



DRAFT
ENVIRONMENTAL IMPACT REPORT

FOR THE

5175 VINCENT AVENUE PROJECT
(SCH #: 2018121056)

FEBRUARY 2021

Prepared for:

City of Irwindale
Community Development Department
Planning Division
5050 North Irwindale Avenue
Irwindale, CA 91706

Prepared by:

De Novo Planning Group
1020 Suncoast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818

D e N o v o P l a n n i n g G r o u p

A Land Use Planning, Design, and Environmental Firm



DRAFT
ENVIRONMENTAL IMPACT REPORT

FOR THE

5175 VINCENT AVENUE PROJECT
(SCH #: 2018121056)

FEBRUARY 2021

Prepared for:

City of Irwindale
Community Development Department
Planning Division
5050 North Irwindale Avenue
Irwindale, CA 91706

Prepared by:

De Novo Planning Group
1020 Suncast Lane, Suite 106
El Dorado Hills, CA 95762
(916) 580-9818

DRAFT EIR

Chapters	Page Numbers
Executive Summary.....	ES-1
1.0 Introduction	1.0-1
1.1 Purpose and Intended Uses of the EIR	1.0-1
1.2 Type of EIR	1.0-1
1.3 Known Responsible and Trustee Agencies	1.0-1
1.4 Environmental Review Process.....	1.0-2
1.5 Organization and Scope	1.0-3
1.6 Comments Received on the Notice of Preparation	1.0-5
2.0 Project Description	2.0-1
2.1 Project Location and Setting.....	2.0-1
2.2 Historical Background	2.0-1
2.3 Public Outreach.....	2.0-4
2.4 Project Description	2.0-5
2.5 Project Goals and Objectives	2.0-9
2.6 Uses of the EIR and Required Agency Approvals.....	2.0-10
3.1 Aesthetics and Visual Resources.....	3.1-1
3.1.1 Environmental Setting	3.1-1
3.1.2 Regulatory Setting	3.1-3
3.1.3 Impacts and Mitigation Measures	3.1-5
3.2 Air Quality	3.2-1
3.2.1 Environmental Setting	3.2-1
3.2.2 Regulatory Setting	3.2-10
3.2.3 Impacts and Mitigation Measures	3.2-18
3.3 Geology and Soils.....	3.3-1
3.3.1 Environmental Setting	3.3-1
3.3.2 Regulatory Setting	3.3-9
3.3.3 Impacts and Mitigation Measures	3.3-13
3.4 Greenhouse Gases, Climate Change and Energy.....	3.4-1
3.4.1 Environmental Setting	3.4-1

3.4.2 Regulatory Setting..... 3.4-6

3.4.3 Impacts and Mitigation Measures 3.4-26

3.5 Hazards and Hazardous Materials 3.5-1

 3.5.1 Environmental Setting 3.5-1

 3.5.2 Regulatory Setting..... 3.5-10

 3.5.3 Impacts and Mitigation Measures 3.5-14

3.6 Hydrology and Water Quality 3.6-1

 3.6.1 Environmental Setting 3.6-1

 3.6.2 Regulatory Setting..... 3.6-11

 3.6.3 Impacts and Mitigation Measures 3.6-18

3.7 Noise 3.7-1

 3.7.1 Environmental Setting 3.7-1

 3.7.2 Regulatory Setting..... 3.7-7

 3.7.3 Impacts and Mitigation Measures 3.7-10

3.8 Transportation and Circulation 3.8-1

 3.8.1 Environmental Setting 3.8-1

 3.8.2 Analysis Methods 3.8-2

 3.8.3 Regulatory Setting..... 3.8-6

 3.8.4 Impacts and Mitigation Measures 3.8-7

4.0 Other CEQA-Required Topics 4.0-1

 4.1 Cumulative Setting and Impact Analysis..... 4.0-1

 4.2 Significant Irreversible Effects..... 4.0-14

 4.3 Growth-Inducing Impacts 4.0-15

 4.4 Significant and Unavoidable Impacts..... 4.0-15

5.0 Alternatives to the Proposed Project..... 5.0-1

 5.1 CEQA Requirements..... 5.0-1

 5.2 Alternatives Considered in this EIR 5.0-3

 5.3 Environmental Analysis..... 5.0-4

6.0 Report Preparers..... 6.0-1

7.0 References 7.0-1

Tables	Page Numbers
Table ES-1: Comparison Summary of Alternatives to the Proposed Project	ES-3
Table ES-2: Project Impacts and Proposed Mitigation Measures.....	ES-5
Table 3.2-1: Federal and State Ambient Air Quality Standards	3.2-7
Table 3.2-2: State and National Attainment Status	3.2-8
Table 3.2-3 Ambient Air Quality Monitoring Data (Azusa)	3.2-9
Table 3.2-4: Local Significance Thresholds (LSTs)	3.2-20
Table 3.2-5: Operational Project Generated Emissions at Full Buildout	3.2-28
Table 3.2-6: Operational-Related Emissions Attributable to Project Buildout (LST Analysis)	3.2-31
Table 3.2-7: Construction-Related Project Generated Emissions (pounds/day) (Mitigated) ..	3.2-34
Table 3.2-8: Equipment-Specific Grading Rates.....	3.2-35
Table 3.2-9: Construction-Related Emissions Attributable to Project Buildout (LST Analysis)	3.2-36
Table 3.2-10: CARB Minimum Separation Recommendations on Siting Sensitive Land Uses	3.2-40
Table 3.2-11: Summary of Maximum Health Risks	3.2-40
Table 3.3-1: Project Site Soils	3.3-3
Table 3.3-2: Modified Mercalli Intensity Scale for Earthquakes.....	3.3-6
Table 3.4-1: Construction GHG Emissions (Unmitigated Average MT CO ₂ e/year)	3.4-28
Table 3.4-2: Operational GHG Emissions at Buildout (Metric Tons/Year)	3.4-28
Table 3.4-3: Consistency with SCAG's RTP/SCS Goals.....	3.4-31
Table 3.4-4: Natural Gas Use and GHG Emissions	3.4-34
Table 3.4-5: Electricity Use and GHG Emissions	3.4-34
Table 3.4-6: On-Road Mobile Fuel Generated by Project Construction Activities – By Phase	3.4-35
Table 3.5-1: EPA TRI Facilities Within the City of Irwindale	3.5-5
Table 3.5-2: GeoTracker Hazardous Material Release Sites Within 0.5 Miles of Project Site ...	3.5-5
Table 3.5-3: GeoTracker Hazardous Material Release Sites Within 1.0 Mile of Project Site.....	3.5-8
Table 3.6-1: State of California Watershed Hierarchy Naming Convention	3.6-4
Table 3.6-2: ALW Groundwater Wells	3.6-8
Table 3.6-3: Groundwater Production (Total All Wells)	3.6-8
Table 3.6-4: ALW's Water Supply Summary	3.6-8
Table 3.7-1: Typical Noise Levels	3.7-3
Table 3.7-2: Summary of Existing Background Noise Measurement Data	3.7-5
Table 3.7-3: Existing Traffic Noise Levels and Distances to Contours.....	3.7-6
Table 3.7-4: City of Irwindale Ambient Base Noise Levels.....	3.7-8
Table 3.7-5: Effects of Vibration on People and Buildings.....	3.7-10
Table 3.7-6: Significance of Changes in Noise Exposure.....	3.7-11

Table 3.7-7: Existing and Existing Plus Project Traffic Noise Levels 3.7-12

Table 3.7-8: Baseline and Baseline Plus Project Traffic Noise Levels..... 3.7-13

Table 3.7-9: Cumulative and Cumulative Plus Project Traffic Noise Levels 3.7-13

Table 3.7-10: Construction Equipment Noise Levels for Primary Construction Phases 3.7-17

Table 3.7-11: Vibration Levels for Various Construction Equipment 3.7-19

Table 3.8-1: City of Irwindale VMT Thresholds of Significance..... 3.8-2

Table 4.0-1: Estimated Population Growth Projections 4.0-2

Table 5.0-1: Multiple Building Alternative 5.0-4

Table 5.0-2: Comparison of Alternative Project Impacts to the Proposed Project 5.0-21

Figures

Note: Figures are located at the end of the chapters.

Figure 2.0-1 Regional Location Map

Figure 2.0-2 Project Vicinity

Figure 2.0-3 Aerial View of Project Site

Figure 2.0-4 Assessor’s Parcel Map

Figure 2.0-5 Site Plan

Figure 2.0-6 Existing and Proposed General Plan Land Use Map

Figure 2.0-7 Existing and Proposed Zoning Designations

Figure 3.1-1a Visual Simulations – From Vincent Avenue NW

Figure 3.1-1b Visual Simulations – From Vincent Avenue SW

Figure 3.1-1c Visual Simulations – From Allen Drive W

Figure 3.3-1 Project Site Soils

Figure 3.3-2 Earthquake Fault Map

Figure 3.6-1 Principal Watershed

Figure 3.6-2 FEMA Flood Insurance Rate Map

Figure 3.6-3 Dam Inundation Map

Figure 3.7-1 Noise Measurement Sites

Figure 3.7-2 Predicted Project Noise Contours (dBA L_{eq}) – Proposed Site Layout

Figure 3.7-3 Predicted Project Noise Contours (dBA L_{dn}) – Proposed Site Layout

Figure 3.7-4 Predicted Construction Noise Contours (dBA L_{eq})

Figure 3.8-1 Existing Pedestrian Facilities

Figure 3.8-2 City of Irwindale Bicycle Master Plan

Figure 3.8-3 Transit Service Map

Figure 5.0-1 Multiple Building Alternative

Figure 5.0-2a	Visual Simulations – From Vincent Avenue NW
Figure 5.0-2b	Visual Simulations – From Vincent Avenue SW
Figure 5.0-2c	Visual Simulations – From Allen Drive W
Figure 5.0-3	Predicted Project Noise Contours (dBA L_{eq}) – Alternate Site Layout
Figure 5.0-4	Predicted Project Noise Contours (dBA L_{dn}) – Alternate Site Layout

Appendices

Appendix A:	Initial Study, Notice of Preparation, and NOP Comments
Appendix B:	Air Quality, Greenhouse Gas, and Energy Appendices
	Appendix B.1: Analysis of Models and Tools for Correlating Project-Generated Emissions to Health End Points
	Appendix B.2: CalEEMod Modeling Results
	Appendix B.3: Energy Consumption Estimates
	Appendix B.4: Air Toxics Health Risk Assessment
Appendix C:	Noise Data
Appendix D:	Traffic Impact Analysis

This page left intentionally blank.

INTRODUCTION

The City of Irwindale has determined that the 5175 Vincent Avenue Project is a "Project" within the definition of the California Environmental Quality Act (CEQA). CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "Project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

The EIR contains a description of the Project, description of the environmental setting, identification of Project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of Project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the Notice of Preparation (NOP) were considered in preparing the analysis in this EIR.

PROJECT DESCRIPTION

The proposed Project is the development of 26.05 acres of land that was formerly used as a mining pit (Manning Pit) dating back to the 1930s. The proposed Project includes development of a 545,735 square feet (sf) industrial warehouse building. The building would be a concrete tilt-up. Approximately 540,447 sf would be ground floor area and 5,000 sf would be mezzanine area. The proposed site plan is shown on Figure 2.0-5. A reclamation process for the mine was completed and a closure report was approved by the City Council in January 2019 allowing for the development of the site for new development.

The City of Irwindale General Plan specifically addresses development of the Manning Pit, a portion of which is the Project site. The General Plan notes that the City owned the northern portion of the pit, which contains two parcels: 8417-034-015 and 8417-034-016. The western parcel on the former Manning Pit (8417-034-912) is approximately 10 acres and is designated Residential, which is not part of the Project development. The eastern parcels comprise the Project site, and contain 19.12 acres of Industrial/Business Park and 6.93 acre of Residential. The entire 26.05 acres is zoned M-2 "Heavy Manufacturing." This inconsistency between the General Plan land use designation and the zoning is associated with the 6.93 acres of Residential land use where the designation doesn't align with the parcel boundary. The inconsistency between the General Plan and the zoning requires an amendment to bring the allowed uses/zoning into consistency before the Project could be developed in a way that meets the Project objectives.

The City has received an application to change the 6.93-acre portion of the parcel from "Residential" to "Industrial/Business Park," which is consistent with the land use on the balance of the parcel. In addition to the General Plan Amendment, a Site Plan and Design Review application and Lot Line Adjustment are under concurrent review. A combination of the development and legislative applications and combining of the lots involves the development of the two (2) parcels as a single

use industrial Project. This amendment would make the entire parcel a single use. The parcel to the west of the subject property would remain designated Residential.

The Industrial/Business Park General Plan land use designation allows for a variety of uses including: light industry, heavy industry, distribution, or commercial uses. The proposed Project, however, is an industrial warehouse building, which is specifically allowed under the Industrial/Business Park land use and the M-2 “Heavy Manufacturing” zoning.

Using the maximum floor-area-ratio (FAR) for the Industrial/Business Park designation (1.0:1.0), the development of the site would allow for the construction of 1,134,738 sf of industrial uses, 832,867 sf of which is located on the 19.12 acres that is currently designated Industrial/Business Park under the existing General Plan land use. The application received by the City of Irwindale does not propose a building anywhere close to the maximum FAR for the Project site. Instead, the application submitted to the City includes an industrial warehouse building totaling 545,735 sf, which is approximately 48% of the maximum FAR allowed for this General Plan land use.

See Chapter 2.0, Project Description, for the complete description.

AREAS OF CONTROVERSY AND ISSUES TO BE RESOLVED

This Draft EIR addresses environmental impacts associated with the proposed Project that are known to the City of Irwindale, were raised during the NOP process, or raised during preparation of the Draft EIR. This Draft EIR discusses potentially significant impacts associated with aesthetics, air quality, geology and soils, greenhouse gas emissions, climate change and energy, hazards and hazardous materials, hydrology and water quality, noise, transportation and circulation.

Public review of the Initial Study and NOP documents occurred from February 10, 2020 through March 11, 2020. The City of Irwindale received written comment letters on the NOP for the proposed Project. A copy the letters are provided in Appendix A of this Draft EIR. During the public review period, twelve comment letters provided. No written or verbal comments were provided at that scoping meeting.

- California Department of Transportation;
- California Air Resource Board;
- California Department of Fish and Wildlife;
- County Sanitation District of Los Angeles County;
- Gabrieleño Band of Mission Indians (Kizh Nation);
- South Coast Air Quality Management District;
- Veronica Vanmarcke;
- Edward and Margaret Curren;
- James Trenkamp and Charlotte Santos.

ALTERNATIVES TO THE PROPOSED PROJECT

The CEQA Guidelines require an EIR to describe a reasonable range of alternatives to the Project or to the location of the Project which would reduce or avoid significant impacts, and which could

feasibly accomplish the basic objectives of the proposed Project. Three alternatives to the proposed Project were developed based on input from City staff, the public during the NOP review period, and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project.

- **No Project (No Build) Alternative:** Under this alternative, development of the Project site would not occur, and the Project site would remain in its current existing condition.
- **Multiple Building Alternative:** Under this alternative, the proposed Project would be developed with the same type of use as described in the Project Description, but the warehouse building would be split into three smaller warehouse buildings.
- **Maximum FAR Alternative:** Under this alternative, the proposed Project would be developed using the maximum floor-area-ratio (FAR).

Alternatives are described in detail in Chapter 5. Table ES-1 presents a comparison of the alternative Project impacts with those of the proposed Project. As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Multiple Building Alternative would be the next environmentally superior alternative because this alternative would reduce impacts related to noise and transportation. However, the Multiple Building Alternative would not fully meet all of the Project objectives.

TABLE ES-1: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

<i>ENVIRONMENTAL ISSUE</i>	<i>NO PROJECT (NO BUILD) ALTERNATIVE</i>	<i>MULTIPLE BUILDING ALTERNATIVE</i>	<i>MAXIMUM FAR ALTERNATIVE</i>
Aesthetics and Visual Resources	Less (Best)	Greater (2nd Best)	Greater (3rd Best)
Air Quality	Less (Best)	Equal (2nd Best)	Greater (3rd Best)
Geology and Soils	Less (Best)	Equal (2nd Best)	Equal (3rd Best)
Greenhouse Gases, Climate Change and Energy	Less (Best)	Equal (2nd Best)	Greater (3rd Best)
Hazards and Hazardous Materials	Less (Best)	Equal (2nd Best)	Equal (3rd Best)
Hydrology and Water Quality	Less (Best)	Equal (2nd Best)	Equal (3rd Best)
Noise	Less (Best)	Less (2nd Best)	Greater (3rd Best)
Transportation and Circulation	Less (Best)	Less (2nd Best)	Greater (3rd Best)

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT

LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT

EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

SUMMARY OF IMPACTS AND MITIGATION MEASURES

In accordance with the CEQA Guidelines, this EIR focuses on the significant effects on the environment. The CEQA Guidelines defines a significant effect as a substantial adverse change in the physical conditions which exist in the area affected by the proposed Project. A less than significant effect is one in which there is no long or short-term significant adverse change in environmental conditions. Some impacts are reduced to a less than significant level with the implementation of mitigation measures and/or compliance with regulations.

The environmental impacts of the proposed Project, the impact level of significance prior to mitigation, the proposed mitigation measures and/or adopted policies and standard measures that are already in place to mitigate an impact, and the impact level of significance after mitigation are summarized in Table ES-2.

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
AESTHETICS AND VISUAL RESOURCES			
Impact 3.1-1: Project implementation would not result in substantial adverse effects on a scenic vista.	LS	<i>None required.</i>	--
Impact 3.1-2: Project implementation would not conflict with an applicable zoning or other regulation governing scenic quality within an urbanized area.	LS	<i>None required.</i>	--
Impact 3.1-3: Project implementation may result in light and glare impacts.	PS	Mitigation Measure 3.1-1: <i>A lighting plan for the Project shall be prepared prior to the approval of the Site Plan review for each phase. The lighting plan shall demonstrate that the lighting systems and other exterior lighting throughout the Project site has been designed to minimize light spillage onto adjacent properties to the greatest extent feasible, consistent with the Site Plan and Design Review requirements established in Chapter 17.70 of the City's Municipal Code.</i>	LS
AIR QUALITY			
Impact 3.2-1: The Project has the potential to conflict with or obstruct implementation of the applicable air quality plan.	SU	Implement Mitigation Measures 3.2-1 and 3.1-2	SU
Impact 3.2-2: Proposed Project operation has the potential to expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard.	SU	Mitigation Measure 3.2-1: <i>Prior to the certificate of occupancy issuance, the Project applicant shall demonstrate to the satisfaction of the City of Irwindale Community Development Manager/City Planner and/or their designee that the following measures would be implemented during Project operations. These measures shall be enforced and maintained through Covenants, Codes, and Restrictions (CC&Rs), or other means acceptable to the City of Irwindale Community Development Manager/City Planner and/or their designee.</i> <ul style="list-style-type: none"> <i>The proposed warehouse shall be constructed with the appropriate infrastructure to facilitate sufficient electric charging for trucks to plug-in in anticipation of future technology allowing trucks to operate partially on electricity.</i> 	SU

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

PS – potentially significant

B – beneficial impact

SU – significant and unavoidable

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
		<ul style="list-style-type: none"> • At least five percent of all vehicle parking spaces shall include rough-in of electrical conduit for future EV charging stations. Further, provisions for future electrical hookups to plug in any onboard auxiliary equipment shall be provided for Project trucks at each dock door location. Electrical panels shall be appropriately sized to allow for future expanded use. • Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable California Air Resources Board (CARB) anti-idling regulations. At a minimum each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than five minutes; and 3) telephone numbers of the building facilities manager and CARB to report violations. • Maintain a buffer zone of at least 150 feet between truck loading zones/docks and the nearest sensitive receptors. • All service equipment (i.e., forklifts) used within the site shall be electric or compressed natural gas-powered (propane). • In order to promote alternative fuels, and help support “clean” truck fleets, the developer/successor-in-interest shall provide building occupants with information related to SCAQMD’s Carl Moyer Program, or other such programs that promote truck retrofits or “clean” vehicles and information including, but not limited to, the health effect of diesel particulates, benefits of reduced idling time, CARB regulations, and importance of not parking in residential areas. Tenants shall be notified about the availability of: 1) alternatively fueled cargo handling equipment; 2) grant programs for diesel-fueled vehicle engine retrofit and/or replacement; 3) designated truck parking locations in the Project vicinity; 4) access to alternative fueling stations proximate to the site that supply compressed natural gas; and 5) the United States Environmental Protection Agency’s SmartWay program. • There shall be provisions for preferential parking for carpoolers and vanpools. 	
Impact 3.2-3: Proposed Project construction has the potential to expose sensitive receptors to substantial pollutant concentrations or result in a	PS	Mitigation Measure 3.2-2: Prior to the grading permit issuance, the Project applicant shall demonstrate to the satisfaction of the City of Irwindale Community Development Manager/City Planner and/or their designee that the following measures would be	LS

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

PS – potentially significant

B – beneficial impact

SU – significant and unavoidable

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
<p>cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard.</p>		<p><i>implemented during Project construction activities. These measures shall be enforced and maintained by the construction contractor throughout construction activities.</i></p> <ul style="list-style-type: none"> • <i>Ensure the cleanest possible construction practices and equipment are used. This includes eliminating the idling of diesel-powered equipment and providing the necessary infrastructure (e.g. electrical hookups) to support zero and near-zero equipment and tools;</i> • <i>Implement, and plan accordingly for, the necessary infrastructure to support zero and near-zero emission technology vehicles and equipment that will be operating on-site. Necessary infrastructure may include the physical (e.g. needed footprint), energy, and fueling infrastructure for construction equipment, on-site vehicles and equipment, and medium-heavy and heavy-duty trucks;</i> • <i>In construction contracts, include language that requires all construction equipment and fleets to be in compliance with all current air quality regulations;</i> • <i>Apply water every 3 hours to disturbed areas within a construction site;</i> • <i>Require minimum soil moisture of 12% for earthmoving by use of a moveable sprinkler system or a water truck. Moisture content can be verified by lab sample or moisture probe.</i> • <i>Limit on-site vehicle speeds (on unpaved roads) to 15 mph;</i> • <i>Replace ground cover in disturbed areas as quickly as possible;</i> • <i>All trucks hauling dirt, sand, soil, or other loose materials are to be tarped with a fabric cover and maintain a freeboard height of 12 inches.</i> • <i>Apply chemical dust suppressant annually to unpaved parking areas.</i> • <i>Cover inactive storage piles;</i> • <i>Sweep streets if visible soil material is carried out from the construction site; and/or</i> • <i>Post a publicly visible sign written in English and Spanish which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The sign shall be in accordance with SCAQMD and/or City requirements, as applicable;</i> 	

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

PS – potentially significant

B – beneficial impact

SU – significant and unavoidable

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
		<ul style="list-style-type: none"> Further, where reasonably feasible, construction equipment should include the use of alternative fuels such as compressed natural gas (CNG), propane, electricity or biodiesel. 	
Impact 3.2-4: The proposed Project has the potential to result in other emissions (such as those leading to odors) affecting a substantial number of people.	LS	None required.	--
Impact 3.2-5: The proposed Project has the potential to cause substantial adverse effects on human beings, either directly or indirectly.	SU	Implement Mitigation Measures 3.2-1 and 3.1-2	SU
GEOLOGY AND SOILS			
Impact 3.3-1: The proposed Project may expose people or structures to potential substantial adverse effects involving strong seismic ground shaking or seismic related ground failure.	LS	None required.	--
Impact 3.3-2: The proposed Project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of Project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse.	PS	Mitigation Measure 3.3-1: Prior to earthmoving activities for each phase of the Project, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures, including threats from liquefaction, liquefaction induced settlement, or lateral spreading. The grading and improvement plans, as well as the storm drainage and building plans for each phase of the Project shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.	LS
Impact 3.3-3: Potential for expansive soils to create substantial risks to life or property.	PS	Implement Mitigation Measure 3.3-1	LS

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

PS – potentially significant

B – beneficial impact

SU – significant and unavoidable

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
GREENHOUSE GASES AND CLIMATE CHANGE			
Impact 3.4-1: Potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment	PS	<p>Mitigation Measure 3.4-1: Prior to the certificate of occupancy issuance, the Project Applicant shall demonstrate to the satisfaction of the City of Irwindale Community Development Manager/City Planner and/or their designee that the following measures would be implemented during Project operations. These measures shall be enforced and maintained through Covenants, Codes, and Restrictions (CC&Rs), or other means acceptable to the City of Irwindale Community Development Manager/City Planner and/or their designee.</p> <ul style="list-style-type: none"> • Maximize use of solar energy, including solar panels. • Install the maximum possible number of solar energy arrays on the building roof and/or on the Project site to generate solar energy for the facility. • Maximize the planting of trees in landscaping and parking lots. • Employ the use of light-colored paving and roofing materials. • Utilize only Energy Star heating, cooling, and lighting devices and appliances. • Employ the use of electric or alternatively-fueled sweeper with high-efficiency particulate air (HEPA) filters. 	LS
Impact 3.4-2: Potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases	LS	None required.	--
Impact 3.4-3: Project implementation may result in the inefficient, wasteful, or unnecessary use of energy resources	LS	None required.	--
HAZARDS AND HAZARDOUS MATERIALS			
Impact 3.5-1: Potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident	PS	<p>Mitigation Measure 3.5-1: Prior to the commencement of a business operation that involves the transport, storage, use, or disposal of a significant quantity hazardous material within the Project site, the business owner shall submit a Hazardous Materials Business Plan (HMBP) for review and approval by the Los Angeles County Fire Department Health Hazardous Materials Division. The HMBP shall establish management practices for</p>	LS

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

PS – potentially significant

B – beneficial impact

SU – significant and unavoidable

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
conditions involving the release of hazardous materials into the environment.		<i>handling, storing, and disposal of hazardous materials, including fuels, paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. The HMBP shall also identify the appropriate area for mixing/loading pesticides and fertilizers and for fuel dispensing, which shall be separated to ensure safety. The areas shall be designed with spillage catchments such that any accidental spillage is prevented from entering waterways. The business owner shall also consult with the Los Angeles County Fire Department Health Hazardous Materials Division to ensure that the particular business operations are compliant with all local, state, and federal regulations relative to their operations (i.e. proper permits for the installation and use of an underground storage of hazardous substances (USTs)). The approved HMBP and any other permit deemed to be required in order to commence the specific business operations shall be maintained onsite and all personnel shall acknowledge that they have reviewed and understand the HMBP and any other permit requirements.</i>	
Impact 3.5-2: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LS	<i>None required.</i>	--
Impact 3.5-3: Potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.	LS	<i>None required.</i>	--
Impact 3.5-4: Potential to result in a safety hazards for people residing or working on the Project site as a result of public airport, public use airport, or private airstrip.	LS	<i>None required.</i>	--
Impact 3.5-5: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LS	<i>None required.</i>	--

*CC – cumulatively considerable**LCC – less than cumulatively considerable**LS – less than significant**PS – potentially significant**B – beneficial impact**SU – significant and unavoidable*

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
Impact 3.5-6: Potential to expose people or structures to a risk of loss, injury or death from wildland fires.	LS	None required.	--
HYDROLOGY AND WATER QUALITY			
Impact 3.6-1: The proposed Project has the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality	LS	<p>Mitigation Measure 3.6-1: The Project applicant shall implement the following nonstructural BMPs that focus on preventing pollutants from entering stormwater:</p> <ul style="list-style-type: none"> • Pollution Prevention/Good Housekeeping <ul style="list-style-type: none"> ○ Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation in each phase of the Project, the Project proponent shall develop a spill response and prevention plan as a component of (1) SWPPPs prepared for construction activities, (2) SWPPPs for facilities subject to the NPDES Stormwater Permit, and (3) spill prevention control and countermeasure plans for qualifying facilities. The spill response and prevention plan shall be implemented during all construction activities. ○ Streets and parking lots in all non-residential portions of the Project site shall be swept at least once every two weeks. • Operation and Maintenance (O&M) of Treatment Controls <ul style="list-style-type: none"> ○ Prior to clearing, grading, and disturbances to the ground such as stockpiling, or excavation in each phase of the Project, the Project proponent shall develop an Operation and Maintenance (O&M) Plan for the storm drainage facilities to ensure long-term performance. The O&M plan shall incorporate the manufacturers' recommended maintenance procedures and include (1) provisions for debris removal, (2) guidance for addressing public health or safety issues, and (3) methods and criteria for assessing the efficacy of the storm drainage system. An annual report shall be submitted to the City certifying that maintenance of the facilities was conducted according to the O&M plan. 	LS
Impact 3.6-2: The proposed Project has the potential to substantially deplete groundwater	LS	None required.	--

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

PS – potentially significant

B – beneficial impact

SU – significant and unavoidable

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.			
Impact 3.6-3: The proposed Project would not alter the existing drainage pattern of the site or area, including the alteration of the course of a river or through the addition of impervious surfaces, in a manner which would result in substantial erosion, siltation, surface runoff, flooding, or polluted runoff.	PS	<i>Implement Mitigation Measure 3.6-1</i>	LS
Impact 3.6-4 The proposed Project has the potential to, in a flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation.	LS	<i>None required.</i>	--
Impact 3.6-5 The proposed Project has the potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.	PS	<i>Implement Mitigation Measures 3.6-1</i>	LS
NOISE			
Impact 3.7-1: The Project may result in exposure of persons to or generation of substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies – Project Operation	LS	<i>None required.</i>	LS
Impact 3.7-2: The Project may result in exposure of persons to or generation of substantial temporary increase in ambient noise levels in excess of standards established in the local	LS	<i>Mitigation Measure 3.7-1: To reduce potential construction noise impacts during Project construction, the following multi-part mitigation measure shall be implemented for the Project:</i>	LS

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

PS – potentially significant

B – beneficial impact

SU – significant and unavoidable

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

ENVIRONMENTAL IMPACT	LEVEL OF SIGNIFICANCE WITHOUT MITIGATION	MITIGATION MEASURE	RESULTING LEVEL OF SIGNIFICANCE
<p>general plan or noise ordinance, or applicable standards of other agencies – Project Construction.</p>		<ul style="list-style-type: none"> • All construction equipment powered by internal combustion engines shall be properly muffled and maintained. • Quiet construction equipment, particularly air compressors, are to be selected whenever possible. • All stationery noise-generating construction equipment such as generators or air compressors are to be located as far as is practical from existing residences. In addition, the Project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site. • Unnecessary idling of internal combustion engines is prohibited. • The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction. • Construction shall be limited to 7 AM to 7 PM on weekdays and 8 AM to 4 PM on Saturdays with no work allowed on Sundays unless otherwise authorized by the City in writing. • Staging areas on the Project site shall be located in areas that maximize, to the extent feasible, the distance between staging activity and sensitive receptors. <p>These requirements shall be noted on the Project improvement plans.</p>	
<p>Impact 3.7-3: The Project may result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels.</p>	<p>LS</p>	<p>None required.</p>	<p>--</p>
<p>TRANSPORTATION AND CIRCULATION</p>			
<p>Impact 3.8-1: The Project would not conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).</p>	<p>PS</p>	<p>Mitigation Measure 3.8-1: The Project employer shall be required to provide general commute benefits to employees, which may include financial subsidies or pre-tax deductions for transit, carpooling, and vanpooling activities. All employees shall be eligible for alternative transportation benefits.</p>	<p>LS</p>

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

PS – potentially significant

B – beneficial impact

SU – significant and unavoidable

TABLE ES-2: PROJECT IMPACTS AND PROPOSED MITIGATION MEASURES

<i>ENVIRONMENTAL IMPACT</i>	<i>LEVEL OF SIGNIFICANCE WITHOUT MITIGATION</i>	<i>MITIGATION MEASURE</i>	<i>RESULTING LEVEL OF SIGNIFICANCE</i>
Impact 3.8-2: The Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.	LS	<i>None required.</i>	--
Impact 3.8-3: The proposed Project may substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)	LS	<i>None required.</i>	--
Impact 3.8-4: The proposed Project would not result in inadequate emergency access.	LS	<i>None required.</i>	--
CUMULATIVE IMPACTS			
Impact 4.1: Cumulative Impacts on Aesthetics and Visual Resources	LS and LCC	<i>Implement Mitigation Measure 3.1-1</i>	--
Impact 4.2: Cumulative Impact on the Region's Air Quality	SU and CC	<i>Implement Mitigation Measure 3.2.-1 and Mitigation Measure 3.2-2</i>	CC and SU
Impact 4.3: Cumulative Impact on Geologic and Soils Resources	LS and LCC	<i>Implement Mitigation Measure 3.3-1</i>	--
Impact 4.4: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions	LS and LCC	<i>Implement Mitigation Measure 3.4-1</i>	--
Impact 4.5: Cumulative Impact Related to Hazards and Hazardous Materials	LS and LCC	<i>None required.</i>	--
Impact 4.6: Cumulative Impact Related to Hydrology and Water Quality	LS and LCC	<i>Implement Mitigation Measure 3.6-1</i>	--
Impact 4.7: Cumulative Impact Related to Noise (Less than Significant and Less than Cumulatively Considerable)	LS and LCC	<i>None required.</i>	--
Impact 4.8: Cumulative Impact Related to Transportation and Circulation	LS and LCC	<i>None required.</i>	--

CC – cumulatively considerable

LCC – less than cumulatively considerable

LS – less than significant

PS – potentially significant

B – beneficial impact

SU – significant and unavoidable

1.1 PURPOSE AND INTENDED USES OF THE EIR

The City of Irwindale, as the lead agency, determined that the proposed 5175 Vincent Avenue Project is a "project" within the definition of the California Environmental Quality Act (CEQA). CEQA requires the preparation of an environmental impact report (EIR) prior to approving any project, which may have a significant impact on the environment. For the purposes of CEQA, the term "project" refers to the whole of an action, which has the potential for resulting in a direct physical change or a reasonably foreseeable indirect physical change in the environment (CEQA Guidelines Section 15378[a]).

An EIR must disclose the expected environmental impacts, including impacts that cannot be avoided, growth-inducing effects, impacts found not to be significant, and significant cumulative impacts, as well as identify mitigation measures and alternatives to the proposed project that could reduce or avoid its adverse environmental impacts. CEQA requires government agencies to consider and, where feasible, minimize environmental impacts of proposed development; public agencies have an obligation to balance a variety of public objectives, including economic, environmental, and social factors.

The City of Irwindale, as the lead agency, has prepared this Draft EIR to provide the public and responsible and trustee agencies with an objective analysis of the potential environmental impacts resulting from implementation of the proposed Project. The environmental review process enables interested parties to evaluate the proposed Project in terms of its environmental consequences, to examine and recommend methods to eliminate or reduce potential adverse impacts, and to consider a reasonable range of alternatives to the proposed Project. This EIR will be used by the City of Irwindale to determine whether to approve, modify, or deny the proposed Project and associated approvals in light of the Project's environmental effects. The EIR will be used as the primary environmental document to evaluate full development, all associated infrastructure improvements, and permitting actions associated with the proposed Project. All of the actions and components of the proposed Project are described in detail in Chapter 2.0, Project Description.

1.2 TYPE OF EIR

The State CEQA Guidelines identify several types of EIRs, each applicable to different project circumstances. This EIR has been prepared as a Project-level EIR, which is described in State CEQA Guidelines § 15161 as: "The most common type of EIR (which) examines the environmental impacts of a specific development project. This type of EIR should focus primarily on the changes in the environment that would result from the development project. The EIR shall examine all phases of the project including planning, construction, and operation. The project-level analysis considers the broad environmental effects of the proposed Project."

1.3 KNOWN RESPONSIBLE AND TRUSTEE AGENCIES

The term "Responsible Agency" includes all public agencies other than the Lead Agency that have discretionary approval power over the proposed Project or an aspect of the proposed Project (CEQA

1.0 INTRODUCTION

Guidelines Section 15381). For the purpose of CEQA, a “Trustee” agency has jurisdiction by law over natural resources that are held in trust for the people of the State of California (CEQA Guidelines Section 15386). The following agencies are considered “Responsible Agencies” or “Trustee Agencies” for the proposed Project, and may be required to issue permits or approve certain aspects of the proposed Project:

- Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES);
- RWQCB – The Storm Water Pollution Prevention Plan (SWPPP) would be required to be approved prior to construction activities pursuant to the Clean Water Act;
- South Coast Air Quality Management District (SCAQMD) – Construction activities would be subject to the SCAQMD permits, codes, and requirements.

1.4 ENVIRONMENTAL REVIEW PROCESS

The review and certification process for the EIR has involved, or will involve, the following general procedural steps:

NOTICE OF PREPARATION AND INITIAL STUDY

The City of Irwindale circulated an Initial Study (IS) and Notice of Preparation (NOP) of an EIR for the proposed Project on February 10, 2020 to the State Clearinghouse, State Responsible Agencies, State Trustee Agencies, Other Public Agencies, Organizations and Interested Persons. A public scoping meeting was held on February 20, 2020 to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The IS, NOP, and comments received on the NOP by interested parties are presented in Appendix A.

DRAFT EIR

This document constitutes the Draft EIR. The Draft EIR contains a description of the proposed Project, description of the environmental setting, identification of project impacts, and mitigation measures for impacts found to be significant, as well as an analysis of project alternatives, identification of significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. This Draft EIR identifies issues determined to have no impact or a less than significant impact, and provides detailed analysis of potentially significant and significant impacts. Comments received in response to the NOP were considered in preparing the analysis in this EIR. Upon completion of the Draft EIR, the City of Irwindale will file the Notice of Completion (NOC) with the State Clearinghouse of the Governor’s Office of Planning and Research to begin the public review period. Additionally, the City of Irwindale will file the Notice of Availability with the County Clerk and have it published in a newspaper of regional circulation to begin the local public review period.

PUBLIC NOTICE/PUBLIC REVIEW

The City of Irwindale will provide a public notice of availability for the Draft EIR, and invite comment from the general public, agencies, organizations, and other interested parties. Consistent with CEQA, the review period for this Draft EIR is forty-five (45) days. Public comment on the Draft EIR will be accepted in written form. All comments or questions regarding the Draft EIR should be addressed to:

Attn: Brandi Jones, Senior Planner
Irwindale Community Development Department, Planning Division
5050 North Irwindale Avenue
Irwindale, CA 91706
(626) 430-2260
BJones@irwindaleca.gov

RESPONSE TO COMMENTS/FINAL EIR

Following the public review period, a Final EIR will be prepared. The Final EIR will respond to written comments received during the public review period and to oral comments received at a public hearing during such review period.

CERTIFICATION OF THE EIR/PROJECT CONSIDERATION

The City of Irwindale will review and consider the Final EIR. If the City of Irwindale finds that the Final EIR is "adequate and complete", the City of Irwindale will certify the Final EIR in accordance with CEQA. The rule of adequacy generally holds that an EIR can be certified if:

- 1) The EIR shows a good faith effort at full disclosure of environmental information; and
- 2) The EIR provides sufficient analysis to allow decisions to be made regarding the proposed project in contemplation of environmental considerations.

Following review and consideration of the Final EIR, the City of Irwindale may take action to approve, modify, or reject the proposed Project. A Mitigation Monitoring Program, as described below, would also be adopted in accordance with Public Resources Code Section 21081.6(a) and CEQA Guidelines Section 15097 for mitigation measures that have been incorporated into or imposed upon the proposed Project to reduce or avoid significant effects on the environment. This Mitigation Monitoring Program will be designed to ensure that these measures are carried out during Project implementation, in a manner that is consistent with the EIR.

1.5 ORGANIZATION AND SCOPE

Sections 15122 through 15132 of the State CEQA Guidelines identify the content requirements for Draft and Final EIRs. An EIR must include a description of the environmental setting, an environmental impact analysis, mitigation measures, alternatives, significant irreversible environmental changes, growth-inducing impacts, and cumulative impacts. Discussion of the environmental issues addressed in the Draft EIR was established through review of environmental

and planning documentation developed for the proposed Project, environmental and planning documentation prepared for recent projects located within the City of Irwindale, applicable local and regional planning documents, and responses to the NOP.

This Draft EIR is organized in the following manner:

EXECUTIVE SUMMARY

This Executive Summary summarizes the characteristics of the proposed Project, known areas of controversy and issues to be resolved, and provides a concise summary matrix of the proposed Project's environmental impacts and possible mitigation measures. This chapter identifies alternatives that reduce or avoid at least one significant environmental effect of the proposed Project.

CHAPTER 1.0 – INTRODUCTION

Chapter 1.0 briefly describes the purpose of the environmental evaluation, identifies the lead, trustee, and responsible agencies, summarizes the process associated with preparation and certification of an EIR, and identifies the scope and organization of the Draft EIR.

CHAPTER 2.0 – PROJECT DESCRIPTION

Chapter 2.0 provides a detailed description of the proposed Project, including the location, intended objectives, background information, the physical and technical characteristics, including the decisions subject to CEQA, related improvements, and a list of related agency action requirements.

CHAPTER 3.0 – ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

Chapter 3.0 contains an analysis of environmental topic areas as identified below. Each subchapter addressing a topical area is organized as follows:

Environmental Setting. A description of the existing environment as it pertains to the topical area.

Regulatory Setting. A description of the regulatory environment that may be applicable to the proposed Project.

Impacts and Mitigation Measures. Identification of the thresholds of significance by which impacts are determined, a description of Project-related impacts associated with the environmental topic, identification of appropriate mitigation measures, and a conclusion as to the significance of each impact.

The following environmental topics are addressed in this section:

- Aesthetics and Visual Resources
- Air Quality
- Geology and Soils
- Greenhouse Gases, Climate Change, and Energy

- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation and Circulation

CHAPTER 4.0 – OTHER CEQA-REQUIRED TOPICS

Chapter 4.0 evaluates and describes the following CEQA required topics: impacts considered less-than-significant, significant and irreversible impacts, growth-inducing effects, cumulative, and significant and unavoidable environmental effects.

CHAPTER 5.0 – ALTERNATIVES TO THE PROJECT

State CEQA Guidelines Section 15126.6 requires that an EIR describe a range of reasonable alternatives to the proposed Project, which could feasibly attain the basic objectives of the proposed Project and avoid and/or lessen any significant environmental effects of the proposed Project. Chapter 5.0 provides a comparative analysis between the environmental impacts of the proposed Project and the selected alternatives.

CHAPTER 6.0 – REPORT PREPARERS

This section lists all authors and agencies that assisted in the preparation of the EIR, by name, title, and company or agency affiliation.

APPENDICES

This section includes all notices and other procedural documents pertinent to the EIR, as well as technical material prepared to support the analysis.

1.6 COMMENTS RECEIVED ON THE NOTICE OF PREPARATION

The City of Irwindale received six comment letters on the NOP for the proposed Project. A copy of the letters is provided in Appendix A of this Draft EIR. The commenting agency/citizen is provided below. The City also held a public scoping meeting on February 20, 2020. Four written comments were also provided at that scoping meeting and the authors are included below.

- Veronica Vanmarcke (February 20, 2020);
- Anonymous (February 20, 2020);
- Edward and Margaret Curren (February 20, 2020);
- James Trenkamp and Charlotte Santos (February 20, 2020);
- California Air Resources Board (March 10, 2020);
- California Department of Fish and Wildlife (March 10, 2020);
- California Department of Transportation (March 11, 2020);
- Gabrieleño Band of Mission Indians - Kizh Nation (March 12, 2020);
- Sanitation District of Los Angeles County (March 11, 2020);
- South Coast Air Quality Management District (March 10, 2020).

1.7 POTENTIAL AREAS OF CONCERN

Aspects of the proposed Project that could be of public concern include the following:

- Increased traffic on project area roadways and freeway on- and off-ramps;
- Noise concerns associated with traffic, idling, and reversing trucks;
- Pollution concerns associated with dust and increased truck traffic;
- Potential health risks in disadvantaged communities associated with diesel emissions, oxides of nitrogen, and greenhouse gases during operation and construction;
- Siting incompatible land uses and reducing air pollution impacts at the project- and cumulative-levels;
- Hours of operations and impacts associated with late night noise;
- Methods to reduce vehicle miles traveled and greenhouse gas emissions, such as promoting multimodal transportation;
- Ancestral tribal territory for the Gabrieleño Band of Mission Indians - Kizh Nation;
- Potential for aquatic, riparian, and wetland habitats to be located on-site.

2.1 PROJECT LOCATION AND SETTING

The 5175 Vincent Avenue Project site (Project site) is located north of a Los Angeles County-owned pit, east of Allen Drive, south of Arrow Highway, and west of Vincent Avenue in Irwindale, California (Figures 2.0-1 and 2.0-2). The Project site totals approximately 26.05 acres and is comprised of two vacant parcels; one of which is an undeveloped, recently filled, former aggregate mine pit known as the Manning Pit (Figure 2.0-3). The 2020 Assessor's Parcel Numbers (APNs) for the Project site are 8417-034-015 and 8417-034-016 (formally APNs: 8417-034-904, 8417-034-910, and 8417-034-911) (Figure 2.0-4). The elevation of the site ranges from approximately 400 feet to 460 feet above mean sea level (msl). The property is immediately adjacent to unincorporated Los Angeles County to the south and east.

2.2 HISTORICAL BACKGROUND

The Project site is the general location of the former Irwindale Pit No. 1 (Manning Brothers Pit) Project. Mining of the Manning Pit began in the 1930s and was completed in the 1970s. During mining operations, the pit was excavated to a maximum depth of 240 feet above msl, which equates to approximately 230 feet below ground surface (bgs). A portion of the site was subsequently used to dispose of silt, clay, and sand wash products (fines) from an on-site aggregate processing facility. The volume of the fine materials disposed of is estimated at 352,000 cubic yards.

The City of Irwindale acquired the northern portion of the pit (approximately 37 acres) in the late 1980s from the County of Los Angeles, and the County retained the remainder (approximately 45 acres) which is currently used as a supplemental water recharge basin in conjunction with the Irwindale Recharge Basin, located just to the west.

After its acquisition, the City began backfilling the site with a variety of construction debris (e.g., soil, concrete, asphalt, rebar, bricks, and cinder blocks) and other inert materials. At that time, no Quality Assurance/Quality Control (QA/QC) Program was performed to assure that the backfilling operation met the geotechnical considerations for future development of the site. However, backfilling was stopped in 1992 when it was discovered that improper filling methods had been used by the contractor. At the time backfilling was stopped, there was an estimated 665,000 cubic yards of rubble material placed over the estimated 352,000 cubic yards of fine materials. Therefore, the total estimated backfill volume that had been placed within the pit was approximately 1,017,000 cubic yards.

The Project site was then surface mapped to establish the overall nature of backfill within the area. Surface mapping of the site confirmed that the upper layer of the pit consisted of various construction rubble as well as large voids. In addition, portions of the perimeter slopes were underlain by non-engineered fill and talus material. The surface mapping also revealed that relatively small wedges of engineered fill were under the perimeter slopes in the northwest corner of the Project site.

In October 2005, the City contracted with GeoLogic Associates to perform a field exploration program to characterize the historical backfill on the Project site. The exploration consisted of drilling five borings through the backfill material to native soil at various locations along the bottom of the pit. The purpose of the borings was to determine:

- The nature and types of backfill present in the pit;
- The volume of backfill present in the pit; and
- The current groundwater level below the pit.

The results of the exploration program confirmed that two distinct layers of backfill material existed. The upper layer consisted of very coarse construction rubble and varied in depth from approximately 27 to 39 feet below the current bottom of the pit surface. The borings indicated that the upper layer was highly voided with little soil mixed in the construction rubble. The lower layer consisted of aggregate mining waste (e.g., fine to very fine-grained sand, very fine sandy silt, and silt) from the processing plant operation and varied from about 7 to 43 feet in depth. These 2005 boring results were consistent with the findings of an earlier investigation performed by Greystone Environmental Consultants in 2000.

The highest groundwater elevation observed during borings was 283 feet above msl. This elevation appears to be the highest groundwater elevation, because it reflects the record rainfall of the preceding winter of 2004/2005. This groundwater elevation may also reflect water mounding from the Los Angeles County storage and recharge operations just south of the City's site. Therefore, it was determined that approximately 55 feet of backfill material lies below the reported high groundwater level.

The boring results indicated that the historical backfill materials at the mine did not meet engineered backfill requirements specified in the City of Irwindale's *Guidelines for Above Water Backfilling of Open-Pit Mines* (November 22, 2005) or the applicable Building Codes. Consequently, the City proposed to partially or completely remove the historic fill, reprocess the material, and recompact the historical backfill in accordance with the current City and County requirements. The City determined that as future (clean soil) fill material is brought to the site, it would be required to meet these guidelines.

In response to the geotechnical data and conclusions from the testing, the City decided to reclaim the Project site in accordance with the City and County codes and guidelines. The mining waste under the construction rubble would be inspected by a Geotechnical Engineer who would determine suitability of materials to be left in place. Native alluvium material would not be removed. After reclamation, the City would then consider development proposals.

In the process of backfilling and grading, non-engineered backfill material would be excavated and stockpiled on the site. Clean soil that meets the general particle size guidelines set by the City for disposal above and below the water table would then be imported to the site and placed as compacted backfill. On-site stockpiled backfill that contains materials restricted for disposal in groundwater (e.g., asphalt and other materials) would be set aside for subsequent placement in the above-groundwater portion of the pit area. Some of the imported backfill would be blended with the on-site backfill so that the composited materials meet City and County requirements. When on-site backfill is depleted, the remainder of the site would be backfilled using clean soil. Materials unsuitable for backfill use would be removed from the site and disposed of in accordance with the applicable federal and State laws.

Compaction and other regulations dealing with the backfill materials are covered in the City of Irwindale's Building Code and Backfilling Guidelines, which identify material specifications, testing requirements, and other conditions for backfilling and grading. General material specifications include:

- Proper moisture levels;
- Fill materials placed deeper than 40 feet are required to be compacted to at least 93 percent; and
- Fill materials placed within 40 feet are required to be compacted to at least 90 percent.

It was estimated that approximately five million cubic yards of additional backfill material would be needed to fill the pit to near street level. All of these incoming materials would need to be screened to make sure they were not contaminated and met backfill requirements. It was estimated that backfilling and grading of the pit would take approximately six to seven years to complete assuming an annual rate of approximately 840,000 cubic yards of backfill materials. Backfill was estimated to require approximately 200 daily truck trips to the site.

The operation plan established that the maximum operating hours for the pit would be from 7:00 am to 5:00 pm Monday through Friday, and from 7:00 am through 4:00 pm on Saturday. On-site equipment was estimated to consist of 972G and 980 (G or H) loaders; 2,000- and 4,000-gallon watering trucks; 320C, 345B, or 365B excavators; rock, asphalt, or concrete crushers; 824C, 823C, D8R, or D10R bulldozers; dump and haul trucks; and other assorted equipment.

In October 2007, the former Irwindale Community Redevelopment Agency approved a License Agreement for Windrow Earth Transport (WET), Inc. to perform remediation and grading of the Manning Pit Project. The following is a summary of the scope of work for this remediation project:

- a. Remediate the existing uncertified rubble fill that was placed by K & K Contractor.
- b. Complete the grading of the site with clean soil fill to final surface design elevation.
- c. Pay for any required environmental and geotechnical oversight to ensure that all import and placed soil meets all regulatory guidelines and to provide all necessary certifications for a buildable site after the completion of the project.
- d. Mitigate the silt and mining waste products using acceptable methods approved by the City Engineer's office.
- e. Prepare final closure report to be submitted to State Regional Water Quality Control Board (RWQCB), as required by the Manning Pit Waste Discharge Requirements.

With the elimination of all redevelopment agencies in the State of California in 2012, the City Council approved the purchase of the Manning Pit from the Successor Agency to the Irwindale Community Redevelopment Agency in August 2014 in order to continue with the remediation and grading of the site. The Manning Pit Project was completed in January 2019. According to City records, the site was completely filled with clean soil and is clean to state and federal standards for housing development. As required in the License Agreement, the operator submitted a request to the City to commence the process to close the project. According to the grading permit issued to the Windrow Earth Transport, Inc., the onsite drainage improvements and Storm Water Prevention measures were implemented in compliance with the current building code.

With acceptance of the remediation project by the City, a final closure package was submitted to the Regional Water Quality Control Board (RWQCB), as required by the Manning Pit Waste Discharge Requirements. In accordance with the License Agreement, the City Council approved the release of the project In Lieu Bond Fee in the amount of \$210,000 from the Manning Project Trust Fund deposit account,

to be returned to the Special Mining Fund Balance upon receiving the final approval from RWQCB. The City Council also authorized a Lot Line Adjustment to release the southerly ten foot area that is a part of the engineered buttress fill across the property boundary between the City Manning Pit and the Los Angeles County Flood Control District owned portion of the Manning Pit to the current property owner for future operation and maintenance as required by the City County Cooperative Agreement.

Since completion of the on-site remediation activities, the site has remained undeveloped and has not been utilized for any purpose. The site is currently surrounded by a fence, wall, and landscaping and is not currently accessible by the public.

2.3 PUBLIC OUTREACH

The City received an application to develop 26.05 acres of land that was formerly used as a mining pit and has since been remediated, as described above. The Project would change the 6.93-acre portion of the parcel from "Residential" to "Industrial/Business Park," and develop the entire parcel as a single use industrial Project, as described in Section 2.4, Project Description.

On August 9, 2018, the Planning Division hosted a community meeting at the Irwindale Community Center. The purpose of the meeting was to provide an opportunity for the community to review and comment on the proposed Project, ask questions, and understand the process. Representatives from Five Points, LLC and City staff attended. The meeting was well attended and the primary areas of concern were current issues with dust and trucks, and the potential impact of the proposed Project. Staff answered questions and made themselves available for assistance after the meeting via email and phone. Due to the Project's speculative nature (an industrial warehouse building with no identified end-user), staff indicated that there are many potential uses that are permitted by right due to the current zoning designation, but that certain uses would not be allowed or would be subject to a Conditional Use Permit; these uses would require Planning Commission approval and be subject to a set of Conditions of Approval. At the January 30, 2019 Planning Commission Meeting, the General Plan Amendment and Site Plan and Design Review (DA) applications were continued to a date uncertain. The public hearing was opened for the continued item, which allowed for public comment. During the public comment period, residents from the City of Irwindale and unincorporated Los Angeles County spoke about the item.

The City prepared an Initial Study (IS) for the proposed Project in 2018 to evaluate the anticipated environmental impacts associated with development of the Project site in accordance with the application. A proposed Mitigated Negative Declaration was subsequently submitted to the State Clearinghouse for review on December 20, 2018 (State Clearinghouse # 2018121056). Public review of the document occurred from December 20, 2018 through January 22, 2019. During the public review period, twelve comment letters were received as follows: California Air Resources Board, California Department of Justice (Bureau of Environmental Justice), California Department of Transportation, California Environmental Protection Agency (Department of Resources Recycling and Recovery), County of Los Angeles Public Health (Environmental Health Division), County Sanitation District of Los Angeles County, Gabrieleño Band of Mission Indians (Kizh Nation), Golden State Environmental Justice Alliance, South Coast Air Quality Management District, California Department of Toxic Substances Control, California Department of Justice (Bureau of Environmental Justice), and California Governor's Office of Planning and Research (State Clearinghouse and Planning Unit). These comment letters raised concerns

regarding a variety of CEQA topics, and several commenters specifically suggested that an EIR is warranted. The City of Irwindale, in consideration of the comments and suggestions provided throughout the public outreach process to date, decided to prepare an EIR to address those specific concerns raised by the comment letters.

In order to initiate the EIR process, the City of Irwindale circulated an Initial Study (IS) and Notice of Preparation (NOP) of an EIR for the proposed Project on February 10, 2020 to the State Clearinghouse, State Responsible Agencies, State Trustee Agencies, Other Public Agencies, Organizations and Interested Persons. A public scoping meeting was held on February 20, 2020 to present the project description to the public and interested agencies, and to receive comments from the public and interested agencies regarding the scope of the environmental analysis to be included in the Draft EIR. Concerns raised in response to the NOP were considered during preparation of the Draft EIR. The IS, NOP, and comments received on the NOP by interested parties are presented in Appendix A.

2.4 PROJECT DESCRIPTION

The proposed Project is the development of 26.05 acres of land that was formerly used as a mining pit (Manning Pit) dating back to the 1930s. A reclamation process for the mine was completed and a closure report was approved by the City Council in January 2019 allowing for development of the site.

GENERAL PLAN AMENDMENT

The City of Irwindale General Plan specifically addresses development of the Manning Pit, a portion of which is the Project site. The General Plan notes that the City owned the northern portion of the pit, which contains two parcels: 8417-034-015 and 8417-034-016. The western parcel on the former Manning Pit (8417-034-912) is approximately 10 acres and is designated Residential, which is not part of the Project development. The eastern parcels comprise the Project site, and contains 19.12 acres of Industrial/Business Park and 6.93 acres of Residential. The entire 26.05 acres is zoned M-2 "Heavy Manufacturing." This inconsistency between the General Plan land use designation and the zoning is associated with the 6.93 acres of Residential land use where the designation does not align with the parcel boundary.

The inconsistency between the General Plan and the zoning requires an amendment to bring the allowed uses/zoning into consistency before the Project could be developed in a way that meets the Project objectives. The City has received an application to change the 6.93-acre portion of the parcel from "Residential" to "Industrial/Business Park," which is consistent with the land use on the balance of the parcel. In addition to the General Plan Amendment, a Site Plan and Design Review application and Lot Line Adjustment are under concurrent review. A combination of the development and legislative applications and combining of the lots involves the development of the two (2) parcels as a single use industrial Project. This amendment would make the entire parcel a single land use. The application involves the development of the entire parcel as a single use industrial Project. The parcel to the west of the subject property would remain designated Residential.

The Industrial/Business Park General Plan land use designation allows for a variety of uses including: light industry, heavy industry, distribution, or commercial uses at a floor area ratio (FAR) of 1.0. The proposed

Project is an industrial warehouse building, which is specifically allowed under the Industrial/Business Park land use and the M-2 “Heavy Manufacturing” zoning. Based on the maximum FAR of 1.0 for the Industrial/Business Park designation, development of the site would allow for the construction of 1,134,738 square feet (sf) of industrial uses, 832,867 sf of which could be located on the 19.12 acres that is currently designated Industrial/Business Park under the existing General Plan land use.

INDUSTRIAL WAREHOUSE BUILDING

The Project proposes development of a 545,735-sf concrete tilt-up industrial warehouse building on the 26.05-acre site. Approximately 540,447 sf would be ground floor area and 5,000 sf would be mezzanine area. The proposed site plan is shown on Figure 2.0-5.

Potential End-Users/Businesses

According to the Institute of Transportation Engineers, a high-cube warehouse is a building that typically has at least 200,000 gross sf of floor area, has a ceiling height of 24 feet or more, and is used primarily for the storage and/or consolidation of manufactured goods (and to a lesser extent, raw materials) prior to their distribution to retail locations or other warehouses. Given that the proposed Project includes an industrial warehouse building totaling 545,735 sf, it is classified as a high-cube warehouse building.

A typical high-cube warehouse has a high level of on-site automation and logistics management. The automation and logistics enable highly-efficient processing of goods through the high-cube warehouse. High-cube warehouses are generally grouped into five types: transload facility, short-term storage facility, fulfillment center, parcel hub, and cold storage facility. However, the proposed Project, specifically excludes fulfillment center, parcel hub, and cold storage facility as a potential end user of the building. The applicant has indicated that these three uses (fulfillment center, parcel hub, and cold storage facility) are not proposed uses, and the applicant has agreed to conditions on the Project that would prohibit these uses at the Project site. Should these three uses be proposed at some future date, further environmental review shall be required.

End users could include light industrial or manufacturing uses. However, there is not a specific end user/business established for the proposed building at this time. There are a variety of possible businesses that could occupy and operate their business from the proposed building. The uses for the proposed building may include any of the following: Manufacturing Warehouse, Light Industrial, High-Cube Short-term, and High-Cube Transload. These uses are allowed under the Industrial/Business Park land use designation and M-2 “Heavy Manufacturing” zoning designation.

Warehouse Architecture

The proposed warehouse building would include articulations and varied roof lines in order to break up the massing of the building. Entrances to the building would be easily identified by archways and windows. The building would include a variety of building materials and colors. The overall color palette would include off-whites, beiges, and browns. Windows and doorways would be provided along each side of the building.

Landscaping

Landscaping would be provided along the perimeter of the Project site. Landscaping would consist of hedges, vines and berms for screening, grasses, large and small accent shrubs, and other small and medium plantings. Approximately 226 trees of various types and sizes would also be provided along the perimeter of the site. Additionally, a grass area with a bench and picnic table would be provided in the northeastern corner of the site. This area would be landscaped with various trees and shrubs. Landscaping and trees would be used to screen the warehouse building and associated infrastructure, such as the trash enclosure.

CIRCULATION AND TRANSPORTATION

Regional access to the Project area is provided by the I-605 Freeway to the west, I-10 Freeway to the south, and the I-210 Freeway to the north. Key north-south roadways providing local access include Irwindale Avenue, Vincent Avenue, and Lark Ellen Avenue. Key east-west roadways providing local access include Gladstone Street, Arrow Highway, and Cypress Street.

Access to the Project site would be provided at two locations: one entrance off Vincent Avenue in the southeastern corner of the site, and another entrance off Vincent Avenue in the northeastern corner of the site. Each of these access points allow for emergency vehicle access. As part of the Project, Vincent Avenue along the Project site's frontage would be improved to its ultimate half-section width, including landscaping and parkway improvements, as required by the City of Irwindale. The improvements would provide continuous sidewalks adjacent to the site that would connect to existing sidewalks within the area. Bicycle parking would also be provided.

The site plan includes 199 standard parking stalls and 181 trailer stalls, which would be provided along the perimeter of the site. The trailer parking stalls would be located along the western and eastern boundaries of the site, while the standard parking stalls would be located along the northern and southern boundaries. Two gates would be provided: one near the northwestern corner of the site, and one near the southwestern corner of the site.

The Project area is served by Foothill Transit and Baldwin Park Transit. Foothill Transit Routes 185/272/492 and the Baldwin Park Teal Line provide transit service along parts of Live Oak Avenue, Baldwin Park Boulevard, Arrow Highway, and Irwindale Avenue. The nearest transit stop is Foothill Transit Route 492 located at the intersection of Vincent Avenue/Arrow Highway approximately 300 feet from the Project site.

UTILITIES

The proposed Project would connect to existing City infrastructure to provide water, sewer, and storm drainage utilities. Existing storm drain, sewer, water, and gas lines/pipes are currently located along Vincent Avenue and Allen Drive. Additionally, storm water facilities (i.e., storm drains and storm drain catch basins) currently exist at the existing industrial park area located immediately north of the site.

Wastewater

The Sanitation Districts of Los Angeles County provides all of Irwindale's sewer services. The majority of the City is served by Sanitation District 22; with a small portion of its southwestern area served by District 15. It is anticipated that Sanitation District 22 would serve the proposed Project. Wastewater for areas served by Sanitation District 22 is treated at the San Jose Creek Water Reclamation Plan (WRP). The District's trunk sewer lines extend throughout the City, with no under-served areas. The Los Angeles County Sewer Maintenance District, located in Alhambra, provides maintenance for the City's six miles of sewers on a contract basis, including emergency services on a 24-hour basis.

The proposed Project would connect to existing City infrastructure to provide sewer service. Existing sewer lines are currently located along Vincent Avenue and Allen Drive. Eight-inch sewer lines would be extended from Allen Drive east to the Project site. A 48-inch sewer manhole would be constructed near the Allen Drive and Central Street intersection.

Storm Drainage

The Project would provide an on-site drainage system consisting of a 48-inch storm drain manhole, a 36-inch by 36-inch catch basin, an 18-inch by 18-inch catch basin, curb drains, and infiltration/detention systems. Biofiltration systems with liners and underdrains would be located around the site perimeter, as well as proprietary high-flow devices. An underground detention system would also be used to mitigate peak flows. Any excess flow would be routed off-site via a 30-inch storm drain pipe prior to ultimately discharging to an existing 90-inch storm drain pipe which is owned and maintained by the Los Angeles County Flood Control District.

Water

The proposed Project would connect to existing City infrastructure to provide water service. Existing water lines are currently located along Vincent Avenue and Allen Drive. These lines would be extended into and loop around the perimeter of the project site. Domestic and irrigation water lines and meters would be provided. A water line for fire services and a fire hydrant would also be provided. The fire hydrant would be provided near the northeastern corner of the site.

Natural Gas and Electricity

Electricity would be provided by Southern California Edison and natural gas will be provided by the Southern California Gas Company.

CONSTRUCTION PHASING

Construction of the Project would occur in the following five phases, and is assumed to occur five days per week:

- Site Preparation: 4/1/2021-4/28/2021 (20 days)
- Grading: 4/29/2021-6/30/2021 (45 days)
- Building Construction: 7/1/2021-3/8/2023 (440 days)
- Paving: 3/9/2023-4/26/2023 (35 days)
- Architectural Coating: 9/1/2022-4/26/2023 (170 days)

GENERAL PLAN AND ZONING

The Project site is designated as "Industrial/Business Park" and "Residential" by the City's General Plan Land Use Map (Figure 2.0-6) and is zoned as M-2 "Heavy Manufacturing" (Figure 2.0-7). As shown in Figure 2.0-6 and discussed above, the Project applicant is requesting a General Plan Amendment to change the current designation from "Residential" to "Industrial/Business Park" for a 6.93-acre portion of APN 8417-034-016. The Project site is also subject to the Irwindale Commercial & Industrial Design Guidelines.

2.5 PROJECT GOALS AND OBJECTIVES

Consistent with CEQA Guidelines Section 15124(b), a clear statement of objectives and the underlying purpose of the proposed Project shall be discussed. The principal objective of the proposed Project is the approval and subsequent development of the 26.05-acre parcel for Industrial uses. The quantifiable objectives of the proposed Project include the development of 26.05 acres with a 545,735 sf industrial warehouse building.

The proposed Project identifies the following objectives:

- **Quantified Development:** Development of land use densities and intensities at quantities that maximize the use of the land as a single development to meet the demands of the market while considering zoning and land uses restrictions. The quantifiable objectives include the development of approximately to 26.05 acres with a 545,735 square-foot industrial warehouse that provides employment-generating development.
- **Economic Contribution:** Strengthen the City's economic base through Project's job creation; development related investment; disposable income from future employees; and increased property, sales, and transient occupancy taxes.
- **Employment Opportunities:** Provide for local and regional employment opportunities that take advantage of the areas high level of accessibility, allow for the expansion of the City's economic base, help create a jobs/housing balance, and reduce the commute for local residents.
- **Public Facilities and Services:** Provide infrastructure and services that meet City standards, integrate with existing and planned facilities and connections and do not diminish services to existing residents of the City.
- **Marketable High Cube Warehouse:** Provide for the construction of a high-cube warehouse facility that could attract a variety of end users, including transload facility, short-term storage facility, light industrial, and/or manufacturing uses. The facility should be designed with efficient transportation access and circulation within the site, accessible loading bays on two sides of the building, and a high level of on-site automation and logistics management to enable highly-efficient processing of goods through the high-cube warehouse.
- **End User Restrictions:** Restrict the use of the warehouse building such that no business would be able to operate a fulfillment center, parcel hub, or cold storage facility. The intent of this restriction is to minimize the potential air quality impacts from such end users.
- **Buffer Surrounding Uses:** Provide a landscaped buffer with sound attenuation along Vincent Avenue to buffer neighboring uses.

- Redevelopment of the Manning Pit: With the completed remediation and closure of the Manning Pit, provide for redevelopment of the site in accordance with the General Plan, such that the site can be utilized in a manner that provides jobs and provides a tax base for the community.

2.6 USES OF THE EIR AND REQUIRED AGENCY APPROVALS

This EIR may be used for the following direct and indirect approvals and permits associated with adoption and implementation of the proposed Project.

CITY OF IRWINDALE

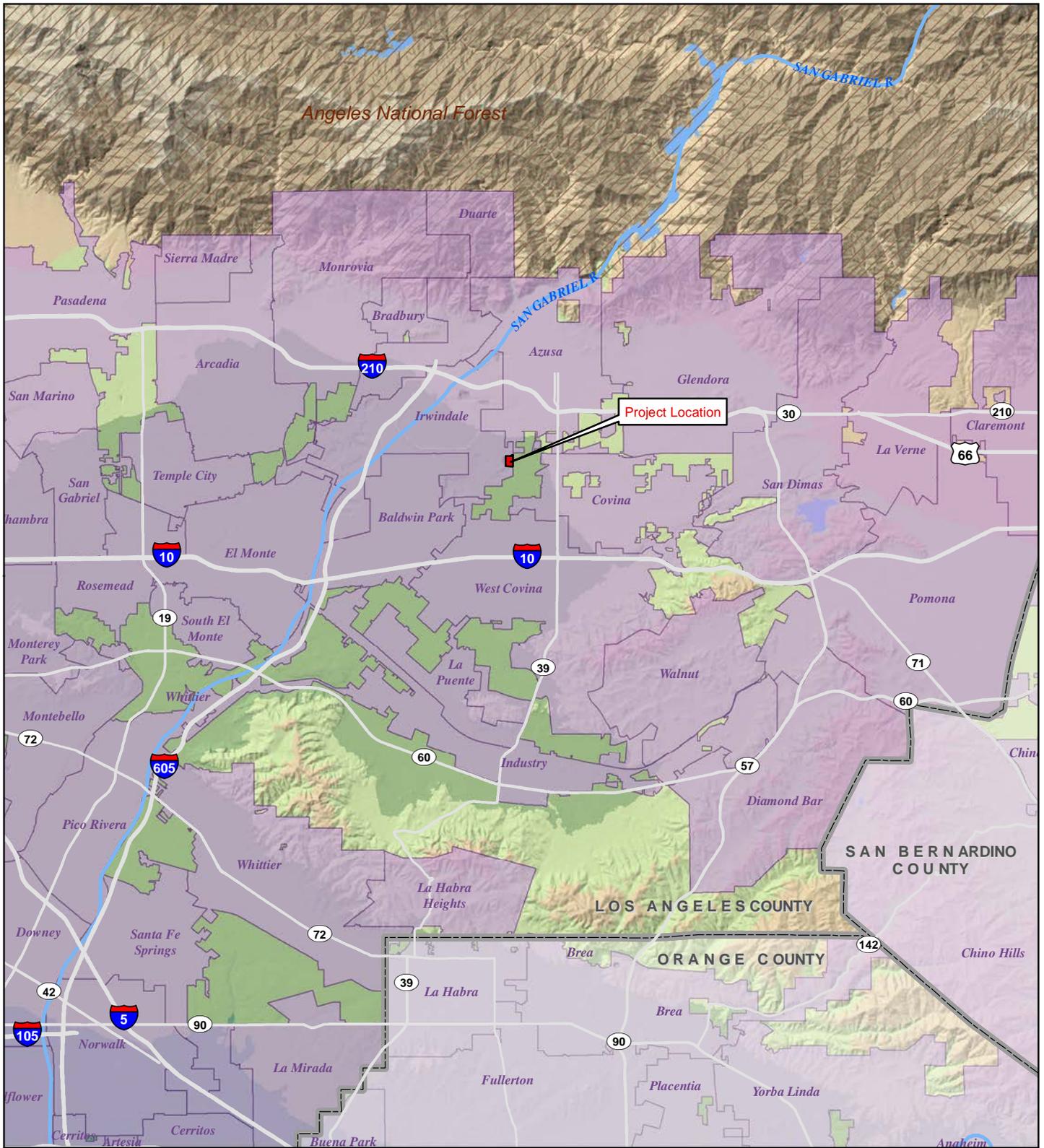
The City of Irwindale will be the Lead Agency for the proposed Project, pursuant to the State Guidelines for Implementation of the California Environmental Quality Act (CEQA), Section 15050. Actions that would be required from the City include, but are not limited to, the following:

- Adoption of the Environmental Impact Report (EIR);
- Adoption of the Findings of Fact, Statement of Overriding Considerations, and Mitigation Monitoring and Reporting Program (MMRP);
- Site Plan and Design Review (Discretionary Application) to approve the proposed site plan, which includes site configuration, design, location, and impact of the proposed use, and the compliance of the Project with the established Zoning Code standard and the "City of Irwindale Commercial and Industrial Design Guidelines";
- General Plan Amendment to approve the change of the current General Plan designation from "Residential" to "Industrial/Business Park" for a portion of APN 8417-034-016; and
- Approval of the Lot Line Adjustment to combine APNs 8417-034-015 and 8417-034-016;

OTHER GOVERNMENTAL AGENCY APPROVALS

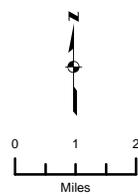
The following agencies may be required to issue permits or approve certain aspects of the proposed Project. Other governmental agencies that may require approval include, but are not limited to, the following:

- Regional Water Quality Control Board (RWQCB) – Construction activities would be required to be covered under the National Pollution Discharge Elimination System (NPDES);
- RWQCB – The Storm Water Pollution Prevention Plan (SWPPP) would be required to be approved prior to construction activities pursuant to the Clean Water Act;
- South Coast Air Quality Management District (SCAQMD) – Construction activities would be subject to the SCAQMD permits, codes, and requirements.



Legend

- Project Boundary
- City Areas
- County Boundary
- National Forest

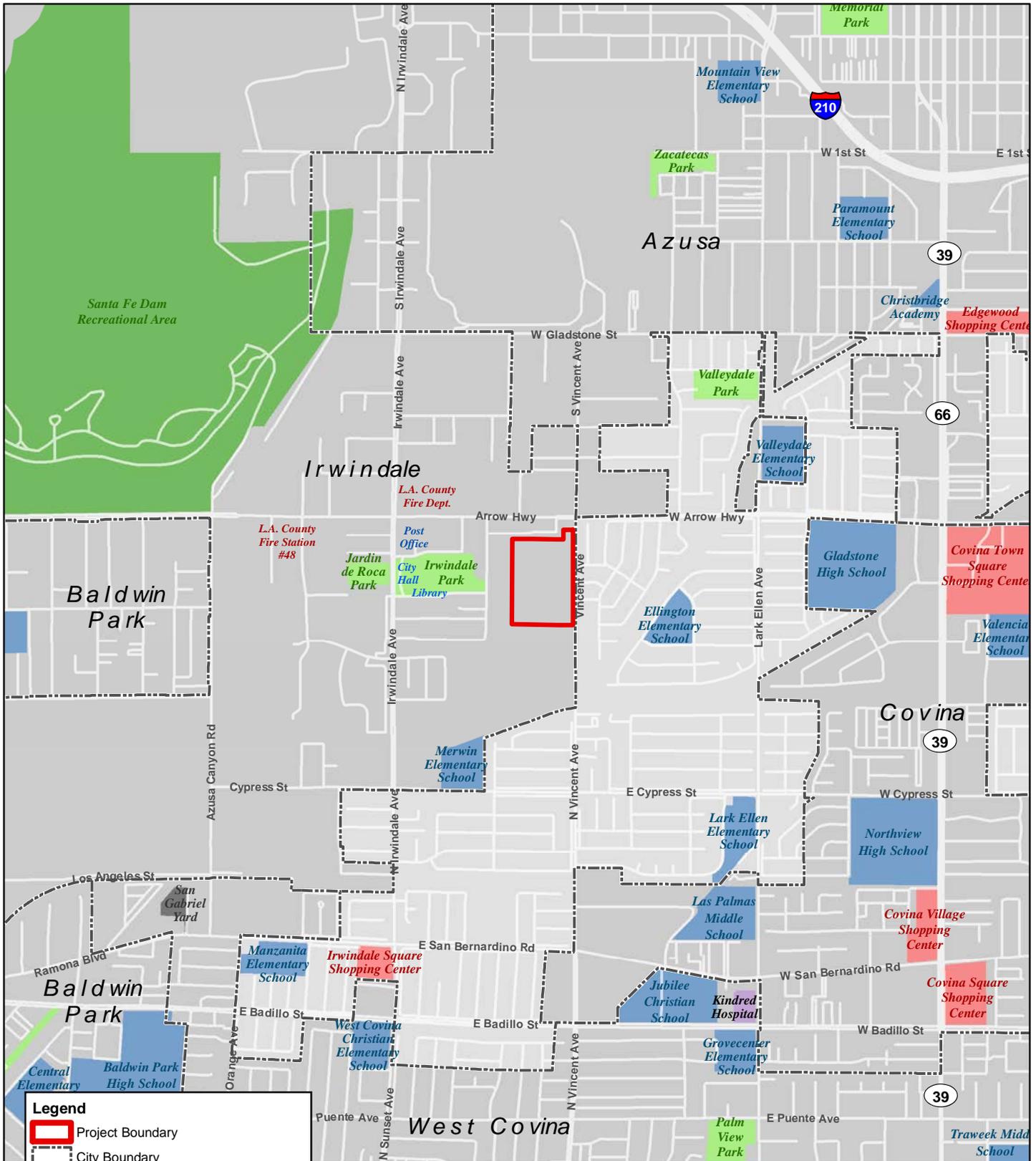


CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 2.0-1. Regional Location Map

Sources: CalAtlas; Los Angeles County; Orange County; San Bernardino County. Map date: May 14, 2018.

This page intentionally left blank.

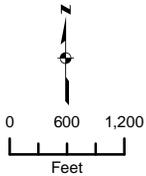


Legend

- Project Boundary
- City Boundary

Area Features

- Natural Areas and Wildlife Sanctuaries
- Parks and Gardens
- Education - Schools
- Municipal Services
- Hospitals
- Shopping Centers



CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 2.0-2. Project Vicinity

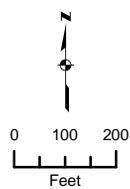
Source: Los Angeles County EGIS. Map date: May 15, 2018.

This page intentionally left blank.



Legend

 Project Boundary

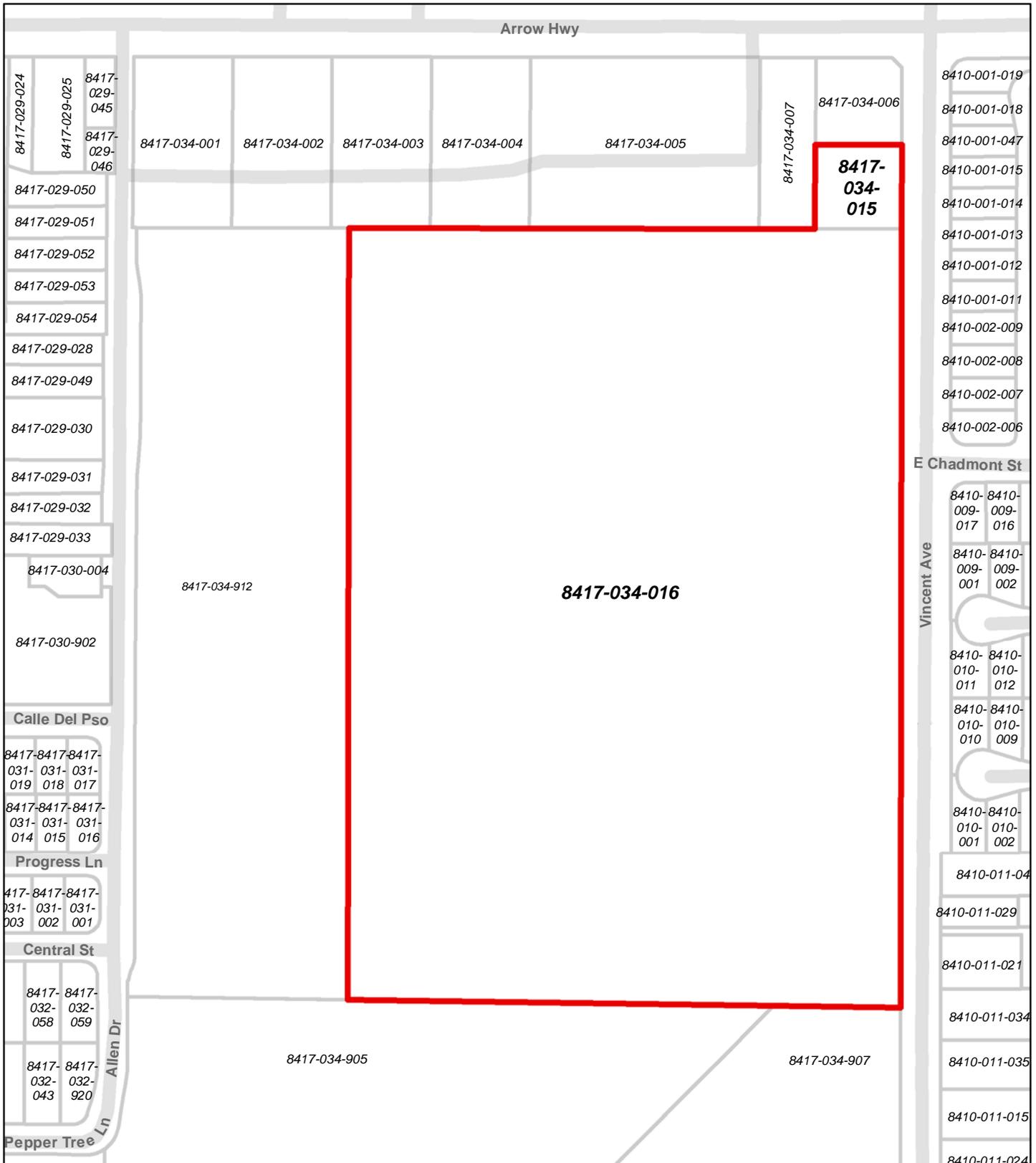


CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 2.0-3. Aerial View of Project Site

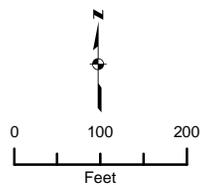
Source: Los Angeles County; ArcGIS Online World Imagery Map Service. Map date: May 14, 2018.

This page intentionally left blank.



Legend

- Project Boundary
- Assessor Parcel Boundary

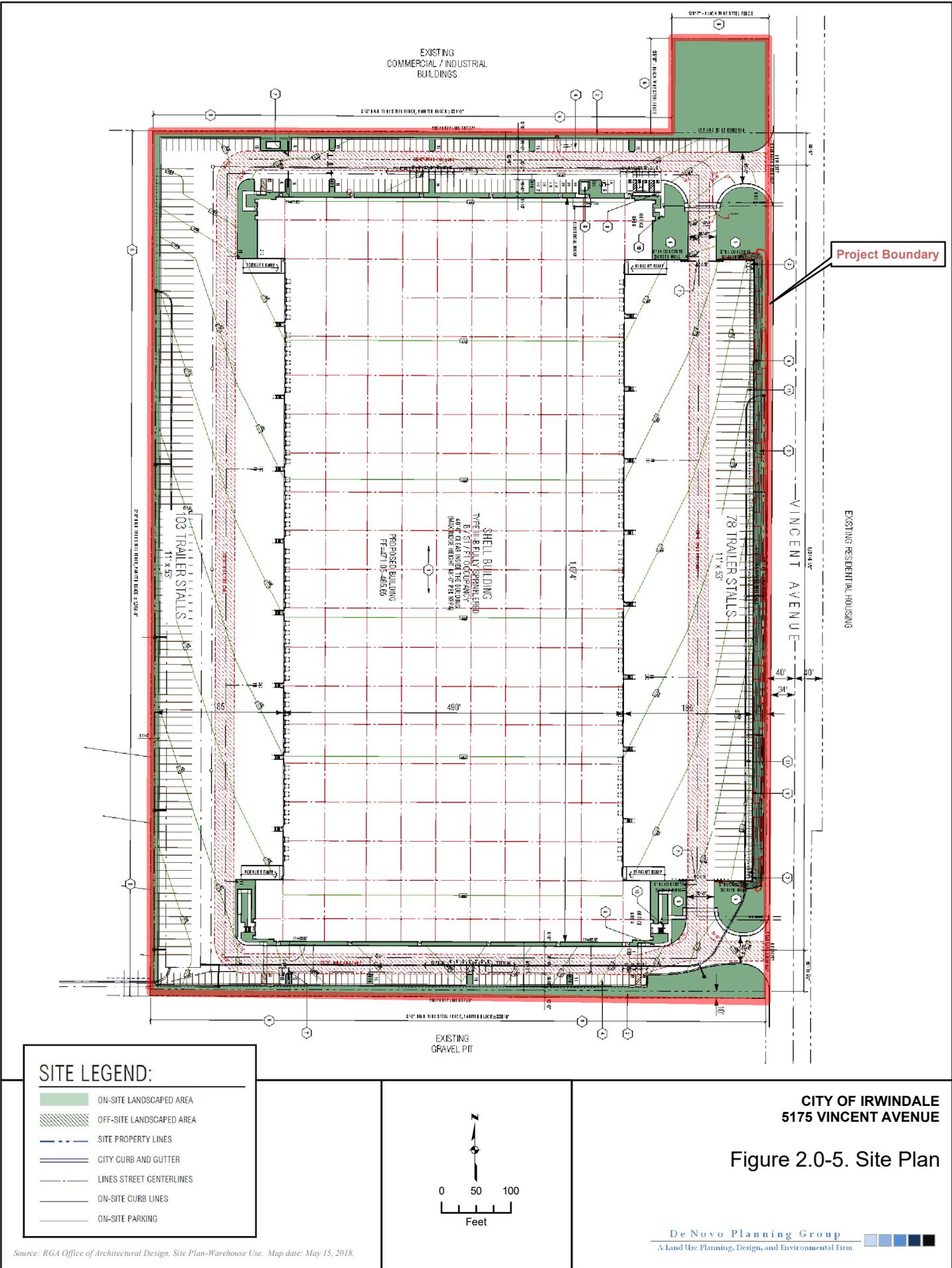


**CITY OF IRWINDALE
5175 VINCENT AVENUE**

Figure 2.0-4. Assessor's Parcel Map

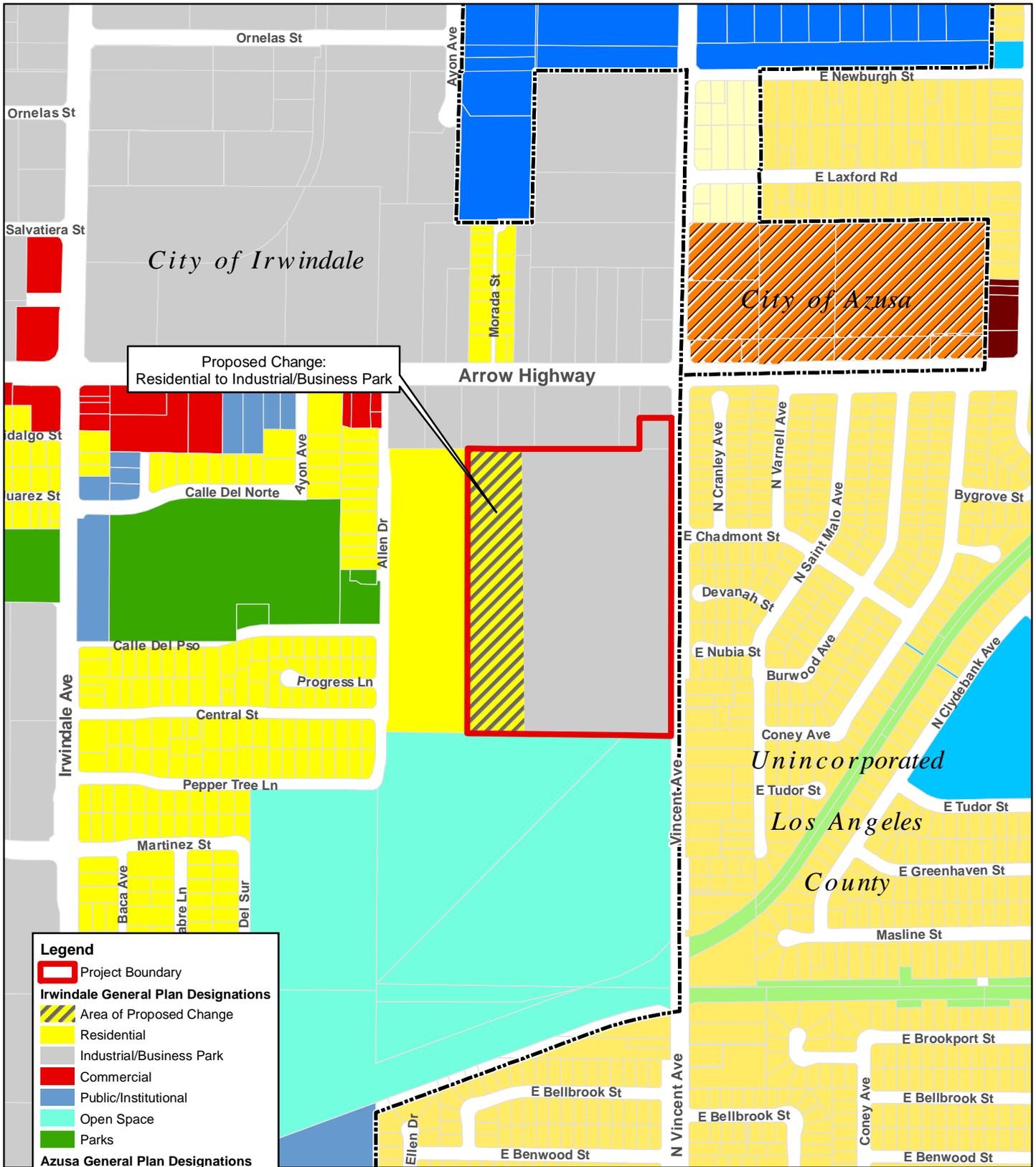
Source: Los Angeles County EGIS; Office of the Assessor, County of Los Angeles. Map date: May 14, 2018.

This page intentionally left blank.



Source: RGA Office of Architectural Design, Site Plan-Warehouse Use. Map date: May 15, 2018.

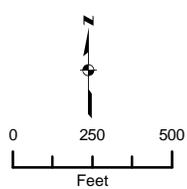
This page intentionally left blank.



Proposed Change:
Residential to Industrial/Business Park

Legend

- Project Boundary
- Irwindale General Plan Designations
 - Residential
 - Industrial/Business Park
 - Commercial
 - Public/Institutional
 - Open Space
 - Parks
- Azusa General Plan Designations
 - Low Density Residential
 - Commercial Mixed Use
 - Industrial
- LA County Land Use Designations
 - Residential
 - Commercial
 - Public/Semi-Public
 - Open Space

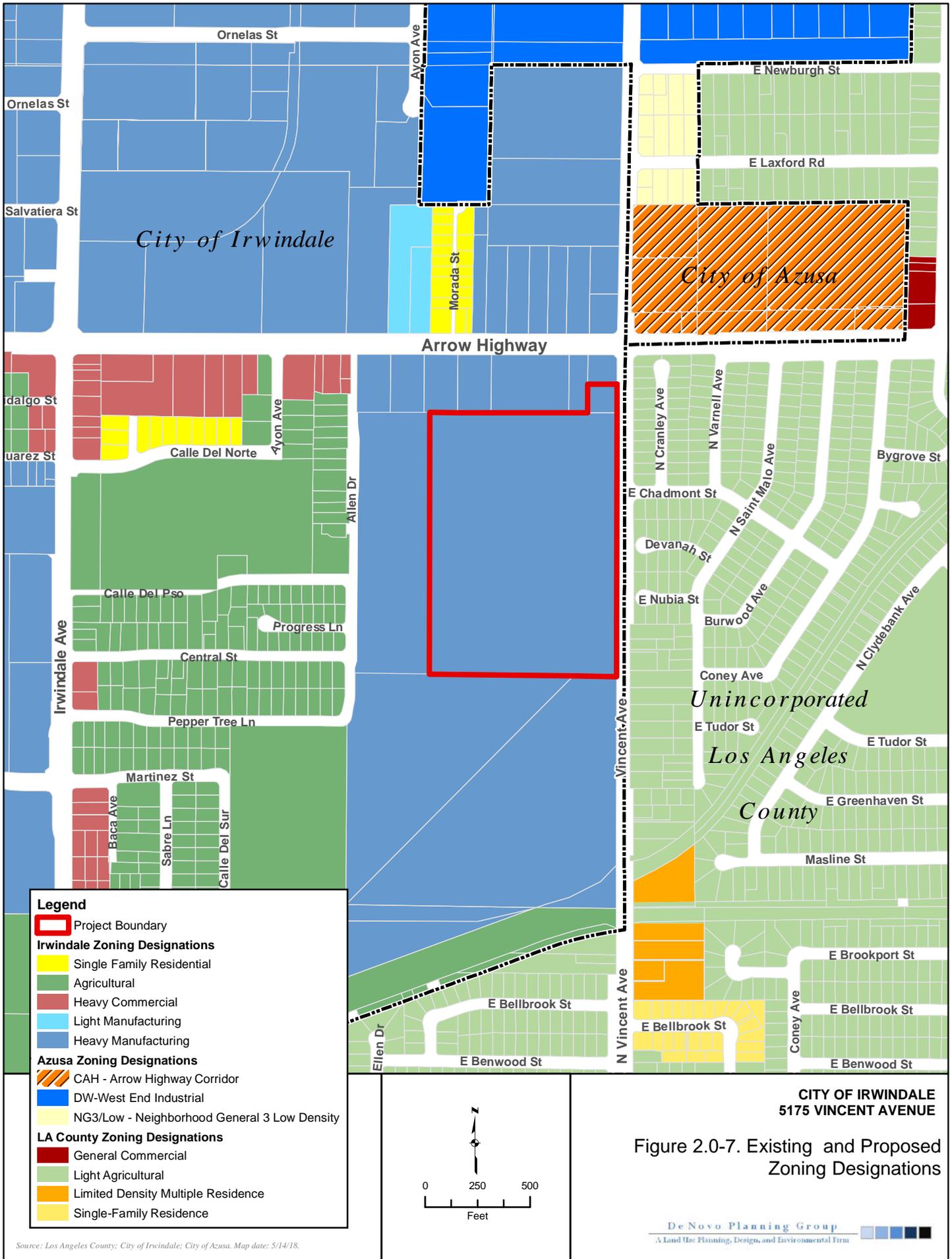


CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 2.0-6. Existing and Proposed General Plan Land Use Map

Source: Los Angeles County; Irwindale General Plan; Azusa General Plan. Date: 5/14/18.

This page intentionally left blank.



This page intentionally left blank.

This section provides an overview of the visual character, scenic resources, views, and sources of light and glare that are encountered on the Project site and the vicinity. This section concludes with an evaluation of the impacts and recommendations for mitigating impacts. Information in this section is derived primarily from the City of Irwindale General Plan Update (2008), Draft Environmental Impact Report (State Clearinghouse No. 2005071047) – City of Irwindale General Plan (2006), City of Irwindale Municipal Code (current through March 2019), and City of Irwindale Commercial and Industrial Design Guidelines (2009).

There were no comments received during the NOP comment period related to this environmental topic.

As discussed in the Initial Study for the Project, the Project site is not located within view of a state scenic highway. The nearest highway subject to this program is State Route (SR) 2, an Officially Designated State Scenic Highway, located approximately 4.0 miles north of the Project site. Therefore, the proposed Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway. Implementation of the proposed Project would have no impact relative to this topic. This topic does not warrant additional analysis and will not be addressed further in the EIR. The Initial Study is included in Appendix A of this Draft EIR.

3.1.1 ENVIRONMENTAL SETTING

REGIONAL SCENIC RESOURCES

Visual resources are generally classified into two categories: scenic views and scenic resources. Scenic views are elements of the broader viewshed such as mountain ranges, valleys, and ridgelines. They are usually mid-ground or background elements of a viewshed that can be seen from a range of viewpoints, often along a roadway or other corridor. Scenic resources are specific features of a viewing area (or viewshed) such as trees, rock outcroppings, and historic buildings. They are specific features that act as the focal point of a viewshed and are usually foreground elements.

Aesthetically significant features occur in a diverse array of environments within the region, ranging in character from urban centers to rural agricultural lands to natural water bodies. Features of the built environment that may also have visual significance include individual or groups of structures that are distinctive due to their aesthetic, historical, social, or cultural significance or characteristics. Examples of the visually significant built environment may include bridges or overpasses, architecturally appealing buildings or groups of buildings, landscaped freeways, and a location where a historic event occurred.

Major regional scenic resources in the area include the San Gabriel River and San Gabriel Mountains. The San Gabriel River extends from the base of the San Gabriel Mountains all the way to the Pacific Ocean. The river includes a popular recreation trail, which travels through a diverse landscape. In the south, the trail follows the channelized river past a mix of industrial and residential surroundings, while the northern portion opens up to scenic vistas of the surrounding mountains. The trail and

river—left to its natural course in the north—also passes through scenic protected areas here, including the Santa Fe Dam Recreation Area and Whittier Narrows. The San Gabriel Mountains are a mountain range located in northern Los Angeles County with its highest peak at above 8,900 feet above sea level. The mountain range is part of the Transverse Ranges and lies between the Los Angeles Basin and the Mojave Desert, with Interstate 5 to the west and Interstate 15 to the east. This range lies in, and is surrounded by, the Angeles National Forest, with the San Andreas Fault as the northern border of the range. In the winter, snowboarding and skiing are quite popular in the San Gabriel Mountains. In the summer, canyoneering, hiking, backpacking, picnicking and camping are some of the activities popular with visitors

Project Site

The Project site is located in the City of Irwindale, which is situated in the northern portion of the San Gabriel Valley. The City of Irwindale is located within a relatively flat area of the Los Angeles Basin south of the San Gabriel Mountain range, north of the Puente Hills, and northeast of the Montebello Hills. The San Gabriel River traverses the central portion of the City of Irwindale in a northeast to southwest orientation.

The Project site is located within the southeastern corner of the City of Irwindale, north of a Los Angeles County-owned pit, east of Allen Drive, south of Arrow Highway, and west of Vincent Avenue in Irwindale, California. The Project site totals approximately 26.05 acres and is comprised of two vacant parcels; one of which is an undeveloped, recently filled, former aggregate mine pit known as the Manning Pit. Figures 2.0-1 and 2.0-2 in Chapter 2.0, Project Description, illustrate the regional location and Project vicinity.

The Project site is surrounded by a variety of designated undeveloped and existing developed land uses. The industrial services and retail uses to the north of the Project site (along Arrow Highway) are designated Industrial in the Irwindale General Plan. The parcel to the south of the Project site, a Los Angeles County owned mining pit, is currently undeveloped. The area immediately adjacent west of the Project site, east of Allen Drive, contains vacant land formerly a part of the Manning Pit. Single family residential uses are currently developed west of Allen Drive. The area east of the site, opposite Vincent Avenue, is developed with single family residences.

The existing site conditions and surrounding area are shown in Figures 3.1-4a, 3.1-1b, and 3.1-1c. The Project site is a former mining pit and contains no existing light sources on the site. The adjacent parcels to the east and west located along Vincent Avenue and Allen Drive, respectively, are predominately single family residential and include minimal outdoor lighting. Other existing lighting in the vicinity of the Project site includes: lighting from industrial uses to the north of the Project site and street lighting along Vincent Avenue. The Los Angeles County mining pit is located immediately south of the Project site and contains no existing light sources. The City's General Plan Update identifies the San Gabriel River as the major topographic feature in the City's planning area. The San Gabriel River traverses the City in a northeast–southwest orientation with the foothills of the nearby San Gabriel Mountains located to the north. The Project site is located within a developed industrial

and residential area where existing development and landscaping limits the availability of long, broad views of the San Gabriel River and the San Gabriel Mountains.

From Vincent Avenue and Allen Drive there are distant views of the San Gabriel Mountains, however, views are limited and partially obstructed by existing development in the surrounding urbanized area. These views also occur from within the Project site but are also obstructed by existing surrounding development within the urbanized area. Foreground views from the Project site consist primarily of existing development of the surrounding area. Views into the site from the surrounding area are also limited and obstructed from existing urbanized development. Views of the site from Arrow Highway are primarily obstructed from existing development on Arrow Highway. Views immediately adjacent to the site along Vincent Avenue are unobstructed and the entire site is readily visible.

3.1.2 REGULATORY SETTING

STATE

Nighttime Sky – Title 24 Outdoor Lighting Standards

The California legislature passed a bill in 2001 requiring the California Energy Commission (CEC) to adopt energy efficiency standards for outdoor lighting for both the public and private sectors. In addition to improved energy efficiency standards, Title 24 standards regulate lighting characteristics such as maximum power and brightness, shielding, and sensor controls to turn lighting on and off. Different lighting standards are set by classifying areas by lighting zone. The classification is based on population figures of the 2010 Census. Areas can be designated as LZ1 (dark), LZ2 (rural), or LZ3 (urban). Lighting requirements for dark and rural areas are stricter in order to protect the areas from new sources of light pollution and light trespass.

LOCAL

City of Irwindale General Plan

The City of Irwindale General Plan includes several policies that are relevant to an evaluation of the visual quality of the Project site. General Plan policies and implementation measures applicable to the Project are identified below:

POLICIES: COMMUNITY DEVELOPMENT ELEMENT

- **Policy 2.** The City of Irwindale will continue to plan for the transition of the quarries located within the City to other land uses.
- **Policy 3.** The City of Irwindale will continue to ensure that the type, location, and intensity of all new development and intensified developments adhere to the requirements that are specified for their particular land use category in the General Plan.

- **Policy 12.** The City of Irwindale will continue to promote quality design in the review and approval of commercial and industrial development through the application of the commercial and industrial design guidelines.
- **Policy 13.** The City of Irwindale will continue to employ a design theme in the review of future commercial and industrial development and in the rehabilitation of existing commercial and industrial uses.
- **Policy 14.** The City of Irwindale will continue to promote property maintenance in all areas of the City.
- **Policy 15.** The City of Irwindale will continue to work towards improving the appearance of the City entryways.
- **Policy 16.** The City of Irwindale will continue to work towards the development of streetscape, sign standards, and a Public Art Program.
- **Policy 17.** The City of Irwindale will continue to encourage a balance of commercial uses to avoid an overconcentration of uses to best serve the residents, employee population, and business community.

City of Irwindale Commercial and Industrial Design Guidelines

The City of Irwindale Commercial and Industrial Design Guidelines are intended to establish general design characteristics and a broad framework for the physical form and use of commercial and industrial buildings in the City of Irwindale. The primary emphasis of the Site Design Principles is the interrelationships of buildings and public spaces, while specific design characteristics of individual structures are addressed in the Building Design Principles. The purpose of these guidelines is to ensure the successful integration of commercial and industrial projects and develop a more aesthetically and functionally cohesive community.

City of Irwindale Zoning Ordinance

Chapter 17.70, *Site Plan and Design Review*, of the City Zoning Ordinance contains standards and provisions related to site design that would apply to the proposed Project. The purpose of site plan and design review is to ensure that proposed development in the City is in conformity with the intent and provisions of this title and to guide City departments in the issuance of permits. In addition, it is the purpose of this chapter to ensure that proposed development is compatible with surrounding development in terms of scale, style and construction materials; that on and off-site circulation is adequate to support the Project; that City services are adequate and available; that projects are of the highest quality of land planning and design, and that projects reflect the design themes of the community and are consistent with the City's General Plan and land use and planning, all in an effort to protect the health, safety and welfare of the community and to enhance the development, use, occupancy, health, safety and welfare of surrounding areas for residential, commercial or industrial uses or purposes.

3.1.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on aesthetics if it will:

- Have a substantial adverse effect on a scenic vista;
- In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings. (Public views are those that are experienced from publicly accessible vantage point). In an urbanized area, conflict with applicable zoning and other regulations governing scenic quality;
- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

IMPACTS AND MITIGATION MEASURES

Impact 3.1-1: Project implementation would not result in substantial adverse effects on a scenic vista (Less than Significant)

The Project site is not designated as a scenic vista by the City of Irwindale General Plan or the Los Angeles County General Plan, nor does it contain any unique or distinguishing features that would qualify the site for designation as a scenic vista. The Project site is located in an urbanized area. According to the City's General Plan, there are no scenic vistas within the Project area. The San Gabriel Mountains, located approximately 20 miles to the north of the Project site, are an important part of the local scenery. However, views of the San Gabriel Mountains from the Project site are limited and obstructed by existing surrounding urban development. Limited distant views of the San Gabriel mountains are available from the Project site and roadways adjacent to the Project site. They occur in the background with foreground and middleground views consisting of development immediately adjacent to the Project site and within the surrounding area. Additionally, existing views in this urban and developed area are limited.

There is no unique or distinguishing visual or aesthetic characteristic of the Project site, aside from the open space nature of the undeveloped former mining pit. The undeveloped former mining pit can provide visual relief to a passerby/viewer from common manmade structures and visual obstructions found in an urban environment. The Project site's aesthetic value can be attributed to its openness and undeveloped nature, which contrasts the industrial nature to the north. However, throughout the years, the Project site appears to remain barren (dead grassland) and absent of vegetation due to frequency of soil disturbance through excavation and hauling of materials from the Project site over the last several decades.

The Project site contains fill material and would be essentially flat once the grading activities are complete. As a result of site disturbance associated with previous mining operations, limited natural scenic areas can be found within the Project site. There is little native vegetation or naturalized

habitat located on the site, and the previous mining operations and remediation of the site soils render the site essentially void of prominent natural visual features.

The Project site is visible from Vincent Avenue and from the northern portion of Allen Drive. Views of the Project site are obstructed by the development that occurs on Arrow Highway, north of the Project site. Implementation of the proposed Project would change the existing visual character of the site from a former mining pit site to an urbanized site. Impacts related to a change in visual character are largely subjective and very difficult to quantify. People have different reactions to the visual quality of a project or a project feature, and what is considered “attractive” to one viewer may be considered “unattractive” to other viewers.

Visual simulations of the proposed warehouse buildings are shown in Figures 3.1-1a, 3.1-1b, and 3.1-1c. As shown, the proposed warehouse building would include articulations and varied roof lines in order to break up the massing of the building. Entrances to the building would be easily identified by archways and windows. The building would include a variety of building materials and colors. The overall color palette would include off-whites, beiges, and browns. Windows and doorways would be provided along each side of the building.

Landscaping would be provided along the perimeter of the Project site. Landscaping would consist of hedges, vines and berms for screening, grasses, large and small accent shrubs, and other small and medium plantings. Approximately 226 trees of various types and sizes would also be provided along the perimeter of the site. Additionally, a grass area with a bench and picnic table would be provided in the northeastern corner of the site. This area would be landscaped with various trees and shrubs. Landscaping and trees would be used to screen the warehouse building and associated infrastructure, such as the trash enclosure.

These improvements are consistent with the landscaping and material requirements established in the City’s Design Guidelines and the City’s design review ordinance (Chapter 17.70 – Site Plan and Design Review). There are no proposed structures over 45 feet high that would impede views of the surrounding areas from the Project vicinity.

While implementation of the proposed Project would change the existing visual character of the site, it would not result in substantial adverse effects on a designated scenic vista and the views of the San Gabriel Mountains would still be intact. Development within the Project site is required to be consistent with the General Plan and the Irwindale Zoning Ordinance, which includes design standards in order to ensure quality and cohesive design of the Project site. These standards include specifications for building height, massing, and orientation; exterior lighting standards and specifications; and landscaping standards. Implementation of the design standards would ensure quality design throughout the Project site, and result in a Project that would be internally cohesive while maintaining aesthetics similar to surrounding uses.

The City of Irwindale General Plan includes goals and policies designed to protect visual resources and promote quality design in urban areas. The proposed Project would be subject to the policies and goals of the Irwindale General Plan, Commercial and Industrial Design Guidelines, as well as the

City's design review process. As described in the City's Design Review Guidelines, the purpose of these guidelines is to ensure the successful integration of commercial and industrial projects with the City. These guidelines are supplemental to, but equally enforceable under the City's design review ordinance (Chapter 17.70 – Site Plan and Design Review).

Compliance with the Commercial and Industrial Design Guidelines and development standards for Irwindale's Zoning Districts for height and bulk, and landscaping requirements found in the Zoning code, would reduce visual impacts to the greatest extent feasible. While the proposed Project would permanently convert the vacant land to urbanized uses, the Project site is designated for and consistent with industrial and urban uses established by the General Plan. Therefore, this is considered a **less than significant** impact.

Impact 3.1-2: Project implementation would not conflict with an applicable zoning or other regulation governing scenic quality within an urbanized area. (Less than Significant)

The CEQA definition for an "Urbanized area" means a central city or a group of contiguous cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile. In addition, to be considered an Urbanized area according to CEQA, projects must also be within the boundary of a map prepared by the U.S. Bureau of the Census which designates the area as urbanized area. According to the U.S. Bureau of the Census, the Project site is mapped and designated as urbanized area. In addition, the Project site is located within the City of Irwindale, which is located in the greater urban area of Los Angeles County, which has an estimated population of approximately 39 million people; meaning the Project site is within an urbanized area and subjected to applicable zoning or other regulation governing scenic quality. Future development of the Project site would convert the Project site from its existing state to an industrial warehouse.

While the proposed Project would result in a substantial alteration to the existing urban form and character of the site, the Project site is located in a developed and urbanized area of the City. The proposed Project would be subject to Chapter 17.70, *Site Plan and Design Review*, of the City's Zoning Code which contains standards and provisions related to site design and visual requirements; and the City's Commercial and Industrial Design Guidelines which includes architectural design principles and a provides criteria for evaluation of plans. The purpose of the site plan and design review ordinance is to ensure that proposed development in the City is in conformity with the intent and provisions of the ordinance. Compliance with the ordinance would ensure the proposed development is compatible with surrounding development in terms of scale, style and construction materials, is of the highest quality of land planning and design, reflects the design themes of the community, and is consistent with the City's General Plan and land use and planning.

Although development of the former mining pit with an industrial warehouse building will change the visual character of the site, compliance with the City's General Plan, Municipal Code, and Commercial and Industrial Design Guidelines would reduce visual impacts to the greatest extent feasible and ensure the Project would not conflict with zoning or other regulations governing scenic

quality. Design in accordance with these standards would reduce any potential impact to a less than a significant level.

Implementation of Mitigation Measures 3.1-1 would reduce potential impacts associated with applicable zoning or other regulations governing scenic quality within an urbanized area to a **less than significant** level.

Impact 3.1-3: Project implementation may result in light and glare impacts. (Less than Significant with Mitigation)

LIGHT IMPACTS

Development of the site with an industrial warehouse use would introduce lighting to the site that does not currently exist. Lighting would primarily consist of interior lighting within the building, security and landscape lighting surrounding the building, and security lighting along interior pedestrian walkways and within the parking areas. There are no specific lighting features within the proposed Project that would create unusual or significant impacts on adjacent uses associated with the lighting. The Project site is not located directly adjacent to residential uses or other sensitive receptors that would potentially be impacted as a result of new light sources within the Project site.

The industrial/business park uses immediately north of the Project site are the closest structures to the Project site. Residential uses occur to the west of the site, west of a vacant parcel and Allen Drive. These uses are approximately 382 feet from the site. Vincent Avenue forms the site's eastern boundary and currently experiences light associated with street lighting and vehicles traveling along the roadway. Residential uses are located approximately 100 feet from the site, east of Vincent Avenue and are separated by a block wall. Industrial/business park uses immediately adjacent to the northern portion of the Project site

The proposed Project would be subject to the City of Irwindale's Site Plan and Design Review process (Chapter 17.70 of the City's Municipal Code), which provides direction on appropriate Project lighting, location, mounting, direction, and standards to prevent adverse effect on surrounding properties. The proposed Project would also be designed consistent with the City's Commercial and Industrial Design Guidelines (2009), which contain standards to prevent light spillover onto adjacent property. Outdoor lighting would be installed in conformance with all City codes and ordinances, applicable safety and illumination requirements, and California Title 24 requirements. Proposed lighting would also be placed to ensure it illuminates only the intended areas and does not penetrate into residential communities or adjacent properties.

Compliance with the City's Municipal Code would reduce potential impacts associated with the introduction of lighting to the Project site. Through the design review and approval process, lighting proposed for the Project site would be reviewed to ensure spillover lighting onto adjacent properties would be minimized. Impacts would be reduced to a less than significant level.

Implementation of Mitigation Measures 3.1-1 would reduce potential impacts associated with nighttime lighting, glare and light spillage onto adjacent properties to a **less than significant** level.

MITIGATION MEASURE(S)

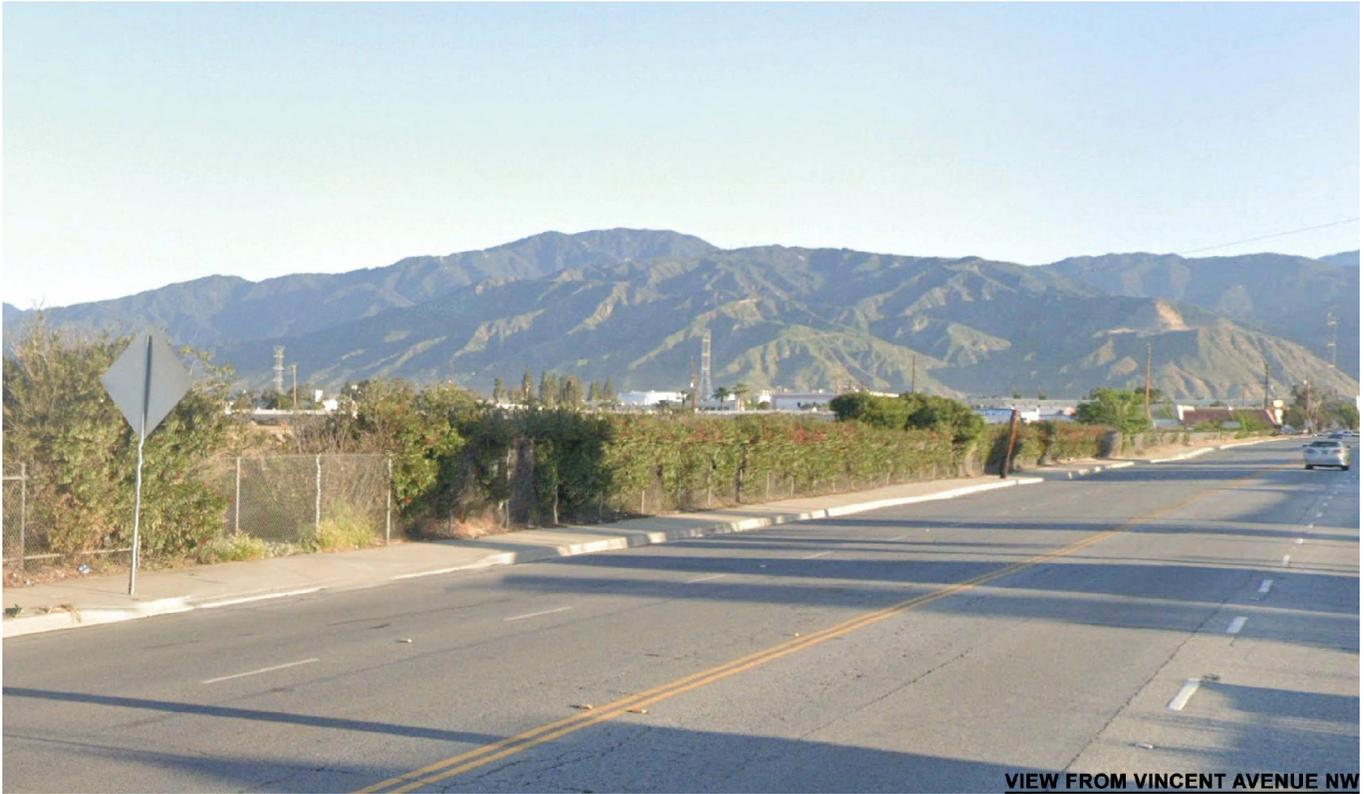
Mitigation Measure 3.1-1: *A lighting plan for the Project shall be prepared prior to the approval of the Site Plan. The lighting plan shall demonstrate that the lighting systems and other exterior lighting throughout the Project site has been designed to minimize light spillage onto adjacent properties to the greatest extent feasible, consistent with the Site Plan and Design Review requirements established in Chapter 17.70 of the City's Municipal Code.*

GLARE IMPACTS

Vehicle parking would occur along the perimeter of the Project site and could create new sources of glare. However, parked vehicles within the Project site would be screened from view by the painted concrete tilt-up screenwall proposed on the east elevation along Vincent Avenue. Parked vehicles along the south would abut an existing gravel pit and parked vehicles along the west would abut a vacant lot, which separates the Project site from Allen Drive and residential uses to the west. The northern portion of the site is adjacent to the rear of industrial/business park uses. Thus, due to the distance and uses adjacent to the Project site, significant impacts from the potential glare from parked vehicles within the site are not anticipated.

Stucco facades of neutral color are proposed on each exterior wall of the proposed warehouse. Stucco facades typically do not induce significant glare impacts. Painted metal doors are proposed separately for vehicle and pedestrian entrance into the warehouse, which may induce a limited source of glare within and directly adjacent to the Project site. Large windows of blue glass in an anodized aluminum storefront frame system are proposed at each corner of the proposed warehouse, along with horizontal/vertical windows along the facades of each exterior wall. Windows traditionally have the highest potential of resulting in glare impacts. Future tenant signage is proposed at the northeastern corner of the warehouse. The sign will be built in accordance to the City's sign permit regulations, which will reduce glare impacts from the sign within and directly adjacent to the Project Site. Downspouts and equipment auxiliary to the warehouse are proposed on the east and west elevations and will be external and painted to match the building. Landscaping is proposed along the perimeter of the site, which will further reduce glare impacts from the Project site by shielding vehicles and partial building facades from view. Other sources of glare within the Project site could also originate from the proposed parking lot surfaces and structures within the parking areas such as poles and signs. The proposed features and potential glare impacts would be consistent with those in an urbanized environment and would not significantly impact adjacent uses. The proposed Project would be required to comply with the City's Commercial and Industrial Design Guidelines, which includes material and design requirements to reduce glare impacts. Compliance with the City's Commercial and Industrial Design Guidelines would reduce potential glare impacts associated with proposed Project to a **less than significant** level.

This page intentionally left blank.



VIEW FROM VINCENT AVENUE NW



**CITY OF IRWINDALE
SWC VINCENT AVENUE AND ARROW HIGHWAY**

**Figure 3.1-1a. Visual Simulations
From Vincent Avenue NW**

Map date: August 17, 2020.

This page intentionally left blank.



VIEW FROM VINCENT AVENUE SW



**CITY OF IRWINDALE
SWC VINCENT AVENUE AND ARROW HIGHWAY**

Figure 3.1-1b. Visual Simulations
From Vincent Avenue SW

Map date: August 17, 2020.

This page intentionally left blank.



VIEW FROM ALLEN DRIVE W



**CITY OF IRWINDALE
SWC VINCENT AVENUE AND ARROW HIGHWAY**

**Figure 3.1-1c. Visual Simulations
From Allen Drive W**

This page intentionally left blank.

The purpose of this section is to describe regional air quality, the current attainment status of the air basin, local sensitive receptors, emission sources, and the impacts that are likely to result from Project implementation. Following this discussion is an assessment of consistency of the proposed Project with applicable policies and local plans. This section is based in part on the following: Air Quality and Land Use Handbook: A Community Health Perspective (California Air Resources Board [CARB], 2005), Air Quality Analysis Handbook (Southern California Air Quality Management District [SCAQMD], 1993), Final 2016 Air Quality Management Plan (AQMP) (SCAQMD, 2017), 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) (Southern California Association of Governments [SCAG], 2016), California Emissions Estimator Model (CalEEMod) (v.2016.3.2) (CAPCOA, 2013), Vincent Avenue Industrial Building Traffic Impact Analysis (Ganddini Group, 2020), and South Coast Air Quality Management District (SCAQMD) Rules Book.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: CARB (March 10, 2020) and SCAQMD (March 10, 2020). Full comments received are included in Appendix A.

3.2.1 ENVIRONMENTAL SETTING

SOUTH COAST AIR BASIN

Irwindale is located within the South Coast Air Basin (SCAB or Basin). The Basin is regulated by the SCAQMD and consists of Orange County, the western portion of Los Angeles County, the southwestern portion of San Bernardino County, and the western portion of Riverside County. Air quality in this area is determined by such natural factors as topography, meteorology, climate, as well as existing air pollution sources and ambient conditions. These factors along with applicable regulations are discussed below. The combination of topography, low mixing height, abundant sunshine, and emissions from the second-largest urban area in the United States give the Basin the worst air pollution problem in the nation.

Climate, Topography, and Air Pollution Potential

Complex terrain and weather patterns make the region a natural sink for the accumulation of emissions and sustained high pollution levels. Along the coastal area, better air quality prevails because of the relatively mild climate, cooler temperatures, and a pattern of onshore airflow. However, in the inland portion of the Basin, a combination of abundant sunshine, warm temperatures, and poor vertical air mixing is conducive to the formation of ozone, commonly referred to as “smog.” The problem is further aggravated by the surrounding mountains that act together with the weather and air pollutant emissions.

The accumulation of smog is further heightened by the extent of exposure to elevated pollution levels. The Basin is the nation’s second largest urban area and California’s largest metropolitan region. The Basin is home to over 40 percent of the total State population, or about 16 million people, and over 10 million vehicles. Fifty thousand heavy duty diesel trucks travel nearly 10 million miles through the region annually, and well over 50,000 diesel engines are used to move goods and power construction and mining equipment.

Air quality for all pollutants in the Basin continues to improve, with recent years registering the lowest levels since measurements began over six decades ago. During the 1960s, maximum 1-hour concentrations were well above levels considered safe for public health – more than four times the current health standard. In recent times, the maximum measured concentrations are less than one-third of those peak concentrations. Moreover, long-term ozone air quality trends continue to show an overall improvement. The number of days above both the one and eight-hour standards has also declined dramatically.

Because of weather patterns and geography, residual pollution from the Basin is transported to several downwind air basins, including the Mojave Desert, the Salton Sea, the South-Central Coast, and San Diego Air Basins. As ozone precursor emissions in the Basin decrease over time, the transport impact on the downwind areas will also decline.

The majority of annual rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thunder showers in coastal regions and slightly heavier showers in the eastern portion of the Basin and along the coastal side of the mountains. Irwindale has a warm Summer Mediterranean climate with hot and dry summers and cool winters. The summer average high is 90°F (32°C) and the average low is 62°F (17°C). The winter average high in January is 68°F (20°C) and the average low is 43°F (6°C).

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific high. This inversion limits the vertical dispersion of air contaminants, holding them relatively near to the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid to late afternoons on hot summer days. Winter inversions frequently break by midmorning.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino counties. In the winter, the greatest pollution problem is the accumulation of CO and nitrogen oxides (NOx) due to low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NOx to form photochemical smog.

CRITERIA POLLUTANTS

All criteria pollutants can have human health and environmental effects at certain concentrations. The United States Environmental Protection Agency (USEPA) uses six "criteria pollutants" as indicators of air quality, and has established for each of them a maximum concentration above which adverse effects on human health may occur. These threshold concentrations are called National Ambient Air Quality Standards (NAAQS). In addition, California establishes ambient air quality standards, called California Ambient Air Quality Standards (CAAQS).

The ambient air quality standards for the six criteria pollutants (as shown in Table 3.2-1) are set to address public health and the environment within an adequate margin of safety (as provided under Section 109 of the Federal Clean Air Act [FCAA]). Epidemiological, controlled human exposure, and toxicology studies evaluate potential health and environmental effects of criteria pollutants, and form the scientific basis for new and revised ambient air quality standards. Principal characteristics and possible health and environmental effects from exposure to the six primary criteria pollutants generated by the Project are discussed below.

Ozone (O₃) is a photochemical oxidant and the major component of smog. While O₃ in the upper atmosphere is beneficial to life by shielding the earth from harmful ultraviolet radiation from the sun, high concentrations of O₃ at ground level are a major health and environmental concern. O₃ is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of volatile organic compounds (VOC) and oxides of nitrogen (NO_x) in the presence of sunlight. These reactions are stimulated by sunlight and temperature so that peak O₃ levels occur typically during the warmer times of the year. Both VOCs and NO_x are emitted by transportation and industrial sources. VOCs are emitted from sources as diverse as autos, chemical manufacturing, dry cleaners, paint shops, and other sources using solvents. Relatedly, reactive organic compounds (ROG) are defined as the subset of VOCs that are reactive enough to contribute substantially to atmospheric photochemistry.

The reactivity of O₃ causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O₃ not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O₃ for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term O₃ exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to O₃ may increase the risk of respiratory-related deaths (USEPA, 2019a). The concentration of O₃ at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent reduction in forced airway volume in the most responsive individual. Although the results vary, evidence suggests that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum O₃ concentration reaches 80 parts per billion (USEPA, 2019b). The average background level of O₃ in the California and Nevada is approximately 48.3 parts per billion, which represents approximately 77 percent of the total O₃ in the western region of the U.S. (NASA, 2015).

In addition to human health effects, O₃ has been tied to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death; it can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

Carbon monoxide (CO) is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels. Carbon monoxide is harmful because it binds to hemoglobin in the blood, reducing the ability of blood to carry oxygen. This interferes with oxygen delivery to the body's organs. The most common effects of CO exposure are fatigue, headaches, confusion, and dizziness due to inadequate oxygen delivery to the brain. For people with cardiovascular disease, short-term CO exposure can further reduce their body's already compromised ability to respond to the increased oxygen demands of exercise, exertion, or stress. Inadequate oxygen delivery to the heart muscle leads to chest pain and decreased exercise tolerance. Unborn babies whose mothers experience high levels of CO exposure during pregnancy are at risk of adverse developmental effects (CARB, 2019c). There are no ecological or environmental effects to ambient CO (CARB, 2019c).

Very high levels of CO are not likely to occur outdoors. However, when CO levels are elevated outdoors, they can be of particular concern for people with some types of heart disease. These people already have a reduced ability for getting oxygenated blood to their hearts in situations where the heart needs more oxygen than usual. They are especially vulnerable to the effects of CO when exercising or under increased stress. In these situations, short-term exposure to elevated CO may result in reduced oxygen to the heart accompanied by chest pain also known as angina (USEPA, 2016). Such acute effects may occur under current ambient conditions for some sensitive individuals, while increases in ambient CO levels increases the risk of such incidences.

Nitrogen oxides (NO_x) is a collective term used to refer to nitrogen monoxide (NO) and nitrogen dioxide (NO₂). NO₂ (often used interchangeably with NO_x) is a reddish-brown, highly reactive gas that is present in all urban atmospheres. The main effect of increased NO₂ is the increased likelihood of respiratory problems. Under ambient conditions, NO₂ can irritate the lungs, cause bronchitis and pneumonia, and lower resistance to respiratory infections. Nitrogen oxides are an important precursor both to ozone (O₃) and acid rain, and may affect both terrestrial and aquatic ecosystems. Longer exposures to elevated concentrations of NO₂ may contribute to the development of asthma and potentially increase susceptibility to respiratory infections. People with asthma, as well as children and the elderly are generally at greater risk for the health effects of NO₂.

The major mechanism for the formation of NO₂ in the atmosphere is the oxidation of the primary air pollutant nitric oxide (NO_x). NO_x plays a major role, together with VOCs, in the atmospheric reactions that produce O₃. NO_x forms when fuel is burned at high temperatures. The two major emission sources are transportation and stationary fuel combustion sources such as electric utility and industrial boilers.

Sulfur dioxide (SO₂) is one of the multiple gaseous oxidized sulfur species and is formed during the combustion of fuels containing sulfur, primarily coal and oil. The largest anthropogenic source of SO₂ emissions in the U.S. is fossil fuel combustion at electric utilities and other industrial facilities. SO₂ is also emitted from certain manufacturing processes and mobile sources, including locomotives, large ships, and construction equipment.

SO₂ affects breathing and may aggravate existing respiratory and cardiovascular disease in high doses. Sensitive populations include asthmatics, individuals with bronchitis or emphysema, children and the elderly. SO₂ is also a primary contributor to acid deposition, or acid rain, which causes

acidification of lakes and streams and can damage trees, crops, historic buildings, and statues. In addition, sulfur compounds in the air contribute to visibility impairment in large parts of the country. This is especially noticeable in national parks. Ambient SO₂ results largely from stationary sources such as coal and oil combustion, steel mills, refineries, pulp and paper mills, and from nonferrous smelters.

Short-term exposure to ambient SO₂ has been associated with various adverse health effects. Multiple human clinical studies, epidemiological studies, and toxicological studies support a causal relationship between short-term exposure to ambient SO₂ and respiratory morbidity. The observed health effects include decreased lung function, respiratory symptoms, and increased emergency department visits and hospitalizations for all respiratory causes. These studies further suggest that people with asthma are potentially susceptible or vulnerable to these health effects. In addition, SO₂ reacts with other air pollutants to form sulfate particles, which are constituents of fine particulate matter (PM_{2.5}). Inhalation exposure to PM_{2.5} has been associated with various cardiovascular and respiratory health effects (USEPA, 2017). Increased ambient SO₂ levels would lead to increased risk of such effects.

SO₂ emissions that lead to high concentrations of SO₂ in the air generally also lead to the formation of other sulfur oxides (SO_x). SO_x can react with other compounds in the atmosphere to form small particles. These particles contribute to particulate matter (PM) pollution. Small particles may penetrate deeply into the lungs and in sufficient quantity can contribute to health problems.

Particulate matter (PM) includes dust, dirt, soot, smoke and liquid droplets directly emitted into the air by sources such as factories, power plants, cars, construction activity, fires and natural windblown dust. Particles formed in the atmosphere by condensation or the transformation of emitted gases such as SO₂ and VOCs are also considered particulate matter. PM is generally categorized based on the diameter of the particulate matter: PM₁₀ is particulate matter 10 micrometers or less in diameter (known as respirable particulate matter), and PM_{2.5} is particulate matter 2.5 micrometers or less in diameter (known as fine particulate matter).

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO₂) and laboratory studies of animals and humans, there are major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis, and premature death. Small particulate pollution causes health impacts even at very low concentrations.

Respirable particulate matter (PM₁₀) consists of small particles, less than 10 microns in diameter, of dust, smoke, or droplets of liquid which penetrate the human respiratory system and cause irritation by themselves, or in combination with other gases. Particulate matter is caused primarily by dust from grading and excavation activities, from agricultural activities (as created by soil preparation activities, fertilizer and pesticide spraying, weed burning and animal husbandry), and from motor vehicles, particularly diesel-powered vehicles. PM₁₀ causes a greater health risk than larger particles, since these fine particles can more easily penetrate the defenses of the human respiratory system.

Fine particulate matter (PM_{2.5}) consists of fine particles, which are less than 2.5 microns in size. Similar to PM₁₀, these particles are primarily the result of combustion in motor vehicles, particularly diesel engines, as well as from industrial sources and residential/agricultural activities such as burning. It is also formed through the reaction of other pollutants. As with PM₁₀, these particulates can increase the chance of respiratory disease, and cause lung damage and cancer. In 1997, the USEPA created new Federal air quality standards for PM_{2.5}.

The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly, and children. Particulate matter also impacts soils and damages materials, and is a major cause of visibility impairment.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in PM_{2.5} results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM₁₀ and PM_{2.5} can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (USEPA, 2019c).

Lead (Pb) exposure can occur through multiple pathways, including inhalation of air and ingestion of Pb in food, water, soil or dust. Once taken into the body, lead distributes throughout the body in the blood and is accumulated in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the oxygen carrying capacity of the blood. Excessive lead exposure can cause seizures, mental retardation and/or behavioral disorders. Low doses of lead can lead to central nervous system damage. Recent studies have also shown that lead may be a factor in high blood pressure and subsequent heart disease.

Lead is persistent in the environment and can be added to soils and sediments through deposition from sources of lead air pollution. Other sources of lead to ecosystems include direct discharge of waste streams to water bodies and mining. Elevated lead in the environment can result in decreased growth and reproductive rates in plants and animals, and neurological effects in vertebrates.

Lead exposure is typically associated with industrial sources; major sources of lead in the air are ore and metals processing and piston-engine aircraft operating on leaded aviation fuel. Other sources are waste incinerators, utilities, and lead-acid battery manufacturers. The highest air concentrations of lead are usually found near lead smelters. As a result of the USEPA's regulatory efforts, including the removal of lead from motor vehicle gasoline, levels of lead in the air decreased by 98 percent between 1980 and 2014 (USEPA, 2019d). Based on this reduction of lead in the air over this period,

and since most new developments to not generate an increase in lead exposure, the health impacts of ambient lead levels are not typically monitored by the CARB.

AMBIENT AIR QUALITY STANDARDS

Both the USEPA and the CARB have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels of contaminants that avoid specific adverse health effects associated with each pollutant.

The federal and State ambient air quality standards are summarized in Table 3.2-1 for important pollutants. The federal and State ambient standards were developed independently, although both processes attempted to avoid health-related effects. As a result, the federal and State standards differ in some cases. In general, the California standards are more stringent. This is particularly true for ozone, PM_{2.5}, and PM₁₀. The USEPA signed a final rule for the federal ozone eight-hour standard of 0.070 ppm on October 1, 2015, and was effective as of December 28, 2015 (equivalent to the California state ambient air quality eight-hour standard for ozone).

TABLE 3.2-1: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

POLLUTANT	AVERAGING TIME	FEDERAL PRIMARY STANDARD	STATE STANDARD
Ozone	1-Hour	--	0.09 ppm
	8-Hour	0.070 ppm	0.070 ppm
Carbon Monoxide	8-Hour	9.0 ppm	9.0 ppm
	1-Hour	35.0 ppm	20.0 ppm
Nitrogen Dioxide	Annual	0.053 ppm	0.03 ppm
	1-Hour	0.100 ppm	0.18 ppm
Sulfur Dioxide	Annual	0.03 ppm	--
	24-Hour	0.14 ppm	0.04 ppm
	1-Hour	0.075 ppm	0.25 ppm
PM ₁₀	Annual	--	20 ug/m ³
	24-Hour	150 ug/m ³	50 ug/m ³
PM _{2.5}	Annual	12 ug/m ³	12 ug/m ³
	24-Hour	35 ug/m ³	--
Lead	30-Day Avg.	--	1.5 ug/m ³
	3-Month Avg.	0.15 ug/m ³	--

NOTES: PPM = PARTS PER MILLION, UG/M3 = MICROGRAMS PER CUBIC METER

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2020.

In 1997, new national standards for fine particulate matter diameter 2.5 microns or less (PM_{2.5}) were adopted for 24-hour and annual averaging periods. The existing PM₁₀ standards were retained, but the method and form for determining compliance with the standards were revised.

In addition to the criteria pollutants discussed above, Toxic Air Contaminants (TACs) are another group of pollutants of concern. TACs are injurious in small quantities and are regulated despite the absence of criteria documents. The identification, regulation and monitoring of TACs is relatively recent compared to that for criteria pollutants. Unlike criteria pollutants, TACs are regulated on the basis of risk rather than specification of safe levels of contamination.

Existing air quality concerns within Los Angeles and the entire SCAB are related to increases of regional criteria air pollutants (e.g., ozone and particulate matter), exposure to toxic air

contaminants, odors, and increases in greenhouse gas emissions contributing to climate change. The primary source of ozone (smog) pollution is motor vehicles which account for 70 percent of the ozone in the region. Particulate matter is caused by dust, primarily dust generated from construction and grading activities, and smoke which is emitted from fireplaces, wood-burning stoves, and agricultural burning.

Attainment Status

In accordance with the California Clean Air Act (CCAA), the CARB is required to designate areas of the State as attainment, nonattainment, or unclassified with respect to applicable standards. An “attainment” designation for an area signifies that pollutant concentrations did not violate the applicable standard in that area. A “nonattainment” designation indicates that a pollutant concentration violated the applicable standard at least once, excluding those occasions when a violation was caused by an exceptional event, as defined in the criteria.

Depending on the frequency and severity of pollutants exceeding applicable standards, the nonattainment designation can be further classified as serious nonattainment, severe nonattainment, or extreme nonattainment, with extreme nonattainment being the most severe of the classifications. An “unclassified” designation signifies that the data do not support either an attainment or nonattainment status. The CCAA divides districts into moderate, serious, and severe air pollution categories, with increasingly stringent control requirements mandated for each category.

The USEPA designates areas for ozone, carbon monoxide, and nitrogen dioxide as “does not meet the primary standards,” “cannot be classified,” or “better than national standards.” For sulfur dioxide, areas are designated as “does not meet the primary standards,” “does not meet the secondary standards,” “cannot be classified,” or “better than national standards.” However, the CARB terminology of attainment, nonattainment, and unclassified is more frequently used.

Table 3.2-2 shows the state and national attainment status for each criteria pollutant.

TABLE 3.2-2: STATE AND NATIONAL ATTAINMENT STATUS

<i>CRITERIA POLLUTANTS</i>	<i>STATE DESIGNATIONS</i>	<i>NATIONAL DESIGNATIONS</i>
Ozone (O ₃)	Nonattainment	Nonattainment
PM ₁₀	Nonattainment	Attainment
PM _{2.5}	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Unclassified/Attainment
Nitrogen Dioxide (NO ₂)	Attainment	Unclassified/Attainment
Sulfur Dioxide (SO ₂)	Attainment	Unclassified/Attainment
Sulfates	Attainment	
Lead	Attainment	Nonattainment
Hydrogen Sulfide	Unclassified	
Visibility Reducing Particles	Unclassified	

SOURCE: CALIFORNIA AIR RESOURCES BOARD, 2019A.

The SCAB is designated as a nonattainment area for the federal ozone and PM_{2.5} standards and is also a nonattainment area for the state standards for ozone, PM₁₀, and PM_{2.5}. The Project region is also a nonattainment area for the federal lead standard. This is a result of operations at the Ports of

Los Angeles and Long Beach coupled with a few specific industrial processes that occur in the region, such as battery recycling. The proposed Project would not be source of lead.

Los Angeles County Air Quality Monitoring

Ambient air quality at the Project site can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. CARB maintains more than 60 monitoring stations throughout California. The Azusa (803 North Loren Avenue, Azusa) air quality monitoring station, located approximately two miles northeast of the Project site, is the closest station to the site. The Azusa monitoring station monitors ambient concentrations of ozone, PM_{2.5}, PM₁₀, the three pollutants in nonattainment of air quality standards in the Project region. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered generally representative of ambient concentrations in the development area.

Table 3.2-3 summarizes the published data concerning ozone, PM_{2.5}, PM₁₀ since 2016 from the Azusa monitoring station for each year that the monitoring data is provided. Ozone, PM_{2.5}, PM₁₀ are the pollutants mostly affecting the region where the proposed Project is located.

TABLE 3.2-3: AMBIENT AIR QUALITY MONITORING DATA (AZUSA)

POLLUTANT	CAL.	FED.	YEAR	MAX CONCENTRATION	DAYS EXCEEDED STATE/FED STANDARD
	PRIMARY STANDARD				
Ozone (O ₃) (1-hour)	0.09 ppm for 1 hour	NA	2018	0.139	24/3
			2017	0.152	38/7
			2016	0.146	30/4
Ozone (O ₃) (8-hour)	0.07 ppm for 8 hour	0.070 ppm for 8 hour	2018	0.100	43/42
			2017	0.114	64/62
			2016	0.107	40/36
Fine Particulate Matter (PM ₁₀)	50 ug/m ³ for 24 hours	150 ug/m ³ for 24 hours	2018	78.3	59.2/0
			2017	83.9	ND/0
			2016	74.6	ND/0
Fine Particulate Matter (PM _{2.5})	No 24 hour State Standard	35 ug/m ³ for 24 hours	2018	50.7	ND/0
			2017	43.6	ND/0
			2016	104.7	ND/0

NOTE: ND= THERE WAS INSUFFICIENT (OR NO) DATA AVAILABLE TO DETERMINE THE VALUE.

SOURCE: CALIFORNIA AIR RESOURCES BOARD (AEROMETRIC DATA ANALYSIS AND MANAGEMENT SYSTEM OR IADAM) AIR POLLUTION SUMMARIES.

ODORS

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person’s reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another.

It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word “strong” to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air.

When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

Examples of facilities that are known producers of odors include: wastewater treatment facilities, chemical manufacturing, sanitary landfill, fiberglass manufacturing, transfer station, painting/coating operations (e.g. auto body shops), composting facility, food processing facility of animal origin, petroleum refinery, feed lot/dairy, asphalt batch plant, and rendering plant. These aforementioned uses are either prohibited or subject to a Conditional Use Permit. None of these facilities are permitted by right within the Project site.

SENSITIVE RECEPTORS

A sensitive receptor is a location where human populations, especially children, seniors, and sick persons, are present and where there is a reasonable expectation of continuous human exposure to pollutants. Examples of sensitive receptors include residences, hospitals, and schools. The nearest existing sensitive receptors to the Project site are located approximately 75 feet to the east of the Project site, across Vincent Avenue (i.e. residential receptors). Additionally, there are residential receptors located approximately 380 feet to the west of the Project site. Moreover, residential land uses are planned for the area adjacent to the Project site (to the west).

3.2.2 REGULATORY SETTING

FEDERAL

Federal Clean Air Act

The FCAA was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air pollutant standards, state attainment plans, motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The USEPA is responsible for administering the FCAA. The FCAA requires the USEPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health (with an adequate margin of safety, including for sensitive populations such as children, the elderly, and individuals suffering from respiratory diseases), and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

NAAQS standards define clean air and represent the maximum amount of pollution that can be present in outdoor air without any harmful effects on people and the environment. Existing violations of the ozone and PM_{2.5} ambient air quality standards indicate that certain individuals exposed to these pollutants may experience certain health effects, including increased incidence of cardiovascular and respiratory ailments.

NAAQS standards have been designed to accurately reflect the latest scientific knowledge and are reviewed every five years by a Clean Air Scientific Advisory Committee (CASAC), consisting of seven members appointed by the USEPA administrator. Members of CASAC are appointed by the USEPA Administrator for their expertise in one or more of the subject areas covered in the ISA. The committee's role is to peer review the NAAQS documents, ensure that they reflect the thinking of the scientific community, and advise the Administrator on the technical and scientific aspects of standard setting. Each document goes through two to three drafts before CASAC deems it to be final. Reviewing NAAQS is a lengthy undertaking and includes the following major phases: Planning, Integrated Science Assessment (ISA), Risk/Exposure Assessment (REA), Policy Assessment (PA), and Rulemaking. The process starts with a comprehensive review of the relevant scientific literature. The literature is summarized and conclusions are presented in the ISA. Based on the ISA, USEPA staff perform a risk and exposure assessment, which is summarized in the REA document. The third document, the PA, integrates the findings and conclusions of the ISA and REA into a policy context, and provides lines of reasoning that could be used to support retention or revision of the existing NAAQS, as well as several alternative standards that could be supported by the review findings. Each of these three documents is released for public comment and public peer review by the CASAC.

Although there is some variability among the health effects of the NAAQS pollutants, each has been linked to multiple adverse health effects including, among others, premature death, hospitalizations and emergency department visits for exacerbated chronic disease, and increased symptoms such as coughing and wheezing. NAAQS standards were last revised for each of the six criteria pollutant as listed below, with detail on what aspects of NAAQS changed during the most recent update:

- *Ozone*: On October 1, 2015, the USEPA lowered the national eight-hour standard from 0.075 ppm to 0.070 ppm, providing for a more stringent standards consistent with the current California state standard.
- *CO*: In 2011, the primary standards were retained from the original 1971 level, without revision. The secondary standards were revoked in 1985.
- *NO₂*: The national NO₂ standard was most recently revised in 2010 following an exhaustive review of new literature pointed to evidence for adverse effects in asthmatics at lower NO₂ concentrations than the existing national standard.

- *SO₂*: On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb.
- *PM*: the national annual average PM_{2.5} standard was most recently revised in 2012 following an exhaustive review of new literature pointed to evidence for increased risk of premature mortality at lower PM_{2.5} concentrations than the existing standard.
- *Lead*: The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. In 2016, the primary and secondary standards were retained.

The law recognizes the importance for each state to locally carry out the requirements of the FCAA, as special consideration of local industries, geography, housing patterns, etc. are needed to have full comprehension of the local pollution control problems. As a result, the USEPA requires each state to develop a State Implementation Plan (SIP) that explains how each state will implement the FCAA within their jurisdiction. A SIP is a collection of rules and regulations that a particular state will implement to control air quality within their jurisdiction. CARB is the state agency that is responsible for preparing the California SIP.

Transportation Control Measures

One particular aspect of the SIP development process is the consideration of potential control measures as a part of making progress towards clean air goals. While most SIP control measures are aimed at reducing emissions from stationary sources, some are typically also created to address mobile or transportation sources. These are known as transportation control measures (TCMs). TCM strategies are designed to reduce vehicle miles traveled and trips, or vehicle idling and associated air pollution. These goals are achieved by developing attractive and convenient alternatives to single-occupant vehicle use. Examples of TCMs include ridesharing programs, transportation infrastructure improvements such as adding bicycle and carpool lanes, and expansion of public transit.

STATE

California Clean Air Act

The California Clean Air Act (CCAA) was first signed into law in 1988. The CCAA provides a comprehensive framework for air quality planning and regulation, and spells out, in statute, the state's air quality goals, planning and regulatory strategies, and performance. CARB is the agency responsible for administering the CCAA. CARB established ambient air quality standards pursuant to the California Health and Safety Code (CH&SC) [§39606(b)], which are similar to the federal standards.

California Air Quality Standards

Air quality standard setting in California commences with a critical review of all relevant peer reviewed scientific literature. The Office of Environmental Health Hazard Assessment (OEHHA) uses the review of health literature to develop a recommendation for the standard. The

recommendation can be for no change, or can recommend a new standard. The review, including the OEHHA recommendation, is summarized in a document called the draft Initial Statement of Reasons (ISOR), which is released for comment by the public, and also for public peer review by the Air Quality Advisory Committee (AQAC). AQAC members are appointed by the President of the University of California for their expertise in the range of subjects covered in the ISOR, including health, exposure, air quality monitoring, atmospheric chemistry and physics, and effects on plants, trees, materials, and ecosystems. The Committee provides written comments on the draft ISOR. The ARB staff next revises the ISOR based on comments from AQAC and the public. The revised ISOR is then released for a 45-day public comment period prior to consideration by the Board at a regularly scheduled Board hearing.

In June of 2002, the CARB adopted revisions to the PM₁₀ standard and established a new PM_{2.5} annual standard. The new standards became effective in June 2003. Subsequently, staff reviewed the published scientific literature on ground-level ozone and nitrogen dioxide and the CARB adopted revisions to the standards for these two pollutants. Revised standards for ozone and nitrogen dioxide went into effect on May 17, 2006 and March 20, 2008, respectively. These revisions reflect the most recent changes to the CAAQS.

Tanner Air Toxics Act

California regulates TACs primarily through the Tanner Air Toxics Act (AB 1807) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588). The Tanner Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and has adopted USEPA's list of hazardous air pollutants (HAPs) as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an Airborne Toxics Control Measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate Best Available Control Technologies (BACT) to minimize emissions.

AB 2588 requires that existing facilities that emit toxic substances above a specified level prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures. CARB has adopted diesel exhaust control measures and more stringent emission standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, CARB adopted a new public-transit bus-fleet rule and emission standards for new urban buses. These rules and standards provide for (1) more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines; (2) zero-emission bus demonstration and purchase requirements applicable to transit agencies; and (3) reporting requirements under which transit agencies must demonstrate compliance with the urban transit bus fleet rule.

Omnibus Low-NO_x Rule

The CARB approved the Omnibus Low-NO_x Rule on August 28, 2020, which will require engine NO_x emissions to be cut to approximately 75% below current standards beginning in 2024, and 90% below current standards in 2027. The rule also places nine additional regulatory requirements on new heavy-duty truck and engines. Those additional requirements include a 50% reduction in particulate matter emissions, stringent new low-load and idle standards, a new in-use testing protocol, extended deterioration requirements, a new California-only credit program, and extended mandatory warranty requirements. The regulatory requirements in the Omnibus Low-NO_x Rule will first become effective in 2024, at the same time as the Advanced Clean Trucks regulations that CARB approved that mandates manufacturers convert increasing percentages of their heavy-duty trucks sold in California to zero-emission vehicles.

LOCAL

South Coast Air Quality Management District

The SCAQMD shares responsibility with the CARB for ensuring that all state and federal ambient air quality standards are achieved and maintained over an area of approximately 10,743 square miles. The SCAQMD reviews Projects to ensure that they do not (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay the timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan.

The SCAQMD is responsible for controlling emissions primarily from stationary sources. The SCAQMD maintains air quality monitoring stations throughout the South Coast Air Basin (SCAB or Basin). In coordination with the SCAG, the SCAQMD is also responsible for developing, updating, and implementing the AQMP for the Basin. An AQMP is a plan prepared and implemented by an air pollution district for a county or region designated as nonattainment of the national and/or California ambient air quality standards.

In 2003, an AQMP was prepared by the SCAQMD to bring the Basin, as well as portions of the Salton Sea Air Basin under the SCAQMD jurisdiction, into compliance with the 1-hour ozone and PM₁₀ national standards. The 2003 AQMP also replaced the 1997 attainment demonstration for the federal CO standard and provided a basis for a maintenance plan for CO for the future. It also updated the maintenance plan for the federal NO₂ standard, which the Basin has met since 1992.

A subsequent AQMP for the Basin was adopted by the SCAQMD on June 1, 2007. The goal of the 2007 AQMP was to lead the Basin into compliance with the national 8-hour ozone and PM_{2.5} standards. The 2007 AQMP outlined a detailed strategy for meeting the national health-based standards for PM_{2.5} by 2015 and 8-hour ozone by 2024 while accounting for and accommodating future expected growth. The 2007 AQMP incorporated significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling. Most of the reductions were to be from mobile sources, which are currently responsible for about 75 percent of all smog and particulate-forming emissions.

The SCAQMD approved the 2012 AQMP on December 7, 2012. The 2012 AQMP incorporated the latest scientific and technological information and planning assumptions, including the 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and updated emission inventory methodologies for various source categories. The 2012 AQMP outlines a comprehensive control strategy that meets the requirement for expeditious progress toward attainment with the 24-hour $PM_{2.5}$ federal ambient air quality standard with all feasible control measures and demonstrates attainment of the standard by 2014. The 2012 AQMP also updates the 8-hour ozone control plan with new emission reduction commitments from a set of new control measures that implement the 2007 AQMP's Section 182 (e)(5) commitments. The goal of the Final 2012 AQMP is to lead the Basin into compliance with the national 8-hour ozone and $PM_{2.5}$ standards.

The SCAQMD approved the Final 2016 AQMP on March 3, 2017. The 2016 AQMP includes transportation control measures developed by the SCAG from the 2016–2040 RTP/SCS, as well as the integrated strategies and measures needed to meet the NAAQS. The 2016 AQMP demonstrates attainment of the 1-hour and 8-hour ozone NAAQS as well as the latest 24-hour and annual $PM_{2.5}$ standards.

The SCAQMD is responsible for limiting the amount of emissions that can be generated throughout the basin by various stationary, area, and mobile sources. Specific rules and regulations have been adopted by the SCAQMD Governing Board that (1) limit the emissions that can be generated by various uses and activities; and (2) identify specific pollution reduction measures, which must be implemented in association with various uses and activities. These rules regulate the emissions of not only the federal and state criteria pollutants, but also TACs and acutely hazardous materials. The rules are also subject to ongoing refinement by the SCAQMD.

Among the SCAQMD rules that may be applicable to the proposed Project are Rule 401 (Visible Emissions), Rule 402 (Nuisance), Rule 403 (Fugitive Dust), Rule 1113 (Architectural Coatings), Rule 1138 (Control of Emissions from Restaurant Operations), Rule 1146.2 (Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers and Process Heaters), and Rule 1403 (Asbestos Emissions from Demolition/Renovation Activities). Rule 401 restricts the emissions of air contaminants that significantly reduce air opacity. Rule 402 restricts discharges that cause nuisance to the public. Rule 403 requires the use of stringent best available control measures (BACMs) to minimize PM_{10} emissions during grading and construction activities. Rule 1113 requires reductions in the VOC content of coatings. Rule 1138 specifies PM and VOC emissions and odor control requirements for some kinds of commercial cooking operations. Rule 1146.2 restricts the NOx emissions from natural gas-fired water heaters, boilers, and process heaters as defined by this rule. Rule 1401 requires new source review of any new, relocated, or modified permits units that emit TACs. Compliance with SCAQMD Rule 1403 requires the owner or operator of any demolition or renovation activity to have an asbestos survey performed prior to demolition and to provide notification to the SCAQMD prior to commencing demolition activities.

SCAQMD's CEQA guidelines are voluntary initiatives recommended for consideration by local planning agencies. The CEQA *Air Quality Handbook* (Handbook) published by the SCAQMD provides local governments with guidance for analyzing and mitigating project-specific air quality impacts (SCAQMD, 1993). The SCAQMD is currently updating some of the information and methods in the

Handbook, such as the screening tables for determining the air quality significance of a project and the on-road mobile source emission factors. While this process is underway, the SCAQMD recommends using other approved models to calculate emissions from land use projects, such as CalEEMod.

The SCAQMD *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* considers impacts on air quality sensitive receptors from TAC-emitting facilities (SCAQMD, 2005). The SCAQMD's siting distance recommendations are the same as those provided by the CARB (e.g., a 500-foot siting distance for air quality sensitive receptors proposed in proximity to freeways and high-traffic roads, and the same siting criteria for distribution centers and dry-cleaning facilities).

Additionally, the SCAQMD has adopted the Air Toxics Control Plan (March 2000, revised March 26, 2004), which is a planning document designed to examine the overall direction of the SCAQMD's air toxics control program. It includes development and implementation of strategic initiatives to monitor and control air toxics emissions. Control strategies that are deemed viable and are within the SCAQMD's jurisdiction will each be brought to the SCAQMD Board for further consideration through the normal public review process. Strategies that are to be implemented by other agencies will be developed in a cooperative effort, and the progress will be reported back to the Board periodically.

The SCAQMD has conducted an in-depth analysis of the TACs and their resulting health risks for all of Southern California. This study, the "Multiple Air Toxics Exposure Study in the South Coast Air Basin, MATES IV," shows that cancer risk has decreased more than 50 percent between MATES III (2008a) and MATES IV (2015). MATES IV is the most comprehensive dataset documenting the ambient air toxic levels and health risks associated with Southern California Air Basin emissions. The SCAQMD is currently in the process of developing MATES V. The MATES IV study represents the baseline health risk for a cumulative analysis. MATES IV estimates the average excess cancer risk level from exposure to TACs is less than 400 in one million basin-wide. These model estimates were based on monitoring data collected at 10 fixed sites within the SCAB. However, the Mates IV study found that Los Angeles County is the county with the greatest cancer risk at 415 in one million, and individual communities could have higher risks than average if they are located near emission sources.

SCAG RTP/SCS

The SCAG is the Metropolitan Planning Organization (MPO) for the region in which the City Irwindale is located. In 2016, the SCAG adopted the 2016 RTP/SCS: A Plan for Mobility, Accessibility, Sustainability and a High Quality of Life, which is an update to the previous 2012 RTP/SCS (SCAG, 2016).

The 2016 RTP/SCS considers the role of transportation in the broader context of economic, environmental, and quality-of-life goals for the future, identifying regional transportation strategies to address mobility needs. The 2016 RTP/SCS describes how the region can attain the GHG emission-reduction targets set by the CARB by achieving an 8 percent reduction in passenger vehicle GHG emissions on a per capita basis by 2020, 18 percent reduction by 2035, and 21 percent reduction by

2040 compared to the 2005 level. Although the focus of the 2016 RTP/SCS is on GHG emission-reduction, compliance with and implementation of 2016 RTP/SCS policies and strategies would also have co-benefits of reducing per capita criteria air pollutant and TAC emissions associated with reduced per capita VMT. Improved air quality with implementation of the 2016 RTP/SCS policies would decrease reactive organic gases (ROG) (i.e., VOCs) by 8 percent, CO by 9 percent, NOx by 9 percent, and PM_{2.5} by 5 percent (SCAG, 2016).

The SCAG's 2016 RTP/SCS builds on the land use policies that were incorporated into the 2012 RTP/SCS, and provides specific strategies for successful implementation. These strategies include development of "complete communities", defined as mixed-use districts that concentrate housing, employment, and a mix of retail and services in close proximity to each other; encouraging employment development around current and planned transit and neighborhood commercial centers; complete streets that meets the needs of all users of the streets, roads and highways including bicyclists, children, persons with disabilities, motorists, electric vehicles, movers of commercial goods, pedestrians, users of public transportation, and seniors; and supporting alternative fueled vehicles. The 2016 RTP/SCS overall land use pattern reinforces the trend of focusing new housing and employment in infill areas well served by transit.

In addition, the 2016 RTP/SCS includes goals and strategies to promote active transportation and improve transportation demand management (TDM). The 2016 RTP/SCS strategies support local planning and Projects that serve short trips, increase access to transit, expand understanding and consideration of public health in the development of local plans and projects, and support improvements in sidewalk quality, local bike networks, and neighborhood mobility areas. The 2016 RTP/SCS proposes to better align active transportation investments with land use and transportation strategies, increase competitiveness of local agencies for federal and state funding, and to expand the potential for all people to use active transportation.

City of Irwindale General Plan

RESOURCE MANAGEMENT ELEMENT

- **Policy 19.** The City of Irwindale will consider environmental justice issues as they are related to potential health impact associated with air pollution and ensure that all land use decisions, including enforcement actions, are made in an equitable fashion to protect residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location from the health effects of air pollution.
- **Policy 21.** The City of Irwindale will encourage the applicant for sensitive land uses (e.g., residences, schools, daycare facilities, playgrounds, and medical facilities) to incorporate design features (e.g., pollution prevention, pollution reduction, barriers, landscaping, ventilation systems, or other measures) in the planning process to minimize the potential pollution impacts on sensitive receptors.
- **Policy 22.** The City of Irwindale will facilitate communications among residents, businesses, and the South Coast Air Quality Management District (SCAQMD) to quickly resolve air pollution nuisance complaints. The City will distribute information to advise residents on how to register a complaint with SCAQMD (SCAQMD's —Cut Smog program).

- **Policy 28.** The City of Irwindale will require conditions for discretionary approvals that require fugitive dust controls and compliance mechanisms for stationary sources (landfill, composting facilities, aggregate facilities, etc.).
- **Policy 29.** The City of Irwindale will encourage vegetation or chemical stabilization for disturbed land as well as construction screening or fencing for phased construction projects.
- **Policy 30.** The City of Irwindale will provide regional and local air quality information on the City's website, including the SCAQMD's 1-800-CUT-SMOG number for the public to report air pollution complaints to the SCAQMD.

3.2.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Statute and Guidelines, the Project will have a significant impact on the environment associated with air quality if it generates emissions that will:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard;
- Expose sensitive receptors to substantial pollutant concentrations;
- Result in other emissions (such as those leading to odors) affecting a substantial number of people; or
- Cause substantial adverse effects on human beings, either directly or indirectly.

METHODOLOGY AND ASSUMPTIONS

A brief discussion of the methodology and assumptions used to estimate the proposed Project's air pollutant emissions is provided below. For further detail on air emissions modeling parameters and assumptions, and other related calculations, see Appendix B.2.

CalEEMod

Emissions modeling has been conducted utilizing CalEEMod™ (v.2016.3.2), developed for the California Air Pollution Officers Association (CAPCOA) in collaboration with California air districts. Based on discussion with the Project applicant, it was assumed that full Project buildout would not occur until 2023.

The land use assumptions for the modeling include: Unrefrigerated Warehouse-No Rail – 545,735; Parking Lot – 11.05 acres; City Park – 2.59 acres. Note that the City Park land use is used as a proxy for the landscaped portions of the Project site.

OPERATIONAL ACTIVITIES

Mobile-source based criteria pollutant emissions were estimated using the emission factors provided within CalEEMod; an estimate of the Project-generated VMT developed as part of this analysis was provided in the *Vincent Avenue Industrial Building Traffic Impact Analysis* for proposed

project (Ganddini, 2020), as provided in Appendix D of this EIR. Criteria pollutant emissions from consumer products, landscape maintenance activities, and other sources of operational energy usage (e.g. electricity and natural gas) were estimated using the default emission factors provided in CalEEMod.

Maximum daily emissions were estimated for both peak summer day and peak winter day. The highest value for each criteria pollutant was used for the purposes of this analysis.

CONSTRUCTION ACTIVITIES

Based on information provided by the Project applicant, construction activities were to begin in 2021 and end in 2023. These construction activities include site preparation, grading, building construction, paving, and architectural coatings. Details regarding the construction schedule is provided in Appendix B.2.

MITIGATION

Air quality-related mitigation measures for the proposed Project were developed using CalEEMod, with default emission factors generally as provided by CalEEMod and/or based on recommendations by the SCAQMD. CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* guidance was utilized as a reference document, as necessary. See Appendix B.2 to this EIR for further detail. The results from CalEEMod for operational and construction emissions are described under the *Impacts and Mitigation Measures* discussion, below.

Mass Daily Emissions Thresholds

The City follows the recommendations of the SCAQMD, which has developed quantitative thresholds for mass daily emissions. In its latest revision, the SCAQMD has established mass daily emissions thresholds of significance as follows:

- Operational-related:
 - 55 pounds per day of oxides of nitrogen (NO_x);
 - 55 pounds per day of reactive organic gases (ROG);
 - 150 pounds per day of particulate matter of 10 microns or less in size (PM₁₀);
 - 55 pounds per day of particulate matter of 10 microns or less in size (PM_{2.5});
 - 150 pounds per day of SO_x;
 - 550 pounds per day of CO.
- Construction-related:
 - 100 pounds per day of oxides of nitrogen (NO_x);
 - 75 pounds per day of reactive organic gases (ROG);
 - 150 pounds per day of particulate matter of 10 microns or less in size (PM₁₀);
 - 55 pounds per day of particulate matter of 10 microns or less in size (PM_{2.5});
 - 150 pounds per day of SO_x;
 - 550 pounds per day of CO.

Localized Significance Thresholds (LSTs)

In addition to regional significance thresholds, the SCAQMD developed localized significance thresholds (LSTs) for emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at new development sites (offsite mobile source emissions are not included in the LST analysis protocol). LSTs represent the maximum emissions that can be generated at a Project site without expecting to cause or substantially contribute to an exceedance of the most stringent national or State ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within the Project source receptor area (SRA), as demarcated by the SCAQMD, and the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all Projects that disturb five acres or less on a single day. Irwindale is located within SCAQMD SRA 9 (East San Gabriel Valley). Table 3.2-4 shows the LSTs for a one-acre, two-acre, and five-acre Project site in SRA 9 with sensitive receptors located within 25 meters of the Project site (as previously described, the nearest sensitive receptors are located approximately 75 feet to the east of the project site, which is within 25 meters of the Project site).

TABLE 3.2-4: LOCAL SIGNIFICANCE THRESHOLDS (LSTs)

PROJECT SIZE	POLLUTANT (POUNDS PER DAY) CONSTRUCTION/OPERATIONS			
	NO _x	PM ₁₀	PM _{2.5}	CO
1 acre	89/89	5/2	3/1	623/623
2 acres	128/128	7/2	5/2	953/953
5 acres	203/203	14/4	8/2	1,733/1,733

SOURCES: CALFEEMOD (v.2016.3.2). REFER TO ATTACHMENT A FOR MODEL DATA OUTPUTS.

NOTE: VALUES MAY NOT ADD UP DUE TO ROUNDING.

Intersection Hotspot Analysis

Operation of the proposed Project has the potential to generate traffic congestion and increase delay times at intersections within the local study area. The pollutant of primary concern when assessing the proposed Project's impacts at local intersections is carbon monoxide because an elevated concentration of CO tends to accumulate near areas of heavy traffic congestion and where average vehicle speeds are low. Tailpipe emissions are of concern when assessing localized impacts of CO along paved roads.

An adverse concentration of CO, known as a "hotspot", would occur if there was an exceedance of the NAAQS or CAAQS. SCAQMD does not currently have guidance for conducting intersection hot spot analysis. However, the hot spot analyses conducted by SCAQMD for four busy intersections in Los Angeles County is provided. The potential for the proposed Project to cause or contribute to CO hotspots is evaluated by comparing Project intersections' volume data from the Transportation Impact Assessment (Gandini, 2020) with prior studies conducted by SCAQMD in support of their AQMPs and considering existing background CO concentrations.

Toxic Air Contaminant Impacts (Construction and Operations)

Construction and operational activities have the potential to result in health risk impacts (cancer, or other acute or chronic conditions) related to TACs exposure from airborne emissions, specifically the emissions of diesel particulate matter. Health risk from TACs exposure is a cumulative localized

impact based on the exposure of nearby sensitive receptors to specific construction activities as well as on location to the construction and operational activities that emit TACs. To determine the magnitude of health risks associated with TACs exposure, a Health Risk Assessment (HRA) is required.¹ HRAs include dispersion modeling of TACs in order to determine the specific numerical cancer and non-cancer (acute and chronic) risks associated with the TACs on nearby individual receptors (including residences and workers). In order to accurately model the magnitude of TAC exposure on individual receptors, the following information is required:

- Type of TACs emitted during construction and operational activities (e.g. diesel particulate matter, benzene, acrolein, aniline, etc.) (note: there are 187 hazardous air pollutants currently regulated by the USEPA that are considered TACs);
- TACs source location(s) and configuration (note: this is typically provided by the Project applicant for the operational phase via a site plan and detail on the specific Project type, and for the construction phase via construction plans);
- TAC emissions rate(s);
- TAC release height(s); and
- The precise location of nearby residential and workplace receptors.

This information is incorporated into dispersion modeling software (such as AERMOD), which is used in conjunction with facility health risk assessment software (such as the Hotspots Analysis and Reporting Program, otherwise known as HARP-2). The results of such analysis provide a numerical estimate of maximum health risks, which are incorporated into the HRA (with detailed methodology and a list of assumptions provided). An HRA analysis has been developed for the proposed Project (as provided in Appendix B.4); the results of this analysis have been incorporated into the following CEQA analysis.

Odors

The assessment of odor-related impacts is based on the types of odor sources associated with the land uses that would be developed under the Project and their location relative to off-site receptors.

Impacts Related to Project-Generated Pollutants of Human Health Concern

In December 2018, the California Supreme Court issued its decision in *Sierra Club v. County of Fresno* (226 Cal.App.4th 704) (hereafter referred to as the Friant Ranch Decision). The case reviewed the long-term, regional air quality analysis contained in the EIR for the proposed Friant Ranch development. The Friant Ranch Project is a proposed 942-acre master-plan development in unincorporated Fresno County within the San Joaquin Valley Air Basin, an air basin currently in nonattainment for the ozone and PM_{2.5} NAAQS and CAAQS. The Court found that the air quality analysis was inadequate because it failed to provide enough detail “for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time.” The Court’s decision clarifies that the agencies

¹ An HRA is appropriate for the proposed Project since the Project is an industrial facility generating heavy-duty truck trips near to existing sensitive receptors, per CARB’s guidance.

authoring environmental documents must make reasonable efforts to connect a Project's air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

All criteria pollutants that would be generated by the Project are associated with some form of health risk (e.g., asthma). Criteria pollutants can be classified as either regional or localized pollutants. Regional pollutants can be transported over long distances and affect ambient air quality far from the emissions source. Localized pollutants affect ambient air quality near the emissions source. Ozone is considered a regional criteria pollutant, whereas CO, NO₂, SO₂, and lead (Pb) are localized pollutants. PM can be both a local and a regional pollutant, depending on its composition. As discussed above, the primary criteria pollutants of concern generated by the Project are ozone precursors (ROG and NO_x) and PM (including Diesel PM). The SCAQMD does not currently have a methodology that would correlate the expected air quality emissions of Projects to the likely health consequences of the increased emissions. The SCAQMD is in the process of developing a methodology to assess these impacts. In the interim, the following analysis utilizes the Friant Court's advice to explain in meaningful detail why this analysis is not yet feasible.

REGIONAL PROJECT-GENERATED CRITERIA POLLUTANTS (OZONE PRECURSORS AND REGIONAL PM)

Adverse health effects induced by regional criteria pollutant emissions generated by the Project (ozone precursors and PM) are highly dependent on a multitude of interconnected variables (e.g., cumulative concentrations, local meteorology and atmospheric conditions, the number and character of exposed individuals [e.g., age, gender]). For these reasons, ozone precursors (ROG and NO_x) contribute to the formation of ground-borne ozone on a regional scale, where emissions of ROG and NO_x generated in one area may not equate to a specific ozone concentration in that same area. Similarly, some types of particulate pollutants may be transported over long-distances or formed through atmospheric reactions. As such, the magnitude and locations of specific health effects from exposure to increased ozone or regional PM concentrations are the product of emissions generated by numerous sources throughout a region, as opposed to a single individual project.

Models and tools have been developed to correlate regional criteria pollutant emissions to potential community health impacts. Appendix B.1 contains a table that summarizes many of these tools, identifies the analyzed pollutants, describes their intended application and resolution, and analyzes whether they could be used to reasonably correlate project-level emissions to specific health consequences. As provided in Appendix B.1, while there are models capable of quantifying ozone and secondary PM formation and associated health effects, these tools were developed to support regional planning and policy analysis and have limited sensitivity to small changes in criteria pollutant concentrations induced by individual projects. Therefore, translating project generated criteria pollutants to the locations where specific health effects could occur or the resultant number of additional days of nonattainment cannot be estimated with a high degree of accuracy.

Technical limitations of existing models to correlate project-level regional emissions to specific health consequences are recognized by air quality management districts throughout the state, including the San Joaquin Valley Air Pollution Control District (SJVAPCD) and South Coast Air Quality

Management District (SCAQMD), who provided amici curiae briefs for the Friant Ranch legal proceedings. In its brief, SJVAPCD (2015) acknowledges that while health risk assessments for localized air toxics, such as DPM, are commonly prepared, “it is not feasible to conduct a similar analysis for criteria air pollutants because currently available computer modeling tools are not equipped for this task.” The air district further notes that emissions solely from the Friant Ranch Project (which equate to less than one-tenth of one percent of the total NO_x and VOC in the Valley) is not likely to yield valid information,” and that any such information should not be “accurate when applied at the local level.” SCAQMD presents similar information in their brief, stating that “it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels”².

As discussed above, air districts develop region-specific CEQA thresholds of significance in consideration of existing air quality concentrations and attainment or nonattainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is a cumulative problem, air districts typically consider projects that generate criteria pollutant and ozone precursor emissions below these thresholds to be minor in nature and would not adversely affect air quality such that the NAAQS or CAAQS would be exceeded. Emissions generated by the Project could increase photochemical reactions and the formation of tropospheric ozone and secondary PM, which at certain concentrations, could lead to increased incidence of specific health consequences. Although these health effects are associated with ozone and particulate pollution, the effects are a result of cumulative and regional emissions. As such, a project’s incremental contribution cannot be traced to specific health outcomes on a regional scale, and a quantitative correlation of Project-generated regional criteria pollutant emissions to specific human health impacts is not included in this analysis.

LOCALIZED CARBON MONOXIDE CONCENTRATIONS

Heavy traffic congestion can contribute to high levels of CO, and individuals exposed to such hot spots may have a greater likelihood of developing adverse health effects. The SCAQMD recommends that the proposed Project would have a significant localized CO hotspot impact if it causes or contributes to an exceedance of the following attainment standards:

- 1-hour average: 20 ppm (state) and 35 ppm (federal);
- 8-hour average: 9.0 ppm (state/federal)

² For example, SCAQMD’s analysis of their 2012 Air Quality Attainment Plan showed that modeled NO_x and ROG reductions of 432 and 187 tons per day, respectively, only reduced ozone levels by 9 parts per billion. Analysis of SCAQMD’s Rule 1315 showed that emissions of NO_x and ROG of 6,620 and 89,180 pounds per day, respectively, contributed to 20 premature deaths per year and 89,947 school absence (South Coast Air Quality Management District, 2015).

MODELS AND TOOLS TO CORRELATE PROJECT-GENERATED CRITERIA POLLUTANT EMISSIONS TO HEALTH IMPACTS

Several models and tools capable of translating mass emissions of criteria pollutants to various health endpoints have been developed. The table provided in Appendix B.1 summarizes key tools, identifies the analyzed pollutants, describes their intended application and resolution, and analyzes whether they could be used to reasonably correlate project-level emissions to specific health consequences. As shown in the table provided in Appendix B.1, almost all tools were designed to be used at the national, state, regional, and/or city-levels. Several of the methods have additional problems related to their applicability for translating mass emissions of criteria pollutants to various health endpoints. These tools are not well suited to analyze small or localized changes in pollutant concentrations associated with individual projects. Accordingly, they are generally not recommended for CEQA analyses.

The impact analysis does not directly evaluate airborne lead. Neither construction nor future operations would generate quantifiable lead emissions because of regulations that require unleaded fuel and that prohibit lead in new building materials.

TAC emissions associated with Project construction that could affect surrounding areas are evaluated qualitatively. The potential for the Project operations to expose residents to TAC emissions that would exceed applicable health standards is also discussed qualitatively.

Lastly, the SCAQMD recommends that odor impacts be addressed in a qualitative manner.

IMPACTS AND MITIGATION MEASURES

Impact 3.2-1: The proposed Project has the potential to conflict with or obstruct implementation of the applicable air quality plan. (Significant and Unavoidable)

2016 AIR QUALITY MANAGEMENT PLAN

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a SIP that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the CCAA requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the NAAQS and CAAQS. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The Project site is located within the SCAB, which is under the jurisdiction of the SCAQMD. The SCAQMD is required, pursuant to the federal CAA, to reduce emissions of criteria pollutants for which the SCAB is in nonattainment. In order to reduce such emissions, the SCAQMD drafted the 2016 AQMP. The 2016 AQMP establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The 2016

AQMP is a regional and multi-agency effort including the SCAQMD, CARB, SCAG, and the USEPA. The plan's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, including SCAG's 2016 RTP/SCS, updated emission inventory methodologies for various source categories, and SCAG's latest growth forecasts (SCAG's latest growth forecasts were defined in consultation with local governments and with reference to local general plans.) The Project is subject to the SCAQMD's AQMP.

According to the SCAQMD, in order to determine consistency with SCAQMD's air quality planning two main criteria must be addressed. Criterion 1 includes two components, while Criterion 2 includes three components.

Criterion 1:

- a) Would the Project result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new air quality violations?*

As shown in Table 3.2-5 (under Impact 3.2-2), the proposed Project would result in emissions exceeding the SCAQMD regional NO_x threshold during operations. As previously discussed, the predominate source of NO_x emissions would be due to mobile sources, mainly that of heavy-duty trucks. Mobile emissions cannot be regulated by the City. Therefore, the proposed Project would have the potential to cause or affect a violation of the ambient air quality standards.

- b) Would the Project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?*

The Project would result in NO_x emissions beyond the SCAQMD regional significance threshold during operations, and it could potentially delay the timely attainment of air quality standards and/or AQMP emission reduction. **Therefore, the Project would not be consistent with Criterion 1.**

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the SCAB focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the SCAQMD's second criterion for determining Project consistency focuses on whether or not the proposed Project exceeds the assumptions utilized in preparing the forecasts presented its air quality planning documents. Determining whether or not a project exceeds the assumptions reflected in the 2016 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

Criterion 2:

- a) Would the Project be consistent with the population, housing, and employment growth Projections utilized in the preparation of the 2016 AQMP?*

Growth Projections included in the 2016 AQMP form the basis for the projections of air pollutant emissions and are based on the General Plan land use designations and SCAG's 2016-2040 Regional

Transportation Plan/Sustainability Communities Strategy (2016-2040 RTP/SCS) demographics forecasts. The population, housing, and employment forecasts within the 2016-2040 RTP/SCS are based on local general plans as well as input from local governments, such as the City of Irwindale. The SCAQMD has incorporated these same demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment) into the 2016 AQMP.

The Project involves the development of 26.05 acres of land that was formerly used as a mining pit (Manning Pit) dating back to the 1930s. The vast majority of the Project site (19.12 acres out of the total 26.05 acres) is designated Industrial/Business Park, consistent with the land use designation and development density presented in the City of Irwindale General Plan. The remaining 6.93-acre portion of the Project site would be changed from "Residential" to "Industrial/Business Park" as part of the proposed Project, consistent with the land use on the balance of the parcel. The Project site is designated by the City of Irwindale General Plan as "Industrial/Business Park", which allows for office, manufacturing, and warehouse uses, including commercial manufacturing, light manufacturing and heavy manufacturing. The proposed Project in and of itself would not induce direct population growth in the City, although it would generate employees. Although the Project includes a General Plan Amendment to convert 6.93 acres of the Project site from "Residential" to "Industrial/Business Park", the Project is anticipated to be within the growth projections anticipated and planned for by the City's General Plan and therefore is unlikely to increase growth beyond the AQMP's projections. However, the increase in employment associated with the conversion of the 6.93 acres of Residential land to Industrial/Business Park land was not specifically planned for by City's General Plan and therefore could be larger than those provided within the AQMP's Projections.³ **Therefore, the Project would not be consistent with Criterion 2.**

b) Would the Project implement all feasible air quality mitigation measures?

In order to further reduce emissions, the Project would be required to comply with emission reduction measures promulgated by the SCAQMD, such as SCAQMD Rules 402, 403, 1113, and 1403. SCAQMD Rule 402 prohibits the discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. SCAQMD Rule 403 requires fugitive dust sources to implement Best Available Control Measures for all sources, and all forms of visible particulate matter are prohibited from crossing any property line. SCAQMD Rule 403 is intended to reduce PM₁₀ emissions from any transportation, handling, construction, or storage activity that has the potential to generate fugitive dust. SCAQMD 1113 requires manufacturers, distributors, and end-users of architectural and industrial maintenance coatings to reduce ROG emissions from the use of these

³ Specifically, the Project site is located in Traffic Analysis Zone (TAZ) 22307000. The Regional Travel Demand Model runs for the Project are based on the Southern California Association of Governments (SCAG) 2040 socio-economic assumptions, which show a growth of 740 new jobs in the Project TAZ by year 2040, a portion of which would be attributed to the proposed Project. Depending on how much other development would occur in the Project TAZ by 2040, in addition existing developments and the proposed Project, development of the proposed Project has the potential to exceed the employment projections contained within the AQMP.

coatings, primarily by placing limits on the ROG content of various coating categories. Rule 1403 specifies work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials. All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings. As such, the proposed Project meets this consistency criterion.

- c) *Would the Project be consistent with the land use planning strategies set forth by SCAQMD air quality planning efforts?*

The AQMP contains air pollutant reduction strategies based on SCAG's latest growth forecasts, and SCAG's growth forecasts were defined in consultation with local governments and with reference to local general plans. The proposed Project is consistent with the land use designation and development density presented in the City of Irwindale's General Plan, except for the 6.93-acre portion of the Project site would be changed from "Residential" to "Industrial/Business Park", and therefore could exceed the job growth Projections used by the SCAQMD to develop the AQMP.

CONCLUSION

In conclusion, the determination of AQMP consistency is primarily concerned with the long-term influence of a Project on air quality. Resultant operational emissions would exceed regional significance thresholds potentially hindering the region's ability to meet state and federal air quality standards, thereby conflicting with Criterion 1. Additionally, the Project could be inconsistent with Criterion 2. Thus, the Project is anticipated to conflict with the SCAQMD 2016 AQMP. Implementation of the proposed Project would have a **significant and unavoidable** impact relative to this topic. Therefore, the Project would be required to implement the mitigation measures provided under the following impacts discussion.

Impact 3.2-2: Proposed Project operation has the potential to expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard. (Significant and Unavoidable)

The proposed Project would be a direct and indirect source of air pollution, in that it would generate and attract vehicle trips in the region (mobile source emissions) and it would increase area source emissions and energy consumption. The mobile source emissions would be entirely from vehicles, while the area source emissions would be primarily from the use of natural gas fuel combustion, landscape fuel combustion, consumer products, and architectural coatings.

MASS EMISSIONS THRESHOLDS ANALYSIS

The SCAQMD provides a list of applicable construction and operation air quality mass emissions thresholds, as well as a list of mitigation measures to incorporate in circumstances where emissions are above applicable thresholds.

CalEEMod was used to model operational emissions upon full buildout of the Project site. Table 3.2-5 shows proposed Project maximum daily operation emissions as provided by CalEEMod, which include mobile, area source, and energy emissions of criteria pollutants that would result from operations of the proposed Project under the provided assumptions. It should be noted that a discussion of the impact of CO is provided under Impact 3.2-4.

If the proposed Project emissions will exceed the SCAQMD thresholds of significance for operational-generated emissions, the proposed Project will have a significant impact on air quality and all feasible mitigation are required to be implemented to reduce emissions to the extent feasible.

TABLE 3.2-5: OPERATIONAL PROJECT GENERATED EMISSIONS AT FULL BUILDOUT

CATEGORY	ROG	NOX	PM ₁₀	PM _{2.5}	SO _x	CO
	≤ 55LBS/DAY	≤ 55LBS/DAY	≤ 150 LBS/DAY	≤ 55 LBS/DAY	≤ 150 LBS/DAY	≤ 550 LBS/DAY
Area	12.4	<0.1	<0.1	<0.1	0	0.1
Energy	<0.1	2.7	<0.1	0.2	<0.1	2.2
Mobile	3.8	58.6	26.3	7.2	0.4	61.1
Total	16.5	61.3	26.3	7.4	0.4	63.3
SCAQMD Threshold Exceeded?	N	Y	N	N	N	N

SOURCES: CAL EEMOD (V.2016.3.2)

NOTE: VALUES MAY NOT ADD UP DUE TO ROUNDING.

As shown in Table 3.2-5, daily emissions of ROG, PM₁₀, PM_{2.5}, SO_x, and CO resulting from Project buildout would not exceed the SCAQMD thresholds of significance. However, the emissions threshold for NO_x would be exceeded, primarily due to the generation of heavy-duty trucks as part of the proposed Project. It should be noted that the air quality modeling utilized the trip rates associated with the land use that would generate the highest number of trips among those allowed at the site (i.e. the “Light Industrial” land use), as provided in Traffic Impact Analysis (see Appendix D). Therefore, the CalEEMod outputs associated with the operation of the Project (such as those shown in Table 3.2-5) represent a conservative estimate of Project emissions associated with the mobile source category, as other allowed land uses are anticipated to generate fewer trips than those modeled.

It should also be noted that the modeling does not take into account the new Omnibus Low-NO_x Rule approved by CARB August 28, 2020, which will require engine NO_x emissions to be cut to approximately 75% below current standards beginning in 2024, and 90% below current standards in 2027. The rule also places nine additional regulatory requirements on new heavy-duty truck and engines. Those additional requirements include a 50% reduction in particulate matter emissions, stringent new low-load and idle standards, a new in-use testing protocol, extended deterioration requirements, a new California-only credit program, and extended mandatory warranty requirements. Therefore, the NO_x emissions modeled for the operation of the Project would be much higher than the actual NO_x emissions, beginning in 2024 (after the Omnibus Low-NO_x Rule begins taking effect).

Nevertheless, the Project would be required to implement Mitigation Measure 3.2-1, as well as Mitigation Measure 3.4-1.⁴ Implementation of CARB and SCAQMD recommendations are incorporated into Mitigation Measure 3.2-1. Mitigation Measure 3.2-1 includes requirements to construct infrastructure to facilitate electric charged for trucks, electric vehicle charging stations, and electrical hookups for trucks with TRUs, and signs identifying anti-idling regulations, enforcement of a buffer zone between truck loading zones/docks and the nearest sensitive receptors, requirements relating to electric or compressed natural gas-powered (propane) forklifts, promotion of “clean” truck fleets, and incorporation of provisions for preferential parking for carpoolers and vanpools.

Measures that were deemed infeasible include but are not limited to: 1) requirements for zero-emissions or near zero-emissions vehicles, as the Project applicant would have limited to no control over the availability of zero-emissions or near zero-emissions vehicles that would be available at the time of Project operation; 2) having trucks that would limit the trucks movement near residential areas, since the Project is located near to an existing residential community; 3) other restrictions on truck activity within and near to the Project site that would have limited to no enforceability.

Quantification of the reduction of emissions associated with these measures included in Mitigation Measure 3.2-1 is difficult if not impossible to quantify with a high degree of accuracy. Therefore, even with the implementation of identified mitigation, Project-related heavy-duty truck travel is assumed to result in operational NO_x emissions that would still exceed the SCAQMD daily significance threshold, even after implementation of Mitigation Measure 3.2-1. This results in a cumulatively considerable net increase of NO_x (an ozone precursor), for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard.

While California state strategies such as the Governor’s Sustainable Freight Action Plan, CARB’s AB 32 Scoping Plan, and the Mobile Source Strategy will improve the efficiency and environmental footprint of the urban freight system, including the introduction of zero and near-zero emission vehicles, it is not currently feasible to reduce projected Project emissions to levels below the regional significance thresholds.

The SCAQMD has set its CEQA significance thresholds for NO_x at 10 tons per year (expressed as 55 pounds per day) based on the federal CAA, which defines a major stationary source (in extreme ozone nonattainment areas such as the SCAB) as emitting 10 tons per year. The thresholds correlate with the trigger levels for the federal New Source Review (NSR) Program and SCAQMD Rule 1303 for new or modified sources. The NSR Program⁵ was created by the federal CAA to ensure that stationary sources of air pollution are constructed or modified in a manner that is consistent with attainment of health-based NAAQS. The NAAQS establish the levels of air quality necessary, with an adequate margin of safety, to protect the public health. Therefore, Projects that do not exceed the

⁴ See Section 3.4 of this Draft EIR for further detail on Mitigation Measure 3.4-1.

⁵ Code of Federal Regulation (CFR) [*i.e.*, PSD (40 CFR 52.21, 40 CFR 51.166, 40 CFR 51.165 (b)), Non-attainment NSR (40 CFR 52.24, 40 CFR 51.165, 40 CFR part 51, Appendix S)

SCAQMD's mass emissions thresholds would not violate any air quality standards or contribute substantially to an existing or Projected air quality violation and no criteria pollutant health impacts.

As previously stated, NO_x is a precursor-emissions that forms ozone in the atmosphere in the presence of sunlight where the pollutants undergo complex chemical reactions. It takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources. Breathing ground-level ozone can result in health effects that include reduced lung function, inflammation of airways, throat irritation, pain, burning, or discomfort in the chest when taking a deep breath, chest tightness, wheezing, or shortness of breath. In addition to these effects, evidence from observational studies strongly indicates that higher daily ozone concentrations are associated with increased asthma attacks, increased hospital admissions, increased daily mortality, and other markers of morbidity. The consistency and coherence of the evidence for effects upon asthmatics suggests that ozone can make asthma symptoms worse and can increase sensitivity to asthma triggers.

Table 3.2-5 shows that a large proportion of the Project's NO_x emissions are from mobile sources. Under California law, the local and regional districts are primarily responsible for controlling air pollution from all sources except motor vehicles. CARB is primarily responsible for controlling pollution from motor vehicles. The air districts must adopt rules to achieve and maintain the CAAQS and NAAQS within their jurisdictions.

On December 24, 2018, the California Supreme Court issued an opinion identifying the need to provide sufficient information connecting a Project's air emissions to health impacts or explain why such information could not be ascertained (*Sierra Club v. County of Fresno [Friant Ranch, L.P.]* [2018] 6 Cal.5th 502, Case No. S219783). As noted above and shown in Table 3.2-5, the Project's operational emissions would exceed the SCAQMD's NO_x significance thresholds, resulting in an impact. Pursuant to Rule 8.520(f) of the Rules of the California Court, the SCAQMD and the San Joaquin Valley Air Pollution Control District (SJVAPCD) filed amicus curiae briefs in regard to this case. In both briefs, SCAQMD and SJVAPCD provided technical explanations as to why it may not be feasible for a Project to relate the expected adverse air quality impacts to likely health consequences. For the reasons set forth by the SCAQMD and SJVAPCD (Appendix B.1), the proposed Project's significant air quality impacts currently cannot feasibly be related to likely health consequences. The technical challenges are listed in Appendix B.1.

Therefore, for the reasons set forth in Appendix B.1, it is not currently feasible to relate the proposed Project's regional NO_x impacts to likely health consequences. The SCAQMD is responsible for assessing air pollutant impacts regionally, and the potential health consequences from those on a regional basis. The current evaluation on the limitations and uncertainties of existing tools is consistent with the SCAQMD findings. The SCAQMD does not currently have any methodology that would correlate the expected air quality emissions of projects to the likely health consequences of the increased emissions. Currently available regional modeling tools are not designed to capture changes in pollutant concentrations for this proposed Project that would be meaningful. This is due in part to a relatively coarse spatial resolution (e.g., greater than 4 x 4 kilometers) which makes it speculative to discern regional Project impacts on air quality. Overall, as provided in greater detail

in Appendix B.1, none of the potential tools that exist are recommended for project-level CEQA analysis.

Operation of the proposed Project would have a **significant and unavoidable** impact related to the mass emissions associated with the proposed Project.

LOCALIZED EMISSIONS THRESHOLDS ANALYSIS

According to the SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed Project only if the Project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., warehouse or transfer facilities). The proposed Project includes one 545,735-sf warehouse. Therefore, in the case of the Proposed Project, the operational phase LST protocol is applied. Operational LSTs apply to CO, NO₂, PM₁₀, and PM_{2.5}.

The nearest existing sensitive receptors to the Project site are located approximately 75 feet to the east of the Project site, across Vincent Avenue (i.e. residential receptors). Additionally, there are residential receptors located approximately 380 feet to the west of the Project site. Moreover, residential land uses are planned for the area adjacent to the Project site (to the west). LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Therefore, operational LSTs for receptors located at the closest distance (25 meters) were utilized in this analysis.

The appropriate SRA for the LSTs is the East San Gabriel Valley area (SRA 9) since this area includes the Project site. As described, the SCAQMD has produced lookup tables for Projects that disturb one, two and five acres. While the Proposed Project site is ±26.05 acres, the LST threshold value for a five-acre site was employed from the LST lookup tables. This is conservative since the analysis will only account for the dispersion of air pollutants over five acres before reaching sensitive receptors, as opposed to accounting for the dispersion of air pollutants over a greater 26.05-acre area.

For a worst-case scenario assessment, the emissions shown in Table 3.2-6 include all “onsite” Project-related stationary (area) sources and 5 percent of the Project-related mobile sources. Considering that the longest weighted trip length used in CalEEMod for the Project is approximately 20 miles, 5 percent of this total would represent an onsite travel distance for each car and truck of approximately 1 mile.

TABLE 3.2-6: OPERATIONAL-RELATED EMISSIONS ATTRIBUTABLE TO PROJECT BUILDOUT (LST ANALYSIS)

SOURCE	POLLUTANT (POUNDS PER DAY)			
	NO _X	PM ₁₀	PM _{2.5}	CO
Onsite Emissions (Summer)	2.9	1.3	0.4	3.1
Onsite Emissions (Winter)	2.9	1.3	0.4	3.0
SCAQMD LST Threshold	203	4	2	1,733
SCAQMD Threshold Exceeded?	No	No	No	No

SOURCES: CAL EEMOD (V.2016.3.2). REFER TO ATTACHMENT A FOR MODEL DATA OUTPUTS.

NOTE: VALUES MAY NOT ADD UP DUE TO ROUNDING.

As seen in Table 3.2-6, the emissions of these pollutants on the peak day of operations would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, significant impacts would not occur concerning LSTs during operational activities.

CONCLUSION

As shown in Table 3.2-5 and Table 3.2-6, although implementation of the proposed Project would not generate significant concentrations of pollutants at nearby sensitive receptors, the proposed Project is expected to exceed the SCAQMD mass threshold for operational NO_x, as modelled. Mitigation is provided under Mitigation Measure 3.2-1 to reduce emissions to the maximum extent feasible. However, even after implementation of these mitigation measures, out of an abundance of caution, operation of the Project would be considered to have a **significant and unavoidable** impact related to the potential to expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment.

The proposed Project is required to implement the following mitigation measure.

MITIGATION MEASURE(S)

Mitigation Measure 3.2-1: *Prior to the certificate of occupancy issuance, the Project applicant shall demonstrate to the satisfaction of the City of Irwindale Community Development Manager/City Planner and/or their designee that the following measures would be implemented during Project operations. These measures shall be enforced and maintained through Conditions of Approval; Covenants, Codes, and Restrictions (CC&Rs), or other means acceptable to the City of Irwindale Community Development Manager/City Planner and/or their designee.*

- *The proposed warehouse shall be constructed with the appropriate infrastructure to facilitate sufficient electric charging for trucks to plug-in in anticipation of future technology allowing trucks to operate partially on electricity.*
- *At least five percent of all vehicle parking spaces shall include rough-in of electrical conduit for future EV charging stations. Further, provisions for future electrical hookups to plug in any onboard auxiliary equipment shall be provided for Project trucks at each dock door location. Electrical panels shall be appropriately sized to allow for future expanded use.*
- *Legible, durable, weather-proof signs shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable California Air Resources Board (CARB) anti-idling regulations. At a minimum each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than five minutes; and 3) telephone numbers of the building facilities manager and CARB to report violations.*
- *Maintain a buffer zone of at least 150 feet between truck loading zones/docks and the nearest sensitive receptors.*
- *All service equipment (i.e., forklifts) used within the site shall be electric or compressed natural gas-powered (propane).*

- *In order to promote alternative fuels, and help support “clean” truck fleets, the developer/successor-in-interest shall provide building occupants with information related to SCAQMD’s Carl Moyer Program, or other such programs that promote truck retrofits or “clean” vehicles and information including, but not limited to, the health effect of diesel particulates, benefits of reduced idling time, CARB regulations, and importance of not parking in residential areas. Tenants shall be notified about the availability of: 1) alternatively fueled cargo handling equipment; 2) grant programs for diesel-fueled vehicle engine retrofit and/or replacement; 3) designated truck parking locations in the Project vicinity; 4) access to alternative fueling stations proximate to the site that supply compressed natural gas; and 5) the United States Environmental Protection Agency’s SmartWay program.*
- *There shall be provisions for preferential parking for carpoolers and vanpools.*

Impact 3.2-3: Proposed Project construction has the potential to expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard. (Less than Significant with Mitigation)

Construction-related activities would result in temporary, short-term emissions of DPM from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., clearing, grading); soil hauling truck traffic; paving; application of architectural coatings; and other miscellaneous activities. For construction activity, DPM is the primary TAC of concern. Particulate exhaust emissions from diesel-fueled engines (i.e., DPM) were identified as a TAC by the CARB in 1998. The potential cancer risk from the inhalation of DPM, as discussed below, outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. Accordingly, DPM is the focus of this discussion.

MASS EMISSIONS THRESHOLDS ANALYSIS

Construction-generated emissions are temporary and short-term but have the potential to represent a significant air quality impact. Three basic sources of short-term emissions will be generated through construction of the proposed Project: operation of the construction vehicles (i.e., excavators, trenchers, dump trucks), the creation of fugitive dust during clearing and grading, and the use of asphalt or other oil-based substances during paving activities. Construction activities such as excavation and grading operations, construction vehicle traffic, and wind blowing over exposed soils would generate exhaust emissions and fugitive PM emissions that affect local air quality at various times during construction. Effects would be variable depending on the weather, soil conditions, the amount of activity taking place, and the nature of dust control efforts. The dry climate of the area during the summer months creates a high potential for dust generation. Construction activities would be subject to SCAQMD Rule 403, which requires taking reasonable precautions to prevent the emissions of fugitive dust, such as using water or chemicals, where possible, for control of dust during the clearing of land and other construction activities.

Construction-generated emissions associated the proposed Project were calculated using the CARB-approved CalEEMod computer program, which is designed to model emissions for land use development Projects, based on typical construction requirements.

Predicted maximum daily mitigated construction-generated emissions for the proposed Project are summarized in Table 3.2-7. Construction-generated emissions are short-term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the SCAQMD’s thresholds of significance.

TABLE 3.2-7: CONSTRUCTION-RELATED PROJECT GENERATED EMISSIONS (POUNDS/DAY) (MITIGATED)

CONSTRUCTION YEAR	ROG	NO _x	PM ₁₀	PM _{2.5}	SO _x	CO
	≤ 75 LBS/DAY	≤ 100 LBS/DAY	≤ 150 LBS/DAY	≤ 55 LBS/DAY	≤ 150 LBS/DAY	≤ 550 LBS/DAY
2021	4.8	46.5	9.3	5.8	0.1	40.6
2022	35.6	35.9	8.6	3.0	0.1	44.0
2023	35.2	30.3	8.5	2.8	0.1	41.8
Maximum	35.6	46.5	9.3	5.8	0.1	44.0
SCAQMD Threshold Exceeded?	No	No	No	No	No	No

NOTE: VALUES MAY NOT ADD UP DUE TO ROUNDING.

SOURCE: CAL EEMOD (v.2016.3.2)

As shown in Table 3.2-7, emissions generated during Project construction would not exceed the SCAQMD’s regional thresholds of significance. Therefore, criteria pollutant emissions generated during Project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard.

LOCALIZED EMISSIONS THRESHOLDS ANALYSIS

Diesel emissions generated during the construction of the Project could impact sensitive receptors within the Project area. As previously stated, the nearest existing sensitive receptors to the Project site are the residences approximately 75 feet east of the Project site. In order to identify localized, air toxic-related impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction. LSTs were developed in response to SCAQMD Governing Boards’ Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the Final Localized Significance Threshold Methodology (dated June 2003 [revised 2008b]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with proposed Projects.

For this Project, the appropriate SRA for the LSTs is the East San Gabriel Valley SRA 9. LSTs apply to CO, NO₂, PM₁₀, and PM_{2.5}. The proposed Project would disturb ±26.05 acres during construction. As previously described, the SCAQMD has produced lookup tables for Projects that disturb less than or equal to five acres daily. The SCAQMD has also issued guidance on applying the CalEEMod emissions software to LSTs for Projects greater than five acres. Since CalEEMod calculates construction emissions based on the number of equipment hours and the maximum daily soil disturbance activity

possible for each piece of equipment, Table 3.2-8 is used to determine the maximum daily disturbed-acreage for comparison to LSTs.

TABLE 3.2-8: EQUIPMENT-SPECIFIC GRADING RATES

<i>CONSTRUCTION PHASE</i>	<i>EQUIPMENT TYPE</i>	<i>ACRES GRADED/DISTURBED PER 8-HOUR DAY</i>	<i>EQUIPMENT QUANTITY</i>	<i>OPERATION HOURS PER DAY</i>	<i>ACRES GRADED PER DAY</i>
Site Preparation	Rubber Tired Dozers	0.5	3	8	1.5
	Tractors/Loaders/Backhoes	0.5	4	8	2.0
	Site Preparation Total:				3.5
Grading	Excavators	0	2	8	0
	Graders	0.5	1	8	0.5
	Rubber Tired Dozers	0.5	1	8	0.5
	Scrapers	1.0	2	8	2.0
	Tractors/Loaders/Backhoes	0.5	2	8	1.0
Grading Total:				4.0	
Maximum Total Acres Graded per Day:					4.0

As shown in Table 3.2-8, Project implementation could potentially disturb up to 3.5 acres daily during the site preparation phase of construction, and 4.0 acres daily during the grading phase of construction. Thus, the LST threshold value for a 3.5-acre construction site was sourced from the LST lookup tables for site preparation and the LST threshold value for a 4.0-acre construction site was sourced from the LST lookup tables for Project grading activities.

The nearest sensitive receptors to the Project site are the residences located to the east of the Project site (approximately 75 feet). LST thresholds are provided for distances to sensitive receptors of 25, 50, 100, 200, and 500 meters. Therefore, LSTs for receptors located at 25 meters were utilized in this analysis. The SCAQMD’s methodology clearly states that “off-site mobile emissions from a Project should not be included in the emissions compared to LSTs.” Therefore, for purposes of the construction LST analysis, only emissions included in the CalEEMod “onsite” emissions outputs were considered. Table 3.2-9 presents the results of localized emissions during the site preparation and grading phases of construction. The LSTs reflect a maximum disturbance of 3.5 acres daily during site preparation activities and 4.0 acres daily during grading activities, at 25 meters for the proposed Project. It should be noted that the following values reflect incorporation of required SCAQMD requirements, including watering exposed areas three times daily and limiting vehicle speeds on unpaved roads to 15 miles per hour, which are considered as “mitigation” within CalEEMod.

Table 3.2-9 shows that the maximum air pollutant emissions resulting from Project construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, impacts concerning LSTs during construction activities would be less than significant.

TABLE 3.2-9: CONSTRUCTION-RELATED EMISSIONS ATTRIBUTABLE TO PROJECT BUILDOUT (LST ANALYSIS)

ACTIVITY	POLLUTANT (POUNDS PER DAY)			
	NO _X	PM ₁₀	PM _{2.5}	CO
Project Site Preparation	40.5	9.1	5.8	21.2
SCAQMD LST (3.5 acres of disturbance)	165.5	10.5	6.5	1,343
Project Site Grading	46.4	4.6	3.1	30.9
SCAQMD LST (4.0 acres of disturbance)	173	11.2	6.8	1,421

SOURCE: CALEEMOD (v.2016.3.2).

CONCLUSION

As provided in Tables 3.2-7 and 3.2-9, compliance with federal, State, SCAQMD, and other local regulations and requirements, would ensure the Project would not cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation, with respect to the construction of the proposed Project. The proposed Project would be required to implement Mitigation Measure 3.2-2, which would ensure that the proposed Project would have a **less than significant** impact related to the potential to expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment.

MITIGATION MEASURE(S)

Mitigation Measure 3.2-2: *Prior to the grading permit issuance, the Project applicant shall demonstrate to the satisfaction of the City of Irwindale Community Development Department Manager/City Planner and/or their designee that the following measures would be implemented during Project construction activities. These measures shall be enforced and maintained by the construction contractor throughout construction activities.*

- *Ensure the cleanest possible construction practices and equipment are used. This includes eliminating the idling of diesel-powered equipment and providing the necessary infrastructure (e.g. electrical hookups) to support zero and near-zero equipment and tools;*
- *Implement, and plan accordingly for, the necessary infrastructure to support zero and near-zero emission technology vehicles and equipment that will be operating on-site. Necessary infrastructure may include the physical (e.g. needed footprint), energy, and fueling infrastructure for construction equipment, on-site vehicles and equipment, and medium-heavy and heavy-duty trucks;*
- *In construction contracts, include language that requires all construction equipment and fleets to be in compliance with all current air quality regulations;*
- *Apply water every 3 hours to disturbed areas within a construction site;*
- *Require minimum soil moisture of 12% for earthmoving by use of a moveable sprinkler system or a water truck. Moisture content can be verified by lab sample or moisture probe.*
- *Limit on-site vehicle speeds (on unpaved roads) to 15 mph;*
- *Replace ground cover in disturbed areas as quickly as possible;*

- *All trucks hauling dirt, sand, soil, or other loose materials are to be tarped with a fabric cover and maintain a freeboard height of 12 inches.*
- *Apply chemical dust suppressant annually to unpaved parking areas.*
- *Cover inactive storage piles;*
- *Sweep streets if visible soil material is carried out from the construction site; and/or*
- *Post a publicly visible sign written in English and Spanish, which specifies the telephone number and person to contact regarding dust complaints. This person shall respond to complaints and take corrective action within 48 hours. The sign shall be in accordance with SCAQMD and/or City requirements, as applicable;*
- *Further, where reasonably feasible, construction equipment should include the use of alternative fuels such as compressed natural gas (CNG), propane, electricity or biodiesel.*

Impact 3.2-4: The proposed Project has the potential to result in other emissions (such as those leading to odors) affecting a substantial number of people. (Less than Significant)

ODORS

While offensive odors rarely cause any physical harm, they can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the SCAQMD. The general nuisance rule (California Health and Safety Code §41700) and Air District Rule 402 is the basis for the threshold.

Examples of facilities that are known producers of odors include: wastewater treatment facilities, chemical manufacturing, sanitary landfill, fiberglass manufacturing, transfer station, painting/coating operations (e.g. auto body shops), composting facility, food processing facility of animal origin, petroleum refinery, feed lot/dairy, asphalt batch plant, and rendering plant. These aforementioned uses are either prohibited or subject to a Conditional Use Permit. None of these facilities are permitted within the Project site.

The Project does not propose sensitive receptors that could be exposed to odors in the vicinity; nor does it propose uses that would create odors that could expose receptors in the area. Air district Rule 402 prohibits any mobile or stationary source generating an objectionable odor, with the exception of odors emanating from certain agricultural operations. The California Health and Safety Code §41700 and Air District Rule 402 prohibit emissions of air contaminants from any source that cause nuisance or annoyance to a considerable number of people or that present a threat to public health or cause property damage. Compliance with these rules would preclude land uses proposed under the proposed Project from emitting objectionable odors.

CARBON MONOXIDE HOTSPOTS

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background

concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or “hot spots,” are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the Project vicinity have steadily declined.

Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. The analysis prepared for CO attainment in the SCAQMD’s 1992 Federal Attainment Plan for Carbon Monoxide in Los Angeles County can be used to demonstrate the potential for CO exceedances. The SCAQMD CO hot spot analysis was conducted for four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The busiest intersection evaluated had a traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the level of service (LOS) in the vicinity of this intersection and found it to be LOS E at peak morning traffic and LOS F at peak afternoon traffic. Even with the inefficient LOS and volume of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992).

According to the Traffic Study prepared for the Project (Ganddini, 2020), the Project is anticipated to generate 2,708 daily trips on average. Because the proposed Project would not increase traffic volumes at any intersection to more than 100,000 vehicles per day, there is no likelihood of the Project traffic exceeding CO values. No impact would occur.

NATURALLY OCCURRING ASBESTOS

Another potential air quality issue associated with construction-related activities is the airborne entrainment of asbestos due to the disturbance of naturally-occurring asbestos-containing soils. The proposed Project is not located within an area designated by the State of California as likely to contain naturally-occurring asbestos (Department of Conservation [DOC] 2000). As a result, construction-related activities would not be anticipated to result in increased exposure of sensitive land uses to asbestos. Impacts would be less than significant.

TOXIC AIR CONTAMINANTS

A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air. However, their high toxicity or health risk may pose a threat to public health even at very low concentrations. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. This contrasts with the criteria pollutants for which acceptable levels of exposure can be determined and for which the State and federal governments have set ambient air quality standards.

Controlling air toxic emissions became a national priority with the passage of the Clean Air Act Amendments (CAAA) of 1990, whereby Congress mandated that the USEPA regulate 188 air toxics, also known as hazardous air pollutants. The USEPA has assessed this expansive list in its latest rule on the Control of Hazardous Air Pollutants from Mobile Sources (Federal Register, Vol. 72, No. 37, page 8430, February 26, 2007) and identified a group of 93 compounds emitted from mobile sources. In addition, USEPA identified seven compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk drivers from their 1999 National Air Toxics Assessment. These are acrolein, benzene, 1,3-butadiene, diesel particulate matter plus diesel exhaust organic gases (diesel PM), formaldehyde, naphthalene, and polycyclic organic matter.

The 2007 USEPA rule requires controls that will dramatically decrease Mobile Source Air Toxics (MSAT) emissions through cleaner fuels and cleaner engines. According to an FHWA analysis using EPA MOBILE6.2 model, even if vehicle activity (VMT) increases by 145 percent, a combined reduction of 72 percent in the total annual emission rate for the priority MSAT is projected from 1999 to 2050. California maintains stricter standards for clean fuels and emissions compared to the national standards; therefore, it is expected that MSAT trends in California will decrease consistent with or more than the USEPA's national projections.

The CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (2005) to provide information to local planners and decision-makers about land use compatibility issues associated with emissions from industrial, commercial and mobile sources of air pollution. The CARB Handbook indicates that mobile sources continue to be the largest overall contributors to State air pollution problems, representing the greatest air pollution health risk to most Californians. The most serious pollutants on a statewide basis include diesel exhaust particulate matter (diesel PM), benzene, and 1,3-butadiene, all of which may be emitted by motor vehicles (especially heavy-duty trucks). These mobile source air toxics are largely associated with freeways and high traffic roads. Non-mobile source air toxics are largely associated with industrial and commercial uses. Table 3.2-10 provides the CARB minimum separation recommendations on siting sensitive land uses.

The Project site is not located adjacent to a rail yard, port, refinery, chrome plater, dry cleaner, or gasoline dispensing facility. The Project site is located approximately 1.4 miles from Interstate 210 (I-210). Air toxics are considered a concern along I-210 because it is a major transportation corridor for large diesel trucks that are known to emit diesel particulates. However, given the distance from the Project site, there are no sensitive land uses proposed within the Project site that would be significantly affected by I-210.

However, there are sensitive residential land uses located to the east and west of the Project site. There is the potential that sensitive land uses could potentially be affected by the operational activities of the proposed Project (including from the increase in diesel trucks traveling to and from the Project site). Therefore, an air toxics health risk analysis (HRA) was conducted utilizing Lakes Environmental Software AERMOD and the ARB's Hotspots Analysis Reporting Program Version 2 (HARP 2) Air Dispersion, Modelling, and Risk Tool (ADMRT). Truck idling, truck on-site mobile, and TRU diesel particulate matter (DPM) emissions were calculated. The residential (30-year exposure) cancer, workplace (30-year exposure) cancer, chronic (non-cancer), and acute (non-cancer) risks

were assessed and compared to SCAQMD thresholds. See Appendix B.4 for full model inputs. Table 3.2-11 summarizes the results of the analysis.

TABLE 3.2-10: CARB MINIMUM SEPARATION RECOMMENDATIONS ON SITING SENSITIVE LAND USES

SOURCE CATEGORY	ADVISORY RECOMMENDATIONS
Freeways and High-Traffic Roads	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.¹
Distribution Centers	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	<ul style="list-style-type: none"> • Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the CARB on the status of pending analyses of health risks.
Refineries	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloro-ethylene	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations.
Gasoline Dispensing Facilities	<ul style="list-style-type: none"> • Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities.

SOURCE: AIR QUALITY AND LAND USE HANDBOOK: A COMMUNITY HEALTH PERSPECTIVE (CARB 2005)

TABLE 3.2-11: SUMMARY OF MAXIMUM HEALTH RISKS

RISK METRIC	MAXIMUM RISK (PER MILLION PERSONS)	SIGNIFICANCE THRESHOLD	IS THRESHOLD EXCEEDED?
Residential Cancer Risk (30-year exposure) ¹	3.73	10 per million	No
Workplace Cancer Risk (25-year exposure) ²	0.26	10 per million	No
Chronic (non-cancer)	<0.01	Hazard Index ≥1	No
Acute (non-cancer) ³	0	Hazard Index ≥1	No

NOTES: ¹THE MAXIMUM RESIDENTIAL CANCER RISK WOULD BE FOR A RESIDENCE LOCATED APPROXIMATELY 75 FEET TO THE EAST OF THE PROJECT SITE. THE INCREMENTAL RESIDENTIAL CANCER RISK (30-YEAR EXPOSURE) AT THIS LOCATION IS PROVIDED WITHIN THIS TABLE. ²THE VALUE PROVIDED FOR MAXIMUM WORKPLACE CANCER RISK IS THE MAXIMUM VALUE PROVIDED AT THE NEAREST WORKPLACE LOCATION, LOCATED APPROXIMATELY 5 FEET TO THE NORTH OF THE PROJECT SITE. ³ACUTE (NON-CANCER) RISKS WERE NOT ESTIMATED, SINCE DPM DOES NOT HAVE SHORT-TERM TOXICITY VALUES.

SOURCES: AERMOD 9.9.0 (v.19191) (LAKES ENVIRONMENTAL SOFTWARE, 2020); AND HARP-2 ADMRT.

As shown in Table 3.2-11, the proposed Project, in and of itself, would not result in a significant increased exposure of receptors to localized concentrations of TACs during project operation. Risk

of residential cancer risk, workplace cancer risk, and chronic and acute non-cancer risks are below the applicable SCAQMD thresholds.

It should be noted that Project construction TACs were not modeled using AERMOD since both maximum and annual mitigated PM₁₀ emissions during Project construction would be fewer than those emissions during project operation (as provided in the CalEEMod results provided in Appendix B). Moreover, construction DPM emissions would tend to be located more toward the geographic center of the Project site, compared with vehicles generated by the Project during the Project's operational phase. Since maximum risks from TACs to nearby receptors are demonstrated during Project operation would be less than the maximum risk thresholds provided by SCAQMD, and since emission of construction TACs (i.e. DPM) would be less than during Project operation (both maximum and annual risks), and since construction activities would be temporary and would occur prior to Project operation, risks from construction TACs would also be below the applicable SCAQMD thresholds.

Therefore, implementation of the proposed Project would cause a *less than significant* impact relative to this topic.

CONCLUSION

The Project does not propose sensitive receptors that could be exposed to odors in the vicinity; nor does it propose uses that would create odors that could expose receptors in the area. Therefore, operation of the proposed Project would not result in significant objectionable odors. Impacts associated with exposure to odors would be *less than significant*.

This Project is located in an area that is designated unclassified/attainment for carbon monoxide. Therefore, no Project-level conformity analysis is necessary for CO. Substantial concentrations of carbon monoxide are not expected at or along any streets or intersections affected by the development of the Project site. Impacts associated with carbon monoxide hotspots would be *less than significant*, and no additional mitigation is required.

Additionally, implementation of the proposed Project, in and of itself, would not result in an increased exposure of sensitive receptors to localized concentrations of TACs.

Therefore, overall, air quality impacts associated with other emissions would be *less than significant*.

Impact 3.2-5: The proposed Project has the potential to cause substantial adverse effects on human beings, either directly or indirectly. (Significant and Unavoidable)

The SCAB is designated as a nonattainment area for the federal ozone and PM_{2.5} standards and is also a nonattainment area for the state standards for ozone, PM₁₀, and PM_{2.5}. As shown in Table 3.2-5, operation of the Project would generate NO_x in excess of the SCAQMD's thresholds for operational emissions. The SCAQMD developed these Project-level thresholds based on the emissions that would exceed a CAAQS or contribute substantially to an existing or projected

violation of a CAAQS. Ambient levels of these criteria pollutants are likely to decrease in the future, based on current and future implementation of federal and/or state regulatory requirements, such as improvements to the statewide vehicle fleet over time (including the long-term replacement of internal combustion engine vehicles with electric vehicles in coming decades).

As shown in the table provided in Appendix B.1 of this EIR, almost all tools available to measure criteria pollutant emissions were designed to be used at the national, state, regional, and/or city-levels. These tools are not well suited to analyze small or localized changes in pollutant concentrations associated with individual projects. Accordingly, they are not recommended by the SCAQMD for CEQA analyses. The following analysis of the potential of the proposed Project to cause substantial adverse effects on human beings is presented qualitatively.

OZONE

Ozone is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of (VOC) (also known as ROG) and oxides of nitrogen (NO_x) in the presence of sunlight. The reactivity of O_3 causes health problems because it damages lung tissue, reduces lung function and sensitizes the lungs to other irritants. Scientific evidence indicates that ambient levels of O_3 not only affect people with impaired respiratory systems, such as asthmatics, but healthy adults and children as well. Exposure to O_3 for several hours at relatively low concentrations has been found to significantly reduce lung function and induce respiratory inflammation in normal, healthy people during exercise. This decrease in lung function generally is accompanied by symptoms including chest pain, coughing, sneezing and pulmonary congestion.

Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (USEPA, 2019a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion of ozone and a 50 percent decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggests that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 parts per billion (USEPA, 2019b).

Operational Emissions: The Project would generate emissions of ROG and NO_x during Project operational activities, as shown in Table 3.2-5. The CAA regulates these pollutants mainly because they contribute to ozone formation, but they can each cause adverse reactions in people on their own, as explained earlier in this chapter. Although the exact effects of Project-level emissions on local health are not precisely known, it is likely that the increases in ROG and NO_x generated by the proposed Project would especially affect people with impaired respiratory systems, but also healthy adults and children located in the immediate vicinity of the Project site. However, the increases of these pollutants generated by the proposed Project are not on their own likely to generate an increase in the number of days exceeding the NAAQS or CAAQS standards, based on the size of the proposed Project in comparison to Los Angeles County as a whole. Instead, the increases in ROG and

NO_x generated by the proposed Project when combined with the existing ROG and NO_x emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the Project site.

Construction Emissions: As previously stated, precursors of ozone (ROG and NO_x) are accommodated in the emission inventories of State- and federally-required air plans and would not have a significant impact on the attainment and maintenance of ozone AAQS. Therefore, only the SCAQMD construction air emissions threshold for PM₁₀ is applicable for the purposes of this impact analysis. Although the exact effects of ROG and NO_x emissions on local health are not known, it is likely that the increases in ROG and NO_x generated by the proposed Project would especially affect people with impaired respiratory systems, but also healthy adults and children located in the immediate vicinity of the Project site. However, the increases of these pollutants generated by the proposed Project are not on their own likely to generate an increase in the number of days exceeding the NAAQS or CAAQS standards, based on the size of the proposed Project in comparison to Los Angeles County as a whole. Instead, the increases in ROG and NO_x generated by the proposed Project, including during construction activities, when combined with the existing ROG and NO_x emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the Project site. However, it should be noted that, since construction emissions are temporary in nature, the potential for substantial health impacts due to Project construction activities is typically much less than for Project operational activities.

PARTICULATE MATTER

Based on studies of human populations exposed to high concentrations of particles (sometimes in the presence of SO₂) and laboratory studies of animals and humans, PM can cause major effects of concern for human health. These include effects on breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular disease, alterations in the body's defense systems against foreign materials, damage to lung tissue, carcinogenesis and premature death. Small particulate pollution has health impacts even at very low concentrations – indeed no threshold has been identified below which no damage to health is observed. The major subgroups of the population that appear to be most sensitive to the effects of particulate matter include individuals with chronic obstructive pulmonary or cardiovascular disease or influenza, asthmatics, the elderly and children.

Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms. Studies show that every 1 microgram per cubic meter reduction in PM_{2.5} results in a one percent reduction in mortality rate for individuals over 30 years old (Bay Area Air Quality Management District, 2017). Long-term exposures, such as those experienced by people living for many years in areas with high particle levels, have been associated with problems such as reduced lung function and the development of chronic bronchitis – and even premature death. Additionally, depending on its composition, both PM₁₀ and PM_{2.5} can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (U.S. Environmental Protection Agency 2019c).

Operational Emissions: The Project would generate emissions of PM during Project operational activities, as shown in Table 3.2-5. Although the exact effects of such emissions on local health are not known, it is likely that the increases in PM generated by the proposed Project would especially affect people with impaired respiratory systems, but also healthy adults and children located in the immediate vicinity of the Project site. However, the increases of these pollutants generated by the proposed Project are not on their own likely to generate an increase in the number of days exceeding the NAAQS or CAAQS standards, based on the size of the Project in comparison the Los Angeles County as a whole. Instead, the increases in PM generated by the proposed Project when combined with the existing PM emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the Project site. Nevertheless, as demonstrated by the results of the HRA, would not cause an exceedance of the applicable cancer and non-cancer thresholds related to the Project's impacts from TACs (including DPM).

Construction Emissions: The SCAB is designated as a nonattainment area for the federal ozone and PM_{2.5} standards and is also a nonattainment area for the state standards for ozone, PM₁₀, and PM_{2.5}, construction of the Project would not generate PM₁₀ exhaust in excess of the SCAQMD's numeric threshold for construction emissions. The SCAQMD developed this Project-level threshold based on the emissions that would exceed a CAAQS or contribute substantially to an existing or Projected violation of a CAAQS. Ambient levels of these criteria pollutants are likely to decrease in the future, based on current and future implementation of federal and/or state regulatory requirements, such as improvements to the statewide vehicle fleet over time (including the long-term replacement of internal combustion engine vehicles with electric vehicles in coming decades). Furthermore, based on the short-term nature of construction activities in comparison to operational activities, the potential for substantial health impacts due to particulate matters emissions during Project is limited.

DISCUSSION

As previously discussed, the magnitude and locations of any potential changes in ambient air quality, and thus health consequences, from these additional emissions cannot be quantified with a high level of certainty due to the dynamic and complex nature of pollutant formation and distribution (e.g., meteorology, emissions sources, sunlight exposure), as well as the variabilities in the receptors that reside in a particular area. Additionally, SCAQMD has not established any methodology or thresholds (quantitative or qualitative) for assessing the health effects from criteria pollutants. The City of Irwindale is not aware of any air district in California that has an established methodology for correlating Project-generated criteria pollutant emissions to health end points. From a qualitative perspective, it is well documented from scientific studies that criteria pollutants can have adverse health effects. The federal and state governments have established the NAAQS or CAAQS as an attempt to regionally, and cumulatively, assess and control the health effects that criteria pollutants have within Air Basins. It is anticipated that public health will continue to be affected by the emission of criteria pollutants, especially by those with impaired respiratory systems in the City of Irwindale and the surrounding region so long as the region does not attain the CAAQS or NAAQS. However, the increases of these pollutants generated by the proposed Project are not on their own likely to generate an increase in the number of days exceeding the NAAQS or CAAQS standards, based on

the size of the Project in comparison the Los Angeles County as a whole. Instead, the increases in criteria pollutants generated by the proposed Project when combined with the existing criteria pollutants emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the Project site. Separately, localized construction activities are temporary in nature, and therefore, do not pose a threat to human health in the same manner as ongoing, chronic, lifetime exposure from Projects during their operational phase.

CONCLUSION

The increases in criteria pollutants generated by the proposed Project when combined with the existing criteria pollutants emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the Project site. Construction emissions would be temporary in nature, while the operational activities of a Project would be most likely to cause substantial adverse effects on human beings, since ongoing, chronic, and lifetime exposure to criteria pollutants are key in the level of health impact. However, the increases of these pollutants generated by the proposed Project are not on their own likely to generate an increase in the number of days exceeding the health-based NAAQS or CAAQS standards, based on the size of the Project in comparison to Los Angeles County as a whole. Nevertheless, even with implementation of the mitigation measures provided in this section (Mitigation Measures 3.2-1 and 3.2-2), operational NOx emissions would be above the applicable SCAQMD mass emission threshold. Therefore, the proposed Project would have a **significant and unavoidable** impact relative to this topic.

See Impact 3.2-4 (previous) for a more detailed discussion of the potential risks from toxic air contaminants and carbon monoxide hotspots by the proposed Project.

MITIGATION MEASURE(S)

*Implement **Mitigation Measures 3.2-1 and 3.2-2.***

This page intentionally left blank.

The purpose of this section is to disclose and analyze the potential impacts associated with the geology of the Project site and regional vicinity, and to analyze issues such as the potential exposure of people and property to geologic hazards, landform alteration, and erosion. This section is based in part on the following: City of Irwindale General Plan Update (City of Irwindale as amended through 2008), Draft Environmental Impact Report (State Clearinghouse No. 2005071047) – City of Irwindale General Plan (City of Irwindale, 2006), Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS, 2018), and Interactive Fault Map provided by the U.S. Geological Survey (USGS, 2019).

There were no comments received during the NOP comment period related to this environmental topic.

As discussed in the Initial Study prepared for the proposed Project, the proposed Project would connect to the municipal sewer system for wastewater disposal. Septic tanks or septic systems are not proposed as part of the Project. The site has been filled with engineered materials which are known to not contain paleontological resources. Because the fill material has been placed on the site recently and the material is well documented, there is no likelihood of discovering paleontological resources within the site. Additionally, a Hydrology/Best Management Practices (BMPs)/LID Exhibit was prepared for the Project. The Exhibit provides the hydrologic and hydraulic basis of design for the proposed stormwater control features. The Storm Water Pollution Prevention Plan (SWPPP), project-specific Hydrology/BMPs/LID Exhibit, and associated improvements will manage storm water and reduce the potential for erosion or loss of topsoil. There are also no significant deposits of mineral resources located on the Project site, as delineated by the Mineral Resources and Mineral Hazards Mapping Program (MRMHMP). The Project site is not designated as a Mineral Resource Zone (MRZ). As such, CEQA topics of septic systems, paleontological resources, erosion of topsoil, and mineral resources will not be discussed further within this section. The Initial Study is included in Appendix A of this Draft EIR.

3.3.1 ENVIRONMENTAL SETTING

GEOLOGIC SETTING

Regional Geology

The Project site lies in the City of Irwindale, which is located at the junction of the Peninsular Ranges and the Transverse Ranges. Specifically, the Project site is located in the central San Gabriel Valley east of the San Gabriel River. The San Gabriel Valley is bordered by the San Gabriel Mountains on the north, the San Jose Hills to the east, the Puente Hills on the south, and the San Rafael and Repetto Hills on the west. The Valley sediment consists primarily of fans shed southward from the San Gabriel Mountains, and to a lesser degree from other nearby ranges. Coarser materials are contained in broad fans below larger mountain drainage and in channels defined along the major drainages including the San Gabriel and Rio Hondo rivers.

The basement rock of the San Gabriel Mountains includes Cretaceous-aged quartz-diorite that has been intruded and faulted into older metamorphics. Materials shed from these “basement complex” igneous and metamorphic rocks tend to consist primarily of larger, erosion-resistant

gravels and sands with relatively minor amounts of silt and clay. Mountains surrounding the San Gabriel Valley on the west, east and south are underlain by much younger (Miocene- to early Pleistocene-aged) sandstone, siltstone and mudstone sedimentary rock of the Fernando, Puente and Topanga Formations. These rocks tend to contribute finer sediments. Alluvial fan deposits outside of the immediate influence of the major drainage systems consist of sand and gravel with discontinuous lenses of silt and clay.

Local Setting

The Project site is located north of a Los Angeles County owned pit, east of Allen Drive, south of Arrow Highway, and west of Vincent Avenue. The Project site totals approximately 26.05 acres and is comprised of two vacant parcels; one of which is an undeveloped, recently filled, former aggregate mine pit known as the Manning Pit. The elevation of the site ranges from approximately 400 feet to 460 feet above mean sea level. The site has previously been used for mining uses and, as such, has been subject to substantial soil disturbance. The site has since been filled with engineered materials.

The Project site is the general location of the former Irwindale Pit No. 1 (Manning Brothers Pit) Project, which proposed reclamation of the historic mining pit. Mining of the Manning Pit began in the 1930s and was completed in the 1970s. The City of Irwindale acquired the northern portion of the pit (approximately 37 acres) in the late 1980s from the County of Los Angeles, and the County retained the remainder (approximately 45 acres) which is currently used as a supplemental water recharge basin in conjunction with the Irwindale Recharge Basin, located just to the west.

After its acquisition, the City began backfilling the site with a variety of construction debris. However, backfilling was stopped in 1992 when it was discovered that improper filling methods had been used by the contractor. In 2008, the City approved new remediation plans and an Initial Study/Mitigated Negative Declaration (which was subsequently amended in 2009) to excavate the improperly filled site and backfill again according to all local, regional, state and federal standards. At the end of 2017, approximately 4.45 million cubic yards of material has been imported to fill both the site and construct the southern boundary slope.

Soil analysis and management plans have been prepared for the Project site over the last 11 years, including an Excavation Management Plan for the Manning Pit – North Portion of Manning Pit, developed by The Source Group (2009) and a Grading Progress Report, developed by Tetra Tech BAS Geosciences (2015). The Excavation Management Plan was prepared in order to comply with the requirements of both the RWQCB and the SCAQMD.

Although the Project site contains engineered artificial fill as a result of previous remediation activities, seismic hazard zoning for soils is governed by the susceptibility of natural soils underlying the fill sites, according to the Irwindale General Plan. A Custom Soil Survey was completed for the Project site using the NRCS Web Soil Survey program. The NRCS Soils Map is provided in Figure 3.3-1. Table 3.3-1 identifies the type and range of soils found in the Project site.

TABLE 3.3-1: PROJECT SITE SOILS

<i>UNIT SYMBOL</i>	<i>NAME</i>	<i>ACRES IN AOI</i>	<i>PERCENT OF AOI</i>
1106	Urban land-Soboba complex, 0-5% slopes	0.67	2.6
1106	Urban land, commercial-Soboba complex, 0-5% slopes	0.87	3.3
1180	Pits and Quarries	24.51	94.1

SOURCE: NRCS CUSTOM SOIL SURVEY 2018.

Soboba Complex. This series consists of deep, excessively drained soils that formed in alluvium from predominantly granitic rock sources. Soboba soils are on alluvial fans and flood plains and have slopes of 0 to 30 percent. The mean annual precipitation is about 15 inches and the mean annual air temperature is about 61 degrees F. They have negligible to slow runoff and rapid permeability. The soils are used mostly for pasture. Principal native vegetation are annual grasses and forbs and chaparral shrubs.

Pits and Quarries. This soil consists of areas that have been excavated for rock used in road building or construction. The areas of the unit are mainly on bed rock-controlled glacial upland hills and range mostly from 3 to 50 acres. Slopes are mostly 0 to 4 percent, and escarpments are along the edges of the pits.

FAULTS AND SEISMICITY

Faults

The City of Irwindale, along with the larger South Coast Basin, is located within a seismically active region located at the junction of the Transverse Ranges and the Peninsular Ranges. These two physiographic provinces experience continual seismic activity associated with the lateral movement of the North American and Pacific tectonic plates.

Faults are classified as Historic, Holocene, Late Quaternary, Quaternary, and Pre-Quaternary according to the age of most recent movement. These classifications are described as follows:

- **Historic:** faults on which surface displacement has occurred within the past 200 years;
- **Holocene:** shows evidence of fault displacement within the past 11,000 years, but without historic record;
- **Late Quaternary:** shows evidence of fault displacement within the past 700,000 years, but may be younger due to a lack of overlying deposits that enable more accurate age estimates;
- **Quaternary:** shows evidence of displacement sometime during the past 1.6 million years;
- **Pre-Quaternary:** without recognized displacement during the past 1.6 million years.

Faults are further distinguished as active, potentially active, or inactive:

- **Active:** An active fault is a Historic or Holocene fault that has had surface displacement within the last 11,000 years;
- **Potentially Active:** A potentially active fault is a pre-Holocene Quaternary fault that has evidence of surface displacement between about 1.6 million and 11,000 years ago; and

- **Inactive:** An inactive fault is a pre-Quaternary fault that does not have evidence of surface displacement within the past 1.6 million years. The probability of fault rupture is considered low; however, this classification does not mean that inactive faults cannot, or will not, rupture.

There are numerous active faults located in the regional vicinity of the Project site. The most significant active fault traces in proximity to the Project site are along the San Andreas, Newport-Inglewood, Raymond, and Whittier-Elsinore fault zones, which are considered active. Figure 3.3-2 illustrates the local faults within the vicinity of the Project site. The most notable faults in the regional area are described below.

Duarte Fault: While numerous faults, including active faults, have been mapped in the Southern California region, there is a single fault trace actually known to be present within the City's boundaries. A buried segment of the active Duarte fault is known to traverse the southwestern corner of the Azusa Largo pit continuing along Foothill Boulevard to the east. The Duarte fault is considered a component of the larger Sierra Madre fault zone that is located along the southern foothills of the San Gabriel Mountains possessing a maximum credible magnitude of about 7.2 on the Richter scale.

East Montebello Fault: A 4.9 magnitude earthquake recently occurred along this fault in 1989, approximately 9 miles west of the city. This earthquake was followed 25 minutes later by a magnitude 4.4 aftershock with a very similar location. Some regard this earthquake as an aftershock of the Pasadena earthquake, six months earlier.

Chino Fault: The Chino fault is a right-reverse fault located approximately 12 miles southeast of the City, possessing a maximum credible magnitude of about 6.0-7.0 on the Richter scale with an unknown year span.

Cucamonga Fault: The Cucamonga fault zone is part of the same fault system, marking the southern boundary of the San Gabriel Mountains, as the Sierra Madre fault zone. Sometimes it is included as part of the Sierra Madre fault zone, as is the San Fernando fault zone far to the west. The Cucamonga fault is a thrust fault located approximately 12 miles east of the City, possessing a maximum credible magnitude of about 6.0-7.0 on the Richter scale with an estimated 600-700 years.

Sierra Madre Fault-San Gabriel Fault Zone: The Sierra Madre fault is a reverse fault located approximately two miles north of the City, possessing a maximum credible magnitude of about 7.2 on the Richter scale.

San Andreas Fault: The San Andreas fault is considered most likely to produce a large seismic event within the next 100 years. The San Andreas fault lies approximately 23 miles northwest of the Project site. Geologic evidence suggests that a major earthquake (7.5 to 8.5 Richter magnitude) has a 50 percent chance of occurring within the next 30 years. An earthquake of this magnitude is comparable to the 1906 San Francisco earthquake and has the potential for causing considerable damage in the Southern California region.

Newport-Inglewood Fault: An earthquake occurring along the Newport-Inglewood fault could impact the Project site and the City of Irwindale. The Newport-Inglewood fault is located approximately 29 miles southwest of the Project site, and it is estimated that 6.0 to 6.5 Richter magnitude earthquakes on this fault have a 15 to 50 percent probability of occurrence within the next 100 years. A 6.5 magnitude earthquake could produce strong ground shaking lasting from 12 to 18 seconds. The Long Beach earthquake of 1933 registered 6.3 on the Richter scale.

Raymond Hill Fault: The Raymond Hill fault extends through the cities of South Pasadena, Pasadena, Arcadia, and San Marino. This fault has been postulated to be an extension of the Sierra Madre fault system. There is evidence of surface rupture exhibited by scarp features in addition to fault creep. The Raymond Hill fault lies approximately six miles west of the Project site. This left lateral reverse (strike slip) fault has a potential for a maximum credible magnitude of 6.7.

Clamshell-Sawpit Fault: The Clamshell-Sawpit fault extends through the cities of Sierra Madre and Monrovia. This fault is a reverse thrust fault with a mapped length of 15 miles. This fault was the most likely source of the 1991 Sierra Madre earthquake though the fault's depth probably prevented surface rupture.

Whittier-Elsinore Fault: The Whittier-Elsinore Fault lies in close proximity to the Project site (approximately nine miles to the south), but historically this fault has produced relatively minor earthquakes (less than 4.5 Richter magnitude). Geologic studies indicate that this fault has less than a 15 percent probability of producing a moderate earthquake (5.5 to 6.0 Richter magnitude) within the next 100 years.

In addition to the above faults, a substantial number of previously unknown blind-thrust faults are now suspected to traverse the Los Angeles region. These faults are very deep and generally do not exhibit surface displacement common with the other types of faults.

Seismicity

The amount of energy available to a fault is determined by considering the slip-rate of the fault, its area (fault length multiplied by down-dip width), maximum magnitude, and the rigidity of the displaced rocks. These factors are combined to calculate the moment (energy) release on a fault. Earthquakes are generally expressed in terms of intensity and magnitude. Intensity is based on the observed effects of ground shaking on people, buildings, and natural features. By comparison, magnitude is based on the amplitude of the earthquake waves recorded on instruments, which have a common calibration. The Richter scale, a logarithmic scale ranging from 0.1 to 9.0, with 9.0 being the strongest, measures the magnitude of an earthquake relative to ground shaking. Table 3.3-2 provides a description and a comparison of intensity and magnitude.

3.3 GEOLOGY AND SOILS

TABLE 3.3-2: MODIFIED MERCALLI INTENSITY SCALE FOR EARTHQUAKES

<i>RICHTER MAGNITUDE</i>	<i>MODIFIED MERCALLI</i>	<i>EFFECTS OF INTENSITY</i>
0.1 – 0.9	I	Earthquake shaking not felt
1.0 – 2.9	II	Shaking felt by those at rest.
3.0 – 3.9	III	Felt by most people indoors, some can estimate duration of shaking.
4.0 – 4.5	IV	Felt by most people indoors. Hanging objects rattle, wooden walls and frames creak.
4.6 – 4.9	V	Felt by everyone indoors, many can estimate duration of shaking. Standing autos rock. Crockery clashes, dishes rattle and glasses clink. Doors open, close and swing.
5.0 – 5.5	VI	Felt by all who estimate duration of shaking. Sleepers awaken, liquids spill, objects are displaced, and weak materials crack.
5.6 – 6.4	VII	People frightened and walls unsteady. Pictures and books thrown, dishes and glass are broken. Weak chimneys break. Plaster, loose bricks and parapets fall.
6.5 – 6.9	VIII	Difficult to stand. Waves on ponds, cohesionless soils slump. Stucco and masonry walls fall. Chimneys, stacks, towers, and elevated tanks twist and fall.
7.0 – 7.4	IX	General fright as people are thrown down, hard to drive. Trees broken, damage to foundations and frames. Reservoirs damaged, underground pipes broken.
7.5 – 7.9	X	General panic. Ground cracks, masonry and frame buildings destroyed. Bridges destroyed, railroads bent slightly. Dams, dikes and embankments damaged.
8.0 – 8.4	XI	Large landslides, water thrown, general destruction of buildings. Pipelines destroyed, railroads bent.
8.5 +	XII	Total nearby damage, rock masses displaced. Lines of sight/level distorted. Objects thrown into air.

SOURCE: UNITED STATES GEOLOGICAL SURVEY

According to the California Geological Survey's (CGS) Probabilistic Seismic Hazard Assessment Program, Los Angeles County is considered to be within an area that is predicted to have a 10 percent probability that a seismic event would produce horizontal ground shaking of 60 to 70 percent within a 50-year period. This level of ground shaking correlates to a Modified Mercalli intensity of V to IX, light to strong.

SEISMIC HAZARDS

Seismic Ground Shaking

As stated, the Project site is located within a seismically active region of southern California with several faults identified as having the potential for significant seismic activity. As a result of the foreseeable seismicity in California, the State requires special design considerations for all structural improvements in accordance with the seismic design provisions in the California Building Code. These seismic design provisions require enhanced structural integrity based on several risk parameters.

Fault Rupture

A fault rupture occurs when the surface of the earth breaks as a result of an earthquake, although this does not happen with all earthquakes. These ruptures generally occur in a weak area of an existing fault. Ruptures can be sudden (i.e. earthquake) or slow (i.e. fault creep).

The California legislature passed the Alquist-Priolo Special Studies Zone Act in 1972 to address seismic hazards associated with faults and to establish criteria for development in areas with identified seismic hazard zones. The Alquist-Priolo Fault Zoning Act requires active earthquake fault zones to be mapped and it provides special development considerations within these zones. The Project site is not located within an Alquist-Priolo special study zone and no known active faults are shown on current geologic maps for the site.

Liquefaction

Liquefaction normally occurs when sites underlain by saturated, loose to medium dense, granular soils are subjected to relatively high ground shaking. During an earthquake, ground shaking may cause certain types of soil deposits to lose shear strength, resulting in ground settlement, oscillation, loss of bearing capacity, landsliding, and the buoyant rise of buried structures. The majority of liquefaction hazards are associated with sandy soils, silty soils of low plasticity, and some gravelly soils. Cohesive soils are generally not considered to be susceptible to liquefaction. In general, liquefaction hazards are most severe within the upper 50 feet of the surface, except where slope faces or deep foundations are present. As shown in the Earthquake Zones of Required Investigation Map of the Baldwin Park Quadrangle, the Project site is located in an area where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements. In addition, soil data from the NRCS Web Soil Survey (NRCS 2018) suggests that the potential for liquefaction of the underlying soils of the Project site is moderate given that the soils are high in sand and the water table is moderately high. However, based on the Soil analysis and management plans that have been prepared for the Project site, including an Excavation Management Plan for the Manning Pit – North Portion of Manning Pit, developed by The Source Group (2009) and a Grading Progress Report, developed by Tetra Tech BAS Geosciences (2015), as a result of the extensive remediation and engineering efforts, geologic site reviews, and site grading and compaction efforts, the potential for liquefaction of the site is considered low.

Lateral Spreading

Lateral spreading typically results when ground shaking moves soil toward an area where the soil integrity is weak or unsupported, and it typically occurs on the surface of a slope, although it does not occur strictly on steep slopes. Oftentimes, lateral spreading is directly associated with areas of liquefaction. As shown in the Earthquake Zones of Required Investigation Map of the Baldwin Park Quadrangle, the Project site is located in an area where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements. However, the current on-site soils are engineered fill and import fill. Based on the Soil analysis and management plans that have been prepared for the Project site, including an Excavation Management Plan for the Manning Pit – North Portion of Manning Pit, developed by The Source Group (2009) and a Grading Progress Report, developed by Tetra Tech BAS Geosciences (2015), as a result of the extensive remediation and engineering efforts, geologic site reviews, and site grading and compaction efforts, the potential for liquefaction of the site is considered low. Similarly, the potential for lateral spreading is also low.

Landslides

Landslides include rockfalls, deep slope failure, and shallow slope failure. Factors such as the geological conditions, drainage, slope, vegetation, and others directly affect the potential for landslides. One of the most common causes of landslides is construction activity that is associated with road building (i.e. cut and fill). As shown in the Earthquake Zones of Required Investigation Map of the Baldwin Park Quadrangle, the Project site is located in an area where previous occurrence of landslide movement, or local topographic, geological, geotechnical and subsurface water conditions indicate a potential for permanent ground displacements. However, since remediation and engineering efforts, geologic site reviews, and site grading and compaction efforts, the Project site is currently relatively flat and there are no slopes or topographical features within the area subject to landslides. The potential for landslides on the Project site is considered low, based on the soil analysis and management plans that have been prepared for the Project site, including an Excavation Management Plan for the Manning Pit – North Portion of Manning Pit, developed by The Source Group (2009) and a Grading Progress Report, developed by Tetra Tech BAS Geosciences (2015).

NON-SEISMIC HAZARDS

Expansive Soils

Expansive soils can undergo significant volume change with changes in moisture content. They shrink and harden when dried and expand and soften when wet. If structures are underlain by expansive soils, it is important that foundation systems be capable of tolerating or resisting any potentially damaging soil movements. In addition, it is important to limit moisture changes in the surficial soils by using positive drainage away from buildings as well as limiting landscaping watering.

Although engineered artificial fills occur within the Project Site, seismic hazard zoning for expansive soils is governed by the liquefaction susceptibility of natural soils underlying the fill sites. Soil data from the NRCS Web Soil Survey (NRCS 2018) suggests that the potential for expansive soils at the Project site is moderate given that the soils are high in sand and the water table is moderately high. However, based on the soil analysis and management plans that have been prepared for the Project site, including an Excavation Management Plan for the Manning Pit – North Portion of Manning Pit, developed by The Source Group (2009) and a Grading Progress Report, developed by Tetra Tech BAS Geosciences (2015), as a result of the extensive remediation and engineering efforts, geologic site reviews, and site grading and compaction efforts, the potential for expansive soils of the site is considered low.

Collapsible Soils

Collapsible soils undergo a rearrangement of their grains and a loss of cementation, resulting in substantial and rapid settlement under relatively low loads. Collapsible soils occur predominantly at the base of mountain ranges, where Holocene-age alluvial fan and wash sediments have been deposited during rapid run-off events. Soils prone to collapse are commonly associated with manmade fill, wind-laid sands and silts, and alluvial fan and mudflow sediments deposited during flash floods. During an earthquake, even slight settlement of fill materials can lead to a differentially settled structure and significant repair costs. Differential settlement of structures typically occurs

when heavily irrigated landscape areas are near a building foundation. Examples of common problems associated with collapsible soils include tilting floors, cracking or separation in structures, sagging floors, and nonfunctional windows and doors. In areas subject to potential liquefaction, the potential for liquefaction induced settlement, such as collapsible soils, is present. Because the potential for liquefaction of the site is considered low due to remediation, grading and compaction efforts of the soil, the potential for collapsible soils within the Project site is considered low.

Subsidence

Land subsidence is the gradual settling or sinking of an area with little or no horizontal motion due to changes taking place underground. It is a natural process, although it can also occur (and is greatly accelerated) as a result of human activities. Common causes of land subsidence from human activity include: pumping water, oil, and gas from underground reservoirs; dissolution of limestone aquifers (sinkholes); collapse of underground mines; drainage of organic soils; and initial wetting of dry soils. Subsidence has not been identified in the Irwindale General Plan as an issue in the Irwindale area.

3.3.2 REGULATORY SETTING

FEDERAL

Uniform Building Code (UBC)

The purpose of the Uniform Building Code (UBC) is to provide minimum standards to preserve the public peace, health, and safety by regulating the design, construction, quality of materials, certain equipment, location, grading, use, occupancy, and maintenance of all buildings and structures. UBC standards address foundation design, shear wall strength, and other structurally related conditions.

STATE

The State of California has established a variety of regulations and requirements related to seismic safety and structural integrity, including the California Building Code, the Alquist-Priolo Earthquake Fault Zoning Act and the Seismic Hazards Mapping Act.

California Building Standards Code

Title 24 of the California Code of Regulations, known as the California Building Standards Code (CBSC) or just "Title 24," contains the regulations that govern the construction of buildings in California. The CBSC includes the following parts: California Administrative Code, California Building Code, California Residential Code, California Electrical Code, California Mechanical Code, California Plumbing Code, California Energy Code, California Historical Building Code, California Fire Code, California Existing Building Code, and California Green Building Standards Code (CALGreen), California Referenced Standards Code. Through the CBSC, the state provides a minimum standard for building design and construction. The CBSC contains specific requirements for seismic safety, excavation, foundations, retaining walls and site demolition. It also regulates grading activities, including drainage and erosion control.

CALIFORNIA BUILDING CODE

The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design, Chapter 17 addresses structural tests and special inspections, and Chapter 18 addresses soils and foundations. Section 1610 provides structural design standards for foundation walls and retaining walls to ensure resistance to lateral soil loads. Section 1613 provides structural design standards for earthquake loads. Section 1704.7 requires special inspections for existing site soil conditions, fill placement and load-bearing requirements during the construction as specified in Table 1704.7 of this section. Sections 1704.8 through 1704.16 provide inspection and testing requirements for various foundation types, and construction material types. Section 1803.1.1.1 requires each city and county enact an ordinance which requires a preliminary soil report and that the report be based upon adequate test borings or excavations, of every subdivision, where a tentative and final map is required pursuant to Section 66426 of the Government Code. Section 1803.5.3 defines expansive soils and specifies that in areas likely to have expansive soil, the building official shall require soil tests to determine where such soils do exist. Section 1803.5.4 specifies that a subsurface soil investigation must be performed to determine whether the existing ground-water table is above or within 5 feet (1524 mm) below the elevation of the lowest floor level where such floor is located below the finished ground level adjacent to the foundation. Section 1803.5.8 provides specific standards where shallow foundations will bear on compacted fill material more than 12 inches (305 mm) in depth. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Section 1804 provides standards and requirements for excavation, grading, and fill. Section 1808, 1809, and 1810 provides standards and requirements for the construction of varying foundations.

California Health and Safety Code

Section 19100 et seq. of the California Health and Safety Code establishes the State's regulations for earthquake protection. This section of the code requires structural designs to be capable of resisting likely stresses produced by phenomena such as strong winds and earthquakes.

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 sets forth the policies and Criteria of the State Mining and Geology Board, which governs the exercise of governments' responsibilities to prohibit the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones, as delineated on maps officially issued by the State Geologist. Working definitions include:

- Fault – a fracture or zone of closely associated fractures along which rocks on one side have been displaced with respect to those on the other side;
- Fault Zone – a zone of related faults, which commonly are braided and sub parallel, but may be branching and divergent. A fault zone has a significant width (with respect to the scale at

which the fault is being considered, portrayed, or investigated), ranging from a few feet to several miles;

- Sufficiently Active Fault – a fault that has evidence of Holocene surface displacement along one or more of its segments or branches (last 11,000 years); and
- Well-Defined Fault – a fault whose trace is clearly detectable by a trained geologist as a physical feature at or just below the ground surface. The geologist should be able to locate the fault in the field with sufficient precision and confidence to indicate that the required site-specific investigations would meet with some success.

“Sufficiently Active” and “Well Defined” are the two criteria used by the State to determine if a fault should be zoned under the Alquist-Priolo Act. If CGS determines a fault to be active, then it is typically incorporated into a Special Studies Zone in accordance with the Alquist-Priolo Earthquake Hazard Act. Alquist-Priolo Special Study Zones are usually one-quarter mile or less in width and require site-specific evaluation of fault location and require a structure setback if the fault is found traversing a Project site.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act, passed in 1990, addresses non-surface fault rupture earthquake hazards, including liquefaction and seismically-induced landslides. Under the Act, seismic hazard zones are to be mapped by the State Geologist to assist local governments in land use planning. The program and actions mandated by the Seismic Hazards Mapping Act closely resemble those of the Alquist-Priolo Earthquake Fault Zoning Act (which addresses only surface fault-rupture hazards) and are outlined below:

The State Geologist is required to delineate the various “seismic hazard zones.”

- Cities and Counties, or other local permitting authority, must regulate certain development “projects” within the zones. They must withhold the development permits for a site within a zone until the geologic and soil conditions of the site are investigated and appropriate mitigation measures, if any, are incorporated into development plans.
- The State Mining and Geology Board provides additional regulations, policies, and criteria, to guide cities and counties in their implementation of the law. The Board also provides guidelines for preparation of the Seismic Hazard Zone Maps and for evaluating and mitigating seismic hazards.
- Sellers (and their agents) of real property within a mapped hazard zone must disclose that the property lies within such a zone at the time of sale.

Division of Mines and Geology

The California Division of Mines and Geology (DMG) operates within the Department of Conservation. The DMG is responsible for assisting in the utilization of mineral deposits and the identification of geological hazards.

State Geological Survey

Similar to the DMG, the CGS is responsible for assisting in the identification and proper utilization of mineral deposits, as well as the identification of fault locations and other geological hazards.

LOCAL

City of Irwindale General Plan

POLICIES: PUBLIC SAFETY

- **Policy 1.** The City of Irwindale will continue to review and if necessary, update its comprehensive emergency preparedness plan and hazard mitigation plan.
- **Policy 2.** The City of Irwindale, at a minimum, will maintain current emergency response standards.
- **Policy 3.** The City of Irwindale will work to reduce potential hazards through conscientious land use planning. The City shall require liquefaction assessment studies as part of development proposals in areas identified by the California Geological Survey as susceptible to liquefaction. The studies shall be conducted in accordance with the California Geological Survey's Special Publication 117; Guidelines for Evaluating and Mitigating Seismic Hazards in California, and the Southern California Earthquake Center's (1999) procedures to implement Special Publication 117 – Liquefaction Hazards (both documents are incorporated herein by reference). On sites shown to be susceptible to liquefaction, the City shall require the implementation of mitigation measures designed to reduce this hazard to an acceptable level. The City shall require a State certified engineering geologist or registered civil engineer; have competence in the field of seismic hazard evaluation and mitigation, to review the study at the Applicant's expense. The review shall determine the adequacy of the hazard evaluation and proposed mitigation measures and determine whether the requirements of State law are satisfied, as described in Special Publication 117 by the California Geological Survey.

3.3.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on geology and soils if it will:

- Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map, issued by the State Geologist for the area or based on other substantial evidence of a known fault. Refer to Division of Mines and Geology Special Publication 42; or
 - Strong seismic ground shaking; or
 - Seismic-related ground failure, including liquefaction; or

- Landslides;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse; or
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property.

IMPACTS AND MITIGATION MEASURES

Impact 3.3-1: The proposed Project may expose people or structures to potential substantial adverse effects involving strong seismic ground shaking or seismic related ground failure. (Less than Significant)

The U.S. Geological Survey identifies potential seismic sources within 32.2 kilometers (20 miles) of the Project site. The most significant active fault traces in the vicinity of the Project site are along the San Andreas, located approximately 18 miles northeast, the Newport-Inglewood and Whittier-Elsinore fault zones, located approximately 9.3 miles to the southwest, and the Raymond fault, located approximately 9.8 miles to the west. Other faults that could potentially affect the proposed project include the east Montebello fault, the Chino fault, the Cucamonga fault, and the San Gabriel fault. Figure 3.3-2 provides a map of known area faults.

Due to the site's location within the seismically active region of southern California, the Project site is expected to experience seismic ground shaking during the life of the proposed Project. Seismic activity could come from a known active fault such as the San Andreas fault, or any number of other faults in the region. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. As discussed under Section 3.3.2, Regulatory Setting, the California Building Code, Title 24, Part 2, Chapter 16 addresses structural design and Chapter 18 addresses soils and foundations. Collectively, these state requirements, which have been adopted by the City of Irwindale, include design standards and requirements that are intended to minimize impacts to structures in seismically active areas of California. Section 1613 specifically provides structural design standards for earthquake loads. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Additionally, the City of Irwindale has incorporated numerous policies within the City's General Plan relative to seismicity to ensure the health and safety of all people. Design in accordance with these policies would reduce any potential impact to a less than significant level. Because all development in the Project site must be designed in conformance with these state and local standards and policies, any potential impact would be considered **less than significant**.

Impact 3.3-2: The proposed Project has the potential to be located on a geologic unit or soil that is unstable, or that would become unstable as a result of Project implementation, and potentially result in landslide, lateral spreading, subsidence, liquefaction or collapse (Less than Significant with Mitigation)

LIQUEFACTION

Soil data suggests there is a moderate potential for liquefaction of the underlying soils within the Project site. However, as a result of previous remediation, grading and compaction efforts, the potential for liquefaction on the Project site is considered low. The City of Irwindale 2020 General Plan Safety Element requires sites susceptible to liquefaction to implement mitigation measures to reduce liquefaction hazards to an acceptable, less than significant level. With implementation of Mitigation Measure 3.3-1 potential liquefaction impacts would be reduced to a less than significant level.

LATERAL SPREADING

Since the potential for liquefaction is low due to previous remediation, grading and compaction efforts, the potential for lateral spreading is also considered to be low. As stated, sites susceptible to liquefaction conditions would be required to implement mitigation measures to reduce the potential hazard associated with development. Thus, implementation of Mitigation Measure 3.3-1 would ensure potential impacts associated with lateral spreading are reduced to a less than significant level.

LANDSLIDES

The Project site is relatively flat as a result of remediation and engineering efforts. According to geologic site reviews, and site grading and compaction efforts, there are no slopes or topographical features within the area subject to landslides. The potential for landslides on the Project site is considered low.

COLLAPSIBLE SOILS

Since the potential for liquefaction is low due to previous remediation, grading and compaction efforts, the potential for collapsible soils is also considered to be low. However, as stated, sites susceptible to liquefaction conditions would be required to implement mitigation measures to reduce the potential hazard associated with development. Thus, implementation of Mitigation Measure 3.3-1 would ensure potential impacts associated with collapsible soils are reduced to a less than significant level.

SUBSIDENCE

Subsidence has not been identified in the Irwindale General Plan as an issue in the Irwindale area.

CONCLUSION

Soil analysis and management plans have been prepared for the Project site over the last 11 years, including an Excavation Management Plan for the Manning Pit – North Portion of Manning Pit, developed by The Source Group (2009) and a Grading Progress Report, developed by Tetra Tech BAS Geosciences (2015). The Excavation Management Plan was prepared in order to comply with the requirements of both the RWQCB and the SCAQMD. The Project site does not have a significant risk of becoming unstable as a result landslide, subsidence, or soil collapse. There is a potential for liquefaction, liquefaction induced settlement, and lateral spreading, of the underlying soils. However, through the implementation of Mitigation Measure 3.3-1, the proposed Project would have a **less than significant** impact relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.3-1: *Prior to any earthmoving activities, a certified geotechnical engineer, or equivalent, shall be retained to perform a final geotechnical evaluation of the soils at a design-level as required by the requirements of the California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 related to expansive soils and other soil conditions. The evaluation shall be prepared in accordance with the standards and requirements outlined in California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation shall include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures, including threats from liquefaction, liquefaction induced settlement, or lateral spreading. The grading and improvement plans, as well as the storm drainage and building plans for the Project shall be designed in accordance with the recommendations provided in the final geotechnical evaluation.*

Impact 3.3-3: Potential for expansive soils to create substantial risks to life or property. (Less than Significant with Mitigation)

Although engineered artificial fills occur within the Project Site, seismic hazard zoning for expansive soils of the Project site is governed by the expansive susceptibility of natural soils underlying the fill sites. According to the NRCS Web Soil Survey, the soils in the Project site have a low shrink-swell potential. The NRCS Web Soil Survey indicates that near surface soils within the Project site have low plasticity, and the expansion potential of the soils would respond to fluctuations in moisture content.

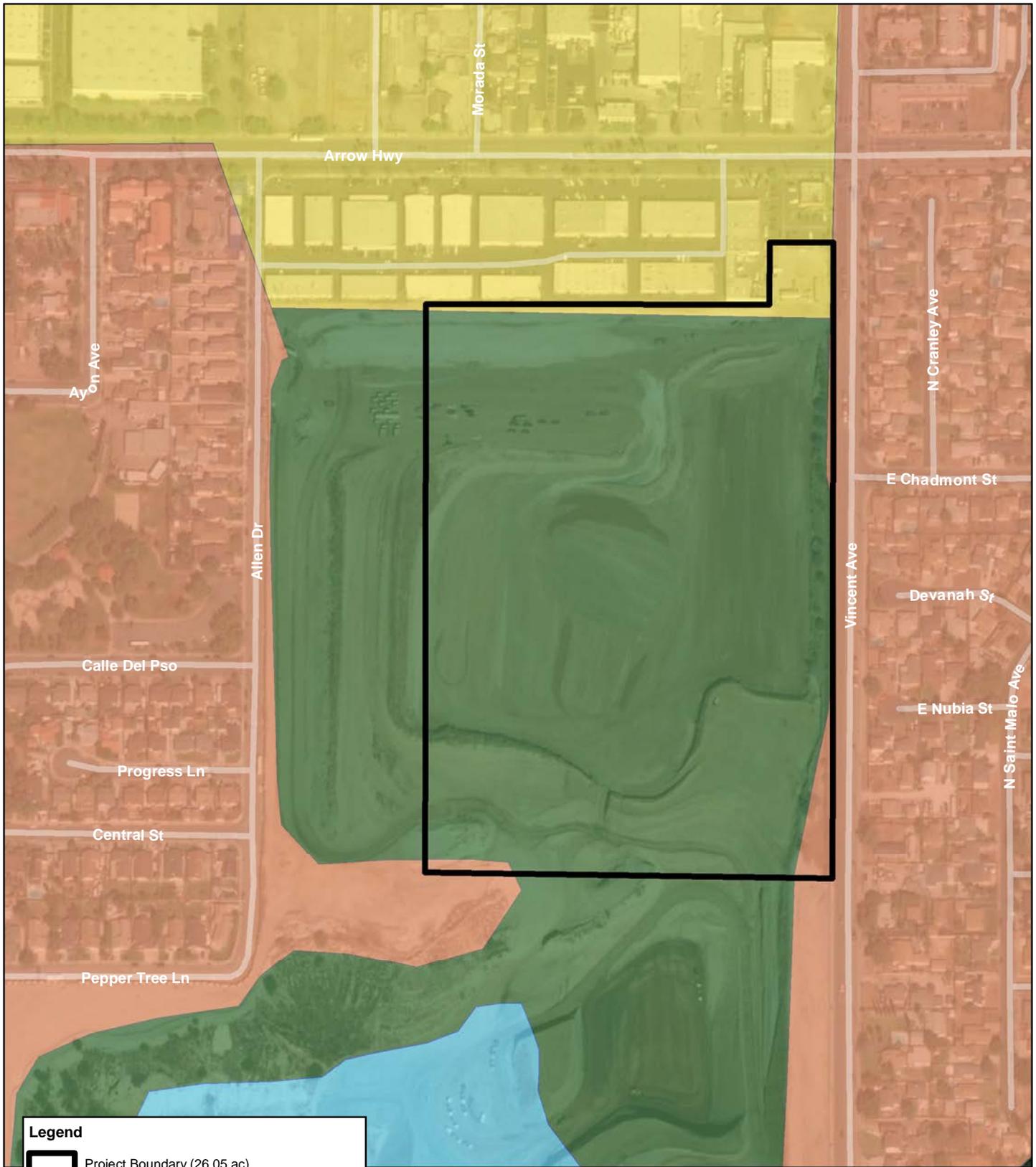
The California Building Code Title 24, Part 2, Chapter 18, Section 1803.1.1.2 requires specific geotechnical evaluation when a preliminary geotechnical evaluation determines that expansive or other special soil conditions are present, which, if not corrected, would lead to structural defects. Collectively, these state requirements, which have been adopted by the City of Irwindale, include design standards and requirements that are intended to minimize impacts to structures in seismically active areas of California. Section 1613 specifically provides structural design standards for earthquake loads. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section

1613. Design in accordance with these standards and policies would reduce any potential impact to the extent feasible.

Mitigation Measure 3.3-1, presented above, provides the requirement for a final geotechnical evaluation in accordance with the standards and requirements outlined in the California Building Code, Title 24, Part 2, Chapter 16, Chapter 17, and Chapter 18, which addresses structural design, tests and inspections, and soils and foundation standards. The final geotechnical evaluation would include design recommendations to ensure that soil conditions do not pose a threat to the health and safety of people or structures. The grading and improvement plans, as well as the storm drainage and building plans, are required to be designed in accordance with the recommendations provided in the final geotechnical evaluation. With the implementation of Mitigation Measure 3.3-1 (requiring a final Geotechnical Evaluation, and site recommendations) the proposed Project would have a **less than significant** impact relative to this topic.

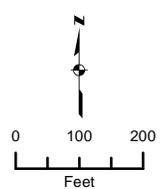
MITIGATION MEASURE(S)

*Implement **Mitigation Measure 3.3-1.***



Legend

- Project Boundary (26.05 ac)
- Urban land-Soboba complex, 0-5% slopes (0.67 acres on site)
- Urban land, commercial-Soboba complex, 0-5% slopes (0.87 acres on site)
- Pits and Quarries (24.51 acres on site)
- Water

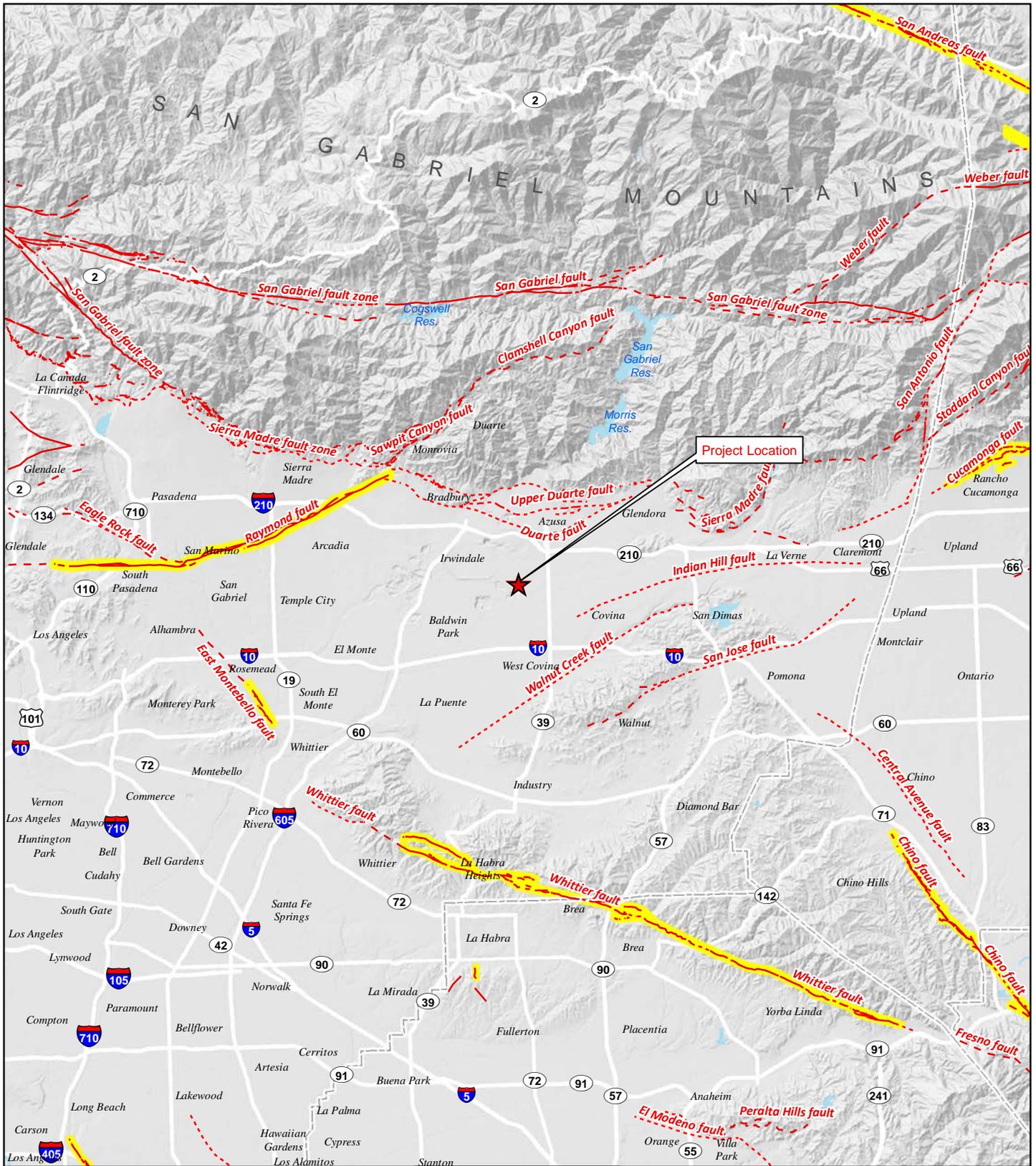


CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 3.3-1. Project Site Soils

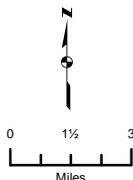
Source: U.S. Department of Agriculture, Natural Resource Conservation Service, 20170912. Soil Survey Geographic (SSURGO) database for Los Angeles County, Southeastern Part, Los Angeles County; ArcGIS Online World Imagery Map Service. Map date: May 8, 2018. Revised May 15, 2018.

This page left intentionally blank.



Legend

- Quaternary Faults
- Well-constrained
- - - Moderately-constrained
- · · Inferred
- █ Alquist-Priolo Fault Zones



**CITY OF IRWINDALE
5175 VINCENT AVENUE**

Figure 3.3-2. Earthquake Fault Map

Data sources: US Geologic Survey; CalAtlas; Open Streets. Map date: May 9, 2018.

This page left intentionally blank.

The purpose of this section is to describe regional greenhouse gas (GHG) emissions, climate change, and energy conservation impacts that could result from implementation of the proposed Project. This section provides a background discussion of GHG and climate change linkages and effects of global climate change. This section also provides background discussion on the energy conservation components of the proposed Project. This section is organized with an existing setting, regulatory setting, approach/methodology, and impact analysis. The analysis and discussion of the GHG, climate change, and energy impacts in this section focuses on the proposed Project's consistency with local, regional, statewide, and federal climate change planning and energy conservation efforts and discusses the context of these planning efforts as they relate to the proposed Project. Disclosures of the proposed Project's total estimated energy usage and GHG emissions are provided. This section is based in part on the following: Air Quality and Land Use Handbook: A Community Health Perspective (California Air Resources Board, 2005), Air Quality Analysis Handbook (SCAQMD, 1993), Final 2016 AQMP (SCAQMD, 2017), 2016–2040 RTP/SCS (SCAG, 2016), CalEEMod (v.2016.3.2) (CAPCOA, 2013), Vincent Avenue Industrial Building Traffic Impact Analysis (Ganddini Group, 2020), and South Coast Air Quality Management District (SCAQMD) Rules and regulations.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: CARB (March 10, 2020) and SCAQMD (March 10, 2020). Full comments received are included in Appendix A.

3.4.1 ENVIRONMENTAL SETTING

GREENHOUSE GASES AND CLIMATE CHANGE LINKAGES

Various gases in the Earth's atmosphere, classified as atmospheric GHGs, play a critical role in determining the Earth's surface temperature. Solar radiation enters Earth's atmosphere from space, and a portion of the radiation is absorbed by the Earth's surface. The Earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation.

Naturally occurring GHGs include water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and ozone (O₃). Several classes of halogenated substances that contain fluorine, chlorine, or bromine are also GHGs, but they are, for the most part, solely a product of industrial activities. Although the direct GHGs CO₂, CH₄, and N₂O occur naturally in the atmosphere, human activities have changed their atmospheric concentrations. From the pre-industrial era (i.e., ending about 1750) to 2011, concentrations of these three GHGs have increased globally by 40, 150, and 20 percent, respectively (IPCC, 2013).

GHGs, which are transparent to solar radiation, are effective in absorbing infrared radiation. As a result, this radiation that otherwise would have escaped back into space is now retained, resulting in a warming of the atmosphere. This phenomenon is known as the greenhouse effect. Among the prominent GHGs contributing to the greenhouse effect are carbon dioxide (CO₂), methane (CH₄), ozone (O₃), water vapor, nitrous oxide (N₂O), and chlorofluorocarbons (CFCs).

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. In California, the transportation sector is the largest emitter of GHGs, followed by the industrial and electricity generation sectors (California Energy Commission, 2020).

As the name implies, global climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants, which are pollutants of regional and local concern, respectively. California produced 440 million gross metric tons of carbon dioxide equivalents (MMT CO_2e) in 2016 (California Air Resources Board, 2018a). By 2020, under business as usual conditions, California is projected to produce 509 MMT CO_2e per year (California Air Resources Board, 2014a).

Carbon dioxide equivalents are a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential of a GHG, is also dependent on the lifetime, or persistence, of the gas molecule in the atmosphere. Expressing GHG emissions in carbon dioxide equivalents takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

Consumption of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2017, accounting for 41% of total GHG emissions in the state. This category was followed by the industrial sector (24%), the electricity generation sector (including both in-state and out-of-state sources) (15%), the agriculture sector (8%), the residential energy consumption sector (7%), and the commercial energy consumption sector (5%) (California Air Resources Board, 2019).

EFFECTS OF GLOBAL CLIMATE CHANGE

The effects of increasing global temperature are far-reaching and extremely difficult to quantify. The scientific community continues to study the effects of global climate change. In general, increases in the ambient global temperature as a result of increased GHGs are anticipated to result in rising sea levels, which could threaten coastal areas through accelerated coastal erosion, threats to levees and inland water systems and disruption to coastal wetlands and habitat.

If the temperature of the ocean warms, it is anticipated that the winter snow season would be shortened. Snowpack in the Sierra Nevada provides both water supply (runoff) and storage (within the snowpack before melting), which is a major source of supply for the State. The snowpack portion of the supply could potentially decline by 50% to 75% by the end of the 21st century (National Resources Defense Council, 2014). This phenomenon could lead to significant challenges securing an adequate water supply for a growing state population. Further, the increased ocean temperature could result in increased moisture flux into the State; however, since this would likely increasingly come in the form of rain rather than snow in the high elevations, increased precipitation could lead to increased potential and severity of flood events, placing more pressure on California's levee/flood control system.

Sea level has risen approximately seven inches during the last century and it is predicted to rise an additional 22 to 35 inches by 2100, depending on the future GHG emissions levels (California Environmental Protection Agency, 2010). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion, and disruption of wetlands. As the existing climate throughout California changes over time, mass migration of species, or failure of species to migrate in time to adapt to the changed in climate, could also result. Under the emissions scenarios of the Climate Scenarios report (California Environmental Protection Agency, 2010), the impacts of global warming in California are anticipated to include, but are not limited to, the following.

Public Health

Higher temperatures are expected to increase the frequency, duration, and intensity of conditions conducive to air pollution formation. For example, days with weather conducive to ozone formation are projected to increase from 25% to 35% under the lower warming range and from 75% to 85% under the medium warming range. In addition, if global background ozone levels increase as predicted in some scenarios, it may become impossible to meet local air quality standards. Air quality could be further compromised by increases in wildfires, which emit fine particulate matter that can travel long distances depending on wind conditions. The Climate Scenarios report indicates that large wildfires could become up to 55% more frequent if GHG emissions are not significantly reduced.

In addition, under the higher warming scenario, there could be up to 100 more days per year with temperatures above 90°F in Los Angeles and 95°F in Sacramento by 2100. This is a large increase over historical patterns and approximately twice the increase projected if temperatures remain within or below the lower warming range. Rising temperatures will increase the risk of death from dehydration, heat stroke/exhaustion, heart attack, stroke, and respiratory distress caused by extreme heat.

Water Resources

A vast network of man-made reservoirs and aqueducts capture and transport water throughout the State from northern California rivers and the Colorado River. The current distribution system relies on Sierra Nevada snow pack to supply water during the dry spring and summer months. Rising temperatures, potentially compounded by decreases in precipitation, could severely reduce spring snow pack, increasing the risk of summer water shortages.

The State's water supplies are also at risk from rising sea levels. An influx of saltwater would degrade California's estuaries, wetlands, and groundwater aquifers. Saltwater intrusion caused by rising sea levels is a major threat to the quality and reliability of water within the southern edge of the Sacramento/San Joaquin River Delta, a major State fresh water supply. Global warming is also projected to seriously affect agricultural areas, with California farmers projected to lose as much as 25% of the water supply they need; decrease the potential for hydropower production within the State (although the effects on hydropower are uncertain); and seriously harm winter tourism. Under the lower warming range, the snow dependent winter recreational season at lower elevations could be reduced by as much as one month. If temperatures reach the higher warming range and

precipitation declines, there might be many years with insufficient snow for skiing, snowboarding, and other snow dependent recreational activities.

If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snow pack by as much as 70% to 90%. Under the lower warming scenario, snow pack losses are expected to be only half as large as those expected if temperatures were to rise to the higher warming range. The amount of snow pack that will be lost depends in part on future precipitation patterns, the projections for which remain uncertain. However, even under the wetter climate projections, the loss of snow pack would pose challenges to water managers, hamper hydropower generation, and nearly eliminate all skiing and other snow-related recreational activities.

Agriculture

Increased GHG emissions are expected to cause widespread changes to the agriculture industry reducing the quantity and quality of agricultural products statewide. Although higher carbon dioxide levels can stimulate plant production and increase plant water-use efficiency, California's farmers will face greater water demand for crops and a less reliable water supply as temperatures rise.

Plant growth tends to be slow at low temperatures, increasing with rising temperatures up to a threshold. However, faster growth can result in less-than-optimal development for many crops, so rising temperatures are likely to worsen the quantity and quality of yield for a number of California's agricultural products. Products likely to be most affected include wine grapes, fruits and nuts, and milk.

Crop growth and development will be affected, as will the intensity and frequency of pest and disease outbreaks. Rising temperatures will likely aggravate ozone pollution, which makes plants more susceptible to disease and pests and interferes with plant growth.

In addition, continued global warming will likely shift the ranges of existing invasive plants and weeds and alter competition patterns with native plants. Range expansion is expected in many species while range contractions are less likely in rapidly evolving species with significant populations already established. Should range contractions occur, it is likely that new or different weed species will fill the emerging gaps. Continued global warming is also likely to alter the abundance and types of many pests, lengthen pests' breeding season, and increase pathogen growth rates.

Forests and Landscapes

Global warming is expected to alter the distribution and character of natural vegetation thereby resulting in a possible increased risk of large wildfires. If temperatures rise into the medium warming range, the risk of large wildfires in California could increase by as much as 55%, which is almost twice the increase expected if temperatures stay in the lower warming range. However, since wildfire risk is determined by a combination of factors, including precipitation, winds, temperature, and landscape and vegetation conditions, future risks will not be uniform throughout the State. For example, if precipitation increases as temperatures rise, wildfires in southern California are

expected to increase by approximately 30% toward the end of the century. In contrast, precipitation decreases could increase wildfires in northern California by up to 90%.

Moreover, continued global warming will alter natural ecosystems and biological diversity within the State. For example, alpine and sub-alpine ecosystems are expected to decline by as much as 60% to 80% by the end of the century as a result of increasing temperatures. The productivity of the State's forests is also expected to decrease as a result of global warming.

Rising Sea Levels

Rising sea levels, more intense coastal storms, and warmer water temperatures will increasingly threaten the State's coastal regions. Under the higher warming scenario, sea level is anticipated to rise 22 to 35 inches by 2100. Elevations of this magnitude would inundate coastal areas with saltwater, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.

ENERGY CONSUMPTION

Energy in California is consumed from a wide variety of sources. Fossil fuels (including gasoline and diesel fuel, natural gas, and energy used to generate electricity) are the most widely used form of energy in the State. However, renewable sources of energy (such as solar and wind) are growing in proportion to California's overall energy mix. A large driver of renewable sources of energy in California is the State's current Renewable Portfolio Standard (RPS), which requires the State to derive at least 33% of electricity generated from renewable resources by 2020, 60 percent by 2030, and to achieve zero-carbon emissions by 2045 (as passed in September 2018, under AB 100).

Overall, in 2018, California's per capita energy usage was ranked fourth-lowest in the nation (U.S. EIA, 2020). California's per capita rate of energy usage has remained relatively constant since the 1970s. Many State regulations since the 1970s, including new building energy efficiency standards, vehicle fleet efficiency measures, as well as growing public awareness, have helped to keep per capita energy usage in the State at lower levels.

The consumption of non-renewable energy (i.e. fossil fuels) associated with the operation of passenger, public transit, and commercial vehicles, results in GHG emissions that contribute to global climate change. Alternative fuels such as natural gas, ethanol, and electricity (unless derived from solar, wind, nuclear, or other energy sources that do not produce carbon emissions) also result in GHG emissions and contribute to global climate change.

Electricity Consumption

California relies on a regional power system composed of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. In 2016, more than one-fourth of the electricity supply came from facilities outside of the State. Much of the power delivered to California from states in the Pacific Northwest was generated by wind. States in the Southwest delivered power generated at coal-fired power plants, at natural gas-fired power plants, and from nuclear generating stations (U.S. EIA, 2017a). In 2016, approximately 50 percent of California's utility-scale net electricity generation was fueled by natural gas. In addition, about 25 percent of the State's utility-

scale net electricity generation came from non-hydroelectric renewable technologies, such as solar, wind, geothermal, and biomass. Another 14 percent of the State's utility-scale net electricity generation came from hydroelectric generation, and nuclear energy powered an additional 11 percent. The amount of electricity generated from coal was negligible (approximately 0.2 percent) (U.S. EIA, 2017). The percentage of renewable resources as a proportion of California's overall energy portfolio is increasing over time, as directed by the State's Renewable Portfolio Standard (RPS).

According to the California Energy Commission (CEC), total statewide electricity consumption increased from 166,979 gigawatt-hours (GWh) in 1980 to 228,038 GWh in 1990, which is an estimated annual growth rate of 3.66 percent. The statewide electricity consumption in 1997 was 246,225 GWh, reflecting an annual growth rate of 1.14 percent between 1990 and 1997 (U.S. EIA, 2017). Statewide consumption was 274,985 GWh in 2010, an annual growth rate of 0.9 percent between 1997 and 2010. In 2018, electricity consumption in Los Angeles County was 68,486 GWh (California Energy Commission, 2018).

Oil

The primary energy source for the United States is oil, which is refined to produce fuels like gasoline, diesel, and jet fuel. Oil is a finite, nonrenewable energy source. World consumption of petroleum products has grown steadily in the last several decades. As of 2016, world consumption of oil had reached 96 million barrels per day. The United States, with approximately five percent of the world's population, accounts for approximately 19 percent of world oil consumption, or approximately 18.6 million barrels per day (International Energy Agency, 2018). The transportation sector relies heavily on oil. In California, petroleum-based fuels currently provide approximately 96 percent of the State's transportation energy needs.

Natural Gas/Propane

The State produces approximately 12 percent of its natural gas, while obtaining 22 percent from Canada and 65 percent from the Rockies and the Southwest (California Energy Commission, 2012). In 2006, California produced 325.6 billion cubic feet of natural gas (California Energy Commission, 2012). Southern California Gas (SoCalGas) is the largest publicly-owned utility in California and provides natural gas for residential, industrial, and agency consumers within the Los Angeles County area, including the City of Irwindale. In 2018, natural gas consumption in Los Angeles County was 2,921 million therms (California Energy Commission, 2018).

3.4.2 REGULATORY SETTING

FEDERAL

Federal Clean Air Act

The Federal Clean Air Act (FCAA) was first signed into law in 1970. In 1977, and again in 1990, the law was substantially amended. The FCAA is the foundation for a national air pollution control effort, and it is composed of the following basic elements: NAAQS for criteria air pollutants, hazardous air

pollutant standards, State attainment plans, National Ambient Air Quality Standards (NAAQS) motor vehicle emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone protection, and enforcement provisions.

The EPA is responsible for administering the FCAA. The FCAA requires the EPA to set NAAQS for several problem air pollutants based on human health and welfare criteria. Two types of NAAQS were established: primary standards, which protect public health, and secondary standards, which protect the public welfare from non-health-related adverse effects such as visibility reduction.

On April 2, 2007, in the court case of *Massachusetts et al. vs. the USEPA et al.* (549 U.S. 497), the U.S. Supreme Court found that GHGs are air pollutants covered by the federal Clean Air Act (42 USC §§ 7401-7671q). The Supreme Court held that the Administrator of the United States Environmental Protection Agency must determine whether or not emissions of GHGs from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. In making these decisions, the Administrator is required to follow the language of Section 202(a) of the Clean Air Act. On December 7, 2009, the Administrator signed two distinct findings regarding GHGs under Section 202(a) of the Clean Air Act:

- **Endangerment Finding:** The Administrator finds that the current and projected concentrations of the six key well-mixed GHGs (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) in the atmosphere threaten the public health and welfare of current and future generations.
- **Cause or Contribute Finding:** The Administrator finds that the combined emissions of these well-mixed GHGs from new motor vehicles and new motor vehicle engines contribute to the GHG pollution, which threatens public health and welfare.

These findings do not themselves impose any requirements on industry or other entities. However, this action was a prerequisite for implementing GHG emission standards for vehicles. In collaboration with the National Highway Traffic Safety Administration (NHTSA) and CARB, the USEPA developed emission standards for light-duty vehicles (2012-2025 model years), and heavy-duty vehicles (2014-2027 model years).

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the U.S. would meet certain fuel economy goals. Through this Act, Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the Act, the National Highway Traffic and Safety Administration, which is part of the U.S. Department of Transportation (USDOT), is responsible for establishing additional vehicle standards and for revising existing standards.

Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon (mpg). Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross

vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined on the basis of each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the U.S. The Corporate Average Fuel Economy (CAFE) program, which is administered by the EPA, was created to determine vehicle manufacturers' compliance with the fuel economy standards. The EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the USDOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992 (EPAct)

The Energy Policy Act of 1992 (EPAct) was passed to reduce the country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, State, and local government and private fleets to purchase a percentage of light duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are included in EPAct. Federal tax deductions will be allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for a clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

Federal Climate Change Policy

According to the EPA, "the United States government has established a comprehensive policy to address climate change" that includes slowing the growth of emissions; strengthening science, technology, and institutions; and enhancing international cooperation. To implement this policy, "the Federal government is using voluntary and incentive-based programs to reduce emissions and has established programs to promote climate technology and science." The EPA administers multiple programs that encourage voluntary GHG reductions, including "ENERGY STAR", "Climate Leaders", and Methane Voluntary Programs. However, as of this writing, there are no adopted federal plans, policies, regulations, or laws directly regulating GHG emissions.

Mandatory Greenhouse Gas Reporting Rule

On September 22, 2009, EPA issued a final rule for mandatory reporting of GHGs from large GHG emissions sources in the United States. In general, this national reporting requirement will provide EPA with accurate and timely GHG emissions data from facilities that emit 25,000 metric tons or more of CO₂ per year. This publicly available data will allow the reporters to track their own emissions, compare them to similar facilities, and aid in identifying cost effective opportunities to reduce emissions in the future. Reporting is at the facility level, except that certain suppliers of fossil

fuels and industrial GHGs along with vehicle and engine manufacturers will report at the corporate level. An estimated 85% of the total U.S. GHG emissions, from approximately 10,000 facilities, are covered by this final rule.

STATE

The California Legislature has enacted a series of statutes in recent years addressing the need to reduce GHG emissions all across the State. These statutes can be categorized into four broad categories: (i) statutes setting numerical statewide targets for GHG reductions, and authorizing CARB to enact regulations to achieve such targets; (ii) statutes setting separate targets for increasing the use of renewable energy for the generation of electricity throughout the State; (iii) statutes addressing the carbon intensity of vehicle fuels, which prompted the adoption of regulations by CARB; and (iv) statutes intended to facilitate land use planning consistent with statewide climate objectives. The discussion below will address each of these key sets of statutes, as well as CARB “Scoping Plans” intended to achieve GHG reductions under the first set of statutes and recent building code requirements intended to reduce energy consumption.

Statutes Setting Statewide GHG Reduction Targets

ASSEMBLY BILL 32 (GLOBAL WARMING SOLUTIONS ACT)

In September 2006, the California State Legislature enacted the California Global Warming Solutions Act of 2006 (Health & Saf. Code, § 38500 et seq.), also known as Assembly Bill (AB) 32 (Stats. 2006, ch. 488). AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that was phased in starting in 2012. To effectively implement the cap, AB 32 directs the California Air Resources Board (CARB) to develop and implement regulations to reduce statewide GHG emissions from stationary sources.

SENATE BILL 32

Effective January 1, 2017, SB 32 (Stats. 2016, ch. 249) added a new section 38566 to the Health and Safety Code. It provides that “[i]n adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by [Division 25.5 of the Health and Safety Code], [CARB] shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030.” In other words, SB 32 requires California, by the year 2030, to reduce its statewide GHG emissions so that they are 40 percent below those that occurred in 1990.

Between AB 32 (2006) and SB 32 (2016), the Legislature has codified some of the ambitious GHG reduction targets included within certain high-profile Executive Orders issued by the last two Governors. The 2020 statewide GHG reduction target in AB 32 was consistent with the second of three statewide emissions reduction targets set forth in former Governor Arnold Schwarzenegger’s 2005 Executive Order known as S-3-05, which is expressly mentioned in AB 32. (See Health & Saf. Code, § 38501, subd. (i).) That Executive Branch document included the following GHG emission

reduction targets: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; by 2050, reduce GHG emissions to 80 percent below 1990 levels. To meet the targets, the Governor directed several State agencies to cooperate in the development of a climate action plan. The Secretary of Cal-EPA leads the Climate Action Team, whose goal is to implement global warming emission reduction programs identified in the Climate Action Plan and to report on the progress made toward meeting the emission reduction targets established in the executive order.

In April 2015, Governor Brown issued another Executive Order, B-30-15, which created a “new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 is established in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050.” SB 32 codified this target.

In September 2018, the Governor issued Executive Order B-55-18, which established a statewide goal to “achieve carbon neutrality as soon as possible, and no later than 2045, and maintain and achieve negative emissions thereafter.” The order directs the CARB to work with other State agencies to identify and recommend measures to achieve those goals.

Notably, the Legislature has not yet set a 2045 or 2050 target in the manner done for 2020 and 2030 through AB 32 and SB 32, though references to a 2050 target can be found in statutes outside the Health and Safety Code. In the 2015 legislative session, the Legislature passed Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) (discussed in more detail below). This legislation added to the Public Utilities Code language that essentially puts into statute the 2050 GHG reduction target already identified in Executive Order S-3-05, albeit in the limited context of new state policies (i) increasing the overall share of electricity that must be produced through renewable energy sources and (ii) directing certain State agencies to begin planning for the widespread electrification of the California vehicle fleet. Section 740.12(a)(1)(D) of the Public Utilities Code now states that “[t]he Legislature finds and declares [that] ... [r]educing emissions of [GHGs] to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050 will require widespread transportation electrification.” Furthermore, Section 740.12(b) now states that the California Public Utilities Commission (PUC), in consultation with CARB and the California Energy Commission (CEC), must “direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, ... and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050.”

Statutes Setting Targets for the Use of Renewable Energy for the Generation of Electricity

CALIFORNIA RENEWABLES PORTFOLIO STANDARD

In September 2002, the Legislature enacted Senate Bill 1078 (Stats. 2002, ch. 516), which established the Renewables Portfolio Standard program, requiring retail sellers of electricity, including electrical corporations, community choice aggregators, and electric service providers, to purchase a specified minimum percentage of electricity generated by eligible renewable energy resources such as wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas. (See Pub.

Utilities Code, § 399.11 et seq. [subsequently amended].) The legislation set a target by which 20 percent of the State's electricity would be generated by renewable sources. (Pub. Utility Code, § 399.11, subd (a) [subsequently amended].) As described in the Legislative Counsel's Digest, Senate Bill 1078 required "[e]ach electrical corporation ... to increase its total procurement of eligible renewable energy resources by at least one percent per year so that 20 percent of its retail sales are procured from eligible renewable energy resources. If an electrical corporation fails to procure sufficient eligible renewable energy resources in a given year to meet an annual target, the electrical corporation would be required to procure additional eligible renewable resources in subsequent years to compensate for the shortfall, if funds are made available as described. An electrical corporation with at least 20 percent of retail sales procured from eligible renewable energy resources in any year would not be required to increase its procurement in the following year."

In September 2006, the Legislature enacted Senate Bill 107 (Stats. 2006, ch. 464), which modified the Renewables Portfolio Standard to require that at least 20 percent of electricity retail sales be served by renewable energy resources by year 2010. (Pub. Utility Code, § 399.11, subd (a) [subsequently amended].)

In April 2011, the Legislature, in a special session, enacted Senate Bill X1-2 (Stats. 2011, 1st Ex. Sess., ch. 1), which set even more aggressive statutory targets for renewable electricity, culminating in the requirement that 33 percent of the State's electricity come from renewables by 2020. This legislation applies to all electricity retailers in the State, including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must meet renewable energy goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and 33 percent by the end of 2020. (See Pub. Utility Code, § 399.11 et seq. [subsequently amended].)

In 2015, the Legislature enacted Senate Bill 350 (SB 350) (Stats. 2015, ch. 547) (discussed above). It increases the Renewable Portfolio Standard to require 50 percent of electricity generated to be from renewables by 2030. (Pub. Utility Code, § 399.11, subd (a); see also § 399.30, subd. (c)(2).) Of equal significance, Senate Bill 350 also embodies a policy encouraging a substantial increase in the use of electric vehicles. As noted earlier, Section 740.12(b) of the Public Utilities Code now states that the PUC, in consultation with CARB and the CEC, must "direct electrical corporations to file applications for programs and investments to accelerate widespread transportation electrification to reduce dependence on petroleum, meet air quality standards, ... and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050."

In March 2012, Governor Brown issued an Executive Order, B-16-12, which embodied a similar vision of a future in which zero-emission vehicles (ZEV) will play a big part in helping the State meet its GHG reduction targets. Executive Order B-16-12 directed State government to accelerate the market for ZEVs in California through fleet replacement and electric vehicle infrastructure. The Executive Order set the following targets:

- By 2015, all major cities in California will have adequate infrastructure and be "ZEV ready";
- By 2020, the State will have established adequate infrastructure to support 1 million ZEVs in California;

- By 2025, there will be 1.5 million ZEVs on the road in California; and
- By 2050, virtually all personal transportation in the State will be based on ZEVs, and GHG emissions from the transportation sector will be reduced by 80 percent below 1990 levels.

In 2018, the Legislature enacted, and the Governor signed, Senate Bill 100 (Stats. 2018, ch. 312), which revises the above-described deadlines and targets so that the State will have to achieve a 50% renewable resources target by December 31, 2026 (instead of by 2030) and achieve a 60% target by December 31, 2030. The legislation also establishes a State policy that eligible renewable energy resources and zero-carbon resources supply 100% of retail sales of electricity to California end-use customers and 100% of electricity procured to serve all State agencies by December 31, 2045.

In summary, California has set a statutory goal of requiring that, by the year 2030, 60 percent of the electricity generated in California should be from renewable sources, with increased generation capacity intended to sufficiently allow the mass conversion of the statewide vehicle fleet from petroleum-fueled vehicles to electrical vehicles and/or other ZEVs. By 2045, all electricity must come from renewable resources and other carbon-free resources. Former Governor Brown had an even more ambitious goal for the State of achieving carbon neutrality as soon as possible and by no later than 2045. The Legislature is thus looking to California drivers to buy electric cars, powered by green energy, to help the State meet its aggressive statutory goal, created by SB 32, of reducing statewide GHG emissions by 2030 to 40 percent below 1990 levels. Another key prong to this strategy is to make petroleum-based fuels less carbon-intensive. A number of statutes in recent years have addressed that strategy. These are discussed immediately below.

Statutes and CARB Regulations Addressing the Carbon Intensity of Petroleum-based Transportation Fuels

ASSEMBLY BILL 1493, PAVLEY CLEAN CARS STANDARDS

In July 2002, the Legislature enacted Assembly Bill 1493 (“Pavley Bill”) (Stats. 2002, ch. 200), which directed the CARB to develop and adopt regulations that achieve the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty trucks beginning with model year 2009. (See Health & Saf. Code, § 43018.5.) In September 2004, pursuant to this directive, CARB approved regulations to reduce GHG emissions from new motor vehicles beginning with the 2009 model year. These regulations created what are commonly known as the “Pavley standards.” In September 2009, CARB adopted amendments to the Pavley standards to reduce GHG emissions from new motor vehicles through the 2016 model year. These regulations created what are commonly known as the “Pavley II standards.” (See California Code of Regulations, Title 13, §§ 1900, 1961, and 1961.1 et seq.)

In January 2012, CARB adopted an Advanced Clean Cars (ACC) program aimed at reducing both smog-causing pollutants and GHG emissions for vehicles model years 2017-2025. This historic program, developed in coordination with the USEPA and NHTSA, combined the control of smog-causing (criteria) pollutants and GHG emissions into a single coordinated set of requirements for model years 2015 through 2025. The regulations focus on substantially increasing the number of plug-in hybrid cars and zero-emission vehicles in the vehicle fleet and on making fuels such as

electricity and hydrogen readily available for these vehicle technologies. The components of the ACC program are the Low-Emission Vehicle (LEV) regulations that reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles, and the Zero-Emission Vehicle (ZEV) regulation, which requires manufacturers to produce an increasing number of pure ZEVs (meaning battery electric and fuel cell electric vehicles), with provisions to also produce plug-in hybrid electric vehicles in the 2018 through 2025 model years. (See California Code of Regulations, Title 13, §§ 1900, 1961, 1961.1, 1961.2, 1961.3, 1965, 1968.2, 1968.5, 1976, 1978, 2037, 2038, 2062, 2112, 2139, 2140, 2145, 2147, 2235, and 2317 et seq.)

It is expected that the Pavley regulations will reduce GHG emissions from California passenger vehicles by about 34 percent below 2016 levels by 2025, all while improving fuel efficiency and reducing motorists' costs.

Cap and Trade Program

On October 20, 2011, in a related action, CARB adopted the final cap-and-trade program for California. (See California Code of Regulations, Title 17, §§ 95801-96022.) The California cap-and-trade program will create a market-based system with an overall emissions limit for affected sectors. The program is intended to regulate more than 85 percent of California's emissions and staggers compliance requirements according to the following schedule: (1) electricity generation and large industrial sources (2012); (2) fuel combustion and transportation (2015).

According to 2012 guidance published by CARB, "[t]he Cap-and-Trade Program will reduce GHG emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while employing market mechanisms to cost-effectively achieve the emission-reduction goals. The statewide cap for GHG emissions from major sources, which is measured in metric tons of carbon dioxide equivalent (MTCO_{2e}), will commence in 2013 and decline over time, achieving GHG emission reductions throughout the program's duration. Each covered entity will be required to surrender one permit to emit (the majority of which will be allowances, entities are also allowed to use a limited number of CARB offset credits) for each ton of GHG emissions they emit. Some covered entities will be allocated some allowances and will be able to buy additional allowances at auction, purchase allowances from others, or purchase offset credits."

The guidance goes on to say that "[s]tarting in 2012, major GHG-emitting sources, such as electricity generation (including imports), and large stationary sources (e.g., refineries, cement production facilities, oil and gas production facilities, glass manufacturing facilities, and food processing plants) that emit more than 25,000 MTCO_{2e} per year will have to comply with the Cap-and-Trade Program. The program expands in 2015 to include fuel distributors (natural gas and propane fuel providers and transportation fuel providers) to address emissions from transportation fuels, and from combustion of other fossil fuels not directly covered at large sources in the program's initial phase." In early April 2017, the Third District Court of Appeal upheld the lawfulness of the cap-and-trade program as a "fee" rather than a "tax." (See *California Chamber of Commerce et al. v. State Air Resources Board et al.* (2017) 10 Cal.App.5th 604.)

In early 2017, the Legislature enacted, and the Governor signed, AB 398 (Stats. 2017, ch. 135), which extended the life of the existing Cap and Trade Program through December 2030.

The offsets used within the Cap and Trade program must meet rigorous standards set forth in AB 32. Thus, any reduction of GHG emissions used for compliance purposes must be real, permanent, quantifiable, verifiable, enforceable, and additional (Health and Safety Code § 38562(d)(1) and (2)). Meeting these criteria ensures the integrity of the CARB offset credit and its eligibility for use in the Cap-and-Trade Program. Any offset credits issued by CARB must be quantified according to CARB-approved Compliance Offset Protocols. The applicable CARB regulations (Cal. Code Regs., tit. 17, § 95970 et seq.) include provisions for collecting and submitting the appropriate monitoring and reporting documentation to support the verification and enforcement of reductions realized through the generation of CARB offset credits. The regulatory provisions and the requirements of the Compliance Offset Protocols will ensure that the reductions are quantified accurately, represent real GHG emissions reduction, and are not double-counted within the Cap-and-Trade Program.

All compliance offset projects must be determined to be in conformance with all state, federal, and local environmental, health, and safety regulations applicable to the offset project location before CARB issues CARB offset credits. This determination ensures that CARB only credits reductions that result from activities that are in compliance with applicable requirements. Offset Project Operators (OPO) and Authorized Project Designees (APD) are voluntary participants in the Cap-and-Trade Program and CARB must ensure that it does not incentivize projects that violate applicable regulations while being implemented and credited for GHG reductions and removal enhancements. In addition, compliance offset projects may occur outside the State, and therefore, the regulatory conformance determination serves to ensure that projects credited under California's program are meeting applicable regulations in the various states.

The Regulations also include a mechanism called invalidation that may be triggered after CARB offset credits have been issued. Even though CARB has a rigorous and multistep review process prior to the issuance of ARB offset credits, subsequent new information may result in a determination that the CARB offset credits were generated from projects that did not conform to the requirements of the Regulation. The invalidation process ensures that the program's environmental integrity, or true accounting of GHG emissions and GHG emission reductions, is maintained if a CARB offset credit is issued and then used for compliance and later found to not meet the requirements of the Regulation. CARB may implement its invalidation provisions if it finds that a CARB offset credit does not meet the requirements of the Regulation. If CARB determines that a CARB offset credit is invalid after it is issued, CARB will cancel the CARB offset credit in the Compliance Instrument Tracking System Service (CITSS) and the user of the CARB offset credit is required to replace it with another valid compliance instrument if that offset credit was surrendered and retired for compliance. If the CARB offset credit is invalidated, but has not been surrendered and retired for compliance, CARB does not require the account holder to replace that offset credit with another valid compliance instrument; however, that offset credit would no longer be available to be surrendered for compliance at a later time or traded to another market participant. Requiring the user to replace the invalidated CARB offset credit with another valid CRB offset credit or allowance, if it has been surrendered for compliance, ensures that purchasers and users of offsets do their due diligence in

seeking out offset credits that meet the full regulatory requirements. (CARB, *California Air Resources Board Offset Credit Regulatory Conformance and Invalidation Guidance* [Feb. 2015].)

Statutes Intended to Facilitate Land Use Planning Consistent with Statewide Climate Objectives

CALIFORNIA SENATE BILL 375 (SUSTAINABLE COMMUNITIES STRATEGY)

This 2008 legislation built on AB 32 by setting forth a mechanism for coordinating land use and transportation on a regional level for the purpose of reducing GHGs. The focus is to reduce miles traveled by passenger vehicles and light trucks. CARB is required to set GHG reduction targets for each metropolitan region for the years 2020 and 2035. Each of California's metropolitan planning organizations then prepares a sustainable communities strategy that demonstrates how the region will meet its GHG reduction target through integrated land use, housing, and transportation planning. Once adopted by the metropolitan planning organizations, the sustainable communities strategy is to be incorporated into that region's federally enforceable regional transportation plan. If a metropolitan planning organization is unable to meet the targets through the sustainable communities strategy, then an alternative planning strategy must be developed which demonstrates how targets could be achieved, even if meeting the targets is deemed to be infeasible.

The Southern California Association of Governments (SCAG) is the metropolitan planning organization responsible for preparing the SCS. For a description SCAG's responsibilities, see the discussion under the Southern California Association of Governments sub-header, under the Local Setting header, below.

Climate Change Scoping Plans

AB 32 SCOPING PLAN

In December 2008, CARB adopted the Climate Change Scoping Plan, which contains the main strategies California will implement to achieve reduction of approximately 118 million metric tons (MMT) CO₂e, or approximately 22 percent from the State's projected 2020 emission level of 545 MMT of CO₂e under a business-as-usual scenario. This is a reduction of 47 MMT CO₂e, or almost 10 percent, from 2008 emissions. CARB's original 2020 projection was 596 MMT CO₂e, but this revised 2020 projection takes into account the economic downturn that occurred in 2008. The Scoping Plan also includes CARB recommended GHG reductions for each emissions sector of the State GHG inventory. CARB estimates the largest reductions in GHG emissions would be by implementing the following measures and standards:

- Improved emissions standards for light-duty vehicles (26.1 MMT CO₂e);
- The Low Carbon Fuel Standard (15.0 MMT CO₂e);
- Energy efficiency measures in buildings and appliances (11.9 MMT CO₂e); and
- Renewable portfolio and electricity standards for electricity production (23.4 MMT CO₂e).

In 2011, CARB adopted a cap-and-trade regulation. The cap-and-trade program covers major sources of GHG emissions in the State such as refineries, power plants, industrial facilities, and

transportation fuels. The cap-and-trade program includes an enforceable emissions cap that will decline over time. The State distributes allowances, which are tradable permits, equal to the emissions allowed under the cap. Sources under the cap are required to surrender allowances and offsets equal to their emissions at the end of each compliance period. Enforceable compliance obligations started in 2013. The program applies to facilities that comprise 85 percent of the State's GHG emissions.

With regard to land use planning, the Scoping Plan expects that reductions of approximately 3.0 MMT CO₂e will be achieved through implementation of Senate Bill (SB) 375, which is discussed further below.

2014 SCOPING PLAN UPDATE

In response to comments on the 2008 Scoping Plan, and AB 32's requirement to update the Scoping Plan every five years, CARB revised and reapproved the Scoping Plan, and prepared the First Update to the 2008 Scoping Plan in 2014 (2014 Scoping Plan). The 2014 Scoping Plan contains the main strategies California will implement to achieve a reduction of 80 MMT of CO₂e emissions, or approximately 16 percent, from the State's projected 2020 emission level of 507 MMT of CO₂e under the business-as-usual scenario defined in the 2014 Scoping Plan. The 2014 Scoping Plan also includes a breakdown of the amount of GHG reductions CARB recommends for each emissions sector of the State's GHG inventory. Several strategies to reduce GHG emissions are included: the Low Carbon Fuel Standard, the Pavley Rule, the ACC program, the Renewable Portfolio Standard, and the Sustainable Communities Strategy.

2017 SB 32 SCOPING PLAN

With the passage of SB 32, the Legislature also passed companion legislation AB 197, which provides additional direction for developing the scoping plan. In response to these two pieces of legislation, CARB adopted an updated Scoping Plan in December 2017. The document represents a second update to the scoping plan to reflect the 2030 target of reducing statewide GHG emissions by 40 percent below 1990 levels codified by SB 32. The GHG reduction strategies in the plan that CARB will implement to meet the target include:

- SB 350 - achieve 50 percent Renewables Portfolio Standard (RPS) by 2030 and doubling of energy efficiency savings by 2030;
- Low Carbon Fuel Standard - increased stringency (reducing carbon intensity 18 percent by 2030, up from 10 percent in 2020);
- Mobile Source Strategy (Cleaner Technology and Fuels Scenario) - maintaining existing GHG standards for light- and heavy-duty vehicles, put 4.2 million zero-emission vehicles on the roads, and increase zero-emission buses, delivery and other trucks.
- Sustainable Freight Action Plan - improve freight system efficiency, maximize use of near-zero emission vehicles and equipment powered by renewable energy, and deploy over 100,000 zero-emission trucks and equipment by 2030;

- Short-Lived Climate Pollutant Reduction Strategy - reduce emissions of methane and hydrofluorocarbons 40 percent below 2013 levels by 2030 and reduce emissions of black carbon 50 percent below 2013 levels by 2030;
- SB 375 Sustainable Communities Strategies - increased stringency of 2035 targets;
- Post-2020 Cap-and-Trade Program - declining caps, continued linkage with Québec, and linkage to Ontario, Canada;
- 20 percent reduction in GHG emissions from the refinery sector; and
- By 2018, develop an Integrated Natural and Working Lands Action Plan to secure California's land base as a net carbon sink.

Building Code Requirements Intended to Reduce GHG Emissions

CALIFORNIA ENERGY CODE

The California Energy Code (California Code of Regulations, Title 24, Part 6), which is incorporated into the Building Energy Efficiency Standards, was first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Although these standards were not originally intended to reduce GHG emissions, increased energy efficiency results in decreased GHG emissions because energy efficient buildings require less electricity and thus less consumption of fossil fuels, which emit GHGs. The standards are updated periodically to allow consideration and possible incorporation of new energy efficiency technologies and methods. The current 2019 Building Energy Efficiency Standards, commonly referred to as the "Title 24" standards, include changes from the previous standards that were adopted, to do the following:

- Provide California with an adequate, reasonably priced, and environmentally sound supply of energy.
- Respond to Assembly Bill 32, the Global Warming Solutions Act of 2006, which mandates that California must reduce its GHG emissions to 1990 levels by 2020.
- Pursue California energy policy that energy efficiency is the resource of first choice for meeting California's energy needs.
- Act on the California Energy Commission's Integrated Energy Policy Report, which finds that standards are the most cost effective means to achieve energy efficiency, states an expectation that the Building Energy Efficiency Standards will continue to be upgraded over time to reduce electricity and peak demand, and recognizes the role of the Building Energy Efficiency Standards in reducing energy related to meeting California's water needs and in reducing GHG emissions.
- Meet the West Coast Governors' Global Warming Initiative commitment to include aggressive energy efficiency measures into updates of State building codes.
- Meet Executive Order S-20-04, the Green Building Initiative, to improve the energy efficiency of non-residential buildings through aggressive standards.

The most recent Title 24 standards are the 2019 Title 24 standards. The 2019 Building Energy Efficiency Standards improve upon the 2016 Energy Standards for new construction of, and additions and alterations to, residential and nonresidential buildings. Buildings permitted on or after

January 1, 2020, must comply with the 2019 Standards. The California Energy Commission updates the standards every three years.

Single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards. Once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards. This will reduce greenhouse gas emissions by 700,000 metric tons over three years, equivalent to taking 115,000 fossil fuel cars off the road. Nonresidential buildings will use about 30 percent less energy due mainly to lighting upgrades.

CALIFORNIA GREEN BUILDING STANDARDS CODE

The purpose of the California Green Building Standards Code (California Code of Regulations Title 24, Part 11) is to improve public health and safety and to promote the general welfare by enhancing the design and construction of buildings through the use of building concepts having a reduced negative impact or positive environmental impact and encouraging sustainable construction practices in the following categories: 1) planning and design; 2) energy efficiency; 3) water efficiency and conservation; 4) material conservation and resource efficiency; and 5) environmental quality. The California Green Building Standards, which became effective on January 1, 2011, instituted mandatory minimum environmental performance standards for all ground-up new construction of commercial, low-rise residential uses, and State-owned buildings, as well as schools and hospitals. The mandatory standards require the following:

- 20 percent mandatory reduction in indoor water use relative to baseline levels;
- 50 percent construction/demolition waste must be diverted from landfills;
- Mandatory inspections of energy systems to ensure optimal working efficiency; and
- Low-pollutant emitting exterior and interior finish materials such as paints, carpets, vinyl flooring, and particle boards.

The voluntary standards require the following:

- **Tier I:** 15 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 65 percent reduction in construction waste, 10 percent recycled content, 20 percent permeable paving, 20 percent cement reduction, and cool/solar reflective roof.
- **Tier II:** 30 percent improvement in energy requirements, stricter water conservation requirements for specific fixtures, 75 percent reduction in construction waste, 15 percent recycled content, 30 percent permeable paving, 30 percent cement reduction, and cool/solar reflective roof.

CEQA Direction

In 2008, the Schwarzenegger administration, through the Office of Planning and Research (OPR), issued Guidance regarding assessing significance of GHGs in CEQA documents; that Guidance stated that the adoption of appropriate significance thresholds was a matter of discretion for the lead agency. The OPR Guidance states:

“[T]he global nature of climate change warrants investigation of a statewide threshold of significance for GHG emissions. To this end, OPR has asked the CARB technical staff to recommend a method for setting thresholds which will encourage consistency and uniformity in the CEQA analysis of GHG emissions throughout the state. Until such time as state guidance is available on thresholds of significance for GHG emissions, we recommend the following approach to your CEQA analysis.”

Determine Significance

- When assessing a project’s GHG emissions, lead agencies must describe the existing environmental conditions or setting, without the project, which normally constitutes the baseline physical conditions for determining whether a project’s impacts are significant.
- As with any environmental impact, lead agencies must determine what constitutes a significant impact. In the absence of regulatory standards for GHG emissions or other scientific data to clearly define what constitutes a “significant impact,” individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.
- The potential effects of a project may be individually limited but cumulatively considerable. Lead agencies should not dismiss a proposed project’s direct and/or indirect climate change impacts without careful consideration, supported by substantial evidence. Documentation of available information and analysis should be provided for any project that may significantly contribute new GHG emissions, either individually or cumulatively, directly or indirectly (e.g., transportation impacts).
- Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment. CEQA authorizes reliance on previously approved plans and mitigation programs that have adequately analyzed and mitigated GHG emissions to a less than significant level as a means to avoid or substantially reduce the cumulative impact of a project.

The OPR Guidance did not require Executive Order S-3-05 to be used as a significance threshold under CEQA. Rather, OPR recognized that, until the CARB establishes a statewide standard, selecting an appropriate threshold was within the discretion of the lead agency.

The OPR Guidance did not include a quantitative threshold of significance to use for assessing a project’s GHG emissions under CEQA. Moreover, the CARB has not established such a threshold or recommended a method for setting a threshold for project-level analysis. The issue of setting a GHG threshold is complex and dynamic, especially in light of the California Supreme Court decision in *Center for Biological Diversity v. California Department of Fish and Wildlife* (referred to as the *Newhall Ranch* decision hereafter). The Supreme Court ruling highlighted the need for the threshold being tailored to the specific project, its location, and the surrounding setting. Therefore, the threshold used to analyze the proposed project is specific to the analysis herein.

In 2010, the California Natural Resources Agency added section 15064.4 to the CEQA Guidelines, providing new legal requirements for how agencies should address GHG-related impacts in their CEQA documents. As amended in early 2019, section 15064.4 provides as follows:

(a) The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency consistent with the provisions in section 15064. A lead agency shall make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project. A lead agency shall have discretion to determine, in the context of a particular project, whether to:

- (1) Quantify greenhouse gas emissions resulting from a project; and/or
- (2) Rely on a qualitative analysis or performance based standards.

(b) In determining the significance of a project's greenhouse gas emissions, the lead agency should focus its analysis on the reasonably foreseeable incremental contribution of the project's emissions to the effects of climate change. A project's incremental contribution may be cumulatively considerable even if it appears relatively small compared to statewide, national or global emissions. The agency's analysis should consider a timeframe that is appropriate for the project. The agency's analysis also must reasonably reflect evolving scientific knowledge and state regulatory schemes. A lead agency should consider the following factors, among others, when determining the significance of impacts from greenhouse gas emissions on the environment:

- (1) The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
- (2) Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- (3) The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions (see, e.g., section 15183.5(b)). Such requirements must be adopted by the relevant public agency through a public review process and must reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project. In determining the significance of impacts, the lead agency may consider a project's consistency with the State's long-term climate goals or strategies, provided that substantial evidence supports the agency's analysis of how those goals or strategies address the project's incremental contribution to climate change and its conclusion that the project's incremental contribution is not cumulatively considerable.

(c) A lead agency may use a model or methodology to estimate greenhouse gas emissions resulting from a project. The lead agency has discretion to select the model or methodology it considers most appropriate to enable decision makers to intelligently take into account the project's incremental contribution to climate change. The lead agency must support its selection of a model or methodology with substantial evidence. The lead agency should explain the limitations of the particular model or methodology selected for use.

Section 15126.4, subdivision (c), provides guidance on how to formulate mitigation measures addressing GHG-related impacts:

Consistent with section 15126.4(a), lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:

- (1) Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;
- (2) Reductions in emissions resulting from a project through implementation of project features, project design, or other measures, such as those described in Appendix F;
- (3) Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions;
- (4) Measures that sequester greenhouse gases;
- (5) In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.

California Supreme Court Decisions

THE "NEWHALL RANCH" CASE

On November 30, 2015, the California Supreme Court released its opinion on *Center for Biological Diversity v. California Department of Fish and Wildlife* (2015) 62 Cal.4th 204 (hereafter referred to as the Newhall Ranch Case).

Because of the importance of the Supreme Court as the top body within the California Judiciary, and because of the relative lack of judicial guidance regarding how GHG issues should be addressed in

CEQA documents, the opinion provides very important legal guidance to agencies charged with preparing EIRs.

The case involved a challenge to an EIR prepared by the California Department of Fish and Wildlife (CDFW) for the Newhall Ranch development project in Los Angeles County, which consists of approximately 20,000 dwelling units as well as commercial and business uses, schools, golf courses, parks and other community facilities in the City of Santa Clarita.

In relation to GHG analysis, the Newhall Ranch Case illustrates the difficulty of complying with statewide GHG reduction targets at the local level using CEQA to determine whether an individual project's GHG emissions will create a significant environmental impact triggering an EIR, mitigation, and/or statement of overriding consideration. The EIR utilized compliance with AB 32's GHG reduction goals as a threshold of significance and modelled its analysis on the CARB's business-as-usual (BAU) emissions projections from the 2008 Scoping Plan. The EIR quantified the project's annual emissions at buildout and projected emissions in 2020 under a BAU scenario, in which no additional regulatory actions were taken to reduce emissions. Since the Scoping Plan determined a reduction of 29 percent from BAU was needed to meet AB 32's 2020 reduction goal, the EIR concluded that the project would have a less-than-significant impact because the project's annual GHG emissions were projected to be 31 percent below its BAU estimate.

The Supreme Court concluded that the threshold of significance used by the EIR was permissible; however, the BAU analysis lacked substantial evidence to demonstrate that the required percentage reduction from BAU is the same for an individual project as for the entire State. The court expressed skepticism that a percentage reduction goal applicable to the State as a whole would apply without change to an individual development project, regardless of its size or location. Therefore, the Supreme Court determined that the EIR's GHG analysis was not sufficient to support the conclusion that GHG impacts would be less than significant.

In addition, the Supreme Court provided the following guidance regarding potential alternative approaches to GHG impact assessment at the project level for lead agencies:

1. The lead agency determination of what level of GHG emission reduction from business-as-usual projection that a new land development at the proposed location would need to achieve to comply with statewide goals upon examination of data behind the Scoping Plan's business-as-usual emission projections. The lead agency must provide substantial evidence and account for the disconnect between the Scoping Plan, which dealt with the State as a whole, and an analysis of an individual project's land use emissions (the same issues with CEQA compliance addressed in this case);
2. The lead agency may use a project's compliance with performance based standards – such as high building energy efficiency – adopted to fulfill a statewide plan to reduce or mitigate GHG emissions to assess consistency with AB 32 to the extent that the project features comply with or exceed the regulation (See Guidelines Section 15064.4(a)(2), (b)(3); see also Guidelines Section 15064(h)(3)). A significance analysis would then need to account for the additional GHG emissions – such as transportation emissions – beyond the regulated

activity. Transportation emissions are in part a function of the location, size, and density or intensity of a project, and thus can be affected by local governments' land use decision making. Additionally, the lead agency may use a programmatic effort including a general plan, long range development plan, or a separate plan to reduce GHG emissions (such as Climate Action Plan or a SB 375 metropolitan regional transportation impact Sustainable Communities Strategy) that accounts for specific geographical GHG emission reductions to streamline or tier project level CEQA analysis pursuant to Guidelines 15183.5(a)-(b) for land use and Public Resources Code Section 21155.2 and 21159.28 and Guidelines Section 15183.5(c) for transportation.

3. The lead agency may rely on existing numerical thresholds of significance for GHG emissions (such as the Bay Area Air Quality Management District's proposed threshold of significance of 1,100 MT CO₂E in annual emission for CEQA GHG emission analysis on new land use projects). The use of a numerical value provides what is "normally" considered significant but does not relieve a lead agency from independently determining the significance of the impact for the individual project (See Guidelines Section 15064.7).

THE SANDAG CASE

In *Cleveland National Forest Foundation v. San Diego Association of Governments* (2017) 3 Cal.5th 497 (*SANDAG*), the Supreme Court addressed the extent to which, if any, an EIR for a Regional Transportation Plan (RTP) with a Sustainable Communities Strategy (SCS) must address the proposed project's consistency with the 2050 target set forth in Executive Order S-03-05 (i.e., 80 percent below 1990 levels). The Court held that SANDAG did not abuse its discretion by failing to treat the 2050 GHG emissions target as a threshold of significance. The Court cautioned, however, that its decision applies narrowly to the facts of the case and that the analysis in the challenged EIR should not be used as an example for other lead agencies to follow going forward. Notably, the RTP itself covered a planning period that extended all the way to 2050.

The Court acknowledged the parties' agreement that "the Executive Order lacks the force of a legal mandate binding on SANDAG[.]" (*Id.* at p. 513.) This conclusion was consistent with the Court's earlier decision in *Professional Engineers in California Government v. Schwarzenegger* (2010) 50 Cal.4th 989, 1015, which held the Governor had acted in excess of his executive authority in ordering the furloughing of State employees as a money-saving strategy. In that earlier case, which is not mentioned in the *SANDAG* decision, the Court held that the decision to furlough employees was legislative in character, and thus could only be ordered by the Legislature, and not the Governor, who, under the State constitution, may only exercise executive authority. In *SANDAG*, the Court thus impliedly recognized that Governors do not have authority to set statewide legislative policy, particularly for decades into the future. Even so, however, the Court noted, and did not question, the parties' agreement that "the Executive Order's 2050 emissions reduction target is grounded in sound science." (3 Cal.5th at p. 513.) Indeed, the Court emphasized that, although "the Executive Order 'is not an adopted GHG reduction plan' and that 'there is no legal requirement to use it as a threshold of significance,'" the 2050 goal nevertheless "expresses the pace and magnitude of reduction efforts that the scientific community believes necessary to stabilize the climate.

This scientific information has important value to policymakers and citizens in considering the emission impacts of a project like SANDAG's regional transportation plan." (*Id.* at p. 515.) Towards the end of the decision, the Court even referred to "the state's 2050 climate goals" as though the 2050 target from E.O. S-03-05 had some sort of standing under California law. (*Id.* at p. 519.) The Court seemed to reason that, because the Legislature had enacted both AB 32 and SB 32, which followed the downward GHG emissions trajectory recommended in the Executive Order, the Legislature, at some point, was also likely to adopt the 2050 target as well: "SB 32 ... reaffirms California's commitment to being on the forefront of the dramatic greenhouse gas emission reductions needed to stabilize the global climate." (*Id.* at p. 519.) Finally, the Court explained that "planning agencies like SANDAG must ensure that CEQA analysis stays in step with evolving scientific knowledge and state regulatory schemes." (*Ibid.*)

In sum, the Court recognized that the Executive Order did not carry the force of law, but nevertheless considered it to be part of "state climate policy" because the Legislature, in enacting both AB 32 and SB 32, seems to be following both the IPCC recommendations for reducing GHG emissions worldwide and evolving science. Nothing in the decision, however, suggests that all projects, regardless of their buildout period, must address the 2050 target or treat it as a significance threshold.

LOCAL

South Coast Air Quality Management District

To provide guidance to local lead agencies on determining significance for GHG emissions in CEQA documents, SCAQMD staff convened an ongoing GHG CEQA Significance Threshold Working Group. Members of the working group include government agencies implementing CEQA and representatives from various stakeholder groups that provide input to SCAQMD staff on developing the significance thresholds. On October 8, 2008, the SCAQMD released the Draft AQMD Staff CEQA GHG Significance Thresholds. These thresholds have not been finalized and continue to be developed through the working group.

The SCAQMD has not announced when staff is expecting to present a finalized version of its GHG thresholds to the governing board. On September 28, 2010, the SCAQMD recommended a numeric "bright-line" threshold of 10,000 metric tons per year of CO₂e for industrial land use projects. This threshold was developed as part of the SCAQMD GHG CEQA Significance Threshold Working Group. This working group was formed to assist SCAQMD's efforts to develop a GHG significance threshold and is composed of a wide variety of stakeholders including the State Office of Planning and Research (OPR), CARB, the Attorney General's Office, a variety of city and county planning departments, various utilities such as sanitation and power companies throughout the SCAB, industry groups, and environmental and professional organizations. The numeric "bright line" was developed to be consistent with CEQA requirements for developing significance thresholds, are supported by substantial evidence, and provides guidance to CEQA practitioners with regard to determining whether GHG emissions from a proposed industrial land use project are significant.

Southern California Association of Governments

On April 7, 2016, the SCAG Regional Council adopted the 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (2016 RTP/SCS). The 2016 RTP/SCS charts a course for closely integrating land use and transportation – so that the region can grow smartly and sustainably. It was prepared through a collaborative, continuous, and comprehensive process with input from local governments, county transportation commissions, tribal governments, non-profit organizations, businesses and local stakeholders within the counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. The 2016 RTP/SCS is a long-range visioning plan that balances future mobility and housing needs with economic, environmental and public health goals. The SCAG region strives toward sustainability through integrated land use and transportation planning. The SCAG region must achieve specific federal air quality standards and is required by State law to lower regional GHG emissions.

City of Irwindale General Plan

RESOURCE MANAGEMENT ELEMENT

- **Policy 11.** The City of Irwindale supports the ethic of conservation of non-renewable resources. This includes efforts to reduce the use of energy (in any form), greenhouse gas (GHG) emissions (consistent with AB 32) and efforts to find new and more energy efficient methods for delivering services. The City supports the development of building standards that enable the community to design energy saving features such as solar energy systems, water efficient landscaping, and sustainable, green, and energy efficient building standards.
- **Policy 19.** The City of Irwindale will consider environmental justice issues as they are related to potential health impact associated with air pollution and ensure that all land use decisions, including enforcement actions, are made in an equitable fashion to protect residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location from the health effects of air pollution.
- **Policy 21.** The City of Irwindale will encourage the applicant for sensitive land uses (e.g., residences, schools, daycare facilities, playgrounds, and medical facilities) to incorporate design features (e.g., pollution prevention, pollution reduction, barriers, landscaping, ventilation systems, or other measures) in the planning process to minimize the potential pollution impacts on sensitive receptors.
- **Policy 22.** The City of Irwindale will facilitate communications among residents, businesses, and the South Coast Air Quality Management District (SCAQMD) to quickly resolve air pollution nuisance complaints. The City will distribute information to advise residents on how to register a complaint with SCAQMD (SCAQMD's —Cut Smog program).
- **Policy 28.** The City of Irwindale will require conditions for discretionary approvals that require fugitive dust controls and compliance mechanisms for stationary sources (landfill, composting facilities, aggregate facilities, etc.).
- **Policy 29.** The City of Irwindale will encourage vegetation or chemical stabilization for disturbed land as well as construction screening on fencing for phased construction projects.

- **Policy 30.** The City of Irwindale will provide regional and local air quality information on the City's website, including the SCAQMD's 1-800-CUT-SMOG number for the public to report air pollution complaints to the SCAQMD.

3.4.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE (GREENHOUSE GASES)

Consistent with Appendix G of the CEQA Guidelines, climate change-related impacts are considered significant if implementation of the proposed Project would do any of the following:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.
2. Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

SCAQMD Thresholds

On September 28, 2010, the SCAQMD recommended a numeric, bright-line threshold of 10,000 metric tons of CO₂e annually for industrial land uses. This threshold was developed as part of the SCAQMD GHG CEQA Significance Threshold Working Group. The working group was formed to assist the SCAQMD's efforts to develop a GHG significance threshold and is composed of a wide variety of stakeholders including the State OPR, CARB, the Attorney General's Office, a variety of city and county planning departments in the SCAB, various utilities such as sanitation and power companies throughout the basin, industry groups, and environmental and professional organizations. SCAQMD thresholds were developed to be consistent with CEQA requirements for developing significance thresholds, are supported by substantial evidence, and provide guidance to CEQA practitioners and lead agencies with regard to determining whether GHG emissions from a proposed project are significant.

For the purposes of this evaluation, the Proposed Project will first be compared to the SCAQMD numeric bright-line threshold of 10,000 metric tons of CO₂e annually for industrial projects. The Project is also evaluated for compliance with SCAG's 2016–2040 RTP/SCS, which establishes an overall GHG target for the Project region consistent with both the target date of AB 32 (2020) and the post-2020 GHG reduction goals of SB 32.

Methodology

GHG-related impacts were assessed in accordance with methodologies recommended by CARB and the SCAQMD. Where GHG emission quantification was required, emissions were modeled using the CalEEMod, version 2016.3.2. CalEEMod is a statewide land use emissions computer model designed to quantify potential GHG emissions associated with both construction and operations from a variety of land use projects. Project construction-generated GHG emissions were primarily calculated using CalEEMod model defaults for Los Angeles County.

The land use assumptions for the modeling include: Unrefrigerated Warehouse-No Rail – 545,735 square feet; Parking Lot – 11.05 acres; City Park – 2.59 acres. Note that the City Park land use is used as a proxy for the landscaped portions of the Project site.

Mobile-source based criteria pollutant emissions were estimated using the emission factors provided within CalEEMod; an estimate of proposed Project-generated VMT developed as part of this analysis was provided by the traffic consultant, Ganddini Group, as provided in Appendix D of this EIR. Criteria pollutant emissions from consumer products, landscape maintenance activities, and other sources of operational energy usage (e.g. electricity and natural gas) were estimated using the default emission factors provided in CalEEMod.

Based on information provided by the Project applicant, construction activities were to begin in 2021 and end in 2023. These construction activities include site preparation, grading, building construction, paving, and architectural coatings. Detail regarding the construction schedule is provided in Appendix B.

IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: The proposed Project has the potential to generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment. (Less than Significant with Mitigation)

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors. Therefore, the cumulative global emissions of GHGs contributing to global climate change can be attributed to every nation, region, and city, and virtually every individual on Earth. A Project's GHG emissions are at a micro-scale relative to global emissions, but could result in a cumulatively considerable incremental contribution to a significant cumulative macro-scale impact. Implementation of the proposed Project would contribute to increases of GHG emissions. Estimated GHG emissions attributable to the Project would be primarily associated with increases of CO₂ and other GHG pollutants, such as methane (CH₄) and nitrous oxide (N₂O), from mobile sources and utility usage.

The proposed Project's short-term construction-related and long-term operational GHG emissions were estimated using the California Emission Estimator Model (CalEEMod)TM (v.2016.3.2). CalEEMod is a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify GHG emissions from land use projects. The model quantifies direct GHG emissions from construction and operation (including vehicle use), as well as indirect GHG emissions, such as GHG emissions from energy use, solid waste disposal, vegetation planting and/or removal, and water use. Emissions are expressed in annual metric tons of CO₂ equivalent units of measure (i.e., MT CO₂e), based on the global warming potential of the individual pollutants.

SHORT-TERM CONSTRUCTION GHG EMISSIONS

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 3.4-1 illustrates the specific construction-generated GHG emissions that would result from construction of the Project.

TABLE 3.4-1: CONSTRUCTION GHG EMISSIONS (UNMITIGATED AVERAGE MT CO₂E/YEAR)

YEAR	BIO-CO ₂	NON-BIO-CO ₂	TOTAL CO ₂	CH ₄	N ₂ O	CO ₂ E
2021	0	932.0	932.0	<1	0	934.9
2022	0	1,540.3	1,540.3	<1	0	1,543.5
2023	0	353.2	353.2	<1	0	353.1
Total	0	2,825.5	2,825.5	<1	0	2,831.5
Annual Maximum	0	1,540.3	1,540.3	<1	0	1,543.5

SOURCE: CALEEMOD (v.2016.3.2)

As shown in Table 3.4-1, Project construction would result in the generation of approximately 2,831.5 metric tons of CO₂e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. The amortized construction emissions are added to the annual average operational emissions.

LONG-TERM OPERATIONAL GHG EMISSIONS

Operation of the Project would result in GHG emissions predominantly associated with motor vehicle use. Long-term operational GHG emissions attributable to the Project are identified in Table 3.4-2 and compared to SCAQMD's interim screening level numeric bright-line threshold of 10,000 metric tons of CO₂e annually. As previously described, operational GHG emissions were based on the Project site plans and the estimated traffic trip generation rates and Project fleet mix provided in the Traffic Impact Analysis (Ganddini Group, 2020).

TABLE 3.4-2: OPERATIONAL GHG EMISSIONS AT BUILDOUT (METRIC TONS/YEAR)

EMISSIONS SOURCE	TOTAL CO ₂
Construction Emissions (amortized over the 30-year life of the Project)	94.4
Area Source	<0.1
Energy	2,039.1
Mobile	6,747.9
Solid Waste	340.4
Water	578.3
Total Emissions	9,800.1

NOTE: TOTALS MAY NOT ADD UP DUE TO ROUNDING.

SOURCE: CALEEMOD (v.2016.3.2)

As shown in Table 3.4-2, operational-generated emissions would not exceed the SCAQMD's numeric bright-line threshold of 10,000 metric tons of CO₂e annually. A large majority of these emissions would be generated by mobile sources, which is an emission source that cannot be regulated by the

City of Irwindale. Additionally, GHGs are global pollutants. They can be carried miles away from the original source and have long atmospheric lifetimes compared to that of local pollutants. GHG Emissions do not directly pose a threat to human health but can have numerous indirect effects. As previously stated, GHG emissions have been directly correlated to climate change. This can lead to events such as droughts, heat waves, increased intensity in storm events, and rising sea levels. These can result in decrease precipitation, increased wildfires, saltwater infiltration of groundwater tables, and decreased crop yields. A reduction of vehicle trips to and from the proposed Project site would reduce the amount of mobile emissions. Methods of reducing vehicle trips include carpooling, transit, cycling, and pedestrian connections. However, the Project is proposing an industrial warehouse and the reduction of vehicle trips is only feasible for the employees working at the facility, though the majority of traffic trips instigated by the Project would be related to haul truck trips transporting freight.

As stated above, the State of California, along with the SCAQMD, has implemented numerous strategies pertaining to trucks and the reduction of emissions that directly apply to the Project. Urban goods delivery is an essential component of the greater freight system and vital to the urban economy. While urban goods delivery represents a small share of urban traffic, it generates a disproportionate amount of GHG emissions. The State of California promulgates policies designed and implemented to improve the efficiency and environmental footprint of the urban freight system, including the introduction of zero and near-zero emission vehicles—a strategy embedded in the Governor’s Sustainable Freight Action Plan as well as CARB’s AB 32 Scoping Plan, Statewide Implementation Plan, and Mobile Source Strategy.

Additionally, the Project is proposing an industrial warehouse use in close proximity to the I-605, I-10, and I-210, which are major regional freeway corridors. Further, the I-10 corridor has been identified as a “Major International Trade Highway Route” in the California State Goods Movement Action Plan (2007) and therefore serves to accommodate existing truck trips along the interstate. The Goods Movement Action Plan is a Statewide initiative to improve and expand California’s goods movement industry and infrastructure in a manner which will increase mobility and relieve traffic congestion as well as reduce GHG emissions. The Plan further identifies I-10 (located approximately 2 miles south of the Project site with connection to the Project site by the I-605) as a “Priority Corridor” for development towards more efficient goods movement and anticipates that the development of good movement-supporting facilities, such as industrial warehouses like that proposed by the Project, will improve the efficiency of overall goods movement throughout the state, and thus reduce truck-related GHG emissions.

Nevertheless, out of an abundance of caution, the proposed Project would be required to implement Mitigation Measure 3.4-1, which include CARB and SCAQMD-recommended measures to reduce GHG emissions through the implementation of solar and energy-conserving systems, landscaping, and use of light colored paving and roofing materials. Therefore, with implementation of CARB and SCAQMD recommendations contained in mitigation measure 3.4-1, Project-related heavy-duty truck travel emissions would be reduced beyond those emissions identified in Table 3.4-2. For these reasons, with implementation of the following mitigation measure, impacts would be *less than significant* relative to this topic.

MITIGATION MEASURE(S)

Mitigation Measure 3.4-1: *Prior to the Certificate of Occupancy issuance, the Project Applicant shall demonstrate to the satisfaction of the City of Irwindale Community Development Manager/City Planner and/or their designee that the following measures would be implemented during Project operations. These measures shall be enforced and maintained through Conditions of Approval; Covenants, Codes, and Restrictions (CC&Rs), or other means acceptable to the City of Irwindale Community Development Manager/City Planner and/or their designee.*

- *Maximize use of solar energy, including solar panels.*
- *Install the maximum possible number of solar energy arrays on the building roof and/or on the Project site to generate solar energy for the facility.*
- *Maximize the planting of trees in landscaping and parking lots.*
- *Employ the use of light-colored paving and roofing materials.*
- *Utilize only Energy Star heating, cooling, and lighting devices and appliances.*
- *Employ the use of electric or alternatively-fueled sweeper with high-efficiency particulate air (HEPA) filters.*

Impact 3.4-2: Potential to conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases. (No Impact)

To date, neither the City of Irwindale, nor any regional agency has prepared a qualified GHG reduction plan that is applicable to the proposed Project. However, Irwindale is a member city of the SCAG. SCAG's 2016–2040 RTP/SCS, adopted April 7, 2016, is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The RTP/SCS embodies a collective vision for the region's future and is developed with input from local governments, county transportation commissions, tribal governments, nonprofit organizations, businesses, and local stakeholders in Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. The RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for 2020 and 2035 and establishes an overall GHG target for the region consistent with both the Statewide GHG-reduction targets for 2020 and the post-2020 statewide GHG reduction goals. The 2016 RTP/SCS contains over 4,000 transportation projects, including highway improvements, railroad grade separations, bicycle lanes, new transit hubs, and replacement bridges. These future investments were included in county plans developed by the six-county transportation commissions and seek to reduce traffic bottlenecks, improve the efficiency of the region's network, and expand mobility choices. The RTP/SCS is an important planning document for the region, allowing project sponsors to qualify for federal funding. In addition, the RTP/SCS is supported by a combination of transportation and land use strategies that help the region achieve state GHG emission reduction goals and federal CAA requirements, preserve open space areas, improve public health and roadway safety, support the vital goods movement industry, and use resources more efficiently. The proposed Project's consistency with the RTP/SCS goals is analyzed in detail in Table 3.4-3.

TABLE 3.4-3: CONSISTENCY WITH SCAG’S RTP/SCS GOALS

<i>SCAG GOALS</i>	<i>COMPLIANCE WITH GOAL</i>
<p>Goal 1: Align the plan investments and policies with improving regional economic development and competitiveness.</p>	<p>Not Applicable: This is not a project-specific policy and is therefore not applicable.</p>
<p>Goal 2: Maximize mobility and accessibility for all people and goods in the region.</p>	<p>Consistent: Improvements to the transportation network in Irwindale are developed and maintained to meet the needs of local and regional transportation and to ensure efficient mobility. A number of regional and local plans and programs are used to guide development and maintenance of transportation networks, including but not limited to:</p> <ul style="list-style-type: none"> • Caltrans Traffic Impact Studies Guidelines • Caltrans Highway Capacity Manual • SCAG RTP/SCS <p>The Project is proposing an industrial warehouse use in close proximity to I-605, I-10, and I-210, which are major regional freeway corridors. Further, the I-10 corridor has been identified as a “Major International Trade Highway Route” in the California State Goods Movement Action Plan and therefore serves to accommodate existing truck trips along the interstate. The Goods Movement Action Plan is a statewide initiative to improve and expand California’s goods movement industry and infrastructure in a manner which will increase mobility and relieve traffic congestion as well as reduce GHG emissions. The Plan further identifies I-10 (located approximately 2 miles south of the Project site and with connection to the Project site by I-605) as a “Priority Corridor” for development towards more efficient goods movement and anticipates that the development of good movement-supporting facilities, such as industrial warehouses like that proposed by the Project, will improve the efficiency of overall goods movement throughout the state, and thus reduce truck-related GHG emissions.</p>
<p>Goal 3: Ensure travel safety and reliability for all people and goods in the region.</p>	<p>Consistent: All modes of transit in Irwindale are required to follow safety standards established by applicable regulatory agencies. Pedestrian walkways and bicycle routes must follow safety precautions and standards established by local (e.g., City of Irwindale, County of Los Angeles) and regional (e.g., SCAG, Caltrans) agencies. Roadways for motorists must follow safety standards established by the City and Caltrans, as appropriate. The Project is proposing an industrial warehouse use in close proximity to the I-605, I-10, and I-210, which are major regional freeway corridors. Warehouses positioned in close proximity to major freeway corridors are considered goods-movement-supporting facilities, and will improve the efficiency of overall goods movement throughout the state, and thus reduce truck-related GHG emissions.</p>
<p>Goal 4: Preserve and ensure a sustainable regional transportation</p>	<p>Consistent: The Project does not propose any modifications to the local roadway system in proximity to the Project site.</p>

<i>SCAG GOALS</i>	<i>COMPLIANCE WITH GOAL</i>
system.	All new roadway developments and improvements to the existing transportation network must be assessed with some level of traffic analysis (e.g., traffic assessments, traffic impact studies) to determine how the developments would impact the existing transportation system and to determine the needs for preserving and ensuring a sustainable regional transportation system that provides for safe and efficient movement of goods and people.
Goal 5: Maximize the productivity of our transportation system	Consistent: The local and regional transportation system would be improved and maintained to encourage efficiency and productivity. The City of Irwindale’s Public Works and Utility Department oversees the improvement and maintenance of all aspects of the public right-of-way on an as-needed basis. The City also strives to maximize productivity of the region’s public transportation system (e.g., bus, bicycle) for residents, visitors, and workers coming into and out of Irwindale
Goal 6: Protect the environment and health of our residents by improving air quality and encouraging active transportation (non-motorized transportation, such as bicycling and walking).	Consistent: The reduction of energy use, improvement of air quality, and promotion of more environmentally sustainable development are encouraged through the development of alternative transportation methods, green design techniques for buildings, and other energy-reducing techniques. For example, development projects are required to comply with the provisions of the California Building and Energy Efficiency Standards and the Green Building Standards Code (CALGreen). The City also strives to maximize the protection of the environment and improvement of air quality by encouraging and improving the use of the region’s public transportation system (e.g., bus, bicycle) for residents, visitors, and workers coming into and out of Irwindale.
Goal 7: Actively encourage and create incentives for energy efficiency, where possible.	Not Applicable: This is not a project-specific policy and is therefore not applicable.
Goal 8: Encourage land use and growth patterns that facilitate transit and non-motorized transportation.	Consistent: See response to RTP/SCS Goal 6.
Goal 9: Maximize the security of our transportation system through improved system monitoring, rapid recovery planning, and coordination with other security agencies.	Consistent: The City of Irwindale monitors existing and newly constructed roadways and transit routes to determine the adequacy and safety of these systems. Other local and regional agencies (e.g., Los Angeles County Transportation Department, Caltrans, SCAG) work with the City to manage these systems. Security situations involving roadways and evacuations would be addressed in the County of Los Angeles emergency management protocols (e.g., Los Angeles County Operational Area Emergency Operations Plan) developed in accordance with the State and federal mandated emergency management regulations.

Implementing SCAG’s RTP/SCS will greatly reduce the regional GHG emissions from transportation, helping to achieve statewide emission reduction targets. As shown, the proposed Project would not

conflict with the stated goals of the RTP/SCS; therefore, the proposed Project would not interfere with SCAG's ability to achieve the region's year 2020 and post-2020 mobile source GHG reduction targets outlined in the 2016 RTP/SCS, and it can be assumed that regional mobile emissions will decrease in line with the goals of the RTP/SCS. Furthermore, the proposed Project is not regionally significant per CEQA Guidelines Section 15206 and as such, it would not conflict with the SCAG RTP/SCS targets, since those targets were established and are applicable on a regional level.

The proposed Project would not conflict with an adopted plan, policy, or regulation pertaining to GHGs. For these reasons, *no impact* would occur relative to this topic.

Impact 3.4-3: Project implementation may result in the inefficient, wasteful, or unnecessary use of energy resources. (Less than Significant)

The CEQA Guidelines requires consideration of the potentially significant energy implications of a project. CEQA requires mitigation measures to reduce "wasteful, inefficient and unnecessary" energy usage (Public Resources Code Section 21100, subdivision [b][3]). According to the CEQA Guidelines, the means to achieve the goal of conserving energy include decreasing overall energy consumption, decreasing reliance on natural gas and oil, and increasing reliance on renewable energy sources. In particular, the proposed Project would be considered "wasteful, inefficient, and unnecessary" if it were to violate State and federal energy standards and/or result in significant adverse impacts related to project energy requirements, energy inefficiencies, energy intensiveness of materials, cause significant impacts on local and regional energy supplies or generate requirements for additional capacity, fail to comply with existing energy standards, otherwise result in significant adverse impacts on energy resources, or conflict or create an inconsistency with applicable plan, policy, or regulation.

The proposed Project is an industrial warehouse. The amount of energy used by the proposed Project during operation would directly correlate with the size and type of building, the energy efficiency of associated building equipment and appliances, and outdoor lighting, and energy use associated with other on-site activities. Other project energy uses include fuel used by vehicle trips generated during Project construction and operation, fuel used by off-road construction vehicles during construction activities, and fuel used by Project maintenance activities during Project operation. The following discussion provides a detailed calculation of energy usage expected for the proposed Project, for the unmitigated and mitigated scenarios, as provided by applicable modelling software (i.e. CalEEMod v2016.3.2 and the CARB EMFAC2017). Additional assumptions and calculations are provided within Appendix B of this EIR.

ELECTRICITY AND NATURAL GAS

Electricity and natural gas used by the proposed Project would be primarily to generate energy for on-site buildings, lighting, and water pumping, treatment, and conveyance. As shown in the following tables, "Energy" is one of the categories that was modeled for GHG emissions. The total unmitigated and mitigated GHG emissions generated from the "Energy" category is 759.9 MT CO₂e. The following discussion includes a more detailed breakdown of energy consumption in terms of natural gas and electricity consumption. The proposed Project would implement ways to provide

alternative energy use throughout the Project site, as described by Mitigation Measure 3.4-1 and by Mitigation Measure 3.2-1 as provided in *Section 3.2: Air Quality* of this EIR.

Natural Gas: Unmitigated natural gas energy consumption by land use is presented in Table 3.4-4. This table also includes the GHG emissions that are generated by the natural gas use. See Appendix B of this EIR for further detail.

TABLE 3.4-4: NATURAL GAS USE AND GHG EMISSIONS

	NATURAL GAS USE	TOTAL CO ₂	CH ₄	N ₂ O	CO ₂ E
	kBTU/year	MT/year			
Project Total	9,877,890	527.1	<0.1	<0.1	530.3

SOURCES: CAL EEMOD (v.2016.3.2)

Electricity: Unmitigated electricity energy consumption by land use is presented in Table 3.4-5. This table also includes the GHG emissions that are generated by the electricity use. See Appendix B of this EIR for further detail).

TABLE 3.4-5: ELECTRICITY USE AND GHG EMISSIONS

	ELECTRICITY GAS USE	TOTAL CO ₂	CH ₄	N ₂ O	CO ₂ E
	kWh/year	MT/year			
Project Total	6,226,178	1,501.7	<0.1	<0.1	1,508.8

SOURCES: CAL EEMOD (v.2016.3.2)

These tables are representative of energy usage for the Project's buildout year. According to CalEEMod's *Appendix A: Calculation Details for CalEEMod*, CalEEMod uses the California Commercial End Use Survey (CEUS) database to develop energy intensity value for non-residential buildings.

ON-ROAD VEHICLES (OPERATION)

The proposed Project would generate vehicle trips during its operational phase. A description of Project operational on-road mobile energy usage is provided below.

As provided by CalEEMod, upon operation of the proposed Project, the Project is anticipated to generate approximately 31,768 VMT per day. In order to calculate operational on-road vehicle energy usage and emissions, De Novo Planning Group used fleet mix data from the CalEEMod (v2016.3.2) output for the proposed Project, Year 2023 gasoline and diesel MPG (miles per gallon) factors for individual vehicle classes as provided by EMFAC2017, weighted average MPG factors for gasoline and diesel were derived. Therefore, upon full buildout, the proposed Project would generate operational vehicle trips that would use a total of approximately 803 gallons of gasoline

and 1,124 gallons of diesel per day, or 293,069 gallons of gasoline and 410,284 gallons of diesel per year.

ON-ROAD VEHICLES (CONSTRUCTION)

The proposed Project would also generate on-road vehicle trips during Project construction (from construction workers and vendors travelling to and from the site). The vehicle fuel consumed during these trips was estimated based on the assumed construction schedule, vehicle trip lengths, and number of workers per construction phase as provided by CalEEMod, and Year 2023 gasoline and diesel MPG factors provided by EMFAC2017 (year 2023 factors were used to represent the buildout year). For the sake of simplicity, it was assumed that all construction worker light duty passenger cars and truck trips use gasoline as a fuel source, and all medium and heavy-duty vendor trucks use diesel fuel. Table 3.4-6, below, describes the gasoline and diesel fuel consumed during each construction phase (in aggregate). As shown, the vast majority of on-road mobile vehicle fuel used during the construction of the proposed Project would occur during the building construction phase. There is no feasible mitigation available that would reduce on-road mobile vehicle GHG emissions generated by the Project construction activities (requiring the use of electric construction vehicles was deemed infeasible, given price and availability concerns). See Appendix B of this EIR for a detailed accounting of construction on-road vehicle fuel usage estimates.

TABLE 3.4-6: ON-ROAD MOBILE FUEL GENERATED BY PROJECT CONSTRUCTION ACTIVITIES – BY PHASE

CONSTRUCTION PHASE	# OF DAYS	TOTAL DAILY WORKER TRIPS ^(A)	TOTAL DAILY VENDOR TRIPS ^(A)	TOTAL HAULER WORKER TRIPS ^(A)	TOTAL GALLONS OF GASOLINE FUEL ^(B)	TOTAL GALLONS OF DIESEL FUEL ^(B)
Site Preparation	20	18	0	0	185	0
Grading	45	20	0	0	463	0
Building Construction	440	479	187	0	5,425	4,691
Paving	35	15	0	0	270	0
Architectural Coating	170	96	0	0	420	0
Total	N/A	N/A	N/A	N/A	6,763	4,691

NOTE: ^(A) PROVIDED BY CALEEMOD OUTPUT. ^(B) SEE APPENDIX B OF THIS EIR FOR FURTHER DETAIL

SOURCE: CALEEMOD (v.2016.3.2); EMFAC2017.

OFF-ROAD VEHICLES (CONSTRUCTION)

Off-road construction vehicles would use diesel fuel during the construction phase of the proposed Project. A non-exhaustive list of off-road constructive vehicles expected to be used during the construction phase of the proposed Project includes: forklifts, generator sets, tractors, excavators, and dozers. Based on the total amount of CO₂ emissions expected to be generated by the proposed Project (as provided by the CalEEMod output), and standard conversion factors (as provided by the U.S. Energy Information Administration), the proposed Project would use a total of approximately 15,497 gallons of diesel fuel for off-road construction vehicles. Detailed calculations are provided in Appendix B of this EIR.

CONCLUSION

The proposed Project would use energy resources for the operation of the Project's proposed industrial use (electricity and natural gas), for on-road vehicle trips (e.g. gasoline and diesel fuel) generