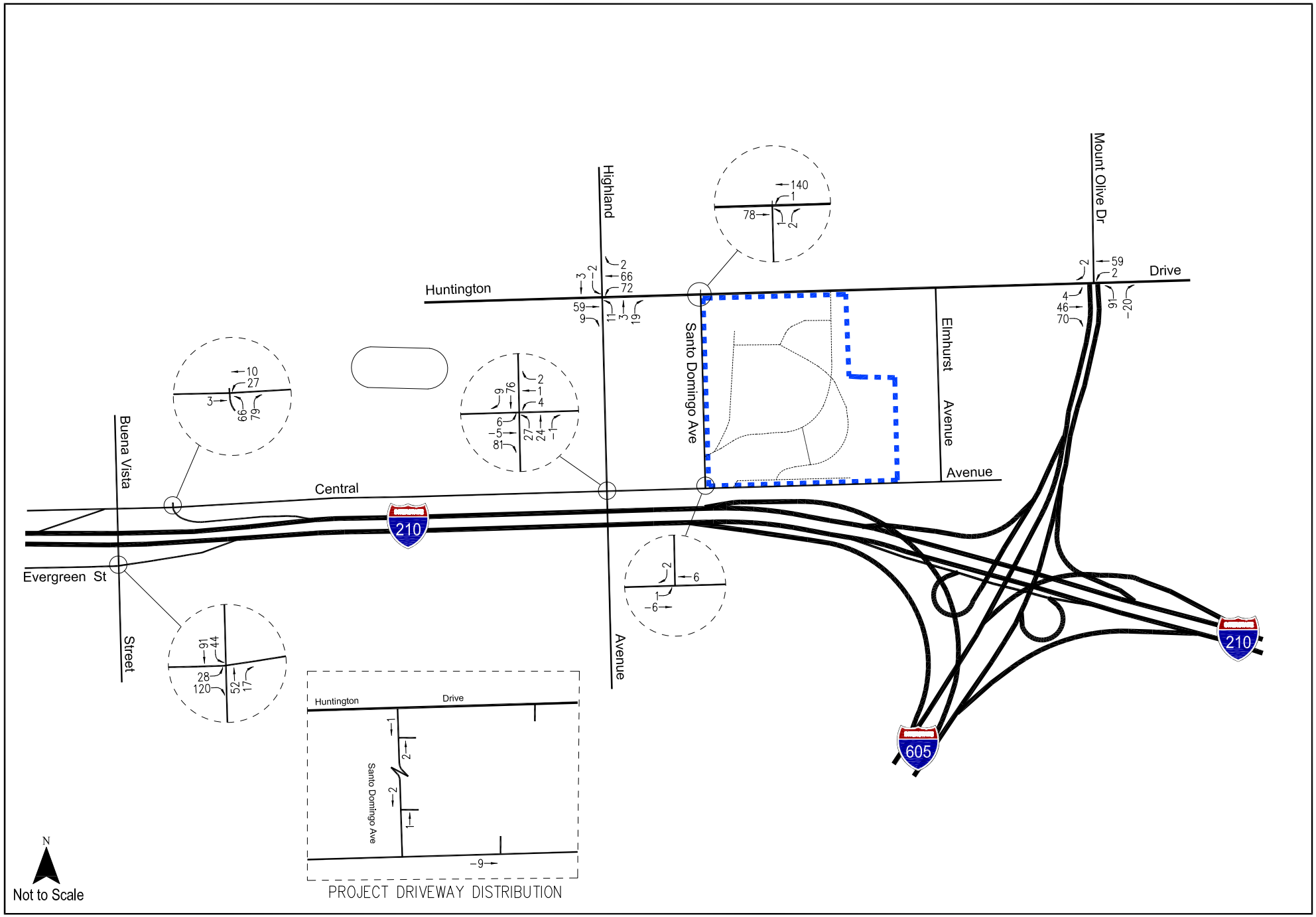


Figure 3-7
Related Projects Traffic Volumes
Weekday AM Peak Hour
Westminster Gardens Specific Plan

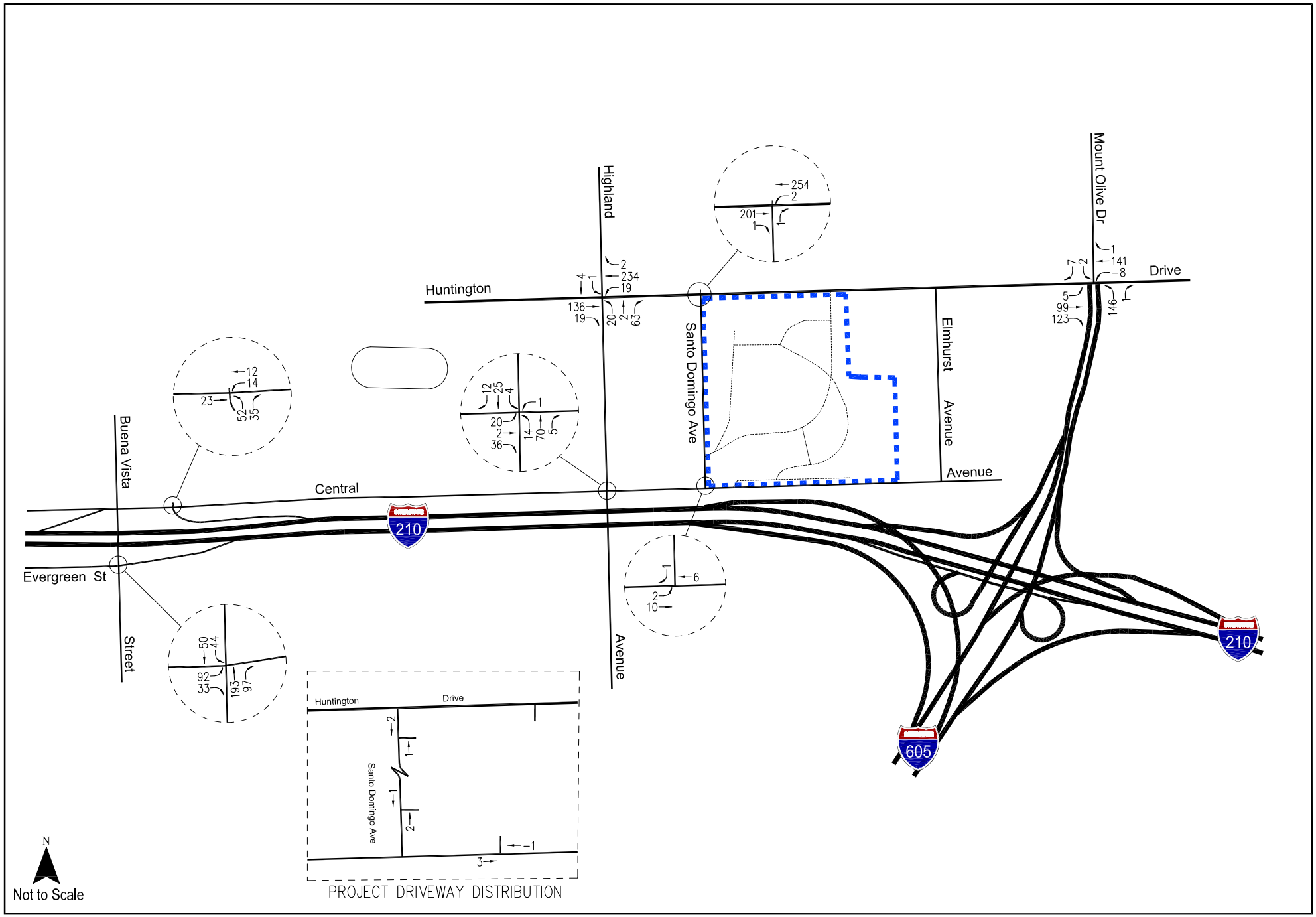


Figure 3-8
Related Projects Traffic Volumes
Weekday PM Peak Hour
Westminster Gardens Specific Plan

4.0 VEHICLE MILES TRAVELED ANALYSIS

As described in *Section 1.1*, in compliance with the current statutory requirements for analysis of transportation impacts under CEQA, the City's Guidelines set forth the VMT screening criteria, impact criteria, and methodology applicable to proposed development projects and land use plans. The following sections discuss the VMT screening criteria, impact thresholds, methodology, and analysis for the project.

4.1 VMT Screening

Traditionally, public agencies have set certain thresholds to determine whether a project requires detailed transportation analysis or if it can be assumed to have less than significant environmental impacts without additional study. In the *Technical Advisory*, LCI recommends various screening criteria which may be applied to screen proposed land use projects out of detailed VMT analysis. Consistent with the recommendations provided in the *Technical Advisory*, the City's Guidelines recognize three screening criteria which may be applied to screen proposed land use projects out of detailed VMT analysis. Proposed projects are not required to satisfy all of the screening criteria in order to screen out of further VMT analysis; satisfaction of one criterion is generally sufficient for screening purposes. Projects, or project components, which are screened out of detailed VMT assessment based on these criteria are presumed to have less than significant transportation impacts. Projects or project components which are not screened out would be required to conduct a formal Transportation Impact Analysis to determine the significance of project impacts.

4.1.1 *Transit Priority Areas Screening*

CEQA Guidelines Section 15064.3(b)(1) states in part: "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." The *Technical Advisory* recommends additional screening criteria for projects which meet the statutory screening threshold, noting that certain project-specific or location-specific information might indicate that the presumption is not appropriate.

In keeping with the statutory presumption of less than significant impacts due to nearby high-quality transit and LCI's recommended secondary criteria, the City's Guidelines include a Transit Priority Areas (TPA) screening criterion. A TPA is defined in Public Resources Code Section 21099(a)(7) as the half-mile area around an existing major transit stop[8]. Land use development projects may be presumed to have a less than significant impact if located within 0.5-miles of a TPA; however, the presumption may not be appropriate if the project:

1. Has a Floor Area Ratio (FAR) of less than 0.75;

[8] Major transit stops and high-quality transit corridors are defined by Public Resources Code Sections 21064.3 and 21155, respectively.

2. Includes more parking for use by residents, customers, or employees of the project than required by the City;

3. Is inconsistent with the applicable Sustainable Communities Strategy (as determined by the lead agency, with input from the Southern California Association of Governments [SCAG]); or

4. Replaces affordable residential units with a smaller number of moderate- or high-income residential units.

The San Gabriel Valley Council of Governments (SGVCOG) Vehicle Miles Traveled Evaluation Tool ("VMT Evaluation Tool"), which was developed by Fehr & Peers as part of the SB 743 VMT Implementation Study effort, is available for use in conducting VMT screening and evaluation in the City of Duarte. The Specific Plan area is located within 0.5-miles of the existing Metro A (previously L/Gold) Line Duarte/City of Hope Station. As reported in the SGVCOG worksheets provided in ***Appendix C***, the project is situated within a TPA. However, it is noted that the answers to the subsequent screening questions require project-specific information such as the proposed FAR; therefore, the answer to these screening questions cannot be determined as of the preparation of this study. Because the screening criterion cannot be adequately assessed at this time, it is conservatively assumed that the Transit Priority Area screening criterion is not satisfied.

4.1.2 *Low VMT Area Screening*

It is assumed that projects located within areas which currently exhibit low VMT, and that incorporate similar features pertaining to density, land use mix, and transit availability, will tend to exhibit similarly low VMT. In areas where the existing VMT generation already falls below the applicable thresholds, and where projects are likely to generate similar levels of VMT, projects may be screened out of preparing detailed VMT analysis. The *Technical Advisory* notes that such screening is appropriate for residential and office projects. The City's Guidelines indicate that other employment-related land use projects may qualify for the use of this screening criterion if the proposed project can reasonably be expected to generate VMT which is similar to the existing land uses in the low VMT area.

The Specific Plan area is situated within Traffic Analysis Zone (TAZ) 22255400. As reported in the SGVCOG worksheets provided in *Appendix C,* the TAZ exhibits 27.08 home-based VMT per capita, which is higher than the threshold of 20.53 home-based VMT per capita. Therefore, the TAZ does not currently exhibit VMT below the applicable thresholds and cannot be considered a low VMT area. The Specific Plan site therefore does not satisfy the low VMT area screening criterion.

4.1.3 *Project Type Screening*

The City's Guidelines identify a list of land use types which may be presumed to have a less than significant impact. Absent substantial evidence to the contrary, the listed land uses are assumed to be local serving in nature and therefore would not generate new demand; rather, projects of these

types would meet existing demand, shortening the distance that residents, employees, customers, or visitors would need to travel. For example, the City's Guidelines identify local serving schools, public parks, places of worship, public libraries, affordable, supportive, or transitional housing, assisted living facilities, senior housing, and more, as examples of local serving land uses. In addition, the City's Guidelines identify projects which are expected to generate less than 110 net new daily vehicle trips as being presumed to have a less than significant impact.

The *Technical Advisory* states that local serving retail may be presumed to cause less than significant impacts. By adding retail opportunities into the urban fabric and improving retail destination proximity, local serving retail developments tend to shorten trips and reduce VMT. The *Technical Advisory* suggests that the threshold for local serving versus regional serving retail (which may lead to substitution of longer regional trips instead of shorter local ones) is 50,000 square feet. Consistent with the presumption of less than significant impacts for local serving retail presented in the *Technical Advisory*, the City's Project Type screening criterion also includes local serving retail projects of less than 50,000 square feet.

The proposed Specific Plan includes development of components such as affordable housing, assisted living facilities, and senior housing considered in the City's Guidelines as local serving land uses. In addition, the Specific Plan is expected to accommodate up to 9,350 square feet of professional public office space which is expected to generate less than 110 net new daily vehicle trips. Lastly, the Specific Plan proposes to include 15,000 square feet of public retail space, which would fall below the 50,000 square-foot threshold for retail land uses. The Specific Plan therefore satisfies the Project Type screening criterion.

4.1.4 *Summary of Screening Conclusions*

The Specific Plan satisfies the Project Type screening criterion and is screened out of further analysis. Therefore, a VMT analysis is not required for the Specific Plan.

5.0 NON-CEQA LOCAL TRANSPORTATION ANALYSIS

As part of the discretionary review and approval process, the City has the authority to require a LOS analysis in order to assess the proposed project's consistency with the City's General Plan LOS goals. Specifically, the City requires an operational analysis of intersections in the vicinity of a proposed project in order to evaluate site access and circulation constraints that may be caused or worsened by project-generated traffic. The following sections present the intersection operational (i.e., Level of Service) analyses prepared for the proposed project pursuant to the General Plan LOS standards and transportation infrastructure goals.

5.1 Analysis Methodology

In order to estimate the proposed project's effect on intersection operations, a multi-step process has been utilized. The first step is trip generation, which estimates the total arriving and departing traffic volumes on a peak hour and daily basis. The second step of the forecasting process is trip distribution, which identifies the origins and destinations of inbound and outbound project traffic volumes. These origins and destinations are typically based on demographics and existing/anticipated travel patterns in the study area. The third step is traffic assignment, which involves the allocation of project traffic to study area streets and intersections. Traffic distribution patterns are indicated by general percentage orientation, while traffic assignment allocates specific volume forecasts to individual roadway links and intersection turning movements throughout the study area. The proposed project's forecast trip generation, distribution, and assignment is presented in *Section 2.4* herein. With the forecasting process complete and project traffic assignments developed, the effect of the proposed project is isolated by comparing operational conditions at the selected study intersections using existing and expected future traffic volumes without and with forecast project traffic.

The study intersections LOS was analyzed using the Highway Capacity Manual[9] (HCM) method of analysis. The HCM methodology determines the average control delay (expressed in seconds per vehicle) at the intersection. Average control delay for any particular movement is a function of the capacity of the approach and the degree of saturation. For signalized intersections, the average control delay for signalized intersections represents the delay attributed to the traffic control facility as compared to a reference travel time in the absence of traffic control, geometric delay, incidents, and the influence of other vehicles. A detailed description of the HCM method for signalized intersections and corresponding Level of Service is provided in ***Appendix D***.

The unsignalized intersections, such as two-way stop-controlled (TWSC) and all-way stop-controlled (AWSC) intersections, were analyzed using the HCM method of analysis. For unsignalized intersections, the average control delay includes delay due to deceleration to a stop at the back of the queue from free-flow speed, move-up time within the queue, stopped delay at the front of the queue, and delay due to acceleration back to free-flow speed. It should be noted that the TWSC methodology estimates the average control delay for each minor-street movement

[9] *Highway Capacity Manual 7th Edition*, Transportation Research Board of the National Academies of Sciences-Engineering-Medicine, 2022.

(or shared movement) as well as major-street left-turns and determines the LOS for each constrained movement. As no delays are calculated for the uncontrolled major-street approaches, the weighted average of approach delays is not utilized to determine overall intersection delay at TWSC intersections. Instead, the delay associated with the most constrained minor street approach at the intersection is reported in order to determine the intersection LOS. A detailed description of the HCM method for unsignalized intersections and corresponding Level of Service is also provided in *Appendix D*.

The HCM method calculations were prepared using the Synchro software package which implements the HCM operational methodology. A Synchro network was created based on existing conditions field reviews at the study intersections. In addition, specifics such as traffic volume data, lane configurations, traffic signal timing and phasing, etc., were coded to complete the existing network. The parameters and assumptions utilized in the analysis were based on the direction provided by City staff.

5.2 Criteria for Intersection Operational Analysis

The relative effect of the forecast project-generated traffic volumes during the weekday AM and PM peak hours was evaluated based on analysis of operating conditions at the study intersections without and with the proposed project. The previously discussed capacity analysis procedures were utilized to evaluate the future delay relationships and service level characteristics at each study intersection. The effect of project-generated traffic at each study intersection was compared to the City of Duarte's intersection LOS standards as presented below. The acceptable LOS for intersections in the City is D or better as established in the City's General Plan. Any intersections operating at a LOS of E or F are considered deficient. Signalized intersections will require improvements if one of the following conditions is met:

- The project-related increase in delay is equal to or greater than 2.0 seconds at an intersection that degrades from acceptable operations (LOS D or better) to unacceptable operations (LOS E or F).

- The project-related increase in delay is equal to or greater than 2.0 at an intersection that is already operating at LOS E or F.

Unsignalized intersections will require improvements if both of the following conditions are met:

- The addition of project traffic to an intersection results in the degradation of overall intersection operations from acceptable operations (LOS D or better) to unacceptable operations (LOS E or F), and

- The intersection meets peak hour signal warrants either caused by project volumes, or project volumes are added at an intersection that meets peak hour signal warrants in the baseline scenario(s). Peak hour signal warrants should be determined based on the latest California Manual on Uniform Traffic Control Devices (CA MUTCD).

5.3 Analysis Scenarios

Pursuant to the City's Guidelines and in coordination with City staff, LOS calculations have been prepared for the following scenarios:

[a] Existing conditions.

[b] Condition [a] plus 0.33 percent (0.33 %) per year annual ambient traffic growth through year 2045 and with completion and occupancy of the related projects (i.e., future cumulative [opening year] without project conditions).

[c] Condition [b] with completion and occupancy of the proposed project.

[d] Condition [c] with implementation of intersection improvement measures, if necessary.

The weekday AM and PM peak hour LOS analysis prepared for the study intersections is summarized in ***Table 5-1***. The calculation data worksheets for the analyzed intersections are provided in *Appendix D*.

5.4 Existing Conditions

5.4.1 *Existing Conditions*

As indicated in column [1] of *Table 5-1*, all of the study intersections currently operate at LOS D or better during the weekday AM and PM peak hours. The existing traffic volumes at the study intersections during the weekday AM and PM peak hours are displayed in *Figures 3-4* and *3-5,* respectively.

5.5 Future Year 2045 Conditions

5.5.1 *Future Year 2045 Without Project Conditions*

The future year 2045 (opening year) cumulative baseline conditions were forecast based on the addition of traffic generated by the completion and occupancy of the related projects, as well as the growth in traffic due to the combined effects of continuing development, intensification of existing developments and other factors (i.e., ambient growth). The delays at the study intersections are incrementally increased with the addition of ambient traffic and traffic generated by the related projects listed in *Table 3-3*.

As presented in column [2] of *Table 5-1*, two of the four study intersections are expected to operate at LOS B or better during the weekday AM and PM peak hours with the addition of growth in ambient traffic and related projects traffic under the future year 2045 without project conditions. The remaining two study intersections are expected to operate at LOS E or F under the future year 2045 without project conditions during the peak hours shown below:

Table 5-1
SUMMARY OF INTERSECTION OPERATIONAL ANALYSIS [a]
DELAYS AND LEVELS OF SERVICE
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	[1] EXISTING Delay [b]	[1] EXISTING LOS [c]	[2] FUTURE YEAR 2045 W/O PROJECT Delay [b]	[2] FUTURE YEAR 2045 W/O PROJECT LOS [c]	[3] FUTURE YEAR 2045 WITH PROJECT Delay [b]	[3] FUTURE YEAR 2045 WITH PROJECT LOS [c]	CHANGE Delay [b] [(3)-(2)]
1	Highland Avenue/ Huntington Drive	Signalized	AM PM	39.2 31.1	D C	58.4 36.6	E D	61.1 38.6	E D	2.7 2.0
2	Highland Avenue/ Central Avenue	Signalized	AM PM	18.5 16.9	B B	20.0 17.7	B B	21.0 18.5	C B	1.0 0.8
3	Santo Domingo Avenue/ Huntington Drive	Unsignalized	AM PM	14.1 29.5	B D	17.8 53.3	C F	60.7 1019.2	F F	42.9 965.9
4	Santo Domingo Avenue/ Central Avenue	Unsignalized	AM PM	10.3 9.5	B A	10.4 9.5	B A	11.0 10.1	B B	0.6 0.6

[a] Intersection analysis based on the Highway Capacity Manual, 7th Edition operational analysis methodologies.

[b] Reported control delay values in seconds per vehicle. For Two-Way Stop-Controlled Intersections, the reported values represent the delays associated with the most constrained approach of the intersection.

[c] Intersection Levels of Service are based on the following criteria:

Signalized Intersection Control Delay (s/veh)	Unsignalized Intersection Control Delay (s/veh)	LOS
<= 10	<= 10	A
> 10-20	> 10-15	B
> 20-35	> 15-25	C
> 35-55	> 25-35	D
> 55-80	> 35-50	E
> 80	> 50	F

- Int. No. 1: Highland Ave./Huntington Dr. AM Pk Hr: Delay = 58.4 sec., LOS E

- Int. No. 3: Santo Domingo Ave./Huntington Dr. PM Pk Hr: Delay = 53.3 sec., LOS F

The future year 2045 without project (existing plus ambient growth and related projects) traffic volumes at the study intersections during the weekday AM and PM peak hours are illustrated in ***Figures 5-1*** and **5-*2***, respectively.

5.5.2 *Future Year 2045 With Project Conditions*

As shown in column [3] of *Table 5-1*, the addition of Specific Plan traffic at full build-out is expected to cause or contribute towards unacceptable LOS at two of the four study intersections with delay increases which exceed the City's criteria under future year 2045 with project conditions. The following study intersections are expected to operate at LOS E or F with the addition of Specific Plan traffic during the peak hours shown below:

- Int. No. 1: Highland Ave./Huntington Dr. AM Pk Hr: Delay = 61.1 sec., LOS E

- Int. No. 3: Santo Domingo Ave./Huntington Dr. AM Pk Hr: Delay = 60.7 sec., LOS F
  PM Pk Hr: Delay = 1019.2 sec., LOS F

The remaining two study intersections are calculated to continue operating at LOS C or better during the weekday AM and PM peak hours under the future year 2045 with project conditions. Incremental increases in delays and LOS are calculated to occur, but do not exceed the City's criteria. The future year 2045 with project traffic volumes at the study intersections during the weekday AM and PM peak hours are illustrated in ***Figures 5-3*** and **5-*4***, respectively.

5.5.3 *Future Year 2045 With Project Conditions – Alternate Access*

The weekday AM and PM peak hour LOS analysis prepared for the study intersections for the future 2045 with project – alternate access conditions is summarized in ***Table 5-2***. As shown in column [3] of *Table 5-2*, the addition of Specific Plan traffic at full build-out is expected to cause or contribute towards unacceptable LOS at two of the four study intersections with delay increases which exceed the City's criteria under future year 2045 with project conditions. The following study intersections are expected to operate at LOS E or F with the addition of Specific Plan traffic during the peak hours shown below:

- Int. No. 1: Highland Ave./Huntington Dr. AM Pk Hr: Delay = 61.1 sec., LOS E

- Int. No. 3: Santo Domingo Ave./Huntington Dr. AM Pk Hr: Delay = 65.3 sec., LOS F
  PM Pk Hr: Delay = 1033.0 sec., LOS F

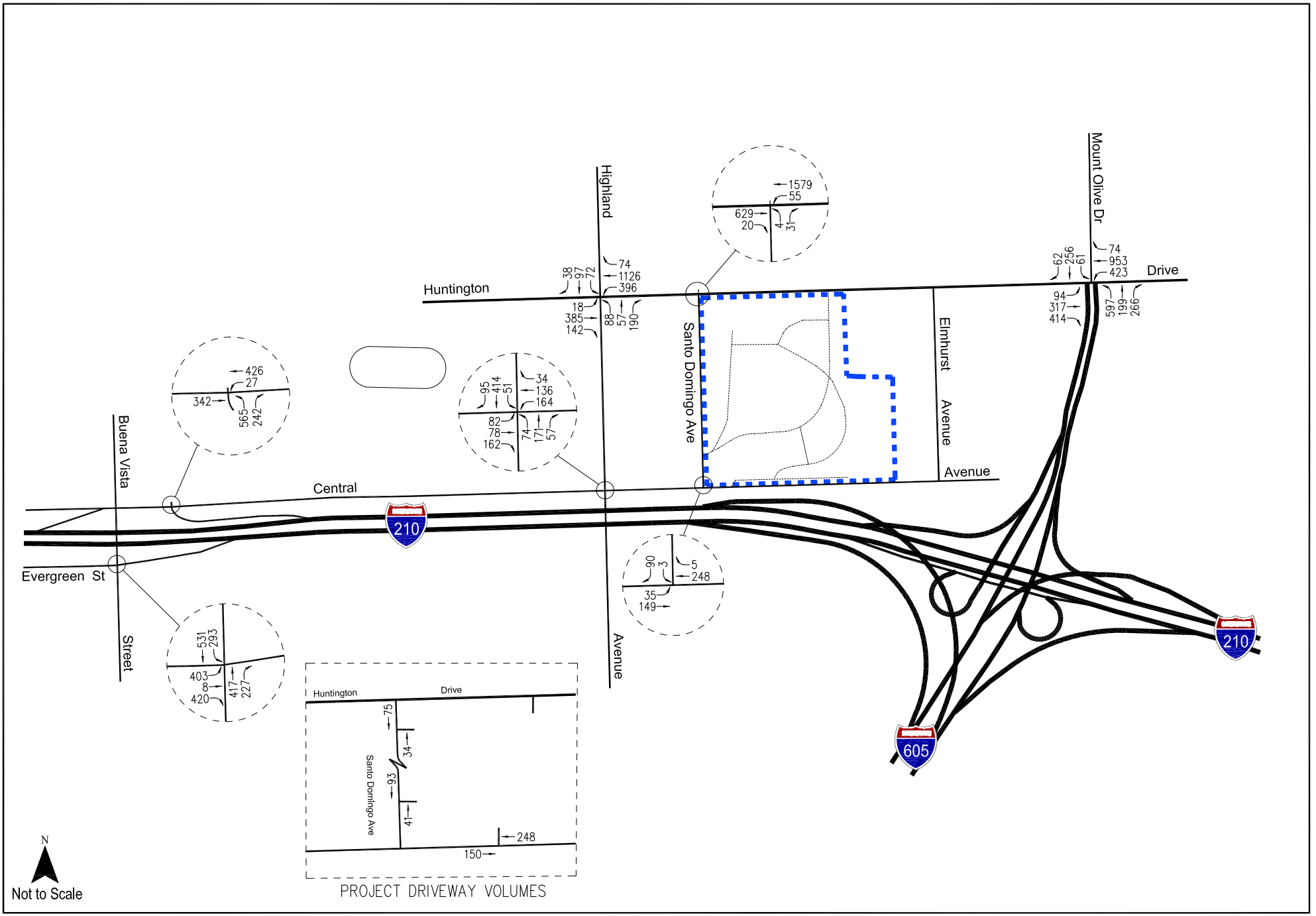


Figure 5-1

Future Year 2045 Without Project Traffic Volumes

Weekday AM Peak Hour

Westminster Gardens Specific Plan

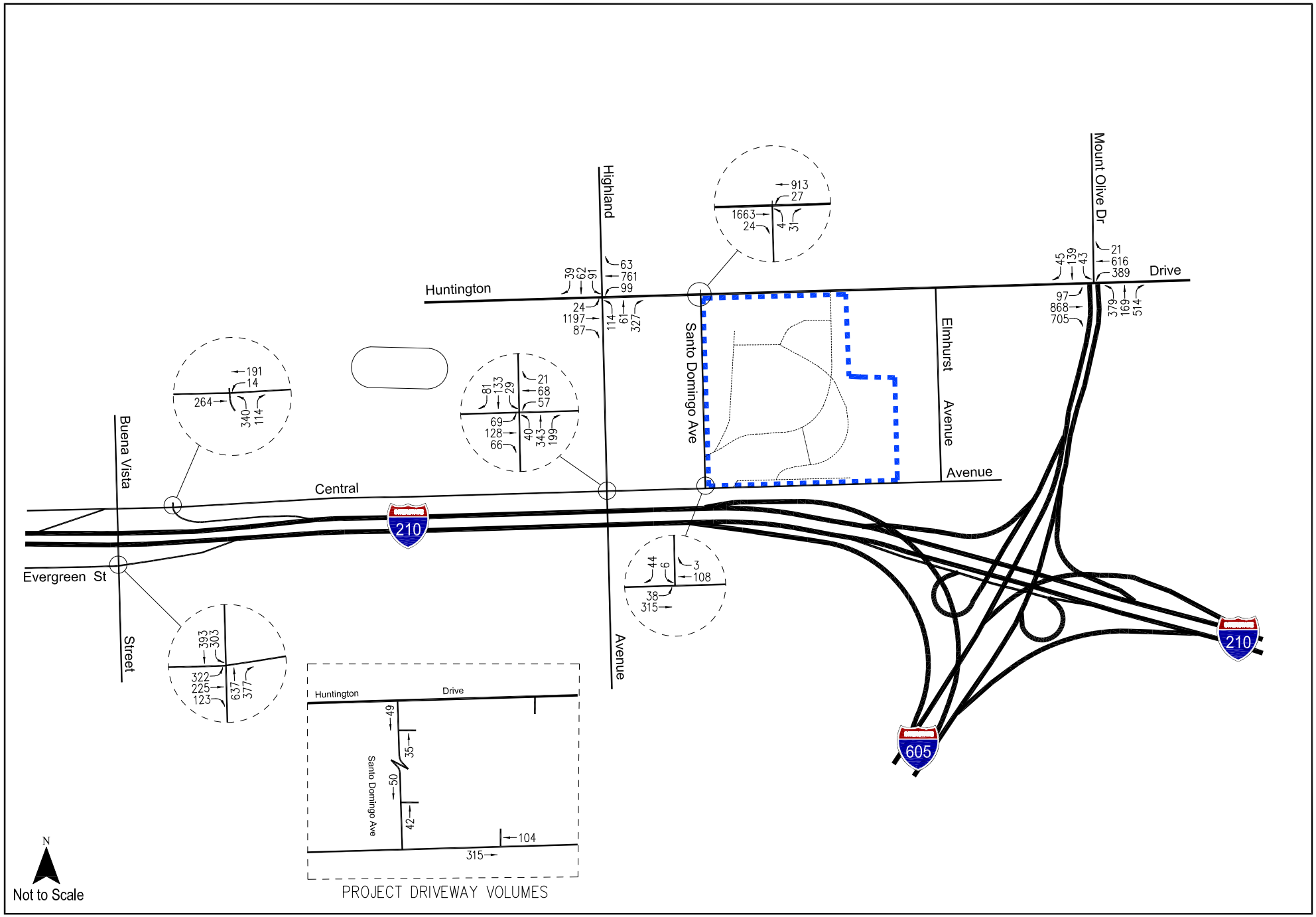


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Figure 5-2

Future Year 2045 Without Project Traffic Volumes

Weekday PM Peak Hour

Westminster Gardens Specific Plan

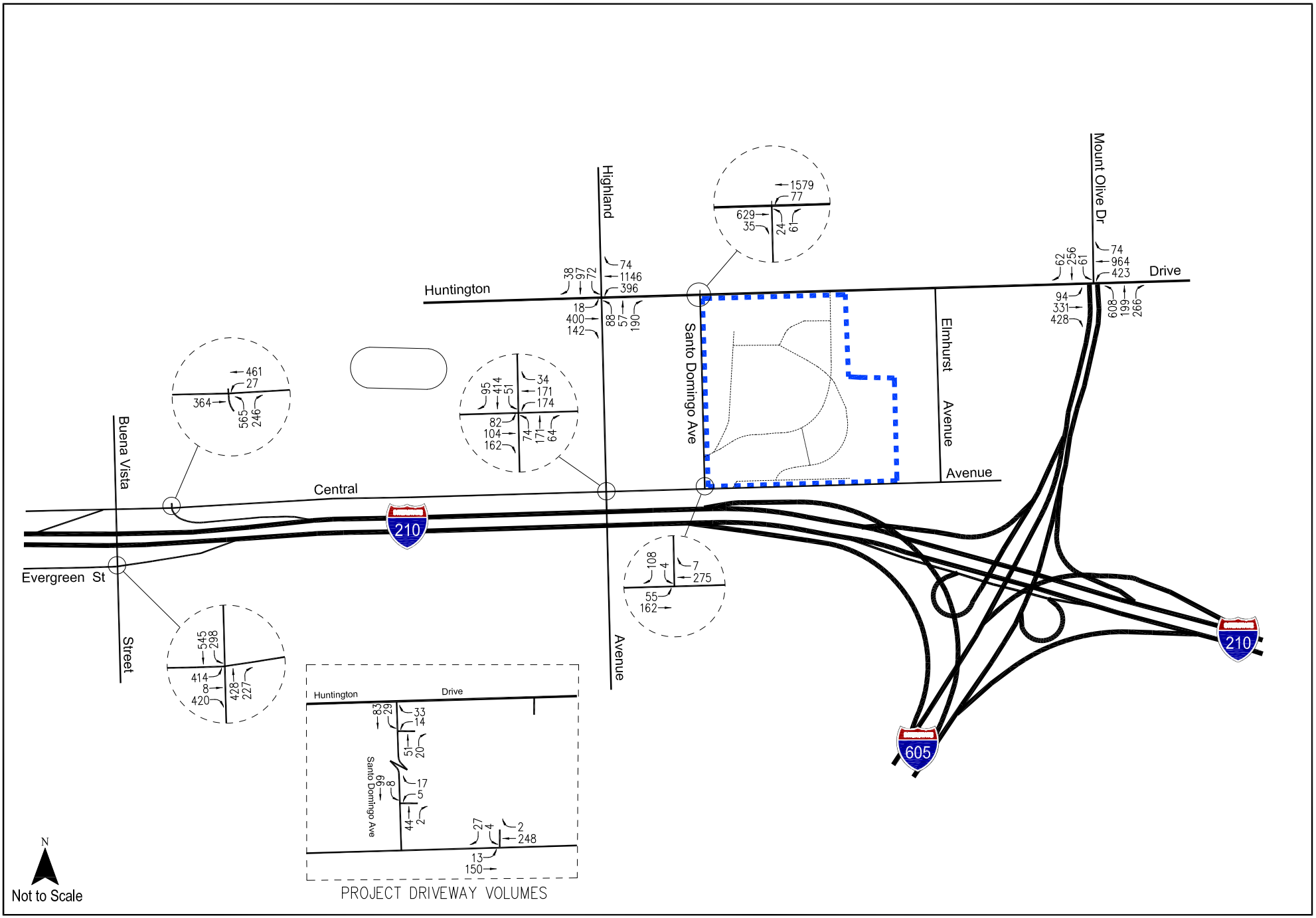

Figure 5-3

Future Year 2045 With Project Traffic Volumes

Weekday AM Peak Hour

Westminster Gardens Specific Plan

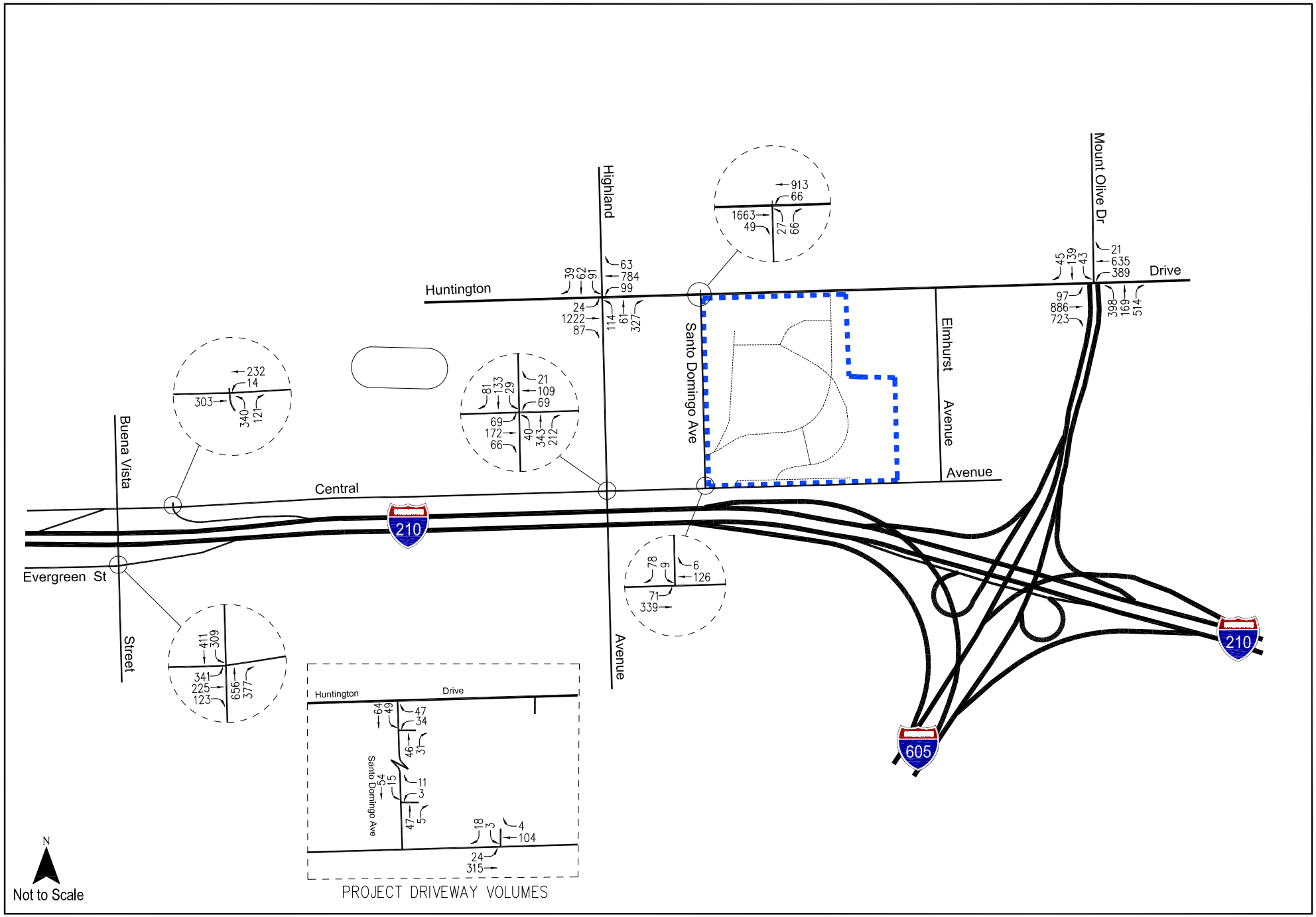

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Figure 5-4
Future Year 2045 With Project Traffic Volumes
Weekday PM Peak Hour
Westminster Gardens Specific Plan

Table 5-2
SUMMARY OF INTERSECTION OPERATIONAL ANALYSIS - ALTERNATE ACCESS [a]
DELAYS AND LEVELS OF SERVICE
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	[1] EXISTING Delay [b]	[1] EXISTING LOS [c]	[2] FUTURE YEAR 2045 W/O PROJECT Delay [b]	[2] FUTURE YEAR 2045 W/O PROJECT LOS [c]	[3] FUTURE YEAR 2045 WITH PROJECT Delay [b]	[3] FUTURE YEAR 2045 WITH PROJECT LOS [c]	CHANGE Delay [b] [(3)-(2)]
1	Highland Avenue/ Huntington Drive	Signalized	AM PM	39.2 31.1	D C	58.4 36.6	E D	61.1 38.6	E D	2.7 2.0
2	Highland Avenue/ Central Avenue	Signalized	AM PM	18.5 16.9	B B	20.0 17.7	B B	21.0 18.5	C B	1.0 0.8
3	Santo Domingo Avenue/ Huntington Drive	Unsignalized	AM PM	14.1 29.5	B D	17.8 53.3	C F	65.3 1033.0	F F	47.5 979.7
4	Santo Domingo Avenue/ Central Avenue	Unsignalized	AM PM	10.3 9.5	B A	10.4 9.5	B A	11.0 10.1	B B	0.6 0.6

[a] Intersection analysis based on the Highway Capacity Manual, 7th Edition operational analysis methodologies.

[b] Reported control delay values in seconds per vehicle. For Two-Way Stop-Controlled Intersections, the reported values represent the delays associated with the most constrained approach of the intersection.

[c] Intersection Levels of Service are based on the following criteria:

Signalized Intersection Control Delay (s/veh)	Unsignalized Intersection Control Delay (s/veh)	LOS
<= 10	<= 10	A
> 10-20	> 10-15	B
> 20-35	> 15-25	C
> 35-55	> 25-35	D
> 55-80	> 35-50	E
> 80	> 50	F

The remaining two study intersections are calculated to continue operating at LOS C or better during the weekday AM and PM peak hours under the future year 2045 with project – alternate access conditions. Incremental increases in delays and LOS are calculated to occur, but do not exceed the City's criteria. The future year 2045 with project – alternate access traffic volumes at the study intersections during the weekday AM and PM peak hours are illustrated in ***Figures 5-5*** and **5-*6*,** respectively.

5.6 Access and Circulation Review

The access and circulation have been evaluated for the project. Vehicular access to the project site will be provided via three driveways: two driveways on Santo Domingo Avenue and one driveway on Central Avenue. For the alternate site access scheme, the existing emergency access driveway on Huntington Drive is proposed to be utilized as an additional entrance/exit for the LPC campus for a total of four site driveways.

The analysis of site driveways was prepared based on the HCM operational analysis methodology. The driveway analyses were prepared utilizing the Synchro software package, which implements the HCM operational methods. A Synchro network was created based on the proposed site driveways. In addition, specifics such as traffic volume data, lane configurations, available vehicle storage lengths, etc., were coded to complete the roadway network.

The HCM methodology for unsignalized intersections was utilized for the analysis of the site driveways. The weekday AM and PM peak hour LOS analyses prepared for the site driveways are summarized in ***Table 5-3***. As shown in *Table 5-3*, the site driveway intersections are expected to operate at LOS C or better during the weekday AM and PM peak hours. As such, transportation improvement measures are not warranted or recommended at the site driveways.

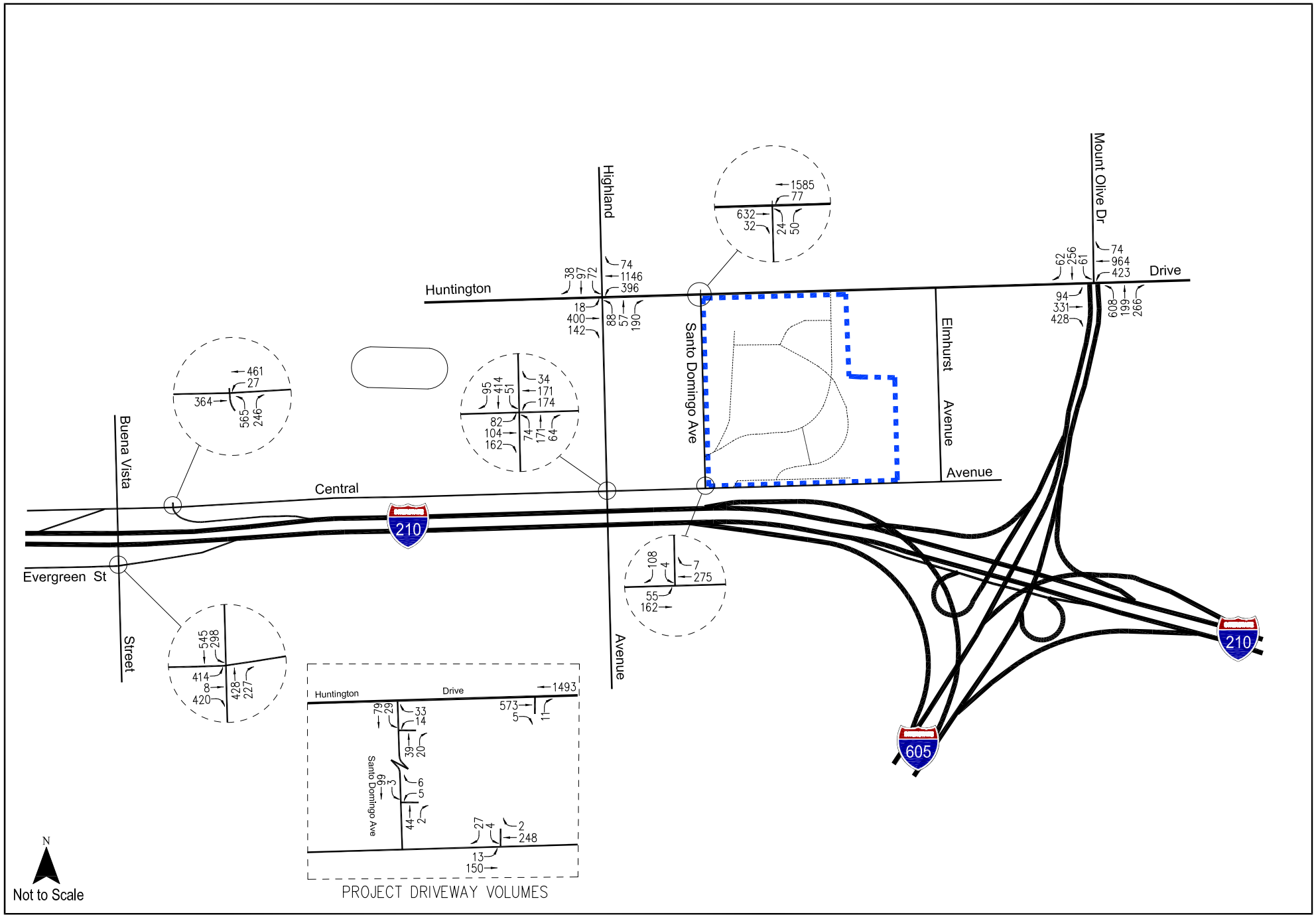

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Figure 5-5

Future Year 2045 With Project Traffic Volumes

Weekday AM Peak Hour - Alternate Access

Westminster Gardens Specific Plan

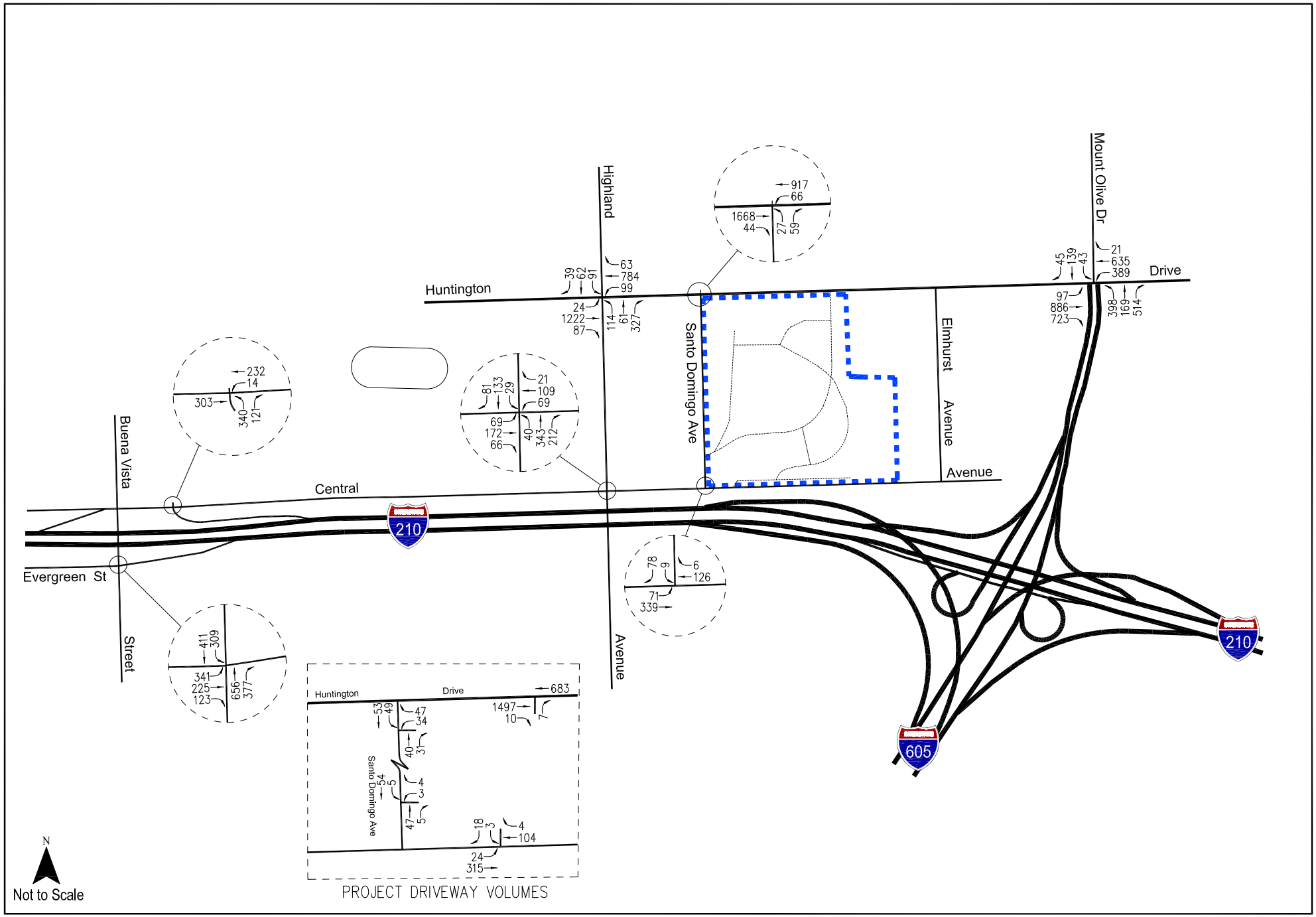


Figure 5-6

Future Year 2045 With Project Traffic Volumes

Weekday PM Peak Hour - Alternate Access

Westminster Gardens Specific Plan

Table 5-3
DRIVEWAY SUMMARY OF INTERSECTION OPERATIONAL ANALYSIS [a]
DELAYS AND LEVELS OF SERVICE
WEEKDAY AM AND PM PEAK HOURS

NO.	INTERSECTION	TRAFFIC CONTROL	PEAK HOUR	[1] YEAR 2045 FUTURE WITH PROJECT Delay [b]	LOS [c]	[2] YEAR 2045 FUTURE WITH PROJECT ALT Delay [b]	LOS [c]
5	Santo Domingo Avenue/ North Driveway	Unsignalized	AM PM	9.2 9.7	A A	9.1 9.6	A A
6	Santo Domingo Avenue/ Orange Grove Rd-Orchard Rd	Unsignalized	AM PM	8.9 8.8	A A	9.0 8.9	A A
7	South Driveway/ Central Avenue	Unsignalized	AM PM	10.2 9.4	B A	10.2 9.4	B A
8	Pepper Tree Lane/ Huntington Drive	Unsignalized	AM PM	-- --	-- --	10.4 16.6	B C

[a] Intersection analysis based on the Highway Capacity Manual, 7th Edition operational analysis methodologies.

[b] Reported control delay values in seconds per vehicle. For Two-Way Stop-Controlled Intersections, the reported values represent the delays (in seconds) associated with the most constrained approach of the intersection.

[c] Intersection Levels of Service are based on the following criteria:

Unsignalized Intersection

Control Delay (s/veh)	LOS
<= 10	A
> 10-15	B
> 15-25	C
> 25-35	D
> 35-50	E
> 50	F

5.7 Considered Intersection Improvements

The two study intersections calculated to operate at an unacceptable LOS under the future year 2045 with project conditions were reviewed in order to identify any potential improvements which could restore intersection operations to an acceptable level of service. In addition, recent transportation studies prepared for other development projects in the vicinity of the Specific Plan were also reviewed in order to ensure that the recommended improvements would not conflict with other planned improvements at the study intersections. However, as described more fully below, these measures have been determined to be infeasible.

5.7.1 *Int. 1 – Highland Avenue/Huntington Drive*

As a result of the addition of Specific Plan traffic at full build-out, the delay is calculated to increase by 2.7 seconds, worsening the LOS E during the weekday AM peak hour. Implementation of lead-lag signal phasing for the eastbound and westbound approaches would reduce delays at this intersection. However, City of Duarte staff determined that the phasing could cause driver confusion, raise safety concerns, and disrupt traffic progression along the Huntington Drive corridor; therefore, its implementation was rejected. Accordingly, this measure was determined to be infeasible.

5.7.2 *Int. 3 – Santo Domingo Avenue/Huntington Drive*

As a result of the addition of Specific Plan traffic at full build-out, the delay is calculated to increase by 42.9 seconds, causing the intersection to operate at LOS F during the weekday AM peak hour. The delay is forecast to increase by 965.9 seconds, causing the intersection to operate at LOS F during the PM peak hour. The existing intersection is currently stop controlled, with a stop sign facing the northbound approach on Santo Domingo Avenue. The reported delay and associated LOS is based on the most constrained minor street approach of the intersection. As such, the reported delay represents the time motorists on northbound Santo Domingo Avenue would experience at the intersection.

Installation of a traffic signal would reduce delays for motorists on northbound Santo Domingo Avenue. As shown in *Figures 5-3* and *5-4*, under the future with project conditions a total of 85 vehicles are forecast for the minor street approach during the AM peak hour, and a total of 93 vehicles are forecast for the minor street approach during the PM peak hour. Neither the weekday AM or PM peak hour volumes satisfy the Peak Hour traffic signal warrant (Warrant 3 in the California Manual on Uniform Traffic Control Devices[10], Section 4C.04), which requires a minimum of 100 vehicles on the minor street approach in order to satisfy either Part A or Part B of the warrant. In addition, City of Duarte staff determined that signalizing the intersection would introduce substantial delays and disrupt traffic progression along the Huntington Drive corridor. Accordingly, this measure was determined to be infeasible.

[10] "California Manual on Uniform Traffic Control Devices," 2014 Edition, Revision 8, California State Transportation Agency and Department of Transportation, January 11, 2024.

6.0 CALIFORNIA DEPARTMENT OF TRANSPORTATION ANALYSIS

Consistent with the previously described statutory changes to the CEQA Guidelines, the California Department of Transportation (Caltrans) has also formally adopted VMT as the metric for reviewing the transportation impacts of a land use development project. As described in *Section 1.2* herein, Caltrans has released the TISG and the Interim Safety Guidance in order to provide guidance on Caltrans' review of land use projects.

6.1 VMT Analysis

Caltrans' TISG references the December 2018 *Technical Advisory* prepared by LCI as the basis for its guidance on VMT assessment. For the purpose of this transportation assessment, it is understood that the VMT analysis prepared for the City of Duarte, which is based on the recommendations provided in the *Technical Advisory*, is consistent with Caltrans requirements as well. Therefore, no separate VMT analysis has been prepared for Caltrans' review of the proposed project.

6.2 Off-Ramp Vehicle Queuing Analysis

The Interim Safety Guidance provides direction on a simplified safety analysis approach that reduces the risk to all road users and that focuses on multi-modal conflict analysis as well as access management issues. District traffic safety staff are encouraged to consider the proposed project's potential influence on safety on state roadways, including the following factors:

- Increased presence of pedestrians and bicyclists
- Degradation of the walking and bicycling environment and experience
- New pedestrian and bicyclist connection desires
- Multimodal conflict points, especially at intersections and project access locations
- Change in traffic mix such as an increase in bicyclists or pedestrians where features such as shoulders or sidewalks may not exist or are inconsistent with facility design (sidewalks, bike and multi-user paths, multimodal roadways, etc.)
- Increased vehicular speeds
- Transition between free flow and metered flow
- Increased traffic volumes
- Queuing at off-ramps resulting in slow or stopped traffic on the mainline or speed differentials between adjacent lanes
- Queuing exceeding turn pocket length that impedes through-traffic

The proposed project does not take direct access from a State facility; therefore, the project has not been reviewed for factors pertaining to site access or local roadways. However, the proposed project is expected to generate new project trips at the I-210 Freeway ramp interchanges at Buena Vista Street to the west of the project site and at the I-605 Freeway at Huntington Drive to the east of the project site. Therefore, an analysis of the project's effect on off-ramp queuing was prepared in order to determine if the project would cause, or contribute towards, slowing or stopped traffic on mainline travel lanes resulting in unsafe speed differentials between adjacent lanes. The following three (3) off-ramp locations were analyzed:

- Intersection A: Buena Vista Street/Evergreen Street-I-210 Freeway Eastbound On/Off-Ramps
- Intersection B: I-210 Freeway Westbound Off-Ramp/Central Avenue
- Intersection C: I-605 Freeway On/Off-Ramps/Huntington Drive

Pursuant to prior direction from Caltrans staff, the off-ramp queuing at the selected ramp intersections was analyzed using the HCM method for signalized intersections. The off-ramp queuing calculations were prepared using the *Synchro* software package which implements the HCM operational methodology. A *Synchro* network was created based on existing conditions field reviews at the above noted ramp intersections. In addition, specifics such as traffic volume data, lane configurations, etc., were coded to complete the existing network. The current signal timing and phasing data obtained from Caltrans were utilized in the analysis of each off-ramp intersection. The corresponding weekday AM and PM peak hour HCM worksheets for purposes of determining the 95th percentile vehicle queues are contained in ***Appendix E***.

The queuing analysis was prepared for the existing and future (opening year 2045) without and with project traffic conditions. The freeway off-ramp intersection approach was reviewed in terms of expected maximum vehicle queues (i.e., 95th percentile queues) which represent the maximum back of vehicle queues with 95th percentile traffic volumes. The corresponding maximum vehicle queue lengths were then compared to the total ramp storage lengths (i.e., the available storage length as measured from the applicable off-ramp lane striping from the point of gore to the respective off-ramp approach limit lines). The total queuing for the off-ramp was determined based on the sum of the maximum vehicle queues for each off-ramp lane. It is noted that the HCM worksheets report vehicle queuing in number of vehicles per lane (veh/ln), therefore an average length of 25 feet per queued vehicle (including vehicle separation) was assumed for analysis purposes. The total ramp storage length was determined based on the sum of the striped storage for all lanes provided at the off-ramp location.

As presented in ***Table 6-1***, adequate storage area is provided for each off-ramp movement at each of the three ramp study intersections. The Specific Plan will not cause or contribute towards vehicle queuing which extends back into the I-210 Freeway or I-605 Freeway mainline lanes. Therefore, the proposed project is not anticipated to negatively influence safety on the State Highway System.

Table 6-1
SUMMARY OF OFF-RAMP VEHICLE QUEUEING [1]

NO.	INTERSECTION	TRAFFIC CONTROL	LANE GROUP			95TH PERCENTILE QUEUE (FT) [4]								
			MOVE-MENT	NO. OF LANES [2]	AVAILABLE OFF-RAMP STORAGE (FT) [3]	YEAR 2024 EXISTING		EXCEEDS STORAGE?	YEAR 2045 FUTURE W/O PROJECT		EXCEEDS STORAGE?	YEAR 2045 FUTURE W/ PROJECT		EXCEEDS STORAGE?
						AM	PM	(YES/NO)	AM	PM	(YES/NO)	AM	PM	(YES/NO)
A	Buena Vista Street / Evergreen St - I-210 EB On-Ramp	Signal	EBL/T	1	965	408	298	No	433	378	No	433	378	No
			EBT/R	1	965	328	295	No	520	373	No	520	373	No
B	I-210 Fwy WB Off-Ramp / Central Ave	Signal	NBL	1	520	240	125	No	310	168	No	310	168	No
			NBL/T/R	1	520	295	160	No	383	205	No	383	205	No
C	I-605 Fwy On-Off Ramps - Mt Olive Dr / Huntington Dr	Signal	NBL	1	480	478	253	No	608	360	No [5]	608	360	No [5]
			NBL/T	1	2,200	595	268	No	830	415	No	830	415	No
			NBR	1	2,200	385	1,145	No	398	1,235	No	398	1,235	No

[1] Intersection vehicle queuing analysis based on the Highway Capacity Manual (HCM), 7th Edition operational analysis methodology for signalized intersections. The 95th percentile queue is the maximum back of queue with 95th percentile volumes.
[2] Represents the number of lanes in the lane group for each off-ramp movement, according to the HCM intersection operational analysis methodology.
[3] Storage length measured from aerial photographs obtained from Google Earth, 2025. Available storage represents the sum of storage space provided by all off-ramp lanes accommodating the lane group.
[4] The HCM 7th Edition methodology worksheets report queues in number of vehicles per lane. The queue in vehicles per lane is multiplied by the number of lanes in the lane group. A length of 25 feet per queued vehicle (including vehicle separation) was assumed for analysis purposes. The reported queues therefore represent the calculated maximum back of queue in feet.
[5] Although the queue exceeds the specific lane movement storage, the excess queue can be accommodated within the NB shared left-turn/through lane since the storage for the NB shared left-turn/through lane of 3,700’ is greater than the combined queues.

7.0 SUMMARY AND CONCLUSIONS

- ***Project Description*** - The project site is located at 1420 Santo Domingo Avenue in the City of Duarte. The proposed project will amend the current Westminster Gardens Specific Plan (WGSP) through a comprehensive update, repealing in its entirety the 1990 Specific Plan, inclusive of the 1998 administratively approved minor modification, replacing it with a new Specific Plan to facilitate redevelopment of the existing Life Plan Community (LPC). The updated WGSP identifies the long-term vision and objectives for private redevelopment, new residential and non-residential development capacity, and associated public and private improvements within the WGSP area over a 15-to-20-year span.

- ***Project Site Access***– Vehicular access to the proposed project site is planned to be provided via three driveways: an existing driveway and one new driveway on Santo Domingo Avenue, and a new driveway on Central Avenue. All project driveways are anticipated to accommodate full access (i.e., left-turn and right-turn ingress and egress traffic movements). As an alternate site access scheme for the proposed project, the existing emergency access driveway on Huntington Drive is proposed to be utilized as an additional entrance/exit for the LPC campus, which would be limited to right-turn ingress and egress traffic movements only due to the presence of the existing raised median on Huntington Drive.

- ***Project Trip Generation*** – The proposed project is expected to generate 173 net new vehicle trips (74 net new inbound trips and 99 net new outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 244 net new vehicle trips (127 net new inbound trips and 117 net new outbound trips). Over a 24-hour period, the proposed project is forecast to generate 2,422 net new trip ends during a typical weekday (approximately 1,211 net new inbound trips and approximately 1,211 net new outbound trips).

- ***Vehicle Miles Traveled Analysis –*** The Specific Plan satisfies the Project Type screening criterion and is screened out of further analysis. Therefore, a VMT analysis is not required for the Specific Plan.

- ***Non-CEQA Local Transportation Analysis –*** A total of four study intersections were reviewed for compliance with the City of Duarte's adopted LOS standards. The study intersections were evaluated using the City-approved HCM methodology to determine the weekday AM and PM peak hour LOS under existing and future (year 2045) without and with project conditions. Based on application of the City's LOS standards, two of the four study intersections are either calculated to operate at a deficient LOS due to the addition of Specific Plan traffic, or are calculated to exceed the City's thresholds for further deteriorating an already deficient LOS.

- ***Caltrans Analysis –*** It is understood that the VMT analysis prepared for the City of Duarte, which is based on the recommendations provided in the *Technical Advisory*, is consistent with Caltrans requirements as well. Therefore, no separate VMT analysis has been prepared for Caltrans' review of the proposed project. Pursuant to the direction provided in the "Interim LD-IGR Safety Review Practitioners Guidance", an analysis of the project's effect on off-ramp queuing at the I-210 and I-605 Freeways determined that adequate storage area is provided for each off-ramp movement at each of the three ramp study intersections. The Specific Plan will not cause or contribute towards vehicle queuing which extends back into the I-210 Freeway or I-605 Freeway mainline lanes.

APPENDIX A

APPROVED SCOPING DOCUMENT

600 S. Lake Avenue
Suite 500
Pasadena, CA 91106
626.796.2322 T
www.llgengineers.com

Pasadena
Irvine
San Diego

MEMORANDUM

To:	Jason Golding City of Duarte Community Development Department	Date:	June 24, 2025
From:	Francesca Bravo Linscott, Law & Greenspan, Engineers	LLG Ref:	1-23-4581-1
Subject:	Westminster Gardens Specific Plan Amendment – Transportation Study Scope of Work		

Linscott, Law and Greenspan, Engineers (LLG) is pleased to submit the following Transportation Study Scope of Work for the Westminster Gardens Specific Plan project ("proposed project") for review and approval.

TRANSPORTATION STUDY SCOPE OF WORK

The Transportation Study (TS) for the Westminster Gardens Specific Plan Amendment will be prepared according to the analysis and significance criteria outlined in the City of Duarte "Transportation Study Guidelines for Vehicle Miles Traveled and Level of Service Assessment" ("Guidelines"), September 2020. In compliance with the Guidelines, the proposed TS will be prepared using appropriate Vehicle Miles Traveled (VMT) screening, analysis methodologies, and thresholds of significance as well as applicable non-CEQA Level of Service (LOS) analysis.

PROJECT DESCRIPTION

A. Project Description: The TIS will evaluate the project description identified in the Westminster Gardens Specific Plan Amendment, dated April 29, 2024, prepared by MIG. The current Westminster Gardens Specific Plan (WGSP) was adopted by the City of Duarte on November 27, 1990, and minor modifications were approved administratively in 1998. The 32-acre site is developed with a senior residential community as a Life Plan Community (LPC). LPCs, also known as Continuing Care Retirement Communities (CCRCs) provide residential and assisted living housing options for adults age 60+ by providing a wide range of care, services, and activities in one place, offering residents a sense of stability and familiarity as their abilities or health conditions change. The Westminster Gardens LPC campus is currently licensed by the California Department of Social Services (CDSS), which oversees the Senior Care Licensing Programs for both CCRCs and Residential Care Facilities for the Elderly (RCFE), for a capacity of 200. The current campus comprises of a total of 165,171 square feet of building area (inclusive of 149 residential units/beds, offices, resident amenities, and maintenance buildings), 74 garage/carport parking spaces, 204 parking spaces, and a private park with a small amphitheater, covered patio area, and shuffleboard courts for use exclusively by Westminster Gardens LPC residents. The Morrison House, a historic building that is now used for administrative offices, mail room, library, offices, restrooms, and a social hall will remain as is and will not be modified as part of this project.

The proposed project will amend the WGSP through a comprehensive update, repealing in its entirety the 1990 Specific Plan, inclusive of the 1998 administratively approved minor modification, replacing it with a new Specific Plan to facilitate redevelopment of the existing LPC. The updated WGSP identifies the long-term vision and objectives for private redevelopment, new residential and non-residential development capacity, and associated public and private improvements within the WGSP area over a 15-to-20-year span. The assumed buildout year for the proposed Project is Year 2045. Implementation of the amendment allows for redevelopment of the Westminster Gardens LPC campus to allow for the development of the following components:

- Main LPC Campus:
  - 160 Independent Senior Living Units
  - 90 Assisted Living/Memory Care Units/Beds
  - 15,650 square feet (SF) of Administration and Corporate Office
  - 65,000 SF of Resident Amenities
  - 7,000 SF of Utility/Maintenance
- Affordable Housing:
  - 75 Very Low Affordable Senior Units
  - 75 Moderate Affordable Senior Units
- Mixed-Use Building:
  - 150 Independent Senior Living Units
  - 9,350 SF of Professional Office
  - 15,000 SF of Retail

Vehicular access to the LPC campus will continue to be provided via the existing main entrance driveway on Santo Domingo Avenue. A separate access driveway is planned to be provided on Santo Domingo Avenue north of the existing main entrance driveway for the proposed multi-use building. An additional driveway is planned to be provided on Central Avenue east of Santo Domingo Avenue for the proposed affordable housing units. Alternatively, the affordable housing units may be located along Santo Domingo Avenue and accessed via the same access driveway as the proposed multi-use building. The existing gated emergency access driveway on Huntington Drive will remain.

As an alternative site access scheme for the proposed project, the existing emergency access driveway on Huntington Drive is proposed to be utilized as an additional entrance/exit for the LPC campus.

CEQA SCOPE OF WORK

B. Vehicle Miles Traveled (VMT) Screening: LLG has reviewed the screening criteria set forth in the City's Guidelines. The Guidelines provide screening criteria based on proximity to high quality transit, project type and daily trip generation, size of local-serving retail, and proximity to low VMT-generating area. Projects which satisfy any one of the screening criteria can be determined to have a less than significant transportation impact without providing further VMT analysis.

Some project types have been identified in the City's Guidelines as having the presumption of a less than significant impact. The project types include affordable housing, assisted living

facilities, senior housing (as defined by HUD), 10,000 SF of office, and local-serving retail uses less than 50,000 SF, of which are components of the project. As such, the project meets the criteria for project type screening and may be presumed to have a less than significant impact. Therefore, through satisfaction of the screening criteria, the proposed project is determined to have a less than significant VMT impact, and no further VMT analysis is required.

NON-CEQA ASSESSMENT

LLG will prepare a LOS analysis of nearby intersections in order to determine the proposed Project's effects on circulation in the vicinity of the project. While not required for CEQA, the local transportation analysis is provided for informational purposes in support of the City of Duarte's discretionary review of the proposed Project.

C. Project Study Area: The following seven (7) study locations have been identified for intersection LOS analysis, including four (4) intersections in the vicinity of the project and three (3) freeway ramp intersections which will be analyzed for potential impacts to freeway off-ramp queuing (refer to *Item J* below). The location of the study intersections is presented in ***Figure 1-1***, and listed below:

1. Evergreen Street-I-210 Freeway Eastbound On/Off-Ramps/Buena Vista Street (Signalized)
2. I-210 Freeway Westbound Off-Ramp/Central Avenue (Signalized)
3. Highland Avenue/Huntington Drive (Signalized)
4. Highland Avenue/Central Avenue (Signalized)
5. Santo Domingo Avenue/Huntington Drive (Unsignalized)
6. Santo Domingo Avenue/Central Avenue (Unsignalized)
7. I-605 Freeway On/Off-Ramps/Huntington Drive (Signalized)

D. Traffic Counts

New traffic counts were collected in May 2024, when local schools are in session. The manual intersection turning movement counts were conducted during the weekday morning (7:00 to 9:00 AM) and afternoon (4:00 to 6:00 PM) peak commute periods for each of the study intersections identified in *Item F*.

E. Project Trip Generation

Traffic volumes to be generated by the proposed project were forecast for the weekday AM and PM peak hours, and over a 24-hour period. Trip generation rates provided in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual* were utilized to forecast vehicular traffic generation for existing conditions, in order to identify the net change resulting from the proposed project. Specifically, the following land use trip rates were utilized to forecast the traffic volumes generated by the existing land uses present on each of the parcels identified for redevelopment:

- ITE Land Use 252: Senior Adult Housing – Multifamily
- ITE Land Use 254: Assisted Living

The trip generation forecast for the existing land uses provided on-site is summarized in ***Table 2-1 – Existing Conditions Trip Generation Forecast***.

The following land use trip rates were utilized to forecast the traffic volumes expected to be generated by the proposed land uses:

- ITE Land Use 223: Affordable Housing
- ITE Land Use 252: Senior Adult Housing – Multifamily
- ITE Land Use 254: Assisted Living
- ITE Land Use 710: General Office Building
- ITE Land Use 822: Strip Retail Plaza (<40K)

The trips generated by the existing land uses are assumed to be removed (with the exception of the Morrison House) in order to accommodate full build-out of the Specific Plan. Therefore, the existing trips have been applied as a credit towards the proposed project's trip generation forecast.

The trip generation forecast for the proposed project is summarized in ***Table 2-2 – Specific Plan Trip Generation Forecast***. As presented in *Table 2*, the proposed project is expected to generate 173 net new vehicle trips (74 net new inbound trips and 99 net new outbound trips) during the weekday AM peak hour. During the weekday PM peak hour, the proposed project is expected to generate 244 net new vehicle trips (127 net new inbound trips and 117 net new outbound trips). Over a 24-hour period, the proposed project is forecast to generate 2,422 net new trip ends during a typical weekday (approximately 1,211 net new inbound trips and approximately 1,210 net new outbound trips).

F. Project Trip Distribution Pattern*:** Project traffic volumes both entering and exiting the site will be distributed and assigned to the adjacent street system based on the site's proximity to major traffic corridors, existing intersection traffic volumes, and the ingress/egress scheme planned for the proposed project. See attached ***Figures 2-4 and 2-5, Project Trip Distribution Office/Retail Component and ***Project Trip Distribution - Residential Component,*** respectively. For purposes of this analysis, it is conservatively assumed that the access for the office/retail and affordable housing components of the project are separate from the LPC campus (i.e., the components of the project are not interconnected).

An alternative site access scheme is also proposed utilizing the existing driveway on Huntington Drive as an additional entrance/exit for the LPC component of the project. See attached ***Figure 2-6 – Project Trip Distribution – Residential Component Alternative Access***

G. Related Projects*:** The list of related projects in the Project Site area is provided in ***Table 3-3 and presented in ***Figure 3-7***.

H. Ambient Growth Rate

Based on review of the general traffic growth factors provided in the Los Angeles County 2010 Congestion Management Program[1] (CMP) for the project study area (i.e., RSA 25, Pasadena which includes the City of Duarte), it is anticipated that existing traffic volumes in the vicinity

[1] Los Angeles County Metropolitan Transportation Authority (Metro) 2010 Congestion Management Program.

are expected to increase at an annual rate of 0.33% per year between the years 2020 and 2035. An annual growth rate of 0.33 percent (0.33%) until the year 2045 (i.e., the anticipated project build-out year) will be utilized for the analysis.

I. Intersection Analysis

Level of Service calculations will be prepared for the study locations for the weekday AM and PM peak hour conditions utilizing the Highway Capacity Manual (HCM) methodology for the following scenarios:

- Existing Conditions
- Opening Year Without Project (Year 2045) Conditions
- Opening Year With Project (Year 2045) Conditions
- Opening Year With Project (Year 2045) Conditions – Alternative Access

The City of Duarte General Plan has established the minimum acceptable Level of Service (LOS) D for peak hour intersection operations. Any intersection operating at a LOS of E or F is considered deficient.

Signalized intersections will require improvements if one of the following conditions is met:

- The project-related increase in delay is equal to or greater than 2.0 seconds at an intersection that degrades from acceptable operations (LOS D or better) to unacceptable operations (LOS E or F).
- The project-related increase in delay is equal to or greater than 2.0 at an intersection that is already operating at LOS E or F.

Unsignalized intersections will require improvements if both of the following conditions are met:

- The addition of project traffic to an intersection results in the degradation of overall intersection operations from acceptable operations (LOS D or better) to unacceptable operations (LOS E or F), and
- The intersection meets peak hour signal warrants either caused by project volumes, or project volumes are added at an intersection that meets peak hour signal warrants in the baseline scenario(s).

J. Caltrans Facilities Analysis

In compliance with CEQA, Caltrans also now requires VMT-based analysis of land use projects and plans. Caltrans' Vehicle Miles Traveled-Focused Transportation Impact Study Guidelines (dated May 20, 2020) states that Caltrans will review and comment on impact determinations which are consistent with OPR's Technical Advisory and State greenhouse gas (GHG) emissions goals. The VMT analysis prepared for the City of Duarte will be consistent with the Technical Advisory and State GHG goals, and therefore no separate VMT analysis will be prepared for Caltrans. However, Caltrans has also released the Interim Land Development and Intergovernmental Review (LD-IGR) Safety Review Practitioner's Guide (dated July 2020), which requires a detailed safety review for land use projects or plans which are expected to affect the State Highway System. Therefore, based on the project's location and proximity to the I-210 and I-605 Freeways, existing and future year analyses will be prepared for the I-210 Freeway Westbound Off-Ramp/Buena Vista Street, I-210 Freeway

Eastbound Off-Ramp/Buena Vista Street, and I-605 Freeway On/Off-Ramps/Huntington Drive ramp intersections (Study Intersection Nos. 1, 2 and 7 in *Item F* above) in order to address any potential impacts in accordance with the Interim LD-IGR Safety Review Practitioner's Guide.

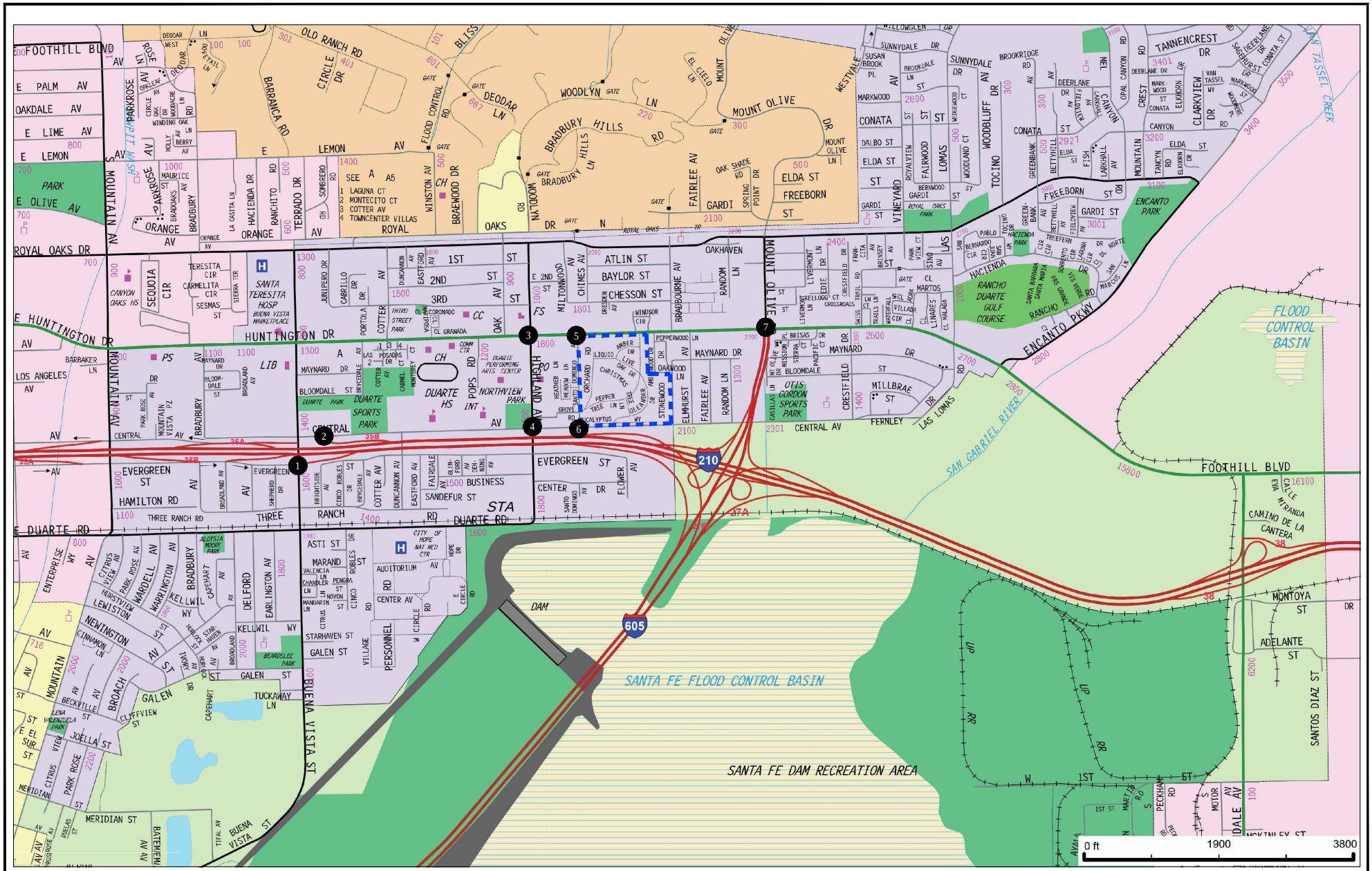
K. Transportation Study

LLG will prepare a Transportation Study in report format which summarizes the above-mentioned CEQA-compliant VMT impact analysis and non-CEQA intersection LOS analysis, including our analysis, findings, and conclusions. The Transportation Study will be suitably documented with tables, figures, and appendix materials.

Please feel free to call us at 626.796.2322 if you have any questions, comments or suggested revisions regarding the above.

Attachments

c: Genevieve Sharrow, MIG



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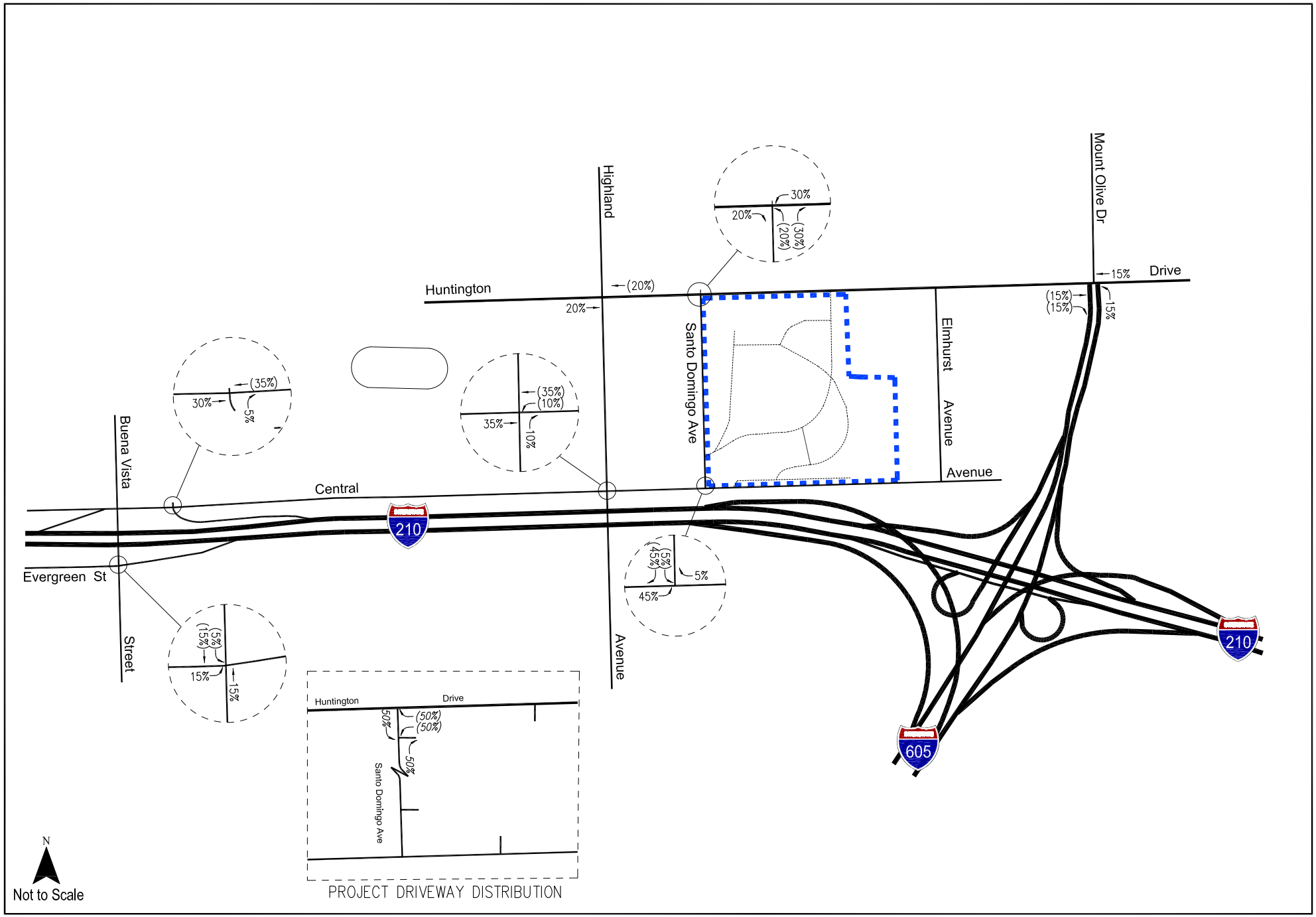
Project Site

XX Study Intersection

Figure 1-1
Vicinity Map

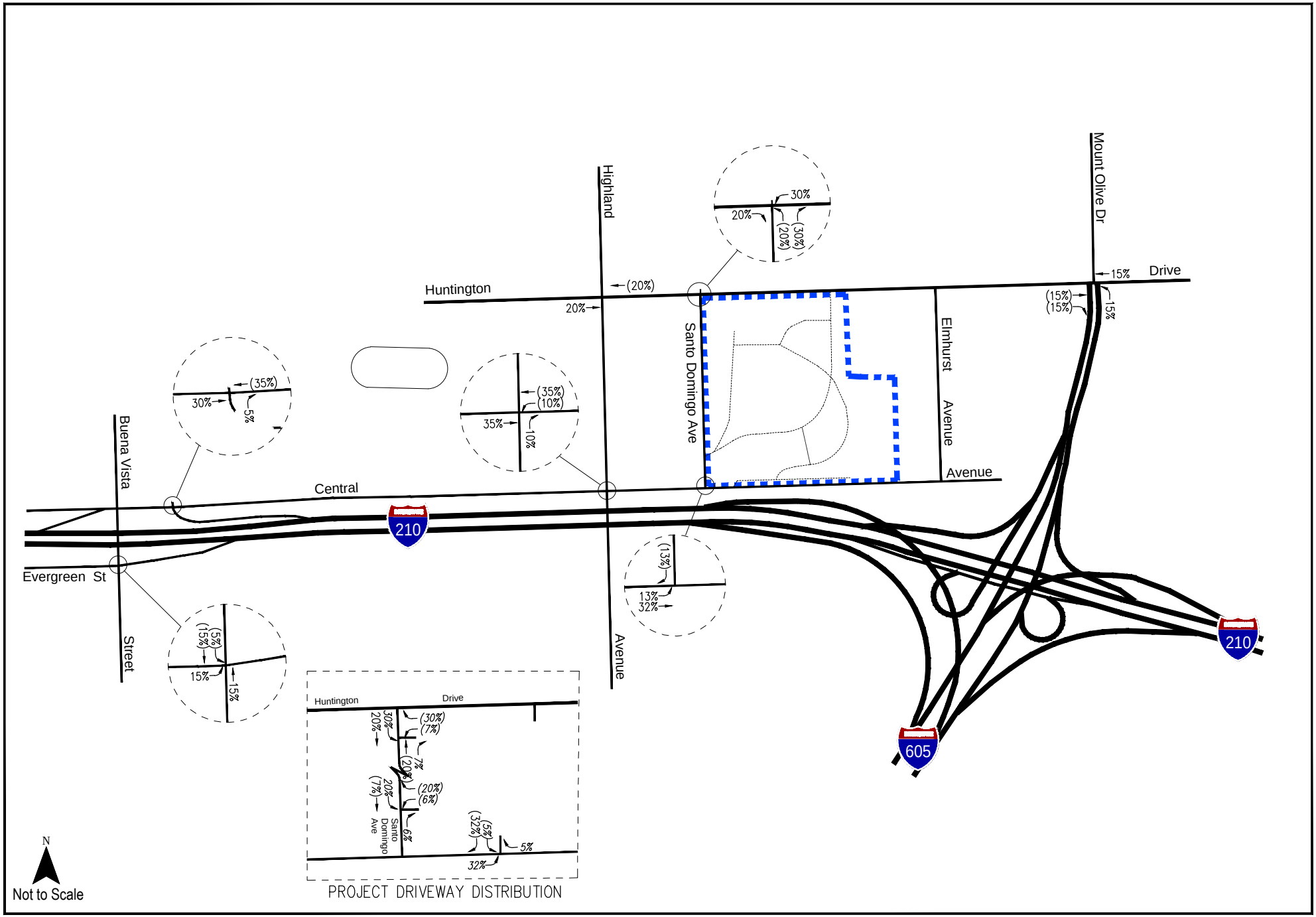


Project Site

XX = Inbound Percentage

(XX) = Outbound Percentage

Figure 2-4
Project Trip Distribution
Office/Retail Component
Westminster Gardens Specific Plan



Project Site

XX = Inbound Percentage

(XX) = Outbound Percentage

LLG

Figure 2-5
Project Trip Distribution
Residential Component
Westminster Gardens Specific Plan

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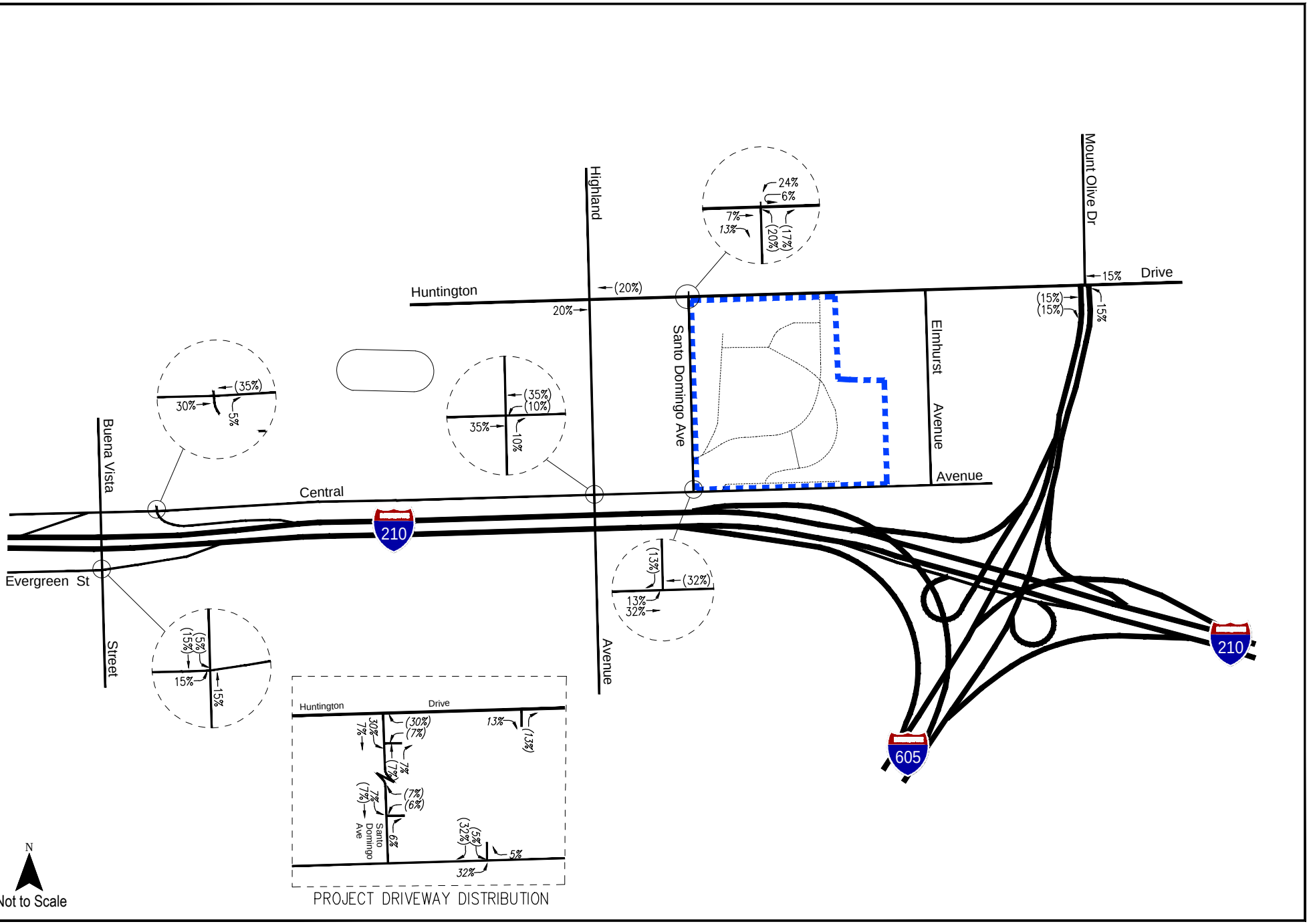

Project Site

XX = Inbound Percentage

(XX) = Outbound Percentage

LLG

Figure 2-6
Project Trip Distribution
Residential Component - Alternative Access

Westminster Gardens Specific Plan

Table 2-1
EXISTING USE TRIP GENERATION FORECAST [1]

TRIP GENERATION RATES [1]									
	ITE			WEEKDAY			WEEKDAY		
	LAND USE		WEEKDAY	AM PEAK HOUR			PM PEAK HOUR		
ITE LAND USE CATEGORY	CODE	VARIABLE	DAILY	IN (%)	OUT (%)	TOTAL	IN (%)	OUT (%)	TOTAL
Senior Housing	252	Per Dwelling Unit	3.24	34%	66%	0.20	56%	44%	0.25
Assisted Living	254	Per Bed	2.60	60%	40%	0.18	39%	61%	0.24

PROJECT TRIP GENERATION FORECAST									
	ITE		DAILY	AM PEAK HOUR			PM PEAK HOUR		
	LAND USE		TRIP ENDS [2]	VOLUMES [2]			VOLUMES [2]		
LAND USE	CODE	SIZE	VOLUMES	IN	OUT	TOTAL	IN	OUT	TOTAL
Senior Housing	252	107 DU	347	7	14	21	15	12	27
Assisted Living [3]	254	42 Beds	109	5	3	8	4	6	10
Total Existing Uses		***149 DU***	***456***	***12***	***17***	***29***	***19***	***18***	***37***

[1] Source: ITE "Trip Generation Manual", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] The trip generation forecast is based on one bed per unit.

Table 2-2
SPECIFIC PLAN TRIP GENERATION FORECAST [1]

TRIP GENERATION RATES [1]									
	ITE			WEEKDAY AM PEAK HOUR			WEEKDAY PM PEAK HOUR		
ITE LAND USE CATEGORY	LAND USE CODE	VARIABLE	WEEKDAY DAILY	IN (%)	OUT (%)	TOTAL	IN (%)	OUT (%)	TOTAL
Affordable Housing - Income Limits	223	Per Dwelling Unit	4.81	29%	71%	0.50	59%	41%	0.46
Senior Housing	252	Per Dwelling Unit	3.24	34%	66%	0.20	56%	44%	0.25
Assisted Living	254	Per Bed	2.60	60%	40%	0.18	39%	61%	0.24
General Office Building	710	Per 1,000 SF	10.84	88%	12%	1.52	17%	83%	1.44
Strip Retail Plaza (<40K)	822	Per 1,000 SF	54.45	60%	40%	2.36	50%	50%	6.59

PROJECT TRIP GENERATION FORECAST									
	ITE		DAILY	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
LAND USE	LAND USE CODE	SIZE	TRIP ENDS [2] VOLUMES	IN	OUT	TOTAL	IN	OUT	TOTAL
Affordable Housing	223	150 DU	722	22	53	75	41	28	69
Senior Housing	252	310 DU	1,004	21	41	62	44	34	78
Assisted Living [3]	254	90 Beds	234	10	6	16	9	13	22
General Office	710	9,350 SF	101	12	2	14	2	11	13
Retail	822	15,000 SF	817	21	14	35	50	49	99
Subtotal Specific Plan Buildout			*2,878*	*86*	*116*	*202*	*146*	*135*	*281*
Less Existing Uses (Refer to Table 1)			*(456)*	*(12)*	*(17)*	*(29)*	*(19)*	*(18)*	*(37)*
NET NEW PROJECT TRIPS			***2,422***	***74***	***99***	***173***	***127***	***117***	***244***

[1] Source: ITE "Trip Generation Manual", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] The trip generation forecast is based on one occupied bed per unit.

Table 3-3
RELATED PROJECTS LIST AND TRIP GENERATION [1]

MAP NO.	PROJECT STATUS	PROJECT NAME/NUMBER ADDRESS/LOCATION	LAND USE DATA		PROJECT DATA SOURCE	DAILY TRIP ENDS [2] VOLUMES	AM PEAK HOUR VOLUMES [2]			PM PEAK HOUR VOLUMES [2]		
			LAND-USE	SIZE			IN	OUT	TOTAL	IN	OUT	TOTAL
1	Built	Solana The Residences at Duarte Station 1750 Business Center Drive	Apartments	292 DU	[3]	1,387	33	60	93	55	30	85
2	Under Construction	928 Huntington Dr.	Apartments	16 DU	[4]	108	1	5	6	5	3	8
3	Built	City of Hope 1500 Duarte Rd.	Medical Outpatient Clinic	9,393 Persons	[5]	4,753	448	66	514	74	388	462
4	Approved	Hawthorne Suites 1230 Huntington Dr.	Hotel	178 Rooms	[6]	783	32	29	61	31	33	64
5	Approved	Duarte-Azusa Animal Hospital 2714 Huntington Dr.	Animal Hospital	291 GSF	[7]	6	1	0	1	0	1	1
6	Approved	1401 Santo Domingo Dr.	Apartments	20 DU	[3]	95	2	4	6	4	2	6
7	Built	BP ElectricVehicle Charging Station 2107 Huntington Drive	Electric Charging Station	26 Superchargers	[8]	910	29	36	65	25	30	55
8	Approved	Town Center Specific Plan 1200 Huntington Dr	Apartments Commercial Hotel	800 DU 703,000 GLSF 450 Rooms	[9]	3,776	91	224	315	550	366	916
9	Proposed	Andres Duarte School Project 1433 Crestfield Drive	Public Park (Passive Uses) Public Park (Ball Fields) Multi Family Housing	6 Acres 2 Fields 169 DU	[10]	646	(50)	4	(46)	16	(11)	5
TOTAL						**12,464**	**587**	**428**	**1,015**	**760**	**842**	**1,602**

[1] Source: City of Duarte Department of City Planning, except as noted below. The peak hour traffic volumes were forecast on trip data provided in the ITE "Trip Generation", 11th Edition, 2021.
[2] Trips are one-way traffic movements, entering or leaving.
[3] ITE Land Use Code 221 Multifamily Housing (Mid-Rise) Close to Rail Transit trip generation average rates.
[4] ITE Land Use Code 220 Multifamily Housing (Low-Rise) Not Close to Rail Transit trip generation average rates.
[5] Source: "City of Hope Campus Plan Draft EIR Transportation Impact Study", prepared by Fehr & Peers, July 2017.
[6] ITE Land Use Code 311 All Suites Hotel trip generation average rates.
[7] ITE Land Use Code 640 Animal Hospital/Veterinary Clinic trip generation average rates.
[8] Source: "7001-7003 Santa Monica PDM - Trip Generation" prepared by LLG Engineers for the City of Los Angeles, dated June 17, 2022.
[9] Source: "Duarte Town Center Specific Plan Traffic Study" prepared by Cambridge Systematics, Inc., May 26, 2016.
[10] Source: "1433 Crestfield Residential Project Transportation Impact Study" prepared by Ganddini Group Inc., January 31, 2025.

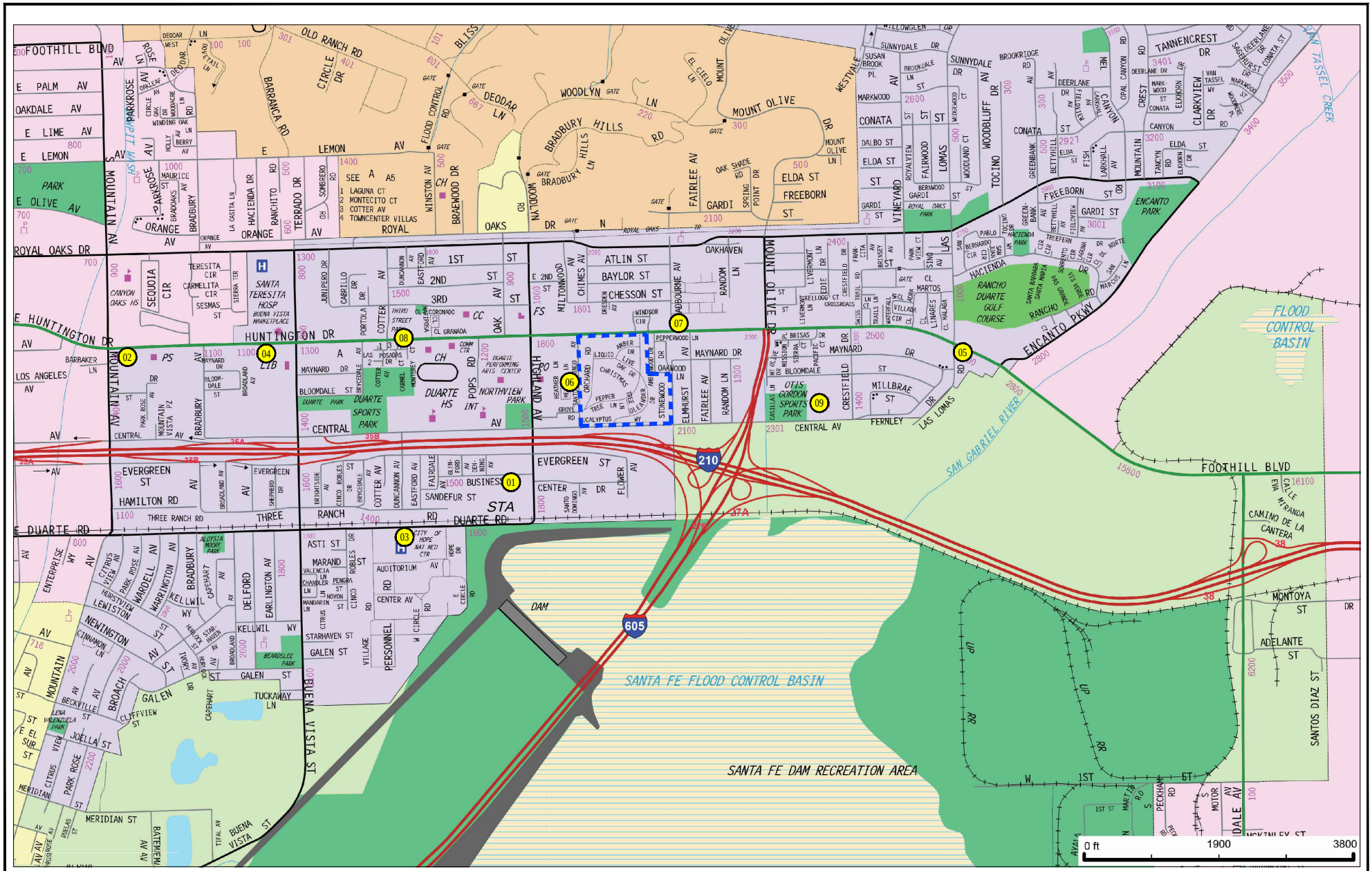

Figure 3-7
Location of Related Projects

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APPENDIX B

VEHICLE, PEDESTRIAN, AND BICYCLE COUNT DATA

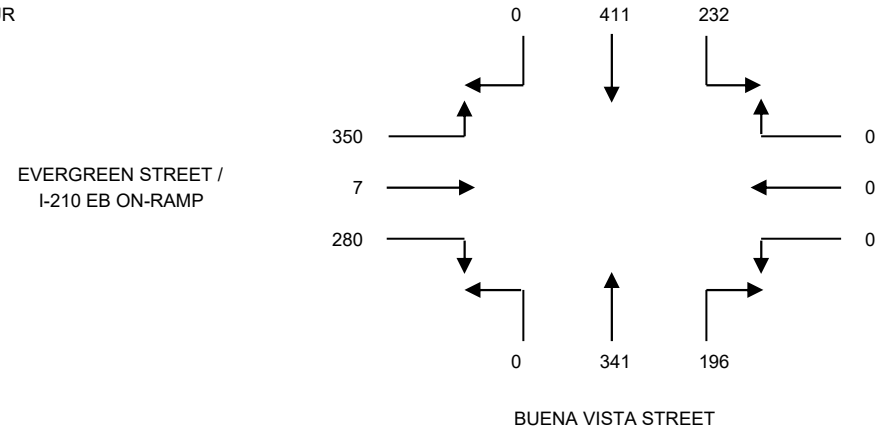
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: TUESDAY, MAY 21, 2024
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: N/S BUENA VISTA STREET
E/W EVERGREEN STREET / I-210 EB ON--RAMP
FILE NUMBER: 1_AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	0	50	34	0	0	0	25	40	0	59	4	35
0715-0730	0	67	40	0	0	0	41	36	0	63	3	32
0730-0745	0	73	47	0	0	0	76	50	0	58	3	51
0745-0800	0	86	53	0	0	0	56	76	0	76	2	68
0800-0815	0	110	44	0	0	0	45	90	0	60	1	111
0815-0830	0	100	61	0	0	0	46	103	0	85	2	102
0830-0845	0	115	74	0	0	0	49	72	0	59	2	69
0845-0900	0	91	54	0	0	0	32	61	0	53	1	50

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	0	276	174	0	0	0	198	202	0	256	12	186	1304
0715-0815	0	336	184	0	0	0	218	252	0	257	9	262	1518
0730-0830	0	369	205	0	0	0	223	319	0	279	8	332	1735
0745-0845	0	411	232	0	0	0	196	341	0	280	7	350	1817
0800-0900	0	416	233	0	0	0	172	326	0	257	6	332	1742

A.M. PEAK HOUR
0745-0845



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
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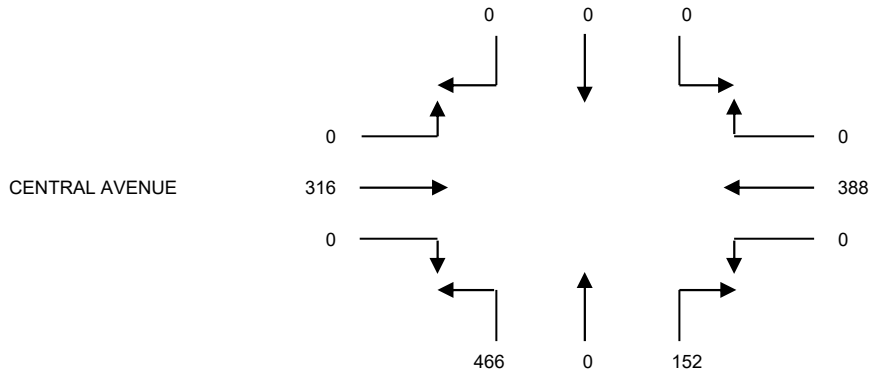
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: TUESDAY, MAY 21, 2024
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: N/S I-210 WB OFF-RAMP
E/W CENTRAL AVENUE
FILE NUMBER: 2_AM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0700-0715	0	0	0	0	25	0	23	0	76	0	23	0
0715-0730	0	0	0	0	34	0	22	0	84	0	20	0
0730-0745	0	0	0	0	41	0	25	0	109	0	40	0
0745-0800	0	0	0	0	66	0	31	0	132	0	68	0
0800-0815	0	0	0	0	83	0	42	0	107	0	89	0
0815-0830	0	0	0	0	128	0	51	0	124	0	99	0
0830-0845	0	0	0	0	111	0	28	0	103	0	60	0
0845-0900	0	0	0	0	50	0	21	0	113	0	38	0

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0700-0800	0	0	0	0	166	0	101	0	401	0	151	0	819
0715-0815	0	0	0	0	224	0	120	0	432	0	217	0	993
0730-0830	0	0	0	0	318	0	149	0	472	0	296	0	1235
0745-0845	0	0	0	0	388	0	152	0	466	0	316	0	1322
0800-0900	0	0	0	0	372	0	142	0	447	0	286	0	1247

A.M. PEAK HOUR
0745-0845



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THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
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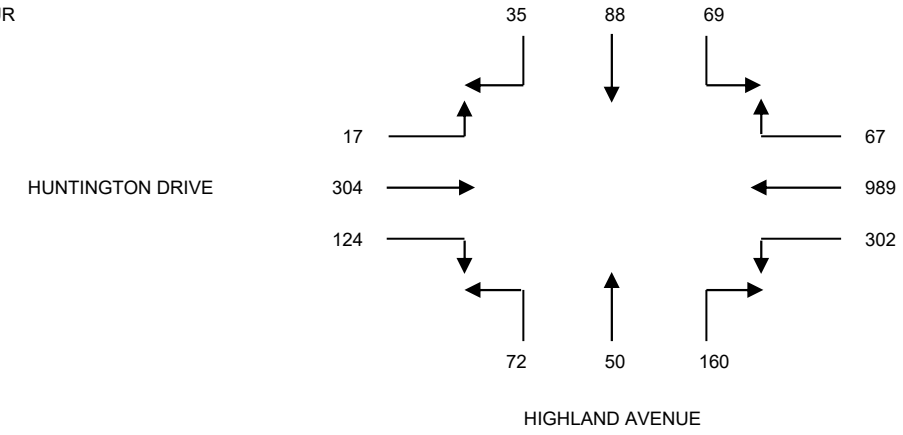
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: WEDNESDAY, MAY 22, 2024
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: N/S HIGHLAND AVENUE
E/W HUNTINGTON DRIVE
FILE NUMBER: 3_AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	12	8	18	12	253	58	21	8	5	9	45	2
0715-0730	10	9	18	18	274	38	36	6	10	10	34	2
0730-0745	13	10	13	12	252	53	25	9	9	10	54	2
0745-0800	11	15	19	19	261	60	32	5	11	16	63	5
0800-0815	9	20	14	17	250	73	30	10	16	30	56	4
0815-0830	10	29	21	16	257	92	45	16	24	45	86	6
0830-0845	5	24	15	15	221	77	53	19	21	33	99	2
0845-0900	7	20	13	16	209	71	50	14	16	22	70	2

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	46	42	68	61	1040	209	114	28	35	45	196	11	1895
0715-0815	43	54	64	66	1037	224	123	30	46	66	207	13	1973
0730-0830	43	74	67	64	1020	278	132	40	60	101	259	17	2155
0745-0845	35	88	69	67	989	302	160	50	72	124	304	17	2277
0800-0900	31	93	63	64	937	313	178	59	77	130	311	14	2270

A.M. PEAK HOUR
0745-0845



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
.

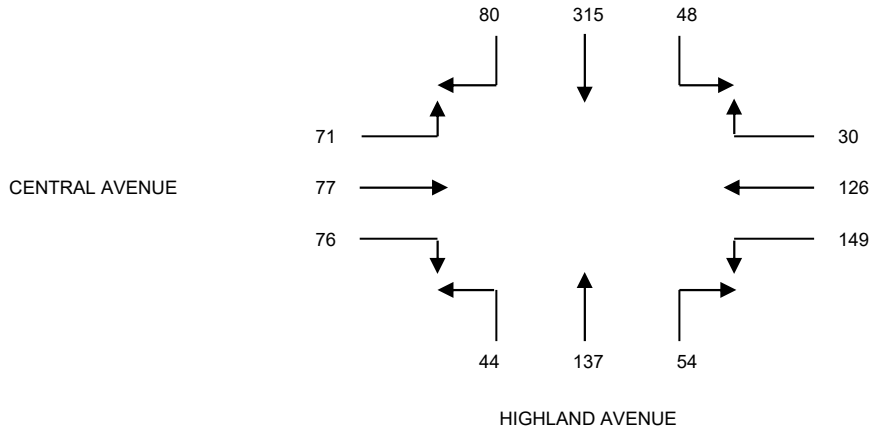
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: WEDNESDAY, MAY 22, 2024
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: N/S HIGHLAND AVENUE
E/W CENTRAL AVENUE
FILE NUMBER: 4_AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	4	33	1	6	19	28	5	20	1	18	17	5
0715-0730	9	50	2	4	20	35	11	21	3	22	13	5
0730-0745	7	61	3	9	31	38	9	28	4	20	16	11
0745-0800	11	82	7	5	33	56	17	33	8	20	10	10
0800-0815	25	86	23	7	25	34	13	31	10	24	19	17
0815-0830	26	75	10	10	39	27	11	36	16	13	26	23
0830-0845	18	72	8	8	29	32	13	37	10	19	22	21
0845-0900	11	56	6	7	23	26	14	42	6	14	24	18

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	31	226	13	24	103	157	42	102	16	80	56	31	881
0715-0815	52	279	35	25	109	163	50	113	25	86	58	43	1038
0730-0830	69	304	43	31	128	155	50	128	38	77	71	61	1155
0745-0845	80	315	48	30	126	149	54	137	44	76	77	71	1207
0800-0900	80	289	47	32	116	119	51	146	42	70	91	79	1162

A.M. PEAK HOUR
0745-0845



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
.

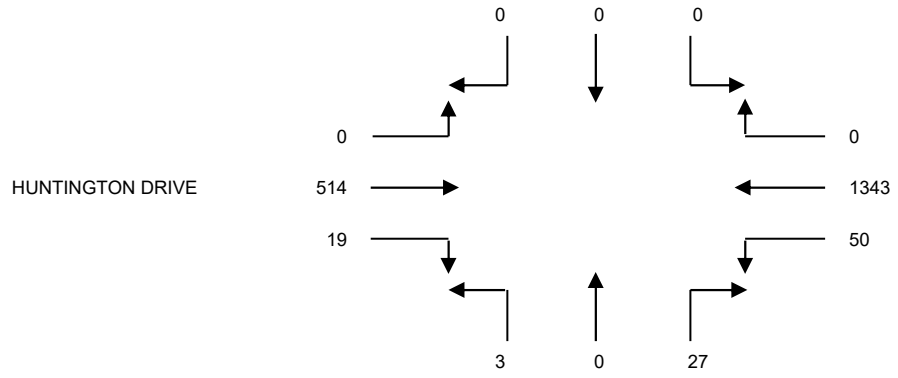
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: WEDNESDAY, MAY 22, 2024
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: N/S SANTO DOMINGO AVENUE
E/W HUNTINGTON DRIVE
FILE NUMBER: 5_AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	0	0	0	0	286	10	4	0	0	3	73	0
0715-0730	0	0	0	0	315	15	4	0	0	1	85	0
0730-0745	0	0	0	0	362	14	5	0	0	2	93	0
0745-0800	0	0	0	0	337	13	4	0	1	3	102	0
0800-0815	0	0	0	0	333	10	8	0	2	6	112	0
0815-0830	0	0	0	0	352	15	8	0	0	3	143	0
0830-0845	0	0	0	0	321	12	7	0	0	7	157	0
0845-0900	0	0	0	0	288	17	12	0	1	3	137	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	0	0	0	0	1300	52	17	0	1	9	353	0	1732
0715-0815	0	0	0	0	1347	52	21	0	3	12	392	0	1827
0730-0830	0	0	0	0	1384	52	25	0	3	14	450	0	1928
0745-0845	0	0	0	0	1343	50	27	0	3	19	514	0	1956
0800-0900	0	0	0	0	1294	54	35	0	3	19	549	0	1954

A.M. PEAK HOUR
0745-0845



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
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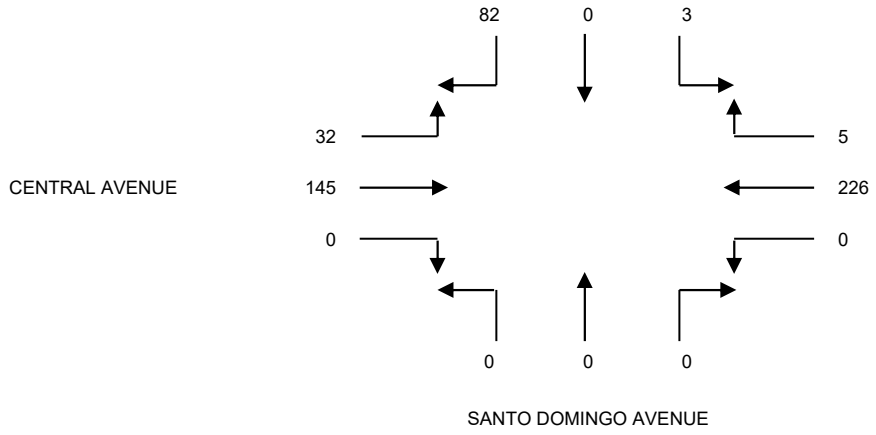
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: WEDNESDAY, MAY 22, 2024
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: N/S SANTO DOMINGO AVENUE
E/W CENTRAL AVENUE
FILE NUMBER: 6_AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	10	0	1	4	48	0	0	0	0	0	18	2
0715-0730	16	0	1	2	50	0	0	0	0	0	22	2
0730-0745	20	0	1	0	44	0	0	0	0	0	23	4
0745-0800	21	0	1	0	68	0	0	0	0	0	26	7
0800-0815	21	0	0	1	49	0	0	0	0	0	44	9
0815-0830	22	0	2	4	68	0	0	0	0	0	45	10
0830-0845	18	0	0	0	41	0	0	0	0	0	30	6
0845-0900	14	0	0	0	33	0	0	0	0	0	37	8

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	67	0	4	6	210	0	0	0	0	0	89	15	391
0715-0815	78	0	3	3	211	0	0	0	0	0	115	22	432
0730-0830	84	0	4	5	229	0	0	0	0	0	138	30	490
0745-0845	82	0	3	5	226	0	0	0	0	0	145	32	493
0800-0900	75	0	2	5	191	0	0	0	0	0	156	33	462

A.M. PEAK HOUR
0745-0845



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ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
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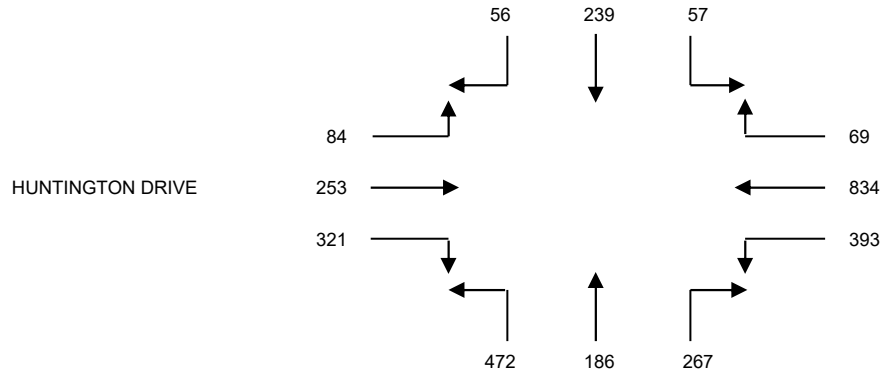
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: WEDNESDAY, MAY 22, 2024
PERIOD: 07:00 AM TO 09:00 AM
INTERSECTION: N/S MT OLIVE DRIVE / I-210 & I-605 RAMPS
E/W HUNTINGTON DRIVE
FILE NUMBER: 7_AM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0700-0715	9	52	5	13	224	99	28	22	69	43	27	2
0715-0730	11	44	3	11	231	97	30	20	82	55	41	5
0730-0745	7	48	4	12	229	99	40	27	104	67	31	10
0745-0800	14	57	10	19	220	108	56	34	119	68	54	18
0800-0815	15	62	12	16	212	94	77	58	121	79	61	21
0815-0830	14	57	19	19	209	102	77	53	122	88	66	25
0830-0845	13	63	16	15	193	89	57	41	110	86	72	20
0845-0900	11	48	9	10	182	69	54	33	108	74	60	10

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0700-0800	41	201	22	55	904	403	154	103	374	233	153	35	2678
0715-0815	47	211	29	58	892	398	203	139	426	269	187	54	2913
0730-0830	50	224	45	66	870	403	250	172	466	302	212	74	3134
0745-0845	56	239	57	69	834	393	267	186	472	321	253	84	3231
0800-0900	53	230	56	60	796	354	265	185	461	327	259	76	3122

A.M. PEAK HOUR
0745-0845



MT OLIVE DRIVE / I-210 & I-605 RAMPS

DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
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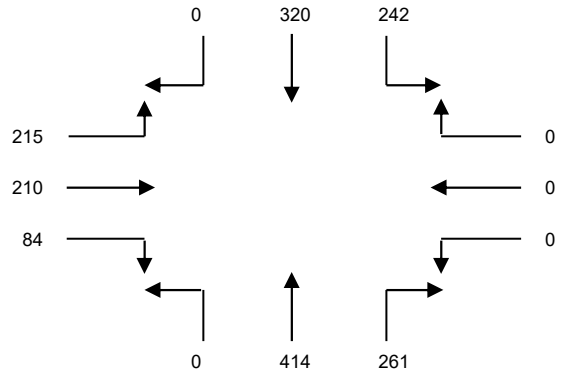
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: TUESDAY, MAY 21, 2024
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION: N/S BUENA VISTA STREET
E/W EVERGREEN STREET / I-210 EB ON--RAMP
FILE NUMBER: 1_PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0400-0415	0	61	42	0	0	0	46	78	0	17	20	51
0415-0430	0	75	64	0	0	0	59	96	0	22	35	48
0430-0445	0	71	64	0	0	0	69	82	0	20	44	61
0445-0500	0	78	54	0	0	0	60	107	0	24	52	53
0500-0515	0	76	66	0	0	0	81	108	0	24	67	58
0515-0530	0	95	58	0	0	0	51	117	0	16	47	43
0530-0545	0	59	56	0	0	0	61	101	0	16	43	42
0545-0600	0	74	48	0	0	0	41	102	0	10	30	57

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0400-0500	0	285	224	0	0	0	234	363	0	83	151	213	1553
0415-0515	0	300	248	0	0	0	269	393	0	90	198	220	1718
0430-0530	0	320	242	0	0	0	261	414	0	84	210	215	1746
0445-0545	0	308	234	0	0	0	253	433	0	80	209	196	1713
0500-0600	0	304	228	0	0	0	234	428	0	66	187	200	1647

P.M. PEAK HOUR
0430-0530



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ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
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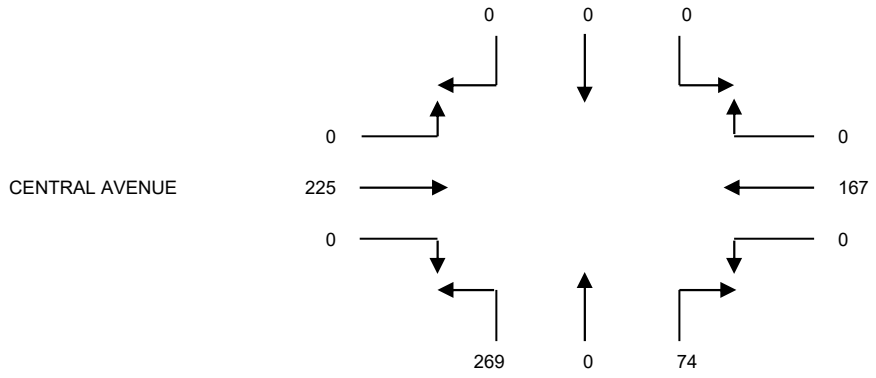
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: TUESDAY, MAY 21, 2024
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION: N/S I-210 WB OFF-RAMP
E/W CENTRAL AVENUE
FILE NUMBER: 2_PM

15 MINUTE	1	2	3	4	5	6	7	8	9	10	11	12
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT
0400-0415	0	0	0	0	33	0	10	0	53	0	37	0
0415-0430	0	0	0	0	38	0	14	0	62	0	47	0
0430-0445	0	0	0	0	38	0	26	0	60	0	65	0
0445-0500	0	0	0	0	59	0	16	0	68	0	58	0
0500-0515	0	0	0	0	35	0	13	0	70	0	41	0
0515-0530	0	0	0	0	35	0	19	0	71	0	61	0
0530-0545	0	0	0	0	36	0	18	0	63	0	45	0
0545-0600	0	0	0	0	27	0	15	0	80	0	56	0

1 HOUR	1	2	3	4	5	6	7	8	9	10	11	12	
TOTALS	SBRT	SBTH	SBLT	WBRT	WBTH	WBLT	NBRT	NBTH	NBLT	EBRT	EBTH	EBLT	TOTALS
0400-0500	0	0	0	0	168	0	66	0	243	0	207	0	684
0415-0515	0	0	0	0	170	0	69	0	260	0	211	0	710
0430-0530	0	0	0	0	167	0	74	0	269	0	225	0	735
0445-0545	0	0	0	0	165	0	66	0	272	0	205	0	708
0500-0600	0	0	0	0	133	0	65	0	284	0	203	0	685

P.M. PEAK HOUR
0430-0530



DATA PROVIDED BY:

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329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
.

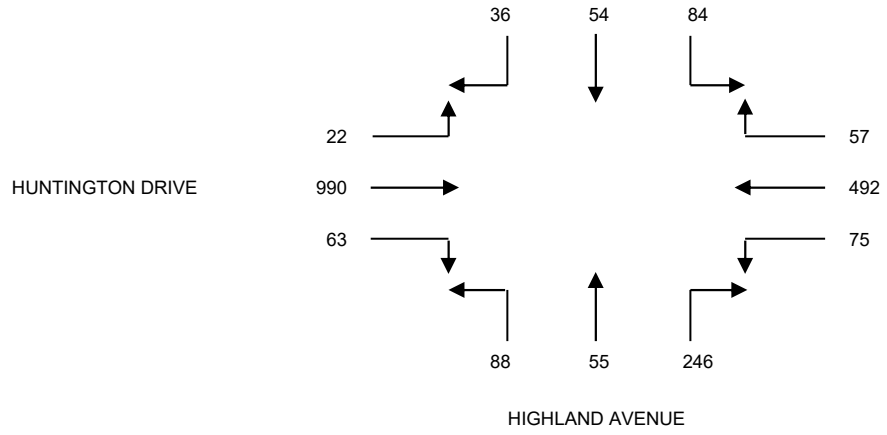
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: WEDNESDAY, MAY 22, 2024
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION: N/S HIGHLAND AVENUE
E/W HUNTINGTON DRIVE
FILE NUMBER: 3_PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0400-0415	7	13	20	8	101	11	62	10	24	13	215	3
0415-0430	9	12	15	16	125	17	55	10	20	13	233	4
0430-0445	8	14	24	16	124	22	65	10	26	20	229	8
0445-0500	13	17	25	15	127	25	60	19	22	20	250	5
0500-0515	6	11	20	10	116	11	66	16	20	10	278	5
0515-0530	5	12	21	13	106	16	72	10	11	9	232	6
0530-0545	11	10	23	16	129	23	67	15	14	13	245	6
0545-0600	4	15	20	17	137	20	60	22	19	13	238	3

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0400-0500	37	56	84	55	477	75	242	49	92	66	927	20	2180
0415-0515	36	54	84	57	492	75	246	55	88	63	990	22	2262
0430-0530	32	54	90	54	473	74	263	55	79	59	989	24	2246
0445-0545	35	50	89	54	478	75	265	60	67	52	1005	22	2252
0500-0600	26	48	84	56	488	70	265	63	64	45	993	20	2222

P.M. PEAK HOUR
0415-0515



DATA PROVIDED BY:

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329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
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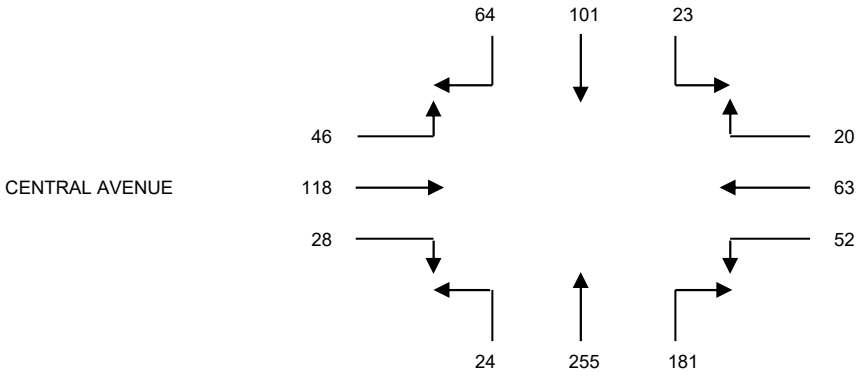
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: WEDNESDAY, MAY 22, 2024
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION: N/S HIGHLAND AVENUE
E/W CENTRAL AVENUE
FILE NUMBER: 4_PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0400-0415	27	32	11	2	19	19	53	67	8	9	32	17
0415-0430	17	29	5	4	17	13	47	53	7	8	30	10
0430-0445	10	20	3	7	16	10	41	62	4	5	25	9
0445-0500	10	20	4	7	11	10	40	73	5	6	31	10
0500-0515	8	33	2	7	13	13	46	68	4	6	29	10
0515-0530	9	20	7	6	9	8	42	58	9	5	31	14
0530-0545	8	26	11	6	15	7	40	62	4	2	26	28
0545-0600	15	22	7	6	19	5	47	63	8	6	21	35

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0400-0500	64	101	23	20	63	52	181	255	24	28	118	46	975
0415-0515	45	102	14	25	57	46	174	256	20	25	115	39	918
0430-0530	37	93	16	27	49	41	169	261	22	22	116	43	896
0445-0545	35	99	24	26	48	38	168	261	22	19	117	62	919
0500-0600	40	101	27	25	56	33	175	251	25	19	107	87	946

P.M. PEAK HOUR
0400-0500



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FAX: 626-446-2877
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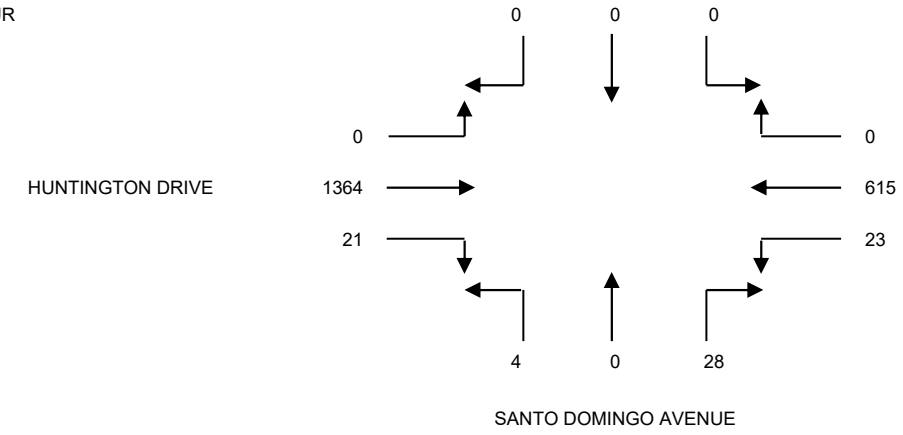
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: WEDNESDAY, MAY 22, 2024
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION: N/S SANTO DOMINGO AVENUE
E/W HUNTINGTON DRIVE
FILE NUMBER: 5_PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0400-0415	0	0	0	0	142	2	12	0	0	3	278	0
0415-0430	0	0	0	0	161	4	10	0	3	7	330	0
0430-0445	0	0	0	0	140	6	11	0	2	3	325	0
0445-0500	0	0	0	0	147	4	6	0	0	6	326	0
0500-0515	0	0	0	0	164	9	10	0	2	9	341	0
0515-0530	0	0	0	0	156	5	6	0	1	4	347	0
0530-0545	0	0	0	0	148	5	6	0	1	2	350	0
0545-0600	0	0	0	0	150	8	8	0	0	1	303	0

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0400-0500	0	0	0	0	590	16	39	0	5	19	1259	0	1928
0415-0515	0	0	0	0	612	23	37	0	7	25	1322	0	2026
0430-0530	0	0	0	0	607	24	33	0	5	22	1339	0	2030
0445-0545	0	0	0	0	615	23	28	0	4	21	1364	0	2055
0500-0600	0	0	0	0	618	27	30	0	4	16	1341	0	2036

P.M. PEAK HOUR
0445-0545



DATA PROVIDED BY:

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ARCADIA, CALIFORNIA 91005
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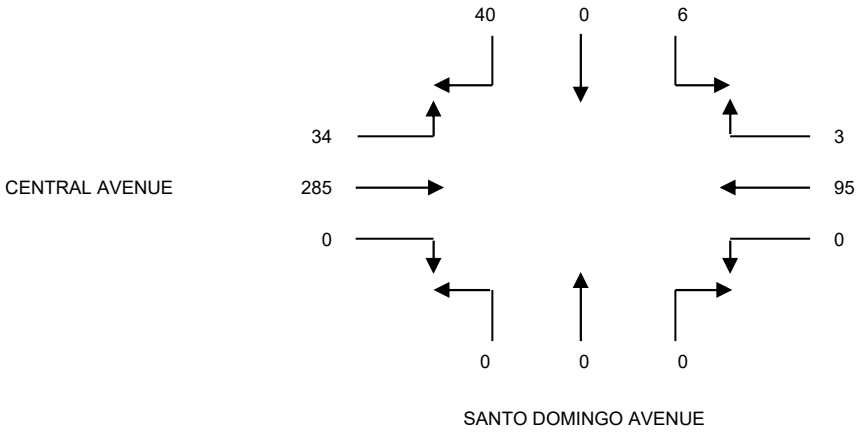
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: WEDNESDAY, MAY 22, 2024
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION: N/S SANTO DOMINGO AVENUE
E/W CENTRAL AVENUE
FILE NUMBER: 6_PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0400-0415	19	0	1	2	28	0	0	0	0	0	88	13
0415-0430	10	0	2	1	23	0	0	0	0	0	68	7
0430-0445	6	0	2	0	24	0	0	0	0	0	64	9
0445-0500	5	0	1	0	20	0	0	0	0	0	65	5
0500-0515	10	0	1	1	25	0	0	0	0	0	71	12
0515-0530	7	0	2	2	22	0	0	0	0	0	67	5
0530-0545	8	0	2	1	21	0	0	0	0	0	69	5
0545-0600	8	0	1	0	18	0	0	0	0	0	68	5

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0400-0500	40	0	6	3	95	0	0	0	0	0	285	34	463
0415-0515	31	0	6	2	92	0	0	0	0	0	268	33	432
0430-0530	28	0	6	3	91	0	0	0	0	0	267	31	426
0445-0545	30	0	6	4	88	0	0	0	0	0	272	27	427
0500-0600	33	0	6	4	86	0	0	0	0	0	275	27	431

P.M. PEAK HOUR
0400-0500



DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
.

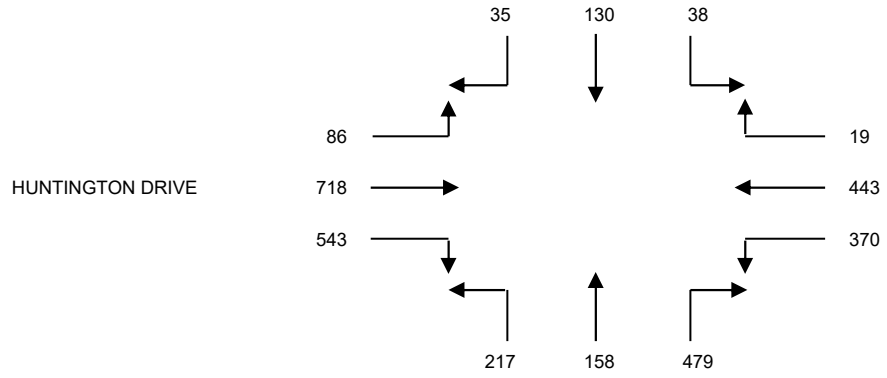
INTERSECTION TURNING MOVEMENT COUNT SUMMARY

CLIENT: LLG - PASADENA
PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE
DATE: WEDNESDAY, MAY 22, 2024
PERIOD: 04:00 PM TO 06:00 PM
INTERSECTION: N/S MT OLIVE DRIVE / I-210 & I-605 RAMPS
E/W HUNTINGTON DRIVE
FILE NUMBER: 7_PM

15 MINUTE TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT
0400-0415	7	37	8	2	72	54	76	17	40	95	153	11
0415-0430	7	25	10	7	95	71	99	30	49	105	178	10
0430-0445	8	26	15	8	97	93	122	42	51	124	170	13
0445-0500	6	34	11	3	101	94	135	40	58	150	191	20
0500-0515	7	24	15	3	122	97	113	31	55	121	171	21
0515-0530	12	28	8	6	109	93	114	49	54	143	169	23
0530-0545	10	44	4	7	111	86	117	38	50	129	187	22
0545-0600	10	31	5	9	85	50	120	47	58	125	190	22

1 HOUR TOTALS	1 SBRT	2 SBTH	3 SBLT	4 WBRT	5 WBTH	6 WBLT	7 NBRT	8 NBTH	9 NBLT	10 EBRT	11 EBTH	12 EBLT	TOTALS
0400-0500	28	122	44	20	365	312	432	129	198	474	692	54	2870
0415-0515	28	109	51	21	415	355	469	143	213	500	710	64	3078
0430-0530	33	112	49	20	429	377	484	162	218	538	701	77	3200
0445-0545	35	130	38	19	443	370	479	158	217	543	718	86	3236
0500-0600	39	127	32	25	427	326	464	165	217	518	717	88	3145

P.M. PEAK HOUR
0445-0545



MT OLIVE DRIVE / I-210 & I-605 RAMPS

DATA PROVIDED BY:

THE TRAFFIC SOLUTION
329 DIAMOND STREET
ARCADIA, CALIFORNIA 91005
PH: 626-446-7978
FAX: 626-446-2877
.

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: TUESDAY, MAY 21, 2024

PERIOD: 07:00 AM TO 09:00 AM

INTERSECTION: BUENA VISTA STREET / EVERGREEN STREET - I-210 EB ON-RAMP

FILE: 1AMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	0	0	0
0715-0730	0	1	0	1
0730-0745	0	1	0	0
0745-0800	0	3	0	0
0800-0815	0	0	0	1
0815-0830	0	0	0	0
0830-0845	0	3	1	0
0845-0900	0	0	5	0

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	0	0	0
0715-0730	0	0	0	0
0730-0745	0	0	0	1
0745-0800	0	0	0	0
0800-0815	0	0	0	0
0815-0830	0	0	0	0
0830-0845	0	0	0	0
0845-0900	0	0	0	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	0	5	0	1	6
0715-0815	0	5	0	2	7
0730-0830	0	4	0	1	5
0745-0845	0	6	1	1	8
0800-0900	0	3	6	1	10

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	0	0	0	1	1
0715-0815	0	0	0	1	1
0730-0830	0	0	0	1	1
0745-0845	0	0	0	0	0
0800-0900	0	0	0	0	0

THE TRAFFIC SOLUTION
9 ALTA STREET UNIT E
ARCADIA, CALIFORNIA 91006
626.485.8048 PHONE
trafsolutn@aol.com

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: TUESDAY, MAY 21, 2024

PERIOD: 04:00 PM TO 06:00 PM

INTERSECTION: BUENA VISTA STREET / EVERGREEN STREET - I-210 EB ON-RAMP

FILE: 1PMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	0	0	0	0
0415-0430	0	1	0	2
0430-0445	0	0	0	0
0445-0500	0	4	1	0
0500-0515	0	0	0	1
0515-0530	0	0	0	0
0530-0545	0	4	0	1
0545-0600	0	0	0	0

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	0	1	0	0
0415-0430	0	0	0	1
0430-0445	0	1	0	0
0445-0500	0	1	0	0
0500-0515	0	1	0	0
0515-0530	0	4	0	0
0530-0545	0	1	0	2
0545-0600	0	0	0	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	0	5	1	2	8
0415-0515	0	5	1	3	9
0430-0530	0	4	1	1	6
0445-0545	0	8	1	2	11
0500-0600	0	4	0	2	6

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	0	3	0	1	4
0415-0515	0	3	0	1	4
0430-0530	0	7	0	0	7
0445-0545	0	7	0	2	9
0500-0600	0	6	0	2	8

THE TRAFFIC SOLUTION
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PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: TUESDAY, MAY 21, 2024

PERIOD: 07:00 AM TO 09:00 AM

INTERSECTION: I-210 WB OFF-RAMP / CENTRAL AVENUE

FILE: 2AMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	0	0	0
0715-0730	0	0	0	0
0730-0745	0	0	0	0
0745-0800	0	0	0	0
0800-0815	0	0	0	0
0815-0830	0	0	0	0
0830-0845	0	0	0	0
0845-0900	0	0	0	0

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	0	0	0
0715-0730	0	0	0	0
0730-0745	0	0	0	0
0745-0800	0	0	0	0
0800-0815	0	0	0	0
0815-0830	0	0	0	0
0830-0845	0	0	0	0
0845-0900	0	0	0	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	0	0	0	0	0
0715-0815	0	0	0	0	0
0730-0830	0	0	0	0	0
0745-0845	0	0	0	0	0
0800-0900	0	0	0	0	0

NOTE: NO PEDESTRIANS / BICYCLISTS OBSERVED

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	0	0	0	0	0
0715-0815	0	0	0	0	0
0730-0830	0	0	0	0	0
0745-0845	0	0	0	0	0
0800-0900	0	0	0	0	0

NOTE: NO PEDESTRIANS / BICYCLISTS OBSERVED

THE TRAFFIC SOLUTION
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trafsolutn@aol.com

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: TUESDAY, MAY 21, 2024

PERIOD: 04:00 PM TO 06:00 PM

INTERSECTION: I-210 WB OFF-RAMP / CENTRAL AVENUE

FILE: 2PMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	0	0	0	0
0415-0430	0	0	0	0
0430-0445	0	0	0	0
0445-0500	0	0	0	0
0500-0515	0	0	0	0
0515-0530	0	0	0	0
0530-0545	0	0	0	0
0545-0600	0	0	0	0

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	0	0	0	0
0415-0430	0	0	0	0
0430-0445	0	0	0	0
0445-0500	0	0	0	0
0500-0515	0	0	0	0
0515-0530	0	0	0	0
0530-0545	0	0	0	0
0545-0600	0	0	0	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	0	0	0	0	0
0415-0515	0	0	0	0	0
0430-0530	0	0	0	0	0
0445-0545	0	0	0	0	0
0500-0600	0	0	0	0	0

NOTE: NO PEDESTRIANS / BICYCLISTS OBSERVED

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	0	0	0	0	0
0415-0515	0	0	0	0	0
0430-0530	0	0	0	0	0
0445-0545	0	0	0	0	0
0500-0600	0	0	0	0	0

NOTE: NO PEDESTRIANS / BICYCLISTS OBSERVED

THE TRAFFIC SOLUTION
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trafsolutn@aol.com

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: WEDNESDAY, MAY 22, 2024

PERIOD: 07:00 AM TO 09:00 AM

INTERSECTION: HIGHLAND AVENUE / HUNTINGTON DRIVE

FILE: 3AMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	1	1	2	2
0715-0730	1	1	1	1
0730-0745	1	2	6	3
0745-0800	2	3	2	2
0800-0815	1	2	3	2
0815-0830	3	1	3	3
0830-0845	1	0	2	1
0845-0900	2	1	3	3

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	0	0	0
0715-0730	1	0	0	1
0730-0745	0	1	0	1
0745-0800	1	0	0	0
0800-0815	0	2	0	1
0815-0830	0	1	0	2
0830-0845	0	1	0	1
0845-0900	0	1	0	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	5	7	11	8	31
0715-0815	5	8	12	8	33
0730-0830	7	8	14	10	39
0745-0845	7	6	10	8	31
0800-0900	7	4	11	9	31

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	2	1	0	2	5
0715-0815	2	3	0	3	8
0730-0830	1	4	0	4	9
0745-0845	1	4	0	4	9
0800-0900	0	5	0	4	9

THE TRAFFIC SOLUTION
9 ALTA STREET UNIT E
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trafsolutn@aol.com

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: WEDNESDAY, MAY 22, 2024

PERIOD: 04:00 PM TO 06:00 PM

INTERSECTION: HIGHLAND AVENUE / HUNTINGTON DRIVE

FILE: 3PMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	2	5	3	3
0415-0430	3	4	2	3
0430-0445	2	4	4	2
0445-0500	0	1	2	4
0500-0515	1	4	5	4
0515-0530	0	0	4	2
0530-0545	3	1	2	5
0545-0600	0	0	3	4

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	1	0	1	0
0415-0430	0	0	2	0
0430-0445	1	1	2	0
0445-0500	0	0	1	0
0500-0515	0	2	0	0
0515-0530	0	0	0	1
0530-0545	2	0	1	0
0545-0600	0	0	0	1

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	7	14	11	12	44
0415-0515	6	13	13	13	45
0430-0530	3	9	15	12	39
0445-0545	4	6	13	15	38
0500-0600	4	5	14	15	38

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	2	1	6	0	9
0415-0515	1	3	5	0	9
0430-0530	1	3	3	1	8
0445-0545	2	2	2	1	7
0500-0600	2	2	1	2	7

THE TRAFFIC SOLUTION
9 ALTA STREET UNIT E
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PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: WEDNESDAY, MAY 22, 2024

PERIOD: 07:00 AM TO 09:00 AM

INTERSECTION: HIGHLAND AVENUE / CENTRAL AVENUE

FILE: 4AMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	0	0	1
0715-0730	0	1	0	1
0730-0745	1	0	0	8
0745-0800	0	1	0	31
0800-0815	6	2	0	62
0815-0830	8	3	0	40
0830-0845	9	4	0	16
0845-0900	5	2	0	9

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	0	0	0
0715-0730	0	0	0	0
0730-0745	0	0	0	0
0745-0800	0	1	0	0
0800-0815	0	0	0	1
0815-0830	0	0	0	0
0830-0845	0	0	0	0
0845-0900	0	1	0	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	1	2	0	41	44
0715-0815	7	4	0	102	113
0730-0830	15	6	0	141	162
0745-0845	23	10	0	149	182
0800-0900	28	11	0	127	166

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	0	1	0	0	1
0715-0815	0	1	0	1	2
0730-0830	0	1	0	1	2
0745-0845	0	1	0	1	2
0800-0900	0	1	0	1	2

THE TRAFFIC SOLUTION
9 ALTA STREET UNIT E
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trafsolutn@aol.com

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: WEDNESDAY, MAY 22, 2024

PERIOD: 04:00 PM TO 06:00 PM

INTERSECTION: HIGHLAND AVENUE / CENTRAL AVENUE

FILE: 4PMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	2	2	0	5
0415-0430	4	0	0	2
0430-0445	2	1	0	3
0445-0500	2	0	0	1
0500-0515	0	0	0	3
0515-0530	0	0	0	3
0530-0545	0	0	0	5
0545-0600	2	0	0	4

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	0	0	0	0
0415-0430	1	0	0	0
0430-0445	0	0	0	0
0445-0500	1	0	0	1
0500-0515	0	0	0	0
0515-0530	0	0	0	0
0530-0545	0	0	0	0
0545-0600	0	0	0	1

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	10	3	0	11	24
0415-0515	8	1	0	9	18
0430-0530	4	1	0	10	15
0445-0545	2	0	0	12	14
0500-0600	2	0	0	15	17

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	2	0	0	1	3
0415-0515	2	0	0	1	3
0430-0530	1	0	0	1	2
0445-0545	1	0	0	1	2
0500-0600	0	0	0	1	1

THE TRAFFIC SOLUTION
9 ALTA STREET UNIT E
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trafsolutn@aol.com

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: WEDNESDAY, MAY 22, 2024

PERIOD: 07:00 AM TO 09:00 AM

INTERSECTION: SANTO DOMINGO AVENUE / HUNTINGTON DRIVE

FILE: 5AMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	0	1	0
0715-0730	0	0	1	0
0730-0745	0	0	0	0
0745-0800	0	0	1	0
0800-0815	0	0	0	0
0815-0830	0	0	0	0
0830-0845	0	0	0	0
0845-0900	0	0	1	0

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	0	0	0
0715-0730	0	0	0	0
0730-0745	0	0	1	0
0745-0800	0	0	0	0
0800-0815	0	0	0	0
0815-0830	0	0	0	0
0830-0845	0	0	0	0
0845-0900	0	0	0	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	0	0	3	0	3
0715-0815	0	0	2	0	2
0730-0830	0	0	1	0	1
0745-0845	0	0	1	0	1
0800-0900	0	0	1	0	1

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	0	0	1	0	1
0715-0815	0	0	1	0	1
0730-0830	0	0	1	0	1
0745-0845	0	0	0	0	0
0800-0900	0	0	0	0	0

THE TRAFFIC SOLUTION
9 ALTA STREET UNIT E
ARCADIA, CALIFORNIA 91006
626.485.8048 PHONE
trafsolutn@aol.com

PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: WEDNESDAY, MAY 22, 2024

PERIOD: 04:00 PM TO 06:00 PM

INTERSECTION: SANTO DOMINGO AVENUE / HUNTINGTON DRIVE

FILE: 5PMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	0	0	0	0
0415-0430	0	0	0	0
0430-0445	0	0	0	0
0445-0500	0	0	0	0
0500-0515	0	0	0	0
0515-0530	0	0	0	0
0530-0545	0	0	1	0
0545-0600	0	0	1	0

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	0	0	1	0
0415-0430	0	0	0	0
0430-0445	0	0	0	0
0445-0500	0	0	0	0
0500-0515	0	0	1	0
0515-0530	0	0	1	0
0530-0545	0	0	1	0
0545-0600	0	0	1	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	0	0	0	0	0
0415-0515	0	0	0	0	0
0430-0530	0	0	0	0	0
0445-0545	0	0	1	0	1
0500-0600	0	0	2	0	2

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	0	0	1	0	1
0415-0515	0	0	1	0	1
0430-0530	0	0	2	0	2
0445-0545	0	0	3	0	3
0500-0600	0	0	4	0	4

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PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: WEDNESDAY, MAY 22, 2024

PERIOD: 07:00 AM TO 09:00 AM

INTERSECTION: SANTO DOMINGO AVENUE / CENTRAL AVENUE

FILE: 6AMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	0	0	0
0715-0730	1	0	0	0
0730-0745	2	0	0	0
0745-0800	0	0	0	0
0800-0815	0	0	0	0
0815-0830	0	0	0	0
0830-0845	1	0	0	0
0845-0900	1	0	0	0

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	0	0	0
0715-0730	0	0	0	0
0730-0745	0	0	0	0
0745-0800	2	0	0	0
0800-0815	0	0	0	0
0815-0830	0	0	0	0
0830-0845	0	0	0	0
0845-0900	2	0	0	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	3	0	0	0	3
0715-0815	3	0	0	0	3
0730-0830	2	0	0	0	2
0745-0845	1	0	0	0	1
0800-0900	2	0	0	0	2

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	2	0	0	0	2
0715-0815	2	0	0	0	2
0730-0830	2	0	0	0	2
0745-0845	2	0	0	0	2
0800-0900	2	0	0	0	2

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PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: WEDNESDAY, MAY 22, 2024

PERIOD: 04:00 PM TO 06:00 PM

INTERSECTION: SANTO DOMINGO AVENUE / CENTRAL AVENUE

FILE: 6PMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	0	0	0	0
0415-0430	1	0	0	0
0430-0445	1	0	0	0
0445-0500	1	0	0	0
0500-0515	0	0	0	0
0515-0530	0	0	0	0
0530-0545	2	0	0	0
0545-0600	0	0	0	0

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	1	0	0	0
0415-0430	3	0	0	0
0430-0445	0	0	0	0
0445-0500	1	0	0	0
0500-0515	0	0	0	0
0515-0530	0	0	0	0
0530-0545	1	0	0	0
0545-0600	0	0	0	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	3	0	0	0	3
0415-0515	3	0	0	0	3
0430-0530	2	0	0	0	2
0445-0545	3	0	0	0	3
0500-0600	2	0	0	0	2

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	5	0	0	0	5
0415-0515	4	0	0	0	4
0430-0530	1	0	0	0	1
0445-0545	2	0	0	0	2
0500-0600	1	0	0	0	1

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PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: WEDNESDAY, MAY 22, 2024

PERIOD: 07:00 AM TO 09:00 AM

INTERSECTION: MOUNT OLIVE DRIVE / I-210 & I-605 RAMPS / HUNTINGTON DRIVE

FILE: 7AMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	1	0	0
0715-0730	0	0	0	0
0730-0745	0	3	0	0
0745-0800	0	0	0	0
0800-0815	0	3	0	1
0815-0830	1	1	0	0
0830-0845	0	3	0	0
0845-0900	3	0	0	2

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0700-0715	0	1	0	0
0715-0730	0	0	0	0
0730-0745	0	1	0	0
0745-0800	1	0	1	0
0800-0815	1	0	0	0
0815-0830	0	0	0	0
0830-0845	0	0	0	0
0845-0900	0	0	0	0

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	0	4	0	0	4
0715-0815	0	6	0	1	7
0730-0830	1	7	0	1	9
0745-0845	1	7	0	1	9
0800-0900	4	7	0	3	14

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0700-0800	1	2	1	0	4
0715-0815	2	1	1	0	4
0730-0830	2	1	1	0	4
0745-0845	2	0	1	0	3
0800-0900	1	0	0	0	1

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PEDESTRIAN - BICYCLE COUNT SUMMARY

CLIENT: LLG - PASADENA

PROJECT: WESTMINSTER GARDENS SPECIFIC PLAN - CITY OF DUARTE

DATE: WEDNESDAY, MAY 22, 2024

PERIOD: 04:00 PM TO 06:00 PM

INTERSECTION: MOUNT OLIVE DRIVE / I-210 & I-605 RAMPS / HUNTINGTON DRIVE

FILE: 7PMPED-BIKE

	PEDESTRIAN MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	1	0	0	0
0415-0430	0	0	0	0
0430-0445	0	1	4	2
0445-0500	2	2	0	0
0500-0515	0	0	0	1
0515-0530	2	2	0	1
0530-0545	1	0	1	1
0545-0600	1	0	0	0

	BICYCLIST MOVEMENTS			
15-MINUTE PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D
0400-0415	1	0	0	0
0415-0430	0	0	1	0
0430-0445	0	0	1	0
0445-0500	1	0	0	0
0500-0515	0	0	0	0
0515-0530	0	0	0	0
0530-0545	1	0	0	0
0545-0600	0	0	0	1

	PEDESTRIAN MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	3	3	4	2	12
0415-0515	2	3	4	3	12
0430-0530	4	5	4	4	17
0445-0545	5	4	1	3	13
0500-0600	4	2	1	3	10

	BICYCLIST MOVEMENTS				
1-HOUR PERIOD	NORTH LEG A	EAST LEG B	SOUTH LEG C	WEST LEG D	TOTALS
0400-0500	2	0	2	0	4
0415-0515	1	0	2	0	3
0430-0530	1	0	1	0	2
0445-0545	2	0	0	0	2
0500-0600	1	0	0	1	2

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APPENDIX C

SGVCOG VMT ESTIMATION TOOL WORKSHEETS

SGVCOG VMT Evaluation Tool Report

Project Details

Timestamp of Analysis	September 04, 2025, 12:19:57 PM
Project Name	Westminster Gardens
Project Description	Specific Plan Amendment

Proximity Transit Screening

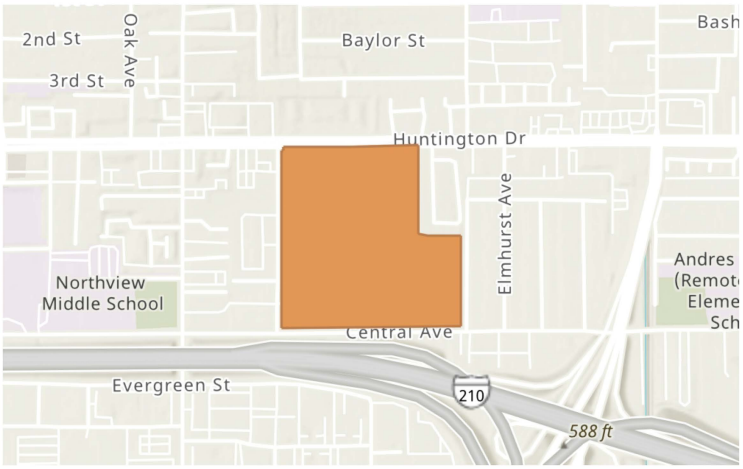
Inside a transit priority area? Yes

Project Location Map

jurisdiction:

Duarte

APN	TAZ
8529014028	22255400
8529014025	22255400
8529014029	22255400
8529014026	22255400



Analysis Details

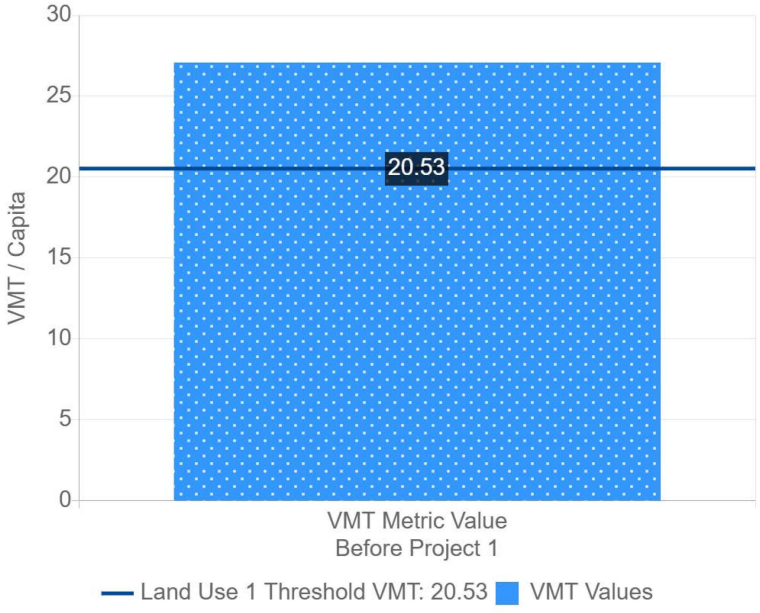
Data Version	SCAG Regional Travel Demand Model 2024
Analysis Methodology	TAZ
Target Baseline Year	2025

SGVCOG VMT Evaluation Tool Report

Residential Vehicle Miles Traveled (VMT) Screening Results

Land Use Type	Residential
VMT Metric	Home-Based VMT per Capita
VMT Baseline Description	City
VMT Baseline Value	24.15
VMT Threshold Description / Threshold Value	-15% / 20.53

Summary	Baseline Conditions
Project Generated Vehicle Miles Traveled (VMT) Rate	27.08
Screening Results	Yes (Pass)



APPENDIX D

HCM LEVELS OF SERVICE EXPLANATION
HCM DATA WORKSHEETS – WEEKDAY AM AND PM PEAK HOURS

LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

In the *Highway Capacity Manual (HCM)*, published by the Transportation Research Board, 2022, level of service for signalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and increased travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions: in the absence of traffic control, in the absence of geometric delay, in the absence of incidents, and when there are no other vehicles on the road. Only the portion of total delay attributed to the control facility is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Level of Service criteria for traffic signals are stated in terms of the average control delay per vehicle. Delay is a complex measure and is dependent on a number of variables, including the quality of progression, the cycle length, the green ratio, and the *v/c* ratio for the lane group in question.

Level of Service Criteria for Signalized Intersections

Level of Service	Control Delay (Sec/Veh)
A	≤ 10
B	> 10 and ≤ 20
C	> 20 and ≤ 35
D	> 35 and ≤ 55
E	> 55 and ≤ 80
F	> 80

Level of Service (LOS) values are used to describe intersection operations with service levels varying from LOS A (free flow) to LOS F (jammed condition). The following descriptions summarize *HCM* criteria for each level of service:

LOS A describes operations with very low control delay, up to 10 seconds per vehicle. This level of service occurs when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all. Short cycle lengths may also contribute to low delay values.

LOS B describes operations with control delay greater than 10 and up to 20 seconds per vehicle. This level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of delay.

LOS C describes operations with control delay greater than 20 and up to 35 seconds per vehicle. These higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is significant at this level, though many still pass through the intersection without stopping.

LOS D describes operations with control delay greater than 35 and up to 55 seconds per vehicle. At LOS D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high *v/c* ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.

LOS E describes operations with control delay greater than 55 and up to 80 seconds per vehicle. This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high *v/c* ratios. Individual cycle failures are frequent occurrences.

LOS F describes operations with control delay in excess of 80 seconds per vehicle. This level, considered to be unacceptable to most drivers, often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the lane groups. It may also occur at high *v/c* ratios with many individual cycle failures. Poor progression and long cycle lengths may also be major contributing factors to such delay levels.

LEVEL OF SERVICE FOR UNSIGNALIZED INTERSECTIONS

In the *Highway Capacity Manual (HCM)*, published by the Transportation Research Board, 2022, level of service for unsignalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, fuel consumption, and lost travel time. The delay experienced by a motorist is made up of a number of factors that relate to control, geometrics, traffic, and incidents. Total delay is the difference between the travel time actually experienced and the reference travel time that would result during base conditions, in the absence of incidents, control, traffic, or geometric delay. Only the portion of total delay attributed to the traffic control measures, either traffic signals or stop signs, is quantified. This delay is called *control delay*. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay.

Level of Service criteria for unsignalized intersections are stated in terms of the average control delay per vehicle. The level of service is determined by the computed or measured control delay and is defined for each minor movement. Average control delay for any particular minor movement is a function of the service time for the approach and the degree of utilization. (Level of service is not defined for the intersection as a whole for two-way stop controlled intersections.)

Level of Service Criteria for TWSC/AWSC Intersections

Level of Service	Average Control Delay (Sec/Veh)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Level of Service (LOS) values are used to describe intersection operations with service levels varying from LOS A (free flow) to LOS F (jammed condition). The following descriptions summarize *HCM* criteria for each level of service:

LOS A describes operations with very low control delay, up to 10 seconds per vehicle.

LOS B describes operations with control delay greater than 10 and up to 15 seconds per vehicle.

LOS C describes operations with control delay greater than 15 and up to 25 seconds per vehicle.

LOS D describes operations with control delay greater than 25 and up to 35 seconds per vehicle.

LOS E describes operations with control delay greater than 35 and up to 50 seconds per vehicle.

LOS F describes operations with control delay in excess of 50 seconds per vehicle. For two-way stop controlled intersections, LOS F exists when there are insufficient gaps of suitable size to allow side-street demand to safely cross through a major-street traffic stream. This level of service is generally evident from extremely long control delays experienced by side-street traffic and by queuing on the minor-street approaches.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	17	304	124	302	989	67	72	50	160	69	88	35
Future Volume (veh/h)	17	304	124	302	989	67	72	50	160	69	88	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	18	330	135	328	1075	73	78	54	174	75	96	38
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	60	1589	709	304	2090	932	208	247	220	136	260	98
Arrive On Green	0.03	0.45	0.45	0.17	0.59	0.59	0.12	0.14	0.14	0.08	0.10	0.10
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1777	1585	1781	2525	951
Grp Volume(v), veh/h	18	330	135	328	1075	73	78	54	174	75	66	68
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1699
Q Serve(g_s), s	1.2	6.8	6.2	20.5	21.4	2.4	4.9	3.2	12.7	4.9	4.2	4.5
Cycle Q Clear(g_c), s	1.2	6.8	6.2	20.5	21.4	2.4	4.9	3.2	12.7	4.9	4.2	4.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	60	1589	709	304	2090	932	208	247	220	136	183	175
V/C Ratio(X)	0.30	0.21	0.19	1.08	0.51	0.08	0.38	0.22	0.79	0.55	0.36	0.39
Avail Cap(c_a), veh/h	238	1589	709	304	2090	932	208	496	442	245	540	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.99	0.99	0.99	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.6	20.2	20.0	49.7	14.6	10.7	49.0	45.9	50.0	53.4	50.2	50.3
Incr Delay (d2), s/veh	1.0	0.3	0.6	73.9	0.9	0.2	5.1	0.7	10.2	1.3	2.1	2.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	5.1	4.3	22.4	13.0	1.5	4.4	2.7	9.5	4.0	3.5	3.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.6	20.5	20.6	123.6	15.5	10.8	54.0	46.6	60.2	54.7	52.2	52.7
LnGrp LOS	E	C	C	F	B	B	D	D	E	D	D	D
Approach Vol, veh/h		483			1476			306			209	
Approach Delay, s/veh		21.9			39.3			56.2			53.3	
Approach LOS		C			D			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.1	76.1	13.7	22.2	25.0	59.2	18.0	17.8
Change Period (Y+Rc), s	4.0	5.5	4.5	5.5	4.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	34.5	16.5	33.5	20.5	29.5	14.0	36.5
Max Q Clear Time (g_c+I1), s	3.2	23.4	6.9	14.7	22.5	8.8	6.9	6.5
Green Ext Time (p_c), s	0.0	6.8	0.0	1.9	0.0	3.4	0.0	1.2

Intersection Summary	
HCM 7th Control Delay, s/veh	39.2
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	71	77	76	149	126	30	44	137	54	48	315	80
Future Volume (veh/h)	71	77	76	149	126	30	44	137	54	48	315	80
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	77	84	83	162	137	33	48	149	59	52	342	87
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	482	345	341	481	583	140	268	843	355	190	1198	300
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1215	864	853	1218	1456	351	437	1686	709	294	2396	601
Grp Volume(v), veh/h	77	0	167	162	0	170	125	0	131	250	0	231
Grp Sat Flow(s),veh/h/ln	1215	0	1717	1218	0	1807	1258	0	1574	1696	0	1594
Q Serve(g_s), s	4.5	0.0	6.5	10.2	0.0	6.2	1.0	0.0	4.5	0.1	0.0	8.5
Cycle Q Clear(g_c), s	10.7	0.0	6.5	16.7	0.0	6.2	9.5	0.0	4.5	7.7	0.0	8.5
Prop In Lane	1.00		0.50	1.00		0.19	0.38		0.45	0.21		0.38
Lane Grp Cap(c), veh/h	482	0	687	481	0	723	679	0	787	892	0	797
V/C Ratio(X)	0.16	0.00	0.24	0.34	0.00	0.24	0.18	0.00	0.17	0.28	0.00	0.29
Avail Cap(c_a), veh/h	482	0	687	481	0	723	679	0	787	892	0	797
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.84	0.00	0.84
Uniform Delay (d), s/veh	23.4	0.0	19.9	25.5	0.0	19.9	13.9	0.0	13.6	14.4	0.0	14.6
Incr Delay (d2), s/veh	0.7	0.0	0.8	1.9	0.0	0.8	0.6	0.0	0.5	0.7	0.0	0.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.5	0.0	4.9	5.5	0.0	4.8	2.8	0.0	2.9	5.9	0.0	5.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.1	0.0	20.8	27.4	0.0	20.6	14.5	0.0	14.1	15.1	0.0	15.4
LnGrp LOS	C		C	C		C	B		B	B		B
Approach Vol, veh/h		244			332			256			481	
Approach Delay, s/veh		21.8			23.9			14.3			15.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	55.0	45.0	55.0	45.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	50.0	40.0	50.0	40.0
Max Q Clear Time (g_c+I1), s	11.5	12.7	10.5	18.7
Green Ext Time (p_c), s	2.4	1.9	4.6	2.1

Intersection Summary	
HCM 7th Control Delay, s/veh	18.5
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	514	19	50	1343	0	3	0	27	0	0	0
Future Vol, veh/h	0	514	19	50	1343	0	3	0	27	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	559	21	54	1460	0	3	0	29	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1460	0	0	579	0	0	1408	2138	290	1848	2148	730
Stage 1	-	-	-	-	-	-	569	569	-	1568	1568	-
Stage 2	-	-	-	-	-	-	839	1568	-	279	579	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	459	-	-	991	-	-	99	48	707	46	48	365
Stage 1	-	-	-	-	-	-	474	504	-	116	170	-
Stage 2	-	-	-	-	-	-	327	170	-	704	499	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	459	-	-	991	-	-	93	46	707	42	45	365
Mov Cap-2 Maneuver	-	-	-	-	-	-	93	46	-	42	45	-
Stage 1	-	-	-	-	-	-	474	504	-	109	161	-
Stage 2	-	-	-	-	-	-	309	161	-	674	499	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.32	14.14	0
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	426	459	-	-	991	-	-	-
HCM Lane V/C Ratio	0.076	-	-	-	0.055	-	-	-
HCM Control Delay (s/veh)	14.1	0	-	-	8.8	-	-	0
HCM Lane LOS	B	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.2	0	-	-	0.2	-	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	32	145	226	5	3	82
Future Vol, veh/h	32	145	226	5	3	82
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	35	158	246	5	3	89

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	251	0	-	0	476	248
Stage 1	-	-	-	-	248	-
Stage 2	-	-	-	-	227	-
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	-	-	-	548	790
Stage 1	-	-	-	-	793	-
Stage 2	-	-	-	-	811	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1314	-	-	-	532	790
Mov Cap-2 Maneuver	-	-	-	-	532	-
Stage 1	-	-	-	-	770	-
Stage 2	-	-	-	-	811	-

Approach	EB	WB	SB
HCM Control Delay, s/v	1.41	0	10.26
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	325	-	-	-	777
HCM Lane V/C Ratio	0.026	-	-	-	0.119
HCM Control Delay (s/veh)	7.8	0	-	-	10.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	22	990	63	75	492	57	88	55	246	84	54	36
Future Volume (veh/h)	22	990	63	75	492	57	88	55	246	84	54	36
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	24	1076	68	82	535	62	96	60	267	91	59	39
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	74	1725	769	125	1842	822	208	353	315	141	352	213
Arrive On Green	0.04	0.49	0.49	0.07	0.52	0.52	0.12	0.20	0.20	0.08	0.17	0.17
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1777	1585	1781	2127	1288
Grp Volume(v), veh/h	24	1076	68	82	535	62	96	60	267	91	48	50
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1638
Q Serve(g_s), s	1.6	26.8	2.8	5.4	10.2	2.4	6.0	3.4	19.5	5.9	2.8	3.1
Cycle Q Clear(g_c), s	1.6	26.8	2.8	5.4	10.2	2.4	6.0	3.4	19.5	5.9	2.8	3.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.79
Lane Grp Cap(c), veh/h	74	1725	769	125	1842	822	208	353	315	141	294	271
V/C Ratio(X)	0.33	0.62	0.09	0.66	0.29	0.08	0.46	0.17	0.85	0.64	0.16	0.18
Avail Cap(c_a), veh/h	238	1725	769	230	1842	822	208	496	442	245	540	498
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.97	0.97	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.9	22.8	16.6	54.4	16.4	14.5	49.5	39.9	46.4	53.6	43.0	43.1
Incr Delay (d2), s/veh	0.9	1.7	0.2	4.3	0.4	0.2	7.0	0.4	13.1	1.8	0.4	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	16.5	1.9	4.5	7.4	1.6	5.5	2.7	13.5	4.9	2.3	2.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.8	24.5	16.8	58.7	16.8	14.7	56.5	40.3	59.4	55.4	43.4	43.7
LnGrp LOS	E	C	B	E	B	B	E	D	E	E	D	D
Approach Vol, veh/h		1168			679			423			189	
Approach Delay, s/veh		24.7			21.6			56.0			49.3	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.0	67.7	14.0	29.3	12.9	63.7	18.0	25.3
Change Period (Y+Rc), s	4.0	5.5	4.5	5.5	4.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	29.5	16.5	33.5	15.5	34.5	14.0	36.5
Max Q Clear Time (g_c+I1), s	3.6	12.2	7.9	21.5	7.4	28.8	8.0	5.1
Green Ext Time (p_c), s	0.0	4.5	0.0	2.3	0.1	3.9	0.0	0.8

Intersection Summary	
HCM 7th Control Delay, s/veh	31.1
HCM 7th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	46	118	28	52	63	20	24	255	181	23	101	64
Future Volume (veh/h)	46	118	28	52	63	20	24	255	181	23	101	64
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	50	128	30	57	68	22	26	277	197	25	110	70
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	553	586	137	493	541	175	94	947	639	191	815	527
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1307	1465	343	1228	1354	438	110	1893	1278	293	1629	1055
Grp Volume(v), veh/h	50	0	158	57	0	90	273	0	227	105	0	100
Grp Sat Flow(s),veh/h/ln	1307	0	1809	1228	0	1792	1809	0	1472	1465	0	1512
Q Serve(g_s), s	2.5	0.0	5.7	3.2	0.0	3.2	0.0	0.0	9.1	0.2	0.0	3.6
Cycle Q Clear(g_c), s	5.7	0.0	5.7	8.9	0.0	3.2	8.6	0.0	9.1	9.3	0.0	3.6
Prop In Lane	1.00		0.19	1.00		0.24	0.10		0.87	0.24		0.70
Lane Grp Cap(c), veh/h	553	0	723	493	0	717	944	0	736	777	0	756
V/C Ratio(X)	0.09	0.00	0.22	0.12	0.00	0.13	0.29	0.00	0.31	0.13	0.00	0.13
Avail Cap(c_a), veh/h	553	0	723	493	0	717	944	0	736	777	0	756
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.98	0.00	0.98
Uniform Delay (d), s/veh	20.7	0.0	19.7	22.7	0.0	19.0	14.6	0.0	14.8	13.3	0.0	13.4
Incr Delay (d2), s/veh	0.3	0.0	0.7	0.5	0.0	0.4	0.8	0.0	1.1	0.4	0.0	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.5	0.0	4.6	1.7	0.0	2.4	6.6	0.0	5.6	2.3	0.0	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.1	0.0	20.4	23.1	0.0	19.3	15.4	0.0	15.9	13.6	0.0	13.7
LnGrp LOS	C		C	C		B	B		B	B		B
Approach Vol, veh/h		208			147			500			205	
Approach Delay, s/veh		20.6			20.8			15.6			13.7	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	55.0	45.0	55.0	45.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	50.0	40.0	50.0	40.0
Max Q Clear Time (g_c+I1), s	11.1	7.7	11.3	10.9
Green Ext Time (p_c), s	4.9	1.7	1.9	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	16.9
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1364	21	23	615	0	4	0	28	0	0	0
Future Vol, veh/h	0	1364	21	23	615	0	4	0	28	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1483	23	25	668	0	4	0	30	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	668	0	0	1505	0	0	1878	2212	753	1460	2224	334
Stage 1	-	-	-	-	-	-	1494	1494	-	718	718	-
Stage 2	-	-	-	-	-	-	384	718	-	741	1505	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	917	-	-	441	-	-	44	43	352	90	43	662
Stage 1	-	-	-	-	-	-	129	185	-	386	431	-
Stage 2	-	-	-	-	-	-	610	431	-	374	182	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	917	-	-	441	-	-	41	41	352	78	40	662
Mov Cap-2 Maneuver	-	-	-	-	-	-	41	41	-	78	40	-
Stage 1	-	-	-	-	-	-	129	185	-	364	407	-
Stage 2	-	-	-	-	-	-	576	407	-	342	182	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.49	29.5	0
HCM LOS			D	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	181	917	-	-	441	-	-	-
HCM Lane V/C Ratio	0.192	-	-	-	0.057	-	-	-
HCM Control Delay (s/veh)	29.5	0	-	-	13.7	-	-	0
HCM Lane LOS	D	A	-	-	B	-	-	A
HCM 95th %tile Q(veh)	0.7	0	-	-	0.2	-	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	34	285	95	3	6	40
Future Vol, veh/h	34	285	95	3	6	40
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	37	310	103	3	7	43

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	107	0	-	0	489	105
Stage 1	-	-	-	-	105	-
Stage 2	-	-	-	-	384	-
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	1484	-	-	-	538	950
Stage 1	-	-	-	-	919	-
Stage 2	-	-	-	-	689	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1484	-	-	-	522	950
Mov Cap-2 Maneuver	-	-	-	-	522	-
Stage 1	-	-	-	-	892	-
Stage 2	-	-	-	-	689	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.8	0	9.46
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	192	-	-	-	858
HCM Lane V/C Ratio	0.025	-	-	-	0.058
HCM Control Delay (s/veh)	7.5	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	385	142	396	1126	74	88	57	190	72	97	38
Future Volume (veh/h)	18	385	142	396	1126	74	88	57	190	72	97	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	19	405	149	417	1185	78	93	60	200	76	102	40
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	63	1526	681	304	2023	902	208	278	248	137	305	114
Arrive On Green	0.04	0.43	0.43	0.17	0.57	0.57	0.12	0.16	0.16	0.08	0.12	0.12
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1777	1585	1781	2531	946
Grp Volume(v), veh/h	19	405	149	417	1185	78	93	60	200	76	70	72
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1700
Q Serve(g_s), s	1.2	8.8	7.1	20.5	25.9	2.7	5.8	3.5	14.6	4.9	4.3	4.7
Cycle Q Clear(g_c), s	1.2	8.8	7.1	20.5	25.9	2.7	5.8	3.5	14.6	4.9	4.3	4.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	63	1526	681	304	2023	902	208	278	248	137	214	205
V/C Ratio(X)	0.30	0.27	0.22	1.37	0.59	0.09	0.45	0.22	0.81	0.56	0.33	0.35
Avail Cap(c_a), veh/h	238	1526	681	304	2023	902	208	496	442	245	540	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.5	22.0	21.6	49.7	16.7	11.7	49.4	44.2	48.9	53.4	48.3	48.5
Incr Delay (d2), s/veh	1.0	0.4	0.7	186.2	1.2	0.2	6.7	0.6	9.9	1.3	1.5	1.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	6.6	5.0	37.7	15.4	1.7	5.3	2.9	10.5	4.0	3.6	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.4	22.5	22.3	236.0	18.0	11.9	56.1	44.8	58.8	54.7	49.8	50.2
LnGrp LOS	E	C	C	F	B	B	E	D	E	D	D	D
Approach Vol, veh/h		573			1680			353			218	
Approach Delay, s/veh		23.6			71.8			55.7			51.7	
Approach LOS		C			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.2	73.8	13.7	24.3	25.0	57.0	18.0	20.0
Change Period (Y+Rc), s	4.0	5.5	4.5	5.5	4.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	6.0	34.5	16.5	33.5	20.5	29.5	14.0	36.5
Max Q Clear Time (g_c+I1), s	3.2	27.9	6.9	16.6	22.5	10.8	7.8	6.7
Green Ext Time (p_c), s	0.0	4.8	0.0	2.1	0.0	4.0	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	58.4
HCM 7th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	78	162	164	136	34	74	171	57	51	414	95
Future Volume (veh/h)	82	78	162	164	136	34	74	171	57	51	414	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	86	82	171	173	143	36	78	180	60	54	436	100
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	474	216	451	402	577	145	301	763	276	163	1255	283
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1205	540	1127	1127	1442	363	491	1527	551	241	2510	566
Grp Volume(v), veh/h	86	0	253	173	0	179	144	0	174	307	0	283
Grp Sat Flow(s),veh/h/ln	1205	0	1667	1127	0	1805	966	0	1603	1716	0	1600
Q Serve(g_s), s	5.1	0.0	10.7	12.8	0.0	6.6	5.5	0.0	6.1	0.6	0.0	10.7
Cycle Q Clear(g_c), s	11.7	0.0	10.7	23.6	0.0	6.6	16.3	0.0	6.1	9.9	0.0	10.7
Prop In Lane	1.00		0.68	1.00		0.20	0.54		0.34	0.18		0.35
Lane Grp Cap(c), veh/h	474	0	667	402	0	722	539	0	801	900	0	800
V/C Ratio(X)	0.18	0.00	0.38	0.43	0.00	0.25	0.27	0.00	0.22	0.34	0.00	0.35
Avail Cap(c_a), veh/h	474	0	667	402	0	722	539	0	801	900	0	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.82	0.00	0.82
Uniform Delay (d), s/veh	23.9	0.0	21.2	29.6	0.0	20.0	17.4	0.0	14.0	15.0	0.0	15.2
Incr Delay (d2), s/veh	0.8	0.0	1.6	3.3	0.0	0.8	1.2	0.0	0.6	0.8	0.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.8	0.0	7.9	6.7	0.0	5.0	4.2	0.0	4.0	7.2	0.0	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	24.7	0.0	22.9	32.9	0.0	20.8	18.6	0.0	14.7	15.8	0.0	16.2
LnGrp LOS	C		C	C		C	B		B	B		B
Approach Vol, veh/h		339			352			318			590	
Approach Delay, s/veh		23.3			26.7			16.4			16.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	55.0	45.0	55.0	45.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	50.0	40.0	50.0	40.0
Max Q Clear Time (g_c+I1), s	18.3	13.7	12.7	25.6
Green Ext Time (p_c), s	3.1	2.9	5.8	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	20.0
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	629	20	55	1579	0	4	0	31	0	0	0
Future Vol, veh/h	0	629	20	55	1579	0	4	0	31	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	662	21	58	1662	0	4	0	33	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1662	0	0	683	0	0	1619	2451	342	2109	2461	831
Stage 1	-	-	-	-	-	-	673	673	-	1778	1778	-
Stage 2	-	-	-	-	-	-	947	1778	-	331	683	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	383	-	-	906	-	-	69	31	654	29	30	313
Stage 1	-	-	-	-	-	-	411	452	-	85	134	-
Stage 2	-	-	-	-	-	-	281	134	-	656	447	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	383	-	-	906	-	-	64	29	654	26	28	313
Mov Cap-2 Maneuver	-	-	-	-	-	-	64	29	-	26	28	-
Stage 1	-	-	-	-	-	-	411	452	-	80	125	-
Stage 2	-	-	-	-	-	-	263	125	-	623	447	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.31	17.75	0
HCM LOS			C	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	319	383	-	-	906	-	-	-
HCM Lane V/C Ratio	0.115	-	-	-	0.064	-	-	-
HCM Control Delay (s/veh)	17.8	0	-	-	9.2	-	-	0
HCM Lane LOS	C	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	0.4	0	-	-	0.2	-	-	-

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	35	149	248	5	3	90
Future Vol, veh/h	35	149	248	5	3	90
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	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	37	157	261	5	3	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	266	0	-	0	494	264
Stage 1	-	-	-	-	264	-
Stage 2	-	-	-	-	231	-
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	1298	-	-	-	534	775
Stage 1	-	-	-	-	780	-
Stage 2	-	-	-	-	808	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1298	-	-	-	518	775
Mov Cap-2 Maneuver	-	-	-	-	518	-
Stage 1	-	-	-	-	756	-
Stage 2	-	-	-	-	808	-

Approach	EB	WB	SB
HCM Control Delay, s/v	1.49	0	10.41
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	342	-	-	-	763
HCM Lane V/C Ratio	0.028	-	-	-	0.128
HCM Control Delay (s/veh)	7.9	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.4



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1197	87	99	761	63	114	61	327	91	62	39
Future Volume (veh/h)	24	1197	87	99	761	63	114	61	327	91	62	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	25	1260	92	104	801	66	120	64	344	96	65	41
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	76	1557	694	130	1679	749	208	431	384	142	454	264
Arrive On Green	0.04	0.44	0.44	0.07	0.47	0.47	0.12	0.24	0.24	0.08	0.21	0.21
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1777	1585	1781	2164	1257
Grp Volume(v), veh/h	25	1260	92	104	801	66	120	64	344	96	52	54
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1644
Q Serve(g_s), s	1.6	37.0	4.2	6.9	18.4	2.7	7.7	3.4	25.2	6.3	2.9	3.2
Cycle Q Clear(g_c), s	1.6	37.0	4.2	6.9	18.4	2.7	7.7	3.4	25.2	6.3	2.9	3.2
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	76	1557	694	130	1679	749	208	431	384	142	373	345
V/C Ratio(X)	0.33	0.81	0.13	0.80	0.48	0.09	0.58	0.15	0.89	0.67	0.14	0.16
Avail Cap(c_a), veh/h	238	1557	694	304	1679	749	208	496	442	245	540	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.94	0.94	0.94	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.8	29.4	20.1	54.8	21.5	17.4	50.2	35.7	44.0	53.7	38.6	38.7
Incr Delay (d2), s/veh	0.9	4.7	0.4	8.2	1.0	0.2	10.5	0.3	19.2	2.1	0.3	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.3	22.6	2.9	6.0	12.1	1.9	7.2	2.7	17.2	5.2	2.3	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.7	34.0	20.5	63.0	22.5	17.6	60.7	36.0	63.1	55.7	38.9	39.1
LnGrp LOS	E	C	C	E	C	B	E	D	E	E	D	D
Approach Vol, veh/h		1377			971			528			202	
Approach Delay, s/veh		33.5			26.5			59.3			46.9	
Approach LOS		C			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.1	62.2	14.1	34.6	13.2	58.1	18.0	30.7
Change Period (Y+Rc), s	4.0	5.5	4.5	5.5	4.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	34.5	16.5	33.5	20.5	29.5	14.0	36.5
Max Q Clear Time (g_c+I1), s	3.6	20.4	8.3	27.2	8.9	39.0	9.7	5.2
Green Ext Time (p_c), s	0.0	6.1	0.0	1.9	0.1	0.0	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	36.6
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	128	66	57	68	21	40	343	199	29	133	81
Future Volume (veh/h)	69	128	66	57	68	21	40	343	199	29	133	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	73	135	69	60	72	22	42	361	209	31	140	85
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	550	467	239	451	550	168	121	997	558	180	794	503
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1302	1167	596	1178	1375	420	162	1995	1115	270	1587	1006
Grp Volume(v), veh/h	73	0	204	60	0	94	331	0	281	127	0	129
Grp Sat Flow(s),veh/h/ln	1302	0	1763	1178	0	1795	1770	0	1501	1342	0	1521
Q Serve(g_s), s	3.8	0.0	7.9	3.6	0.0	3.3	0.0	0.0	11.5	0.5	0.0	4.6
Cycle Q Clear(g_c), s	7.1	0.0	7.9	11.5	0.0	3.3	10.7	0.0	11.5	12.0	0.0	4.6
Prop In Lane	1.00		0.34	1.00		0.23	0.13		0.74	0.24		0.66
Lane Grp Cap(c), veh/h	550	0	705	451	0	718	926	0	751	716	0	760
V/C Ratio(X)	0.13	0.00	0.29	0.13	0.00	0.13	0.36	0.00	0.37	0.18	0.00	0.17
Avail Cap(c_a), veh/h	550	0	705	451	0	718	926	0	751	716	0	760
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.00	0.96
Uniform Delay (d), s/veh	21.2	0.0	20.4	24.3	0.0	19.0	15.2	0.0	15.4	13.6	0.0	13.7
Incr Delay (d2), s/veh	0.5	0.0	1.0	0.6	0.0	0.4	1.1	0.0	1.4	0.5	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.2	0.0	6.2	1.9	0.0	2.5	8.1	0.0	7.2	2.8	0.0	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.7	0.0	21.4	24.9	0.0	19.4	16.3	0.0	16.8	14.1	0.0	14.1
LnGrp LOS	C		C	C		B	B		B	B		B
Approach Vol, veh/h		277			154			612			256	
Approach Delay, s/veh		21.5			21.5			16.5			14.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	55.0	45.0	55.0	45.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	50.0	40.0	50.0	40.0
Max Q Clear Time (g_c+I1), s	13.5	9.9	14.0	13.5
Green Ext Time (p_c), s	6.2	2.3	2.4	1.0

Intersection Summary	
HCM 7th Control Delay, s/veh	17.7
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1663	24	27	913	0	4	0	31	0	0	0
Future Vol, veh/h	0	1663	24	27	913	0	4	0	31	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1751	25	28	961	0	4	0	33	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	961	0	0	1776	0	0	2301	2781	888	1893	2794	481
Stage 1	-	-	-	-	-	-	1763	1763	-	1018	1018	-
Stage 2	-	-	-	-	-	-	537	1018	-	875	1776	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	712	-	-	346	-	-	21	19	287	43	18	532
Stage 1	-	-	-	-	-	-	87	136	-	254	313	-
Stage 2	-	-	-	-	-	-	495	313	-	310	134	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	712	-	-	346	-	-	19	17	287	35	17	532
Mov Cap-2 Maneuver	-	-	-	-	-	-	19	17	-	35	17	-
Stage 1	-	-	-	-	-	-	87	136	-	233	287	-
Stage 2	-	-	-	-	-	-	455	287	-	275	134	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.47	53.31	0
HCM LOS			F	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	110	712	-	-	346	-	-	-
HCM Lane V/C Ratio	0.335	-	-	-	0.082	-	-	-
HCM Control Delay (s/veh)	53.3	0	-	-	16.3	-	-	0
HCM Lane LOS	F	A	-	-	C	-	-	A
HCM 95th %tile Q(veh)	1.3	0	-	-	0.3	-	-	-

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	38	315	108	3	6	44
Future Vol, veh/h	38	315	108	3	6	44
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	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	40	332	114	3	6	46

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	117	0	-	0	527	115
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	412	-
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	1472	-	-	-	512	937
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	669	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1472	-	-	-	495	937
Mov Cap-2 Maneuver	-	-	-	-	495	-
Stage 1	-	-	-	-	879	-
Stage 2	-	-	-	-	669	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.81	0	9.54
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	194	-	-	-	846
HCM Lane V/C Ratio	0.027	-	-	-	0.062
HCM Control Delay (s/veh)	7.5	0	-	-	9.5
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.2



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	400	142	396	1146	74	88	57	190	72	97	38
Future Volume (veh/h)	18	400	142	396	1146	74	88	57	190	72	97	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	435	154	430	1246	80	96	62	207	78	105	41
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	1508	673	304	2000	892	208	286	255	137	318	119
Arrive On Green	0.04	0.42	0.42	0.17	0.56	0.56	0.12	0.16	0.16	0.08	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1777	1585	1781	2534	944
Grp Volume(v), veh/h	20	435	154	430	1246	80	96	62	207	78	72	74
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1700
Q Serve(g_s), s	1.3	9.6	7.4	20.5	28.3	2.8	6.0	3.6	15.1	5.1	4.4	4.8
Cycle Q Clear(g_c), s	1.3	9.6	7.4	20.5	28.3	2.8	6.0	3.6	15.1	5.1	4.4	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	65	1508	673	304	2000	892	208	286	255	137	223	214
V/C Ratio(X)	0.31	0.29	0.23	1.41	0.62	0.09	0.46	0.22	0.81	0.57	0.32	0.35
Avail Cap(c_a), veh/h	238	1508	673	304	2000	892	208	496	442	245	540	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	22.7	22.0	49.7	17.7	12.1	49.5	43.8	48.6	53.4	47.8	48.0
Incr Delay (d2), s/veh	1.0	0.5	0.8	204.3	1.5	0.2	7.1	0.6	9.9	1.4	1.4	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	7.2	5.2	40.1	16.7	1.8	5.5	3.0	10.8	4.2	3.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.3	23.1	22.8	254.0	19.1	12.3	56.6	44.4	58.4	54.8	49.2	49.6
LnGrp LOS	E	C	C	F	B	B	E	D	E	D	D	D
Approach Vol, veh/h		609			1756			365			224	
Approach Delay, s/veh		24.2			76.3			55.6			51.3	
Approach LOS		C			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	73.0	13.8	24.8	25.0	56.4	18.0	20.6
Change Period (Y+Rc), s	4.0	5.5	4.5	5.5	4.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	6.0	34.5	16.5	33.5	20.5	29.5	14.0	36.5
Max Q Clear Time (g_c+I1), s	3.3	30.3	7.1	17.1	22.5	11.6	8.0	6.8
Green Ext Time (p_c), s	0.0	3.3	0.0	2.2	0.0	4.2	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	61.1
HCM 7th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	104	162	174	171	34	74	171	64	51	414	95
Future Volume (veh/h)	82	104	162	174	171	34	74	171	64	51	414	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	113	176	189	186	37	80	186	70	55	450	103
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	264	411	373	606	121	291	738	302	161	1256	282
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1158	659	1027	1090	1515	301	472	1477	604	237	2512	565
Grp Volume(v), veh/h	89	0	289	189	0	223	151	0	185	316	0	292
Grp Sat Flow(s),veh/h/ln	1158	0	1686	1090	0	1816	959	0	1593	1713	0	1600
Q Serve(g_s), s	5.7	0.0	12.4	15.2	0.0	8.4	5.9	0.0	6.6	0.9	0.0	11.2
Cycle Q Clear(g_c), s	14.1	0.0	12.4	27.6	0.0	8.4	17.1	0.0	6.6	10.3	0.0	11.2
Prop In Lane	1.00		0.61	1.00		0.17	0.53		0.38	0.17		0.35
Lane Grp Cap(c), veh/h	438	0	674	373	0	726	535	0	797	899	0	800
V/C Ratio(X)	0.20	0.00	0.43	0.51	0.00	0.31	0.28	0.00	0.23	0.35	0.00	0.36
Avail Cap(c_a), veh/h	438	0	674	373	0	726	535	0	797	899	0	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.81	0.00	0.81
Uniform Delay (d), s/veh	25.3	0.0	21.7	31.7	0.0	20.5	17.6	0.0	14.1	15.0	0.0	15.3
Incr Delay (d2), s/veh	1.0	0.0	2.0	4.9	0.0	1.1	1.3	0.0	0.7	0.9	0.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	0.0	9.0	7.8	0.0	6.5	4.5	0.0	4.3	7.4	0.0	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.4	0.0	23.7	36.6	0.0	21.6	18.9	0.0	14.8	15.9	0.0	16.3
LnGrp LOS	C		C	D		C	B		B	B		B
Approach Vol, veh/h		378			412			336			608	
Approach Delay, s/veh		24.3			28.5			16.7			16.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	55.0	45.0	55.0	45.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	50.0	40.0	50.0	40.0
Max Q Clear Time (g_c+I1), s	19.1	16.1	13.2	29.6
Green Ext Time (p_c), s	3.3	3.3	6.1	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	21.0
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	629	35	77	1579	0	24	0	61	0	0	0
Future Vol, veh/h	0	629	35	77	1579	0	24	0	61	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	684	38	84	1716	0	26	0	66	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1716	0	0	722	0	0	1728	2586	361	2226	2605	858
Stage 1	-	-	-	-	-	-	703	703	-	1884	1884	-
Stage 2	-	-	-	-	-	-	1026	1884	-	342	722	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	365	-	-	876	-	-	57	25	636	24	24	300
Stage 1	-	-	-	-	-	-	394	438	-	73	118	-
Stage 2	-	-	-	-	-	-	251	118	-	647	430	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	365	-	-	876	-	-	51	23	636	19	22	300
Mov Cap-2 Maneuver	-	-	-	-	-	-	51	23	-	19	22	-
Stage 1	-	-	-	-	-	-	394	438	-	66	107	-
Stage 2	-	-	-	-	-	-	227	107	-	579	430	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.44	60.72	0
HCM LOS			F	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	151	365	-	-	876	-	-	-
HCM Lane V/C Ratio	0.612	-	-	-	0.096	-	-	-
HCM Control Delay (s/veh)	60.7	0	-	-	9.5	-	-	0
HCM Lane LOS	F	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	3.3	0	-	-	0.3	-	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	55	162	275	7	4	108
Future Vol, veh/h	55	162	275	7	4	108
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	60	176	299	8	4	117

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	307	0	-	0	598	303
Stage 1	-	-	-	-	303	-
Stage 2	-	-	-	-	296	-
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	1254	-	-	-	465	737
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1254	-	-	-	440	737
Mov Cap-2 Maneuver	-	-	-	-	440	-
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	SB
HCM Control Delay, s/v	2.03	0	11.02
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	456	-	-	-	720
HCM Lane V/C Ratio	0.048	-	-	-	0.169
HCM Control Delay (s/veh)	8	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

Intersection	
Int Delay, s/veh	2.8

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	33	51	20	29	83
Future Vol, veh/h	14	33	51	20	29	83
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	15	36	55	22	32	90

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	220	66	0	0	77	0
Stage 1	66	-	-	-	-	-
Stage 2	153	-	-	-	-	-
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	769	997	-	-	1521	-
Stage 1	956	-	-	-	-	-
Stage 2	875	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	752	997	-	-	1521	-
Mov Cap-2 Maneuver	752	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	856	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.2	0	1.92
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	909	466	-
HCM Lane V/C Ratio	-	-	0.056	0.021	-
HCM Control Delay (s/veh)	-	-	9.2	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	0	17	0	44	2	8	99	0
Future Vol, veh/h	0	0	0	5	0	17	0	44	2	8	99	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	0	18	0	48	2	9	108	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	173	175	108	174	174	49	108	0	0	50	0	0
Stage 1	125	125	-	49	49	-	-	-	-	-	-	-
Stage 2	48	50	-	125	125	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	790	718	946	789	719	1020	1483	-	-	1557	-	-
Stage 1	879	792	-	964	854	-	-	-	-	-	-	-
Stage 2	966	853	-	879	792	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	771	714	946	784	715	1020	1483	-	-	1557	-	-
Mov Cap-2 Maneuver	771	714	-	784	715	-	-	-	-	-	-	-
Stage 1	874	788	-	964	854	-	-	-	-	-	-	-
Stage 2	948	853	-	874	788	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	8.87	0	0.55
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1483	-	-	-	955	135	-	-
HCM Lane V/C Ratio	-	-	-	-	0.025	0.006	-	-
HCM Control Delay (s/veh)	0	-	-	0	8.9	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	150	248	2	4	27
Future Vol, veh/h	13	150	248	2	4	27
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	14	163	270	2	4	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	272	0	-	0	462	271
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	191	-
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	1292	-	-	-	558	768
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	841	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1292	-	-	-	551	768
Mov Cap-2 Maneuver	-	-	-	-	551	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	841	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.62	0	10.16
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	144	-	-	-	731
HCM Lane V/C Ratio	0.011	-	-	-	0.046
HCM Control Delay (s/veh)	7.8	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1222	87	99	784	63	114	61	327	91	62	39
Future Volume (veh/h)	24	1222	87	99	784	63	114	61	327	91	62	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	1328	95	108	852	68	124	66	355	99	67	42
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1526	681	134	1654	738	208	441	394	143	469	271
Arrive On Green	0.04	0.43	0.43	0.08	0.47	0.47	0.12	0.25	0.25	0.08	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1777	1585	1781	2168	1253
Grp Volume(v), veh/h	26	1328	95	108	852	68	124	66	355	99	54	55
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1645
Q Serve(g_s), s	1.7	40.9	4.4	7.2	20.2	2.9	7.9	3.5	26.0	6.5	2.9	3.3
Cycle Q Clear(g_c), s	1.7	40.9	4.4	7.2	20.2	2.9	7.9	3.5	26.0	6.5	2.9	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	77	1526	681	134	1654	738	208	441	394	143	384	355
V/C Ratio(X)	0.34	0.87	0.14	0.81	0.52	0.09	0.60	0.15	0.90	0.69	0.14	0.16
Avail Cap(c_a), veh/h	238	1526	681	304	1654	738	208	496	442	245	540	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	31.2	20.8	54.6	22.6	17.9	50.3	35.2	43.7	53.7	38.0	38.1
Incr Delay (d2), s/veh	0.9	7.1	0.4	8.2	1.2	0.2	11.2	0.2	20.2	2.2	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.4	25.1	3.0	6.2	13.1	2.0	7.4	2.8	17.8	5.4	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.6	38.2	21.2	62.8	23.7	18.2	61.5	35.5	63.8	56.0	38.3	38.5
LnGrp LOS	E	D	C	E	C	B	E	D	E	E	D	D
Approach Vol, veh/h		1449			1028			545			208	
Approach Delay, s/veh		37.5			27.4			59.9			46.8	
Approach LOS		D			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	61.4	14.1	35.3	13.5	57.0	18.0	31.4
Change Period (Y+Rc), s	4.0	5.5	4.5	5.5	4.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	34.5	16.5	33.5	20.5	29.5	14.0	36.5
Max Q Clear Time (g_c+I1), s	3.7	22.2	8.5	28.0	9.2	42.9	9.9	5.3
Green Ext Time (p_c), s	0.0	6.0	0.0	1.8	0.1	0.0	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	38.6
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	172	66	69	109	21	40	343	212	29	133	81
Future Volume (veh/h)	69	172	66	69	109	21	40	343	212	29	133	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	75	187	72	75	118	23	43	373	230	32	145	88
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	508	514	198	406	608	119	118	975	581	176	782	499
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1248	1286	495	1120	1521	296	155	1950	1161	262	1563	999
Grp Volume(v), veh/h	75	0	259	75	0	141	350	0	296	131	0	134
Grp Sat Flow(s),veh/h/ln	1248	0	1781	1120	0	1817	1773	0	1493	1302	0	1522
Q Serve(g_s), s	4.2	0.0	10.2	5.0	0.0	5.0	0.0	0.0	12.4	0.6	0.0	4.8
Cycle Q Clear(g_c), s	9.2	0.0	10.2	15.2	0.0	5.0	11.5	0.0	12.4	13.0	0.0	4.8
Prop In Lane	1.00		0.28	1.00		0.16	0.12		0.78	0.24		0.66
Lane Grp Cap(c), veh/h	508	0	712	406	0	727	927	0	747	696	0	761
V/C Ratio(X)	0.15	0.00	0.36	0.18	0.00	0.19	0.38	0.00	0.40	0.19	0.00	0.18
Avail Cap(c_a), veh/h	508	0	712	406	0	727	927	0	747	696	0	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.00	0.96
Uniform Delay (d), s/veh	22.5	0.0	21.1	26.4	0.0	19.5	15.4	0.0	15.6	13.7	0.0	13.7
Incr Delay (d2), s/veh	0.6	0.0	1.4	1.0	0.0	0.6	1.2	0.0	1.6	0.6	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	0.0	8.0	2.5	0.0	3.9	8.6	0.0	7.7	2.9	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.1	0.0	22.5	27.4	0.0	20.1	16.6	0.0	17.2	14.2	0.0	14.2
LnGrp LOS	C		C	C		C	B		B	B		B
Approach Vol, veh/h		334			216			646			265	
Approach Delay, s/veh		22.6			22.6			16.8			14.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	55.0	45.0	55.0	45.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	50.0	40.0	50.0	40.0
Max Q Clear Time (g_c+I1), s	14.4	12.2	15.0	17.2
Green Ext Time (p_c), s	6.6	2.8	2.5	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	18.5
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	34.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1663	49	66	913	0	27	0	66	0	0	0
Future Vol, veh/h	0	1663	49	66	913	0	27	0	66	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1808	53	72	992	0	29	0	72	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	992	0	0	1861	0	0	2474	2970	930	2040	2997	496
Stage 1	-	-	-	-	-	-	1834	1834	-	1136	1136	-
Stage 2	-	-	-	-	-	-	640	1136	-	904	1861	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	693	-	-	321	-	-	~ 15	14	269	33	13	519
Stage 1	-	-	-	-	-	-	79	125	-	215	275	-
Stage 2	-	-	-	-	-	-	430	275	-	298	121	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	693	-	-	321	-	-	~ 12	11	269	19	10	519
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 12	11	-	19	10	-
Stage 1	-	-	-	-	-	-	79	125	-	167	214	-
Stage 2	-	-	-	-	-	-	334	214	-	219	121	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	1.31	$ 1019.21	0
HCM LOS			F	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	37	693	-	-	321	-	-	-
HCM Lane V/C Ratio	2.744	-	-	-	0.224	-	-	-
HCM Control Delay (s/veh)	$ 1019.2	0	-	-	19.4	-	-	0
HCM Lane LOS	F	A	-	-	C	-	-	A
HCM 95th %tile Q(veh)	11.4	0	-	-	0.8	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	71	339	126	6	9	78
Future Vol, veh/h	71	339	126	6	9	78
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	77	368	137	7	10	85

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	143	0	-	0	663	140
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	523	-
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	1439	-	-	-	426	908
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	595	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1439	-	-	-	397	908
Mov Cap-2 Maneuver	-	-	-	-	397	-
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	595	-

Approach	EB	WB	SB
HCM Control Delay, s/v	1.32	0	10.09
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	312	-	-	-	801
HCM Lane V/C Ratio	0.054	-	-	-	0.118
HCM Control Delay (s/veh)	7.6	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4

Intersection	
Int Delay, s/veh	4.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	47	46	31	49	64
Future Vol, veh/h	34	47	46	31	49	64
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	37	51	50	34	53	70

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	243	67	0	0	84	0
Stage 1	67	-	-	-	-	-
Stage 2	176	-	-	-	-	-
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	745	997	-	-	1513	-
Stage 1	956	-	-	-	-	-
Stage 2	854	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	718	997	-	-	1513	-
Mov Cap-2 Maneuver	718	-	-	-	-	-
Stage 1	956	-	-	-	-	-
Stage 2	823	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.68	0	3.24
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	857	781	-
HCM Lane V/C Ratio	-	-	0.103	0.035	-
HCM Control Delay (s/veh)	-	-	9.7	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	3	0	11	0	47	5	15	54	0
Future Vol, veh/h	0	0	0	3	0	11	0	47	5	15	54	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	3	0	12	0	51	5	16	59	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	142	148	59	145	145	54	59	0	0	57	0	0
Stage 1	91	91	-	54	54	-	-	-	-	-	-	-
Stage 2	51	57	-	91	91	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	827	744	1007	824	746	1013	1545	-	-	1548	-	-
Stage 1	916	819	-	959	850	-	-	-	-	-	-	-
Stage 2	962	848	-	916	819	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	808	736	1007	815	738	1013	1545	-	-	1548	-	-
Mov Cap-2 Maneuver	808	736	-	815	738	-	-	-	-	-	-	-
Stage 1	906	810	-	959	850	-	-	-	-	-	-	-
Stage 2	950	848	-	906	810	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	8.8	0	1.6
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1545	-	-	-	963	391	-	-
HCM Lane V/C Ratio	-	-	-	-	0.016	0.011	-	-
HCM Control Delay (s/veh)	0	-	-	0	8.8	7.4	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	315	104	4	3	18
Future Vol, veh/h	24	315	104	4	3	18
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	26	342	113	4	3	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	117	0	-	0	510	115
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	395	-
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	1471	-	-	-	523	937
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1471	-	-	-	512	937
Mov Cap-2 Maneuver	-	-	-	-	512	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	681	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.53	0	9.42
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	127	-	-	-	838
HCM Lane V/C Ratio	0.018	-	-	-	0.027
HCM Control Delay (s/veh)	7.5	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	18	400	142	396	1146	74	88	57	190	72	97	38
Future Volume (veh/h)	18	400	142	396	1146	74	88	57	190	72	97	38
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	20	435	154	430	1246	80	96	62	207	78	105	41
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	65	1508	673	304	2000	892	208	286	255	137	318	119
Arrive On Green	0.04	0.42	0.42	0.17	0.56	0.56	0.12	0.16	0.16	0.08	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1777	1585	1781	2534	944
Grp Volume(v), veh/h	20	435	154	430	1246	80	96	62	207	78	72	74
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1700
Q Serve(g_s), s	1.3	9.6	7.4	20.5	28.3	2.8	6.0	3.6	15.1	5.1	4.4	4.8
Cycle Q Clear(g_c), s	1.3	9.6	7.4	20.5	28.3	2.8	6.0	3.6	15.1	5.1	4.4	4.8
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.56
Lane Grp Cap(c), veh/h	65	1508	673	304	2000	892	208	286	255	137	223	214
V/C Ratio(X)	0.31	0.29	0.23	1.41	0.62	0.09	0.46	0.22	0.81	0.57	0.32	0.35
Avail Cap(c_a), veh/h	238	1508	673	304	2000	892	208	496	442	245	540	517
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.98	0.98	0.98	1.00	1.00	1.00
Uniform Delay (d), s/veh	56.3	22.7	22.0	49.7	17.7	12.1	49.5	43.8	48.6	53.4	47.8	48.0
Incr Delay (d2), s/veh	1.0	0.5	0.8	204.3	1.5	0.2	7.1	0.6	9.9	1.4	1.4	1.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	7.2	5.2	40.1	16.7	1.8	5.5	3.0	10.8	4.2	3.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	57.3	23.1	22.8	254.0	19.1	12.3	56.6	44.4	58.4	54.8	49.2	49.6
LnGrp LOS	E	C	C	F	B	B	E	D	E	D	D	D
Approach Vol, veh/h		609			1756			365			224	
Approach Delay, s/veh		24.2			76.3			55.6			51.3	
Approach LOS		C			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	8.4	73.0	13.8	24.8	25.0	56.4	18.0	20.6
Change Period (Y+Rc), s	4.0	5.5	4.5	5.5	4.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	6.0	34.5	16.5	33.5	20.5	29.5	14.0	36.5
Max Q Clear Time (g_c+I1), s	3.3	30.3	7.1	17.1	22.5	11.6	8.0	6.8
Green Ext Time (p_c), s	0.0	3.3	0.0	2.2	0.0	4.2	0.0	1.3

Intersection Summary	
HCM 7th Control Delay, s/veh	61.1
HCM 7th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	82	104	162	174	171	34	74	171	64	51	414	95
Future Volume (veh/h)	82	104	162	174	171	34	74	171	64	51	414	95
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	89	113	176	189	186	37	80	186	70	55	450	103
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	438	264	411	373	606	121	291	738	302	161	1256	282
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1158	659	1027	1090	1515	301	472	1477	604	237	2512	565
Grp Volume(v), veh/h	89	0	289	189	0	223	151	0	185	316	0	292
Grp Sat Flow(s),veh/h/ln	1158	0	1686	1090	0	1816	959	0	1593	1713	0	1600
Q Serve(g_s), s	5.7	0.0	12.4	15.2	0.0	8.4	5.9	0.0	6.6	0.9	0.0	11.2
Cycle Q Clear(g_c), s	14.1	0.0	12.4	27.6	0.0	8.4	17.1	0.0	6.6	10.3	0.0	11.2
Prop In Lane	1.00		0.61	1.00		0.17	0.53		0.38	0.17		0.35
Lane Grp Cap(c), veh/h	438	0	674	373	0	726	535	0	797	899	0	800
V/C Ratio(X)	0.20	0.00	0.43	0.51	0.00	0.31	0.28	0.00	0.23	0.35	0.00	0.36
Avail Cap(c_a), veh/h	438	0	674	373	0	726	535	0	797	899	0	800
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.81	0.00	0.81
Uniform Delay (d), s/veh	25.3	0.0	21.7	31.7	0.0	20.5	17.6	0.0	14.1	15.0	0.0	15.3
Incr Delay (d2), s/veh	1.0	0.0	2.0	4.9	0.0	1.1	1.3	0.0	0.7	0.9	0.0	1.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.1	0.0	9.0	7.8	0.0	6.5	4.5	0.0	4.3	7.4	0.0	7.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	26.4	0.0	23.7	36.6	0.0	21.6	18.9	0.0	14.8	15.9	0.0	16.3
LnGrp LOS	C		C	D		C	B		B	B		B
Approach Vol, veh/h		378			412			336			608	
Approach Delay, s/veh		24.3			28.5			16.7			16.1	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	55.0	45.0	55.0	45.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	50.0	40.0	50.0	40.0
Max Q Clear Time (g_c+I1), s	19.1	16.1	13.2	29.6
Green Ext Time (p_c), s	3.3	3.3	6.1	2.0

Intersection Summary	
HCM 7th Control Delay, s/veh	21.0
HCM 7th LOS	C

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	632	32	77	1585	0	24	0	50	0	0	0
Future Vol, veh/h	0	632	32	77	1585	0	24	0	50	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	687	35	84	1723	0	26	0	54	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1723	0	0	722	0	0	1733	2595	361	2234	2612	861
Stage 1	-	-	-	-	-	-	704	704	-	1890	1890	-
Stage 2	-	-	-	-	-	-	1029	1890	-	343	722	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	363	-	-	876	-	-	56	25	636	23	24	299
Stage 1	-	-	-	-	-	-	394	438	-	72	117	-
Stage 2	-	-	-	-	-	-	250	117	-	645	430	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	363	-	-	876	-	-	51	22	636	19	22	299
Mov Cap-2 Maneuver	-	-	-	-	-	-	51	22	-	19	22	-
Stage 1	-	-	-	-	-	-	394	438	-	65	106	-
Stage 2	-	-	-	-	-	-	226	106	-	590	430	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	0.44	65.31	0
HCM LOS			F	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	135	363	-	-	876	-	-	-
HCM Lane V/C Ratio	0.598	-	-	-	0.096	-	-	-
HCM Control Delay (s/veh)	65.3	0	-	-	9.5	-	-	0
HCM Lane LOS	F	A	-	-	A	-	-	A
HCM 95th %tile Q(veh)	3.1	0	-	-	0.3	-	-	-

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	55	162	275	7	4	108
Future Vol, veh/h	55	162	275	7	4	108
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	60	176	299	8	4	117

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	307	0	-	0	598	303
Stage 1	-	-	-	-	303	-
Stage 2	-	-	-	-	296	-
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	1254	-	-	-	465	737
Stage 1	-	-	-	-	749	-
Stage 2	-	-	-	-	755	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1254	-	-	-	440	737
Mov Cap-2 Maneuver	-	-	-	-	440	-
Stage 1	-	-	-	-	710	-
Stage 2	-	-	-	-	755	-

Approach	EB	WB	SB
HCM Control Delay, s/v	2.03	0	11.02
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	456	-	-	-	720
HCM Lane V/C Ratio	0.048	-	-	-	0.169
HCM Control Delay (s/veh)	8	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.6

Intersection	
Int Delay, s/veh	3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	14	33	39	20	29	79
Future Vol, veh/h	14	33	39	20	29	79
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	15	36	42	22	32	86

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	202	53	0	0	64	0
Stage 1	53	-	-	-	-	-
Stage 2	149	-	-	-	-	-
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	786	1014	-	-	1538	-
Stage 1	969	-	-	-	-	-
Stage 2	879	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	769	1014	-	-	1538	-
Mov Cap-2 Maneuver	769	-	-	-	-	-
Stage 1	969	-	-	-	-	-
Stage 2	860	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.11	0	1.98
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	926	483	-
HCM Lane V/C Ratio	-	-	0.055	0.02	-
HCM Control Delay (s/veh)	-	-	9.1	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.2	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	5	0	6	0	44	2	3	99	0
Future Vol, veh/h	0	0	0	5	0	6	0	44	2	3	99	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	5	0	7	0	48	2	3	108	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	162	164	108	163	163	49	108	0	0	50	0	0
Stage 1	114	114	-	49	49	-	-	-	-	-	-	-
Stage 2	48	50	-	114	114	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	803	728	946	802	729	1020	1483	-	-	1557	-	-
Stage 1	891	801	-	964	854	-	-	-	-	-	-	-
Stage 2	966	853	-	891	801	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	796	727	946	800	728	1020	1483	-	-	1557	-	-
Mov Cap-2 Maneuver	796	727	-	800	728	-	-	-	-	-	-	-
Stage 1	889	799	-	964	854	-	-	-	-	-	-	-
Stage 2	959	853	-	889	799	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	9.02	0	0.22
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1483	-	-	-	907	53	-	-
HCM Lane V/C Ratio	-	-	-	-	0.013	0.002	-	-
HCM Control Delay (s/veh)	0	-	-	0	9	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	150	248	2	4	27
Future Vol, veh/h	13	150	248	2	4	27
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	14	163	270	2	4	29

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	272	0	-	0	462	271
Stage 1	-	-	-	-	271	-
Stage 2	-	-	-	-	191	-
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	1292	-	-	-	558	768
Stage 1	-	-	-	-	775	-
Stage 2	-	-	-	-	841	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1292	-	-	-	551	768
Mov Cap-2 Maneuver	-	-	-	-	551	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	841	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.62	0	10.16
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	144	-	-	-	731
HCM Lane V/C Ratio	0.011	-	-	-	0.046
HCM Control Delay (s/veh)	7.8	0	-	-	10.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	573	5	0	1493	0	11
Future Vol, veh/h	573	5	0	1493	0	11
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	623	5	0	1623	0	12

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	314
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	682
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	682
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	10.38
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	682	-	-	-
HCM Lane V/C Ratio	0.018	-	-	-
HCM Control Delay (s/veh)	10.4	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	24	1222	87	99	784	63	114	61	327	91	62	39
Future Volume (veh/h)	24	1222	87	99	784	63	114	61	327	91	62	39
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	26	1328	95	108	852	68	124	66	355	99	67	42
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	77	1526	681	134	1654	738	208	441	394	143	469	271
Arrive On Green	0.04	0.43	0.43	0.08	0.47	0.47	0.12	0.25	0.25	0.08	0.22	0.22
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1777	1585	1781	2168	1253
Grp Volume(v), veh/h	26	1328	95	108	852	68	124	66	355	99	54	55
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1777	1585	1781	1777	1645
Q Serve(g_s), s	1.7	40.9	4.4	7.2	20.2	2.9	7.9	3.5	26.0	6.5	2.9	3.3
Cycle Q Clear(g_c), s	1.7	40.9	4.4	7.2	20.2	2.9	7.9	3.5	26.0	6.5	2.9	3.3
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.76
Lane Grp Cap(c), veh/h	77	1526	681	134	1654	738	208	441	394	143	384	355
V/C Ratio(X)	0.34	0.87	0.14	0.81	0.52	0.09	0.60	0.15	0.90	0.69	0.14	0.16
Avail Cap(c_a), veh/h	238	1526	681	304	1654	738	208	496	442	245	540	500
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	0.93	0.93	0.93	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	31.2	20.8	54.6	22.6	17.9	50.3	35.2	43.7	53.7	38.0	38.1
Incr Delay (d2), s/veh	0.9	7.1	0.4	8.2	1.2	0.2	11.2	0.2	20.2	2.2	0.3	0.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.4	25.1	3.0	6.2	13.1	2.0	7.4	2.8	17.8	5.4	2.4	2.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	56.6	38.2	21.2	62.8	23.7	18.2	61.5	35.5	63.8	56.0	38.3	38.5
LnGrp LOS	E	D	C	E	C	B	E	D	E	E	D	D
Approach Vol, veh/h		1449			1028			545			208	
Approach Delay, s/veh		37.5			27.4			59.9			46.8	
Approach LOS		D			C			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	9.2	61.4	14.1	35.3	13.5	57.0	18.0	31.4
Change Period (Y+Rc), s	4.0	5.5	4.5	5.5	4.5	5.5	4.0	5.5
Max Green Setting (Gmax), s	16.0	34.5	16.5	33.5	20.5	29.5	14.0	36.5
Max Q Clear Time (g_c+I1), s	3.7	22.2	8.5	28.0	9.2	42.9	9.9	5.3
Green Ext Time (p_c), s	0.0	6.0	0.0	1.8	0.1	0.0	0.0	0.9

Intersection Summary	
HCM 7th Control Delay, s/veh	38.6
HCM 7th LOS	D



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	69	172	66	69	109	21	40	343	212	29	133	81
Future Volume (veh/h)	69	172	66	69	109	21	40	343	212	29	133	81
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	75	187	72	75	118	23	43	373	230	32	145	88
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	508	514	198	406	608	119	118	975	581	176	782	499
Arrive On Green	0.40	0.40	0.40	0.40	0.40	0.40	0.50	0.50	0.50	0.50	0.50	0.50
Sat Flow, veh/h	1248	1286	495	1120	1521	296	155	1950	1161	262	1563	999
Grp Volume(v), veh/h	75	0	259	75	0	141	350	0	296	131	0	134
Grp Sat Flow(s),veh/h/ln	1248	0	1781	1120	0	1817	1773	0	1493	1302	0	1522
Q Serve(g_s), s	4.2	0.0	10.2	5.0	0.0	5.0	0.0	0.0	12.4	0.6	0.0	4.8
Cycle Q Clear(g_c), s	9.2	0.0	10.2	15.2	0.0	5.0	11.5	0.0	12.4	13.0	0.0	4.8
Prop In Lane	1.00		0.28	1.00		0.16	0.12		0.78	0.24		0.66
Lane Grp Cap(c), veh/h	508	0	712	406	0	727	927	0	747	696	0	761
V/C Ratio(X)	0.15	0.00	0.36	0.18	0.00	0.19	0.38	0.00	0.40	0.19	0.00	0.18
Avail Cap(c_a), veh/h	508	0	712	406	0	727	927	0	747	696	0	761
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	0.96	0.00	0.96
Uniform Delay (d), s/veh	22.5	0.0	21.1	26.4	0.0	19.5	15.4	0.0	15.6	13.7	0.0	13.7
Incr Delay (d2), s/veh	0.6	0.0	1.4	1.0	0.0	0.6	1.2	0.0	1.6	0.6	0.0	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	2.4	0.0	8.0	2.5	0.0	3.9	8.6	0.0	7.7	2.9	0.0	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	23.1	0.0	22.5	27.4	0.0	20.1	16.6	0.0	17.2	14.2	0.0	14.2
LnGrp LOS	C		C	C		C	B		B	B		B
Approach Vol, veh/h		334			216			646			265	
Approach Delay, s/veh		22.6			22.6			16.8			14.2	
Approach LOS		C			C			B			B	

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	55.0	45.0	55.0	45.0
Change Period (Y+Rc), s	5.0	5.0	5.0	5.0
Max Green Setting (Gmax), s	50.0	40.0	50.0	40.0
Max Q Clear Time (g_c+I1), s	14.4	12.2	15.0	17.2
Green Ext Time (p_c), s	6.6	2.8	2.5	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	18.5
HCM 7th LOS	B

Intersection	
Int Delay, s/veh	32.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	1668	44	66	917	0	27	0	59	0	0	0
Future Vol, veh/h	0	1668	44	66	917	0	27	0	59	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	0	-	-	110	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	1813	48	72	997	0	29	0	64	0	0	0

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	997	0	0	1861	0	0	2479	2977	930	2047	3001	498
Stage 1	-	-	-	-	-	-	1837	1837	-	1140	1140	-
Stage 2	-	-	-	-	-	-	642	1140	-	907	1861	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	690	-	-	321	-	-	~ 15	14	269	33	13	517
Stage 1	-	-	-	-	-	-	78	125	-	214	274	-
Stage 2	-	-	-	-	-	-	429	274	-	297	121	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	690	-	-	321	-	-	~ 12	11	269	19	10	517
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 12	11	-	19	10	-
Stage 1	-	-	-	-	-	-	78	125	-	166	213	-
Stage 2	-	-	-	-	-	-	333	213	-	226	121	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	1.3	$ 1033.04	0
HCM LOS			F	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	34	690	-	-	321	-	-	-
HCM Lane V/C Ratio	2.737	-	-	-	0.224	-	-	-
HCM Control Delay (s/veh)	$ 1033	0	-	-	19.4	-	-	0
HCM Lane LOS	F	A	-	-	C	-	-	A
HCM 95th %tile Q(veh)	10.7	0	-	-	0.8	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	71	339	126	6	9	78
Future Vol, veh/h	71	339	126	6	9	78
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	77	368	137	7	10	85

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	143	0	-	0	663	140
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	523	-
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	1439	-	-	-	426	908
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	595	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1439	-	-	-	397	908
Mov Cap-2 Maneuver	-	-	-	-	397	-
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	595	-

Approach	EB	WB	SB
HCM Control Delay, s/v	1.32	0	10.09
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	312	-	-	-	801
HCM Lane V/C Ratio	0.054	-	-	-	0.118
HCM Control Delay (s/veh)	7.6	0	-	-	10.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.4

Intersection	
Int Delay, s/veh	4.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	34	47	40	31	49	53
Future Vol, veh/h	34	47	40	31	49	53
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	37	51	43	34	53	58

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	224	60	0	0	77	0
Stage 1	60	-	-	-	-	-
Stage 2	164	-	-	-	-	-
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	764	1005	-	-	1521	-
Stage 1	962	-	-	-	-	-
Stage 2	865	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	736	1005	-	-	1521	-
Mov Cap-2 Maneuver	736	-	-	-	-	-
Stage 1	962	-	-	-	-	-
Stage 2	834	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s/v	9.6	0	3.58
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	871	865	-
HCM Lane V/C Ratio	-	-	0.101	0.035	-
HCM Control Delay (s/veh)	-	-	9.6	7.5	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.3	0.1	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	0	0	0	3	0	4	0	47	5	5	54	0
Future Vol, veh/h	0	0	0	3	0	4	0	47	5	5	54	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	0	3	0	4	0	51	5	5	59	0

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	121	126	59	123	123	54	59	0	0	57	0	0
Stage 1	70	70	-	54	54	-	-	-	-	-	-	-
Stage 2	51	57	-	70	70	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	855	764	1007	851	767	1013	1545	-	-	1548	-	-
Stage 1	940	837	-	959	850	-	-	-	-	-	-	-
Stage 2	962	848	-	940	837	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	848	762	1007	848	764	1013	1545	-	-	1548	-	-
Mov Cap-2 Maneuver	848	762	-	848	764	-	-	-	-	-	-	-
Stage 1	937	834	-	959	850	-	-	-	-	-	-	-
Stage 2	958	848	-	937	834	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s/v	0	8.88	0	0.62
HCM LOS	A	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1545	-	-	-	935	153	-	-
HCM Lane V/C Ratio	-	-	-	-	0.008	0.004	-	-
HCM Control Delay (s/veh)	0	-	-	0	8.9	7.3	0	-
HCM Lane LOS	A	-	-	A	A	A	A	-
HCM 95th %tile Q(veh)	0	-	-	-	0	0	-	-

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	315	104	4	3	18
Future Vol, veh/h	24	315	104	4	3	18
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	26	342	113	4	3	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	117	0	-	0	510	115
Stage 1	-	-	-	-	115	-
Stage 2	-	-	-	-	395	-
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	1471	-	-	-	523	937
Stage 1	-	-	-	-	910	-
Stage 2	-	-	-	-	681	-
Platoon blocked, %			-	-		
Mov Cap-1 Maneuver	1471	-	-	-	512	937
Mov Cap-2 Maneuver	-	-	-	-	512	-
Stage 1	-	-	-	-	890	-
Stage 2	-	-	-	-	681	-

Approach	EB	WB	SB
HCM Control Delay, s/v	0.53	0	9.42
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	127	-	-	-	838
HCM Lane V/C Ratio	0.018	-	-	-	0.027
HCM Control Delay (s/veh)	7.5	0	-	-	9.4
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1497	10	0	683	0	7
Future Vol, veh/h	1497	10	0	683	0	7
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	1627	11	0	742	0	8

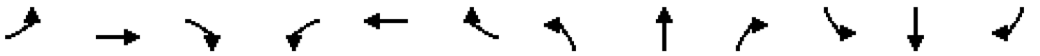
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	-	-	-	819
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	-	-	-	-	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	-	-	-	-	3.32
Pot Cap-1 Maneuver	-	-	0	-	0	319
Stage 1	-	-	0	-	0	-
Stage 2	-	-	0	-	0	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	-	-	-	319
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s/v	0	0	16.58
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	319	-	-	-
HCM Lane V/C Ratio	0.024	-	-	-
HCM Control Delay (s/veh)	16.6	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

APPENDIX E

CALTRANS QUEUING ANALYSIS
HCM DATA WORKSHEETS – WEEKDAY AM AND PM PEAK HOURS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	7	280	0	0	0	0	341	196	232	411	0
Future Volume (veh/h)	350	7	280	0	0	0	0	341	196	232	411	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
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	8	304				0	371	213	252	447	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	439	10	382				0	1660	740	243	2306	0
Arrive On Green	0.25	0.25	0.25				0.00	0.47	0.47	0.14	0.65	0.00
Sat Flow, veh/h	1781	41	1550				0	3647	1585	1781	3647	0
Grp Volume(v), veh/h	380	0	312				0	371	213	252	447	0
Grp Sat Flow(s),veh/h/ln	1781	0	1591				0	1777	1585	1781	1777	0
Q Serve(g_s), s	22.5	0.0	20.2				0.0	6.8	9.1	15.0	5.6	0.0
Cycle Q Clear(g_c), s	22.5	0.0	20.2				0.0	6.8	9.1	15.0	5.6	0.0
Prop In Lane	1.00		0.97				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	439	0	392				0	1660	740	243	2306	0
V/C Ratio(X)	0.87	0.00	0.80				0.00	0.22	0.29	1.04	0.19	0.00
Avail Cap(c_a), veh/h	534	0	477				0	1660	740	243	2306	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.7	0.0	38.8				0.0	17.4	18.0	47.5	7.8	0.0
Incr Delay (d2), s/veh	12.0	0.0	7.5				0.0	0.3	1.0	67.8	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(95%),veh/ln	16.3	0.0	13.1				0.0	5.0	6.2	16.9	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.7	0.0	46.3				0.0	17.8	19.0	115.3	7.9	0.0
LnGrp LOS	D		D					B	B	F	A	
Approach Vol, veh/h		692						584			699	
Approach Delay, s/veh		49.3						18.2			46.7	
Approach LOS		D						B			D	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	56.9		33.1		76.9
Change Period (Y+Rc), s	5.0	5.5		6.0		5.5
Max Green Setting (Gmax), s	15.0	45.5		33.0		65.5
Max Q Clear Time (g_c+I1), s	17.0	11.1		24.5		7.6
Green Ext Time (p_c), s	0.0	3.3		2.7		3.2

Intersection Summary	
HCM 7th Control Delay, s/veh	39.2
HCM 7th LOS	D



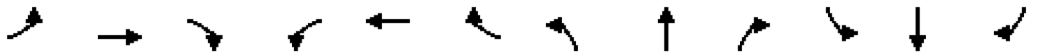
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	316	0	0	388	0	466	0	152	0	0	0
Future Volume (veh/h)	0	316	0	0	388	0	466	0	152	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	343	0	0	422	0	336	239	165	0	0	0
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
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	2	2
Cap, veh/h	0	623	0	0	623	0	683	395	273	0	197	0
Arrive On Green	0.00	0.33	0.00	0.00	0.33	0.00	0.38	0.38	0.38	0.00	0.00	0.00
Sat Flow, veh/h	0	1870	0	0	1870	0	1781	1031	712	0	1870	0
Grp Volume(v), veh/h	0	343	0	0	422	0	336	0	404	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	0	1870	0	1781	0	1742	0	1870	0
Q Serve(g_s), s	0.0	13.5	0.0	0.0	17.5	0.0	12.9	0.0	16.8	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	13.5	0.0	0.0	17.5	0.0	12.9	0.0	16.8	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	1.00		0.41	0.00		0.00
Lane Grp Cap(c), veh/h	0	623	0	0	623	0	683	0	668	0	197	0
V/C Ratio(X)	0.00	0.55	0.00	0.00	0.68	0.00	0.49	0.00	0.60	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	623	0	0	623	0	683	0	668	0	197	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	24.5	0.0	0.0	25.8	0.0	21.1	0.0	22.3	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.5	0.0	0.0	2.4	0.0	2.5	0.0	4.0	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	10.7	0.0	0.0	12.7	0.0	9.6	0.0	11.8	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	28.0	0.0	0.0	28.2	0.0	23.6	0.0	26.3	0.0	0.0	0.0
LnGrp LOS		C			C		C		C			
Approach Vol, veh/h		343			422			740			0	
Approach Delay, s/veh		28.0			28.2			25.1			0.0	
Approach LOS		C			C			C				

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		15.0		35.0		40.0				
Change Period (Y+Rc), s		5.0		5.5		5.0		5.5				
Max Green Setting (Gmax), s		30.0		9.5		30.0		34.5				
Max Q Clear Time (g_c+I1), s		15.5		0.0		19.5		18.8				
Green Ext Time (p_c), s		1.2		0.0		1.4		2.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	26.6	
HCM 7th LOS	C	

Notes

User approved volume balancing among the lanes for turning movement.



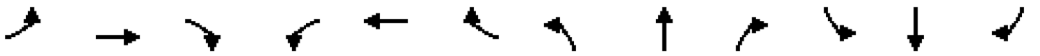
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	253	321	393	834	69	472	186	267	57	239	56
Future Volume (veh/h)	84	253	321	393	834	69	472	186	267	57	239	56
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	275	349	427	907	75	358	420	290	62	260	61
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	112	1271	567	204	1440	642	437	459	389	224	360	83
Arrive On Green	0.06	0.36	0.36	0.11	0.41	0.41	0.25	0.25	0.25	0.13	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	2867	661
Grp Volume(v), veh/h	91	275	349	427	907	75	358	420	290	62	159	162
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1777	1751
Q Serve(g_s), s	7.1	7.5	25.4	16.0	28.5	4.1	26.6	30.6	23.7	4.4	12.1	12.5
Cycle Q Clear(g_c), s	7.1	7.5	25.4	16.0	28.5	4.1	26.6	30.6	23.7	4.4	12.1	12.5
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.38
Lane Grp Cap(c), veh/h	112	1271	567	204	1440	642	437	459	389	224	223	220
V/C Ratio(X)	0.81	0.22	0.62	2.10	0.63	0.12	0.82	0.91	0.75	0.28	0.71	0.74
Avail Cap(c_a), veh/h	134	1271	567	204	1440	642	452	474	402	433	432	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.8	31.3	37.1	62.0	33.2	26.0	49.9	51.4	48.8	55.5	58.8	59.0
Incr Delay (d2), s/veh	22.6	0.4	5.0	510.2	2.1	0.4	11.6	22.3	7.8	1.1	7.1	7.9
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.0	5.9	15.8	56.4	18.3	2.9	19.1	23.8	15.4	3.7	9.8	10.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	87.4	31.7	42.0	572.2	35.3	26.4	61.4	73.7	56.5	56.6	65.9	66.9
LnGrp LOS	F	C	D	F	D	C	E	E	E	E	E	E
Approach Vol, veh/h		715			1409			1068			383	
Approach Delay, s/veh		43.8			197.6			64.9			64.8	
Approach LOS		D			F			E			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	55.6		23.6	13.3	62.2		40.9				
Change Period (Y+Rc), s	4.0	5.5		6.0	4.5	5.5		6.5				
Max Green Setting (Gmax), s	16.0	32.5		34.0	10.5	37.5		35.5				
Max Q Clear Time (g_c+I1), s	18.0	27.4		14.5	9.1	30.5		32.6				
Green Ext Time (p_c), s	0.0	1.8		3.1	0.0	4.1		1.8				

Intersection Summary		
HCM 7th Control Delay, s/veh	113.0	
HCM 7th LOS	F	

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)	215	210	84	0	0	0	0	414	261	242	320	0
Future Volume (veh/h)	215	210	84	0	0	0	0	414	261	242	320	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
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	234	228	91				0	450	284	263	348	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	288	280	112				0	1857	828	243	2503	0
Arrive On Green	0.19	0.19	0.19				0.00	0.52	0.52	0.14	0.70	0.00
Sat Flow, veh/h	1509	1466	585				0	3647	1585	1781	3647	0
Grp Volume(v), veh/h	278	0	275				0	450	284	263	348	0
Grp Sat Flow(s),veh/h/ln	1795	0	1765				0	1777	1585	1781	1777	0
Q Serve(g_s), s	16.3	0.0	16.4				0.0	7.6	11.5	15.0	3.5	0.0
Cycle Q Clear(g_c), s	16.3	0.0	16.4				0.0	7.6	11.5	15.0	3.5	0.0
Prop In Lane	0.84		0.33				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	343	0	337				0	1857	828	243	2503	0
V/C Ratio(X)	0.81	0.00	0.81				0.00	0.24	0.34	1.08	0.14	0.00
Avail Cap(c_a), veh/h	538	0	530				0	1857	828	243	2503	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	42.6	0.0	42.6				0.0	14.4	15.3	47.5	5.3	0.0
Incr Delay (d2), s/veh	5.2	0.0	5.4				0.0	0.3	1.1	81.5	0.1	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(95%),veh/ln	11.9	0.0	11.8				0.0	5.5	7.6	18.4	2.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	47.7	0.0	48.0				0.0	14.7	16.4	129.0	5.4	0.0
LnGrp LOS	D		D					B	B	F	A	
Approach Vol, veh/h		553						734			611	
Approach Delay, s/veh		47.9						15.3			58.6	
Approach LOS		D						B			E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	63.0		27.0		83.0
Change Period (Y+Rc), s	5.0	5.5		6.0		5.5
Max Green Setting (Gmax), s	15.0	45.5		33.0		65.5
Max Q Clear Time (g_c+I1), s	17.0	13.5		18.4		5.5
Green Ext Time (p_c), s	0.0	4.2		2.6		2.4

Intersection Summary	
HCM 7th Control Delay, s/veh	38.8
HCM 7th LOS	D



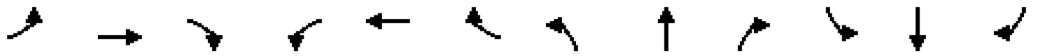
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	225	0	0	167	0	269	0	74	0	0	0
Future Volume (veh/h)	0	225	0	0	167	0	269	0	74	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	245	0	0	182	0	186	148	80	0	0	0
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
Percent Heavy Veh, %	2	2	0	0	2	2	2	2	2	0	2	2
Cap, veh/h	0	623	0	0	623	0	683	438	237	0	197	0
Arrive On Green	0.00	0.33	0.00	0.00	0.33	0.00	0.38	0.38	0.38	0.00	0.00	0.00
Sat Flow, veh/h	0	1870	0	0	1870	0	1781	1142	617	0	1870	0
Grp Volume(v), veh/h	0	245	0	0	182	0	186	0	228	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	0	1870	0	1781	0	1759	0	1870	0
Q Serve(g_s), s	0.0	9.0	0.0	0.0	6.5	0.0	6.5	0.0	8.3	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	9.0	0.0	0.0	6.5	0.0	6.5	0.0	8.3	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.00		0.00	1.00		0.35	0.00		0.00
Lane Grp Cap(c), veh/h	0	623	0	0	623	0	683	0	674	0	197	0
V/C Ratio(X)	0.00	0.39	0.00	0.00	0.29	0.00	0.27	0.00	0.34	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	623	0	0	623	0	683	0	674	0	197	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	23.0	0.0	0.0	22.2	0.0	19.1	0.0	19.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.9	0.0	0.0	0.1	0.0	1.0	0.0	1.4	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	7.7	0.0	0.0	5.1	0.0	5.0	0.0	6.4	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	24.9	0.0	0.0	22.3	0.0	20.1	0.0	21.0	0.0	0.0	0.0
LnGrp LOS		C			C		C		C			
Approach Vol, veh/h		245			182			414			0	
Approach Delay, s/veh		24.9			22.3			20.6			0.0	
Approach LOS		C			C			C				

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	15.0	35.0	40.0
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5
Max Green Setting (Gmax), s	30.0	9.5	30.0	34.5
Max Q Clear Time (g_c+I1), s	11.0	0.0	8.5	10.3
Green Ext Time (p_c), s	0.9	0.0	0.6	1.1

Intersection Summary	
HCM 7th Control Delay, s/veh	22.2
HCM 7th 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)	86	718	543	370	443	19	217	158	479	38	130	35
Future Volume (veh/h)	86	718	543	370	443	19	217	158	479	38	130	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	93	780	590	402	482	21	204	217	521	41	141	38
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	114	1411	630	204	1576	703	452	474	402	139	217	57
Arrive On Green	0.06	0.40	0.40	0.11	0.44	0.44	0.25	0.25	0.25	0.08	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	2787	729
Grp Volume(v), veh/h	93	780	590	402	482	21	204	217	521	41	88	91
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1777	1739
Q Serve(g_s), s	7.2	23.7	50.0	16.0	12.2	1.0	13.5	13.7	35.5	3.0	6.8	7.1
Cycle Q Clear(g_c), s	7.2	23.7	50.0	16.0	12.2	1.0	13.5	13.7	35.5	3.0	6.8	7.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.42
Lane Grp Cap(c), veh/h	114	1411	630	204	1576	703	452	474	402	139	138	135
V/C Ratio(X)	0.81	0.55	0.94	1.97	0.31	0.03	0.45	0.46	1.30	0.30	0.64	0.67
Avail Cap(c_a), veh/h	197	1411	630	204	1576	703	452	474	402	433	432	422
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.7	32.6	40.5	62.0	25.1	22.0	44.0	44.1	52.3	60.9	62.6	62.8
Incr Delay (d2), s/veh	5.1	1.6	23.4	455.8	0.5	0.1	1.0	1.0	150.7	2.0	8.1	9.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	6.1	15.6	30.8	51.7	9.0	0.7	10.1	10.7	45.8	2.6	6.0	6.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	69.8	34.2	63.9	517.8	25.6	22.0	45.1	45.1	202.9	62.9	70.8	72.2
LnGrp LOS	E	C	E	F	C	C	D	D	F	E	E	E
Approach Vol, veh/h		1463			905			942			220	
Approach Delay, s/veh		48.4			244.2			132.4			69.9	
Approach LOS		D			F			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	61.1		16.9	13.5	67.6		42.0				
Change Period (Y+Rc), s	4.0	5.5		6.0	4.5	5.5		6.5				
Max Green Setting (Gmax), s	16.0	32.5		34.0	15.5	30.5		35.5				
Max Q Clear Time (g_c+I1), s	18.0	52.0		9.1	9.2	14.2		37.5				
Green Ext Time (p_c), s	0.0	0.0		1.8	0.0	3.7		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	122.3	
HCM 7th LOS	F	

Notes

User approved pedestrian interval to be less than phase max green.
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)	403	8	420	0	0	0	0	417	227	293	531	0
Future Volume (veh/h)	403	8	420	0	0	0	0	417	227	293	531	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
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	424	8	442				0	439	239	308	559	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	517	10	469				0	1485	662	243	2131	0
Arrive On Green	0.30	0.30	0.30				0.00	0.42	0.42	0.14	0.60	0.00
Sat Flow, veh/h	1750	33	1585				0	3647	1585	1781	3647	0
Grp Volume(v), veh/h	432	0	442				0	439	239	308	559	0
Grp Sat Flow(s),veh/h/ln	1783	0	1585				0	1777	1585	1781	1777	0
Q Serve(g_s), s	24.8	0.0	30.0				0.0	9.0	11.4	15.0	8.2	0.0
Cycle Q Clear(g_c), s	24.8	0.0	30.0				0.0	9.0	11.4	15.0	8.2	0.0
Prop In Lane	0.98		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	527	0	469				0	1485	662	243	2131	0
V/C Ratio(X)	0.82	0.00	0.94				0.00	0.30	0.36	1.27	0.26	0.00
Avail Cap(c_a), veh/h	535	0	476				0	1485	662	243	2131	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.0	0.0	37.8				0.0	21.3	21.9	47.5	10.5	0.0
Incr Delay (d2), s/veh	9.7	0.0	27.3				0.0	0.5	1.5	149.0	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(95%),veh/ln	17.3	0.0	20.8				0.0	6.8	7.9	25.7	5.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	45.7	0.0	65.2				0.0	21.8	23.5	196.5	10.8	0.0
LnGrp LOS	D		E					C	C	F	B	
Approach Vol, veh/h		874						678			867	
Approach Delay, s/veh		55.5						22.4			76.7	
Approach LOS		E						C			E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	51.5		38.5		71.5
Change Period (Y+Rc), s	5.0	5.5		6.0		5.5
Max Green Setting (Gmax), s	15.0	45.5		33.0		65.5
Max Q Clear Time (g_c+I1), s	17.0	13.4		32.0		10.2
Green Ext Time (p_c), s	0.0	3.9		0.6		4.2

Intersection Summary	
HCM 7th Control Delay, s/veh	53.8
HCM 7th LOS	D



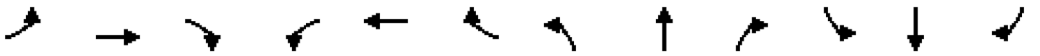
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	342	0	27	426	0	565	0	242	0	0	0
Future Volume (veh/h)	0	342	0	27	426	0	565	0	242	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	360	0	28	448	0	425	238	255	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	623	0	61	565	0	683	317	339	0	197	0
Arrive On Green	0.00	0.33	0.00	0.33	0.33	0.00	0.38	0.38	0.38	0.00	0.00	0.00
Sat Flow, veh/h	0	1870	0	55	1694	0	1781	826	885	0	1870	0
Grp Volume(v), veh/h	0	360	0	476	0	0	425	0	493	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1749	0	0	1781	0	1711	0	1870	0
Q Serve(g_s), s	0.0	14.3	0.0	8.3	0.0	0.0	17.4	0.0	22.5	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	14.3	0.0	22.6	0.0	0.0	17.4	0.0	22.5	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.06		0.00	1.00		0.52	0.00		0.00
Lane Grp Cap(c), veh/h	0	623	0	625	0	0	683	0	656	0	197	0
V/C Ratio(X)	0.00	0.58	0.00	0.76	0.00	0.00	0.62	0.00	0.75	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	623	0	625	0	0	683	0	656	0	197	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	24.8	0.0	27.3	0.0	0.0	22.5	0.0	24.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.9	0.0	4.9	0.0	0.0	4.2	0.0	7.8	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	11.2	0.0	15.3	0.0	0.0	12.4	0.0	15.3	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	28.6	0.0	32.2	0.0	0.0	26.7	0.0	31.8	0.0	0.0	0.0
LnGrp LOS		C		C			C		C			
Approach Vol, veh/h		360			476			918			0	
Approach Delay, s/veh		28.6			32.2			29.4			0.0	
Approach LOS		C			C			C				

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		15.0		35.0		40.0				
Change Period (Y+Rc), s		5.0		5.5		5.0		5.5				
Max Green Setting (Gmax), s		30.0		9.5		30.0		34.5				
Max Q Clear Time (g_c+I1), s		16.3		0.0		24.6		24.5				
Green Ext Time (p_c), s		1.3		0.0		1.1		2.3				

Intersection Summary												
HCM 7th Control Delay, s/veh			30.0									
HCM 7th 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)	94	317	414	423	953	74	597	199	266	61	256	62
Future Volume (veh/h)	94	317	414	423	953	74	597	199	266	61	256	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	99	334	436	445	1003	78	419	502	280	64	269	65
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	1227	547	204	1379	615	452	474	402	231	370	88
Arrive On Green	0.07	0.35	0.35	0.11	0.39	0.39	0.25	0.25	0.25	0.13	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	2849	676
Grp Volume(v), veh/h	99	334	436	445	1003	78	419	502	280	64	166	168
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1777	1749
Q Serve(g_s), s	7.7	9.5	34.8	16.0	33.7	4.4	32.1	35.5	22.4	4.5	12.6	13.0
Cycle Q Clear(g_c), s	7.7	9.5	34.8	16.0	33.7	4.4	32.1	35.5	22.4	4.5	12.6	13.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	121	1227	547	204	1379	615	452	474	402	231	231	227
V/C Ratio(X)	0.82	0.27	0.80	2.19	0.73	0.13	0.93	1.06	0.70	0.28	0.72	0.74
Avail Cap(c_a), veh/h	134	1227	547	204	1379	615	452	474	402	433	432	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	33.1	41.4	62.0	36.5	27.6	51.0	52.2	47.4	55.0	58.5	58.6
Incr Delay (d2), s/veh	26.8	0.5	11.5	549.5	3.4	0.4	25.7	57.7	5.7	1.1	7.0	7.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	7.8	7.5	21.4	59.8	21.3	3.2	24.3	33.2	14.5	3.8	10.1	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	91.3	33.7	52.9	611.5	39.9	28.0	76.7	109.9	53.1	56.1	65.5	66.5
LnGrp LOS	F	C	D	F	D	C	E	F	D	E	E	E
Approach Vol, veh/h		869			1526			1201			398	
Approach Delay, s/veh		49.9			206.0			85.1			64.4	
Approach LOS		D			F			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	53.8		24.2	14.0	59.8		42.0				
Change Period (Y+Rc), s	4.0	5.5		6.0	4.5	5.5		6.5				
Max Green Setting (Gmax), s	16.0	32.5		34.0	10.5	37.5		35.5				
Max Q Clear Time (g_c+I1), s	18.0	36.8		15.0	9.7	35.7		37.5				
Green Ext Time (p_c), s	0.0	0.0		3.2	0.0	1.3		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	121.5
HCM 7th LOS	F

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)	322	225	123	0	0	0	0	637	377	303	393	0
Future Volume (veh/h)	322	225	123	0	0	0	0	637	377	303	393	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
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	339	237	129				0	671	397	319	414	0
Peak Hour Factor	0.95	0.95	0.95				0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	400	279	152				0	1701	759	243	2347	0
Arrive On Green	0.24	0.24	0.24				0.00	0.48	0.48	0.14	0.66	0.00
Sat Flow, veh/h	1703	1189	647				0	3647	1585	1781	3647	0
Grp Volume(v), veh/h	355	0	350				0	671	397	319	414	0
Grp Sat Flow(s),veh/h/ln	1785	0	1754				0	1777	1585	1781	1777	0
Q Serve(g_s), s	20.9	0.0	20.9				0.0	13.4	19.2	15.0	4.9	0.0
Cycle Q Clear(g_c), s	20.9	0.0	20.9				0.0	13.4	19.2	15.0	4.9	0.0
Prop In Lane	0.95		0.37				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	420	0	412				0	1701	759	243	2347	0
V/C Ratio(X)	0.85	0.00	0.85				0.00	0.39	0.52	1.31	0.18	0.00
Avail Cap(c_a), veh/h	536	0	526				0	1701	759	243	2347	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	40.2	0.0	40.2				0.0	18.4	19.9	47.5	7.2	0.0
Incr Delay (d2), s/veh	9.8	0.0	10.1				0.0	0.7	2.6	167.2	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(95%),veh/ln	15.1	0.0	14.9				0.0	9.3	11.8	27.7	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	50.0	0.0	50.3				0.0	19.1	22.5	214.7	7.3	0.0
LnGrp LOS	D		D					B	C	F	A	
Approach Vol, veh/h		705						1068			733	
Approach Delay, s/veh		50.1						20.4			97.6	
Approach LOS		D						C			F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	58.1		31.9		78.1
Change Period (Y+Rc), s	5.0	5.5		6.0		5.5
Max Green Setting (Gmax), s	15.0	45.5		33.0		65.5
Max Q Clear Time (g_c+I1), s	17.0	21.2		22.9		6.9
Green Ext Time (p_c), s	0.0	6.3		2.9		3.0

Intersection Summary	
HCM 7th Control Delay, s/veh	51.3
HCM 7th LOS	D



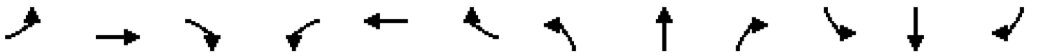
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	264	0	14	191	0	340	0	114	0	0	0
Future Volume (veh/h)	0	264	0	14	191	0	340	0	114	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	278	0	15	201	0	239	167	120	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	0	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	623	0	61	593	0	683	388	279	0	197	0
Arrive On Green	0.00	0.33	0.00	0.33	0.33	0.00	0.38	0.38	0.38	0.00	0.00	0.00
Sat Flow, veh/h	0	1870	0	54	1778	0	1781	1012	727	0	1870	0
Grp Volume(v), veh/h	0	278	0	216	0	0	239	0	287	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1832	0	0	1781	0	1739	0	1870	0
Q Serve(g_s), s	0.0	10.5	0.0	0.0	0.0	0.0	8.6	0.0	11.0	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	10.5	0.0	7.8	0.0	0.0	8.6	0.0	11.0	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.07		0.00	1.00		0.42	0.00		0.00
Lane Grp Cap(c), veh/h	0	623	0	654	0	0	683	0	667	0	197	0
V/C Ratio(X)	0.00	0.45	0.00	0.33	0.00	0.00	0.35	0.00	0.43	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	623	0	654	0	0	683	0	667	0	197	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	23.5	0.0	22.6	0.0	0.0	19.8	0.0	20.5	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.3	0.0	0.1	0.0	0.0	1.4	0.0	2.0	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	8.6	0.0	6.2	0.0	0.0	6.7	0.0	8.2	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	25.8	0.0	22.7	0.0	0.0	21.2	0.0	22.5	0.0	0.0	0.0
LnGrp LOS		C		C			C		C			
Approach Vol, veh/h		278			216			526			0	
Approach Delay, s/veh		25.8			22.7			21.9			0.0	
Approach LOS		C			C			C				

Timer - Assigned Phs	2	4	6	8
Phs Duration (G+Y+Rc), s	35.0	15.0	35.0	40.0
Change Period (Y+Rc), s	5.0	5.5	5.0	5.5
Max Green Setting (Gmax), s	30.0	9.5	30.0	34.5
Max Q Clear Time (g_c+I1), s	12.5	0.0	9.8	13.0
Green Ext Time (p_c), s	1.0	0.0	0.8	1.4

Intersection Summary	
HCM 7th Control Delay, s/veh	23.1
HCM 7th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



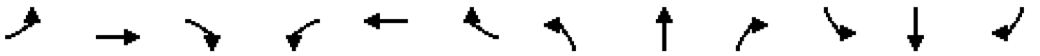
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	868	705	389	616	21	379	169	514	43	139	45
Future Volume (veh/h)	97	868	705	389	616	21	379	169	514	43	139	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	914	742	409	648	22	289	333	541	45	146	47
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	1392	621	204	1539	686	452	474	402	148	222	69
Arrive On Green	0.07	0.39	0.39	0.11	0.43	0.43	0.25	0.25	0.25	0.08	0.08	0.08
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	2668	830
Grp Volume(v), veh/h	102	914	742	409	648	22	289	333	541	45	95	98
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1777	1721
Q Serve(g_s), s	7.9	29.5	54.8	16.0	17.7	1.1	20.2	22.6	35.5	3.3	7.3	7.7
Cycle Q Clear(g_c), s	7.9	29.5	54.8	16.0	17.7	1.1	20.2	22.6	35.5	3.3	7.3	7.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.48
Lane Grp Cap(c), veh/h	124	1392	621	204	1539	686	452	474	402	148	148	143
V/C Ratio(X)	0.82	0.66	1.20	2.01	0.42	0.03	0.64	0.70	1.35	0.30	0.65	0.68
Avail Cap(c_a), veh/h	134	1392	621	204	1539	686	452	474	402	433	432	418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.3	34.9	42.6	62.0	27.5	22.8	46.6	47.4	52.3	60.3	62.2	62.4
Incr Delay (d2), s/veh	28.3	2.4	102.9	471.1	0.8	0.1	3.5	5.1	171.5	1.9	7.8	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	18.9	54.8	53.0	12.1	0.8	14.4	16.6	49.6	2.8	6.5	6.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	92.6	37.3	145.5	533.1	28.4	22.9	50.0	52.5	223.8	62.3	70.0	71.7
LnGrp LOS	F	D	F	F	C	C	D	D	F	E	E	E
Approach Vol, veh/h		1758			1079			1163			238	
Approach Delay, s/veh		86.2			219.6			131.6			69.2	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	60.3		17.7	14.2	66.1		42.0				
Change Period (Y+Rc), s	4.0	5.5		6.0	4.5	5.5		6.5				
Max Green Setting (Gmax), s	16.0	32.5		34.0	10.5	37.5		35.5				
Max Q Clear Time (g_c+I1), s	18.0	56.8		9.7	9.9	19.7		37.5				
Green Ext Time (p_c), s	0.0	0.0		2.0	0.0	5.4		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	131.6	
HCM 7th LOS	F	

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)	414	8	420	0	0	0	0	428	227	298	545	0
Future Volume (veh/h)	414	8	420	0	0	0	0	428	227	298	545	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
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	450	9	457				0	465	247	324	592	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	524	10	476				0	1470	656	243	2116	0
Arrive On Green	0.30	0.30	0.30				0.00	0.41	0.41	0.14	0.60	0.00
Sat Flow, veh/h	1748	35	1585				0	3647	1585	1781	3647	0
Grp Volume(v), veh/h	459	0	457				0	465	247	324	592	0
Grp Sat Flow(s),veh/h/ln	1783	0	1585				0	1777	1585	1781	1777	0
Q Serve(g_s), s	26.7	0.0	31.2				0.0	9.7	11.9	15.0	8.9	0.0
Cycle Q Clear(g_c), s	26.7	0.0	31.2				0.0	9.7	11.9	15.0	8.9	0.0
Prop In Lane	0.98		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	535	0	476				0	1470	656	243	2116	0
V/C Ratio(X)	0.86	0.00	0.96				0.00	0.32	0.38	1.33	0.28	0.00
Avail Cap(c_a), veh/h	535	0	476				0	1470	656	243	2116	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.3	0.0	37.9				0.0	21.8	22.4	47.5	10.8	0.0
Incr Delay (d2), s/veh	13.1	0.0	31.4				0.0	0.6	1.6	175.6	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(95%),veh/ln	18.9	0.0	22.1				0.0	7.3	8.2	28.6	6.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.4	0.0	69.3				0.0	22.3	24.1	223.1	11.1	0.0
LnGrp LOS	D		E					C	C	F	B	
Approach Vol, veh/h		916						712			916	
Approach Delay, s/veh		59.3						22.9			86.1	
Approach LOS		E						C			F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	51.0		39.0		71.0
Change Period (Y+Rc), s	5.0	5.5		6.0		5.5
Max Green Setting (Gmax), s	15.0	45.5		33.0		65.5
Max Q Clear Time (g_c+I1), s	17.0	13.9		33.2		10.9
Green Ext Time (p_c), s	0.0	4.1		0.0		4.5

Intersection Summary	
HCM 7th Control Delay, s/veh	58.8
HCM 7th LOS	E



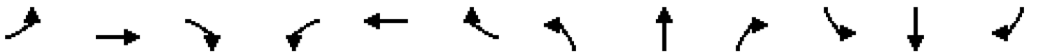
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	364	0	27	461	0	565	0	246	0	0	0
Future Volume (veh/h)	0	364	0	27	461	0	565	0	246	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	396	0	29	501	0	441	243	267	0	0	0
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
Percent Heavy Veh, %	2	2	0	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	623	0	57	527	0	683	312	343	0	197	0
Arrive On Green	0.00	0.33	0.00	0.33	0.33	0.00	0.38	0.38	0.38	0.00	0.00	0.00
Sat Flow, veh/h	0	1870	0	45	1582	0	1781	814	895	0	1870	0
Grp Volume(v), veh/h	0	396	0	530	0	0	441	0	510	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1627	0	0	1781	0	1709	0	1870	0
Q Serve(g_s), s	0.0	16.1	0.0	13.0	0.0	0.0	18.3	0.0	23.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	16.1	0.0	29.1	0.0	0.0	18.3	0.0	23.6	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.05		0.00	1.00		0.52	0.00		0.00
Lane Grp Cap(c), veh/h	0	623	0	585	0	0	683	0	655	0	197	0
V/C Ratio(X)	0.00	0.64	0.00	0.91	0.00	0.00	0.65	0.00	0.78	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	623	0	585	0	0	683	0	655	0	197	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	25.4	0.0	29.5	0.0	0.0	22.7	0.0	24.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.9	0.0	17.5	0.0	0.0	4.7	0.0	8.9	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	12.5	0.0	20.1	0.0	0.0	12.9	0.0	16.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	30.3	0.0	47.0	0.0	0.0	27.4	0.0	33.2	0.0	0.0	0.0
LnGrp LOS		C		D			C		C			
Approach Vol, veh/h		396			530			951			0	
Approach Delay, s/veh		30.3			47.0			30.5			0.0	
Approach LOS		C			D			C				

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		15.0		35.0		40.0				
Change Period (Y+Rc), s		5.0		5.5		5.0		5.5				
Max Green Setting (Gmax), s		30.0		9.5		30.0		34.5				
Max Q Clear Time (g_c+I1), s		18.1		0.0		31.1		25.6				
Green Ext Time (p_c), s		1.3		0.0		0.0		2.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			35.1									
HCM 7th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.



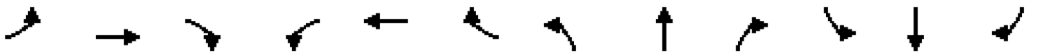
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	331	428	423	964	74	608	199	266	61	256	62
Future Volume (veh/h)	94	331	428	423	964	74	608	199	266	61	256	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	360	465	460	1048	80	439	528	289	66	278	67
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	1214	541	204	1360	607	452	474	402	238	380	90
Arrive On Green	0.07	0.34	0.34	0.11	0.38	0.38	0.25	0.25	0.25	0.13	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	2850	675
Grp Volume(v), veh/h	102	360	465	460	1048	80	439	528	289	66	172	173
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1777	1749
Q Serve(g_s), s	7.9	10.4	38.3	16.0	36.1	4.6	34.2	35.5	23.3	4.7	13.0	13.4
Cycle Q Clear(g_c), s	7.9	10.4	38.3	16.0	36.1	4.6	34.2	35.5	23.3	4.7	13.0	13.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	124	1214	541	204	1360	607	452	474	402	238	237	233
V/C Ratio(X)	0.82	0.30	0.86	2.26	0.77	0.13	0.97	1.11	0.72	0.28	0.72	0.74
Avail Cap(c_a), veh/h	134	1214	541	204	1360	607	452	474	402	433	432	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.3	33.8	42.9	62.0	37.8	28.1	51.8	52.2	47.7	54.6	58.2	58.4
Incr Delay (d2), s/veh	28.3	0.6	16.1	582.3	4.3	0.4	35.1	76.0	6.7	1.1	7.0	7.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	8.1	23.8	62.6	22.8	3.3	26.7	37.2	15.1	3.9	10.4	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	92.6	34.4	59.1	644.3	42.1	28.5	86.9	128.2	54.4	55.7	65.2	66.1
LnGrp LOS	F	C	E	F	D	C	F	F	D	E	E	E
Approach Vol, veh/h		927			1588			1256			411	
Approach Delay, s/veh		53.2			215.8			96.8			64.1	
Approach LOS		D			F			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	53.3		24.7	14.2	59.1		42.0				
Change Period (Y+Rc), s	4.0	5.5		6.0	4.5	5.5		6.5				
Max Green Setting (Gmax), s	16.0	32.5		34.0	10.5	37.5		35.5				
Max Q Clear Time (g_c+I1), s	18.0	40.3		15.4	9.9	38.1		37.5				
Green Ext Time (p_c), s	0.0	0.0		3.3	0.0	0.0		0.0				

Intersection Summary		
HCM 7th Control Delay, s/veh	129.1	
HCM 7th LOS	F	

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)	341	225	123	0	0	0	0	656	377	309	411	0
Future Volume (veh/h)	341	225	123	0	0	0	0	656	377	309	411	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
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	371	245	134				0	713	410	336	447	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	432	285	156				0	1659	740	243	2305	0
Arrive On Green	0.25	0.25	0.25				0.00	0.47	0.47	0.14	0.65	0.00
Sat Flow, veh/h	1751	1156	632				0	3647	1585	1781	3647	0
Grp Volume(v), veh/h	378	0	372				0	713	410	336	447	0
Grp Sat Flow(s),veh/h/ln	1783	0	1757				0	1777	1585	1781	1777	0
Q Serve(g_s), s	22.3	0.0	22.3				0.0	14.7	20.5	15.0	5.6	0.0
Cycle Q Clear(g_c), s	22.3	0.0	22.3				0.0	14.7	20.5	15.0	5.6	0.0
Prop In Lane	0.98		0.36				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	440	0	433				0	1659	740	243	2305	0
V/C Ratio(X)	0.86	0.00	0.86				0.00	0.43	0.55	1.38	0.19	0.00
Avail Cap(c_a), veh/h	535	0	527				0	1659	740	243	2305	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.6	0.0	39.6				0.0	19.6	21.1	47.5	7.8	0.0
Incr Delay (d2), s/veh	11.4	0.0	11.6				0.0	0.8	3.0	196.0	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(95%),veh/ln	16.1	0.0	15.9				0.0	10.1	12.5	30.8	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.0	0.0	51.2				0.0	20.4	24.1	243.5	8.0	0.0
LnGrp LOS	D		D					C	C	F	A	
Approach Vol, veh/h		750						1123			783	
Approach Delay, s/veh		51.1						21.7			109.0	
Approach LOS		D						C			F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	56.9		33.1		76.9
Change Period (Y+Rc), s	5.0	5.5		6.0		5.5
Max Green Setting (Gmax), s	15.0	45.5		33.0		65.5
Max Q Clear Time (g_c+I1), s	17.0	22.5		24.3		7.6
Green Ext Time (p_c), s	0.0	6.7		2.9		3.2

Intersection Summary	
HCM 7th Control Delay, s/veh	55.7
HCM 7th LOS	E



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	303	0	14	232	0	340	0	121	0	0	0
Future Volume (veh/h)	0	303	0	14	232	0	340	0	121	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	329	0	15	252	0	251	167	132	0	0	0
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
Percent Heavy Veh, %	2	2	0	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	623	0	57	597	0	683	371	293	0	197	0
Arrive On Green	0.00	0.33	0.00	0.33	0.33	0.00	0.38	0.38	0.38	0.00	0.00	0.00
Sat Flow, veh/h	0	1870	0	44	1792	0	1781	968	765	0	1870	0
Grp Volume(v), veh/h	0	329	0	267	0	0	251	0	299	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1836	0	0	1781	0	1733	0	1870	0
Q Serve(g_s), s	0.0	12.8	0.0	0.0	0.0	0.0	9.1	0.0	11.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.8	0.0	10.0	0.0	0.0	9.1	0.0	11.6	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.06		0.00	1.00		0.44	0.00		0.00
Lane Grp Cap(c), veh/h	0	623	0	654	0	0	683	0	664	0	197	0
V/C Ratio(X)	0.00	0.53	0.00	0.41	0.00	0.00	0.37	0.00	0.45	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	623	0	654	0	0	683	0	664	0	197	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	24.3	0.0	23.3	0.0	0.0	19.9	0.0	20.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.2	0.0	0.2	0.0	0.0	1.5	0.0	2.2	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	10.2	0.0	7.8	0.0	0.0	7.1	0.0	8.6	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	27.4	0.0	23.5	0.0	0.0	21.4	0.0	22.9	0.0	0.0	0.0
LnGrp LOS		C		C			C		C			
Approach Vol, veh/h		329			267			550			0	
Approach Delay, s/veh		27.4			23.5			22.2			0.0	
Approach LOS		C			C			C				

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		15.0		35.0		40.0				
Change Period (Y+Rc), s		5.0		5.5		5.0		5.5				
Max Green Setting (Gmax), s		30.0		9.5		30.0		34.5				
Max Q Clear Time (g_c+I1), s		14.8		0.0		12.0		13.6				
Green Ext Time (p_c), s		1.2		0.0		1.0		1.5				

Intersection Summary		
HCM 7th Control Delay, s/veh		24.0
HCM 7th 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)	97	886	723	389	635	21	398	169	514	43	139	45
Future Volume (veh/h)	97	886	723	389	635	21	398	169	514	43	139	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	963	786	423	690	23	309	358	559	47	151	49
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	1383	617	204	1523	679	452	474	402	153	228	72
Arrive On Green	0.07	0.39	0.39	0.11	0.43	0.43	0.25	0.25	0.25	0.09	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	2662	835
Grp Volume(v), veh/h	105	963	786	423	690	23	309	358	559	47	99	101
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1777	1720
Q Serve(g_s), s	8.1	31.8	54.5	16.0	19.3	1.2	21.9	24.7	35.5	3.5	7.6	8.0
Cycle Q Clear(g_c), s	8.1	31.8	54.5	16.0	19.3	1.2	21.9	24.7	35.5	3.5	7.6	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	127	1383	617	204	1523	679	452	474	402	153	152	148
V/C Ratio(X)	0.83	0.70	1.27	2.08	0.45	0.03	0.68	0.75	1.39	0.31	0.65	0.68
Avail Cap(c_a), veh/h	134	1383	617	204	1523	679	452	474	402	433	432	418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.2	35.8	42.8	62.0	28.4	23.2	47.2	48.2	52.3	60.1	62.0	62.2
Incr Delay (d2), s/veh	29.8	2.9	135.7	501.5	1.0	0.1	4.7	7.2	190.6	1.9	7.7	9.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.3	20.2	63.9	55.6	13.0	0.8	15.5	18.2	53.2	3.0	6.7	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	93.9	38.7	178.4	563.5	29.3	23.3	51.9	55.5	242.8	62.0	69.7	71.4
LnGrp LOS	F	D	F	F	C	C	D	E	F	E	E	E
Approach Vol, veh/h		1854			1136			1226			247	
Approach Delay, s/veh		101.1			228.1			140.0			68.9	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	60.0		18.0	14.5	65.5		42.0				
Change Period (Y+Rc), s	4.0	5.5		6.0	4.5	5.5		6.5				
Max Green Setting (Gmax), s	16.0	32.5		34.0	10.5	37.5		35.5				
Max Q Clear Time (g_c+I1), s	18.0	56.5		10.0	10.1	21.3		37.5				
Green Ext Time (p_c), s	0.0	0.0		2.0	0.0	5.5		0.0				

Intersection Summary			
HCM 7th Control Delay, s/veh		142.3	
HCM 7th LOS		F	

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)	414	8	420	0	0	0	0	428	227	298	545	0
Future Volume (veh/h)	414	8	420	0	0	0	0	428	227	298	545	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
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	450	9	457				0	465	247	324	592	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	524	10	476				0	1470	656	243	2116	0
Arrive On Green	0.30	0.30	0.30				0.00	0.41	0.41	0.14	0.60	0.00
Sat Flow, veh/h	1748	35	1585				0	3647	1585	1781	3647	0
Grp Volume(v), veh/h	459	0	457				0	465	247	324	592	0
Grp Sat Flow(s),veh/h/ln	1783	0	1585				0	1777	1585	1781	1777	0
Q Serve(g_s), s	26.7	0.0	31.2				0.0	9.7	11.9	15.0	8.9	0.0
Cycle Q Clear(g_c), s	26.7	0.0	31.2				0.0	9.7	11.9	15.0	8.9	0.0
Prop In Lane	0.98		1.00				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	535	0	476				0	1470	656	243	2116	0
V/C Ratio(X)	0.86	0.00	0.96				0.00	0.32	0.38	1.33	0.28	0.00
Avail Cap(c_a), veh/h	535	0	476				0	1470	656	243	2116	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.3	0.0	37.9				0.0	21.8	22.4	47.5	10.8	0.0
Incr Delay (d2), s/veh	13.1	0.0	31.4				0.0	0.6	1.6	175.6	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(95%),veh/ln	18.9	0.0	22.1				0.0	7.3	8.2	28.6	6.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	49.4	0.0	69.3				0.0	22.3	24.1	223.1	11.1	0.0
LnGrp LOS	D		E					C	C	F	B	
Approach Vol, veh/h		916						712			916	
Approach Delay, s/veh		59.3						22.9			86.1	
Approach LOS		E						C			F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	51.0		39.0		71.0
Change Period (Y+Rc), s	5.0	5.5		6.0		5.5
Max Green Setting (Gmax), s	15.0	45.5		33.0		65.5
Max Q Clear Time (g_c+I1), s	17.0	13.9		33.2		10.9
Green Ext Time (p_c), s	0.0	4.1		0.0		4.5

Intersection Summary	
HCM 7th Control Delay, s/veh	58.8
HCM 7th LOS	E



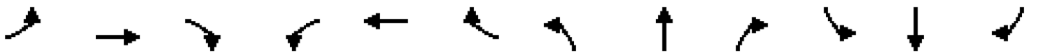
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	364	0	27	461	0	565	0	246	0	0	0
Future Volume (veh/h)	0	364	0	27	461	0	565	0	246	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	396	0	29	501	0	441	243	267	0	0	0
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
Percent Heavy Veh, %	2	2	0	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	623	0	57	527	0	683	312	343	0	197	0
Arrive On Green	0.00	0.33	0.00	0.33	0.33	0.00	0.38	0.38	0.38	0.00	0.00	0.00
Sat Flow, veh/h	0	1870	0	45	1582	0	1781	814	895	0	1870	0
Grp Volume(v), veh/h	0	396	0	530	0	0	441	0	510	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1627	0	0	1781	0	1709	0	1870	0
Q Serve(g_s), s	0.0	16.1	0.0	13.0	0.0	0.0	18.3	0.0	23.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	16.1	0.0	29.1	0.0	0.0	18.3	0.0	23.6	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.05		0.00	1.00		0.52	0.00		0.00
Lane Grp Cap(c), veh/h	0	623	0	585	0	0	683	0	655	0	197	0
V/C Ratio(X)	0.00	0.64	0.00	0.91	0.00	0.00	0.65	0.00	0.78	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	623	0	585	0	0	683	0	655	0	197	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	25.4	0.0	29.5	0.0	0.0	22.7	0.0	24.4	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	4.9	0.0	17.5	0.0	0.0	4.7	0.0	8.9	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	12.5	0.0	20.1	0.0	0.0	12.9	0.0	16.1	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	30.3	0.0	47.0	0.0	0.0	27.4	0.0	33.2	0.0	0.0	0.0
LnGrp LOS		C		D			C		C			
Approach Vol, veh/h		396			530			951			0	
Approach Delay, s/veh		30.3			47.0			30.5			0.0	
Approach LOS		C			D			C				

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		15.0		35.0		40.0				
Change Period (Y+Rc), s		5.0		5.5		5.0		5.5				
Max Green Setting (Gmax), s		30.0		9.5		30.0		34.5				
Max Q Clear Time (g_c+I1), s		18.1		0.0		31.1		25.6				
Green Ext Time (p_c), s		1.3		0.0		0.0		2.2				

Intersection Summary												
HCM 7th Control Delay, s/veh			35.1									
HCM 7th LOS			D									

Notes

User approved volume balancing among the lanes for turning movement.



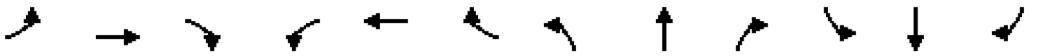
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	94	331	428	423	964	74	608	199	266	61	256	62
Future Volume (veh/h)	94	331	428	423	964	74	608	199	266	61	256	62
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	102	360	465	460	1048	80	439	528	289	66	278	67
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	124	1214	541	204	1360	607	452	474	402	238	380	90
Arrive On Green	0.07	0.34	0.34	0.11	0.38	0.38	0.25	0.25	0.25	0.13	0.13	0.13
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	2850	675
Grp Volume(v), veh/h	102	360	465	460	1048	80	439	528	289	66	172	173
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1777	1749
Q Serve(g_s), s	7.9	10.4	38.3	16.0	36.1	4.6	34.2	35.5	23.3	4.7	13.0	13.4
Cycle Q Clear(g_c), s	7.9	10.4	38.3	16.0	36.1	4.6	34.2	35.5	23.3	4.7	13.0	13.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.39
Lane Grp Cap(c), veh/h	124	1214	541	204	1360	607	452	474	402	238	237	233
V/C Ratio(X)	0.82	0.30	0.86	2.26	0.77	0.13	0.97	1.11	0.72	0.28	0.72	0.74
Avail Cap(c_a), veh/h	134	1214	541	204	1360	607	452	474	402	433	432	425
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.3	33.8	42.9	62.0	37.8	28.1	51.8	52.2	47.7	54.6	58.2	58.4
Incr Delay (d2), s/veh	28.3	0.6	16.1	582.3	4.3	0.4	35.1	76.0	6.7	1.1	7.0	7.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.0	8.1	23.8	62.6	22.8	3.3	26.7	37.2	15.1	3.9	10.4	10.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	92.6	34.4	59.1	644.3	42.1	28.5	86.9	128.2	54.4	55.7	65.2	66.1
LnGrp LOS	F	C	E	F	D	C	F	F	D	E	E	E
Approach Vol, veh/h		927			1588			1256			411	
Approach Delay, s/veh		53.2			215.8			96.8			64.1	
Approach LOS		D			F			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	53.3		24.7	14.2	59.1		42.0				
Change Period (Y+Rc), s	4.0	5.5		6.0	4.5	5.5		6.5				
Max Green Setting (Gmax), s	16.0	32.5		34.0	10.5	37.5		35.5				
Max Q Clear Time (g_c+I1), s	18.0	40.3		15.4	9.9	38.1		37.5				
Green Ext Time (p_c), s	0.0	0.0		3.3	0.0	0.0		0.0				

Intersection Summary	
HCM 7th Control Delay, s/veh	129.1
HCM 7th LOS	F

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)	341	225	123	0	0	0	0	656	377	309	411	0
Future Volume (veh/h)	341	225	123	0	0	0	0	656	377	309	411	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
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	371	245	134				0	713	410	336	447	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2				0	2	2	2	2	0
Cap, veh/h	432	285	156				0	1659	740	243	2305	0
Arrive On Green	0.25	0.25	0.25				0.00	0.47	0.47	0.14	0.65	0.00
Sat Flow, veh/h	1751	1156	632				0	3647	1585	1781	3647	0
Grp Volume(v), veh/h	378	0	372				0	713	410	336	447	0
Grp Sat Flow(s),veh/h/ln	1783	0	1757				0	1777	1585	1781	1777	0
Q Serve(g_s), s	22.3	0.0	22.3				0.0	14.7	20.5	15.0	5.6	0.0
Cycle Q Clear(g_c), s	22.3	0.0	22.3				0.0	14.7	20.5	15.0	5.6	0.0
Prop In Lane	0.98		0.36				0.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	440	0	433				0	1659	740	243	2305	0
V/C Ratio(X)	0.86	0.00	0.86				0.00	0.43	0.55	1.38	0.19	0.00
Avail Cap(c_a), veh/h	535	0	527				0	1659	740	243	2305	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.6	0.0	39.6				0.0	19.6	21.1	47.5	7.8	0.0
Incr Delay (d2), s/veh	11.4	0.0	11.6				0.0	0.8	3.0	196.0	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(95%),veh/ln	16.1	0.0	15.9				0.0	10.1	12.5	30.8	3.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	51.0	0.0	51.2				0.0	20.4	24.1	243.5	8.0	0.0
LnGrp LOS	D		D					C	C	F	A	
Approach Vol, veh/h		750						1123			783	
Approach Delay, s/veh		51.1						21.7			109.0	
Approach LOS		D						C			F	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	56.9		33.1		76.9
Change Period (Y+Rc), s	5.0	5.5		6.0		5.5
Max Green Setting (Gmax), s	15.0	45.5		33.0		65.5
Max Q Clear Time (g_c+I1), s	17.0	22.5		24.3		7.6
Green Ext Time (p_c), s	0.0	6.7		2.9		3.2

Intersection Summary	
HCM 7th Control Delay, s/veh	55.7
HCM 7th LOS	E



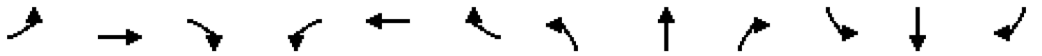
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	303	0	14	232	0	340	0	121	0	0	0
Future Volume (veh/h)	0	303	0	14	232	0	340	0	121	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	0	1870	1870	1870	1870	1870	1870	0	1870	1870
Adj Flow Rate, veh/h	0	329	0	15	252	0	251	167	132	0	0	0
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
Percent Heavy Veh, %	2	2	0	2	2	2	2	2	2	0	2	2
Cap, veh/h	0	623	0	57	597	0	683	371	293	0	197	0
Arrive On Green	0.00	0.33	0.00	0.33	0.33	0.00	0.38	0.38	0.38	0.00	0.00	0.00
Sat Flow, veh/h	0	1870	0	44	1792	0	1781	968	765	0	1870	0
Grp Volume(v), veh/h	0	329	0	267	0	0	251	0	299	0	0	0
Grp Sat Flow(s),veh/h/ln	0	1870	0	1836	0	0	1781	0	1733	0	1870	0
Q Serve(g_s), s	0.0	12.8	0.0	0.0	0.0	0.0	9.1	0.0	11.6	0.0	0.0	0.0
Cycle Q Clear(g_c), s	0.0	12.8	0.0	10.0	0.0	0.0	9.1	0.0	11.6	0.0	0.0	0.0
Prop In Lane	0.00		0.00	0.06		0.00	1.00		0.44	0.00		0.00
Lane Grp Cap(c), veh/h	0	623	0	654	0	0	683	0	664	0	197	0
V/C Ratio(X)	0.00	0.53	0.00	0.41	0.00	0.00	0.37	0.00	0.45	0.00	0.00	0.00
Avail Cap(c_a), veh/h	0	623	0	654	0	0	683	0	664	0	197	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	0.00	1.00	0.00	0.00	1.00	0.00	1.00	0.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	24.3	0.0	23.3	0.0	0.0	19.9	0.0	20.7	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	3.2	0.0	0.2	0.0	0.0	1.5	0.0	2.2	0.0	0.0	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	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.0	10.2	0.0	7.8	0.0	0.0	7.1	0.0	8.6	0.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	0.0	27.4	0.0	23.5	0.0	0.0	21.4	0.0	22.9	0.0	0.0	0.0
LnGrp LOS		C		C			C		C			
Approach Vol, veh/h		329			267			550			0	
Approach Delay, s/veh		27.4			23.5			22.2			0.0	
Approach LOS		C			C			C				

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		35.0		15.0		35.0		40.0				
Change Period (Y+Rc), s		5.0		5.5		5.0		5.5				
Max Green Setting (Gmax), s		30.0		9.5		30.0		34.5				
Max Q Clear Time (g_c+I1), s		14.8		0.0		12.0		13.6				
Green Ext Time (p_c), s		1.2		0.0		1.0		1.5				

Intersection Summary		
HCM 7th Control Delay, s/veh		24.0
HCM 7th 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)	97	886	723	389	635	21	398	169	514	43	139	45
Future Volume (veh/h)	97	886	723	389	635	21	398	169	514	43	139	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	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	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	105	963	786	423	690	23	309	358	559	47	151	49
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
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	127	1383	617	204	1523	679	452	474	402	153	228	72
Arrive On Green	0.07	0.39	0.39	0.11	0.43	0.43	0.25	0.25	0.25	0.09	0.09	0.09
Sat Flow, veh/h	1781	3554	1585	1781	3554	1585	1781	1870	1585	1781	2662	835
Grp Volume(v), veh/h	105	963	786	423	690	23	309	358	559	47	99	101
Grp Sat Flow(s),veh/h/ln	1781	1777	1585	1781	1777	1585	1781	1870	1585	1781	1777	1720
Q Serve(g_s), s	8.1	31.8	54.5	16.0	19.3	1.2	21.9	24.7	35.5	3.5	7.6	8.0
Cycle Q Clear(g_c), s	8.1	31.8	54.5	16.0	19.3	1.2	21.9	24.7	35.5	3.5	7.6	8.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.49
Lane Grp Cap(c), veh/h	127	1383	617	204	1523	679	452	474	402	153	152	148
V/C Ratio(X)	0.83	0.70	1.27	2.08	0.45	0.03	0.68	0.75	1.39	0.31	0.65	0.68
Avail Cap(c_a), veh/h	134	1383	617	204	1523	679	452	474	402	433	432	418
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.2	35.8	42.8	62.0	28.4	23.2	47.2	48.2	52.3	60.1	62.0	62.2
Incr Delay (d2), s/veh	29.8	2.9	135.7	501.5	1.0	0.1	4.7	7.2	190.6	1.9	7.7	9.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.3	20.2	63.9	55.6	13.0	0.8	15.5	18.2	53.2	3.0	6.7	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	93.9	38.7	178.4	563.5	29.3	23.3	51.9	55.5	242.8	62.0	69.7	71.4
LnGrp LOS	F	D	F	F	C	C	D	E	F	E	E	E
Approach Vol, veh/h		1854			1136			1226			247	
Approach Delay, s/veh		101.1			228.1			140.0			68.9	
Approach LOS		F			F			F			E	

Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	20.0	60.0		18.0	14.5	65.5		42.0				
Change Period (Y+Rc), s	4.0	5.5		6.0	4.5	5.5		6.5				
Max Green Setting (Gmax), s	16.0	32.5		34.0	10.5	37.5		35.5				
Max Q Clear Time (g_c+I1), s	18.0	56.5		10.0	10.1	21.3		37.5				
Green Ext Time (p_c), s	0.0	0.0		2.0	0.0	5.5		0.0				

Intersection Summary			
HCM 7th Control Delay, s/veh		142.3	
HCM 7th LOS		F	

Notes

User approved volume balancing among the lanes for turning movement.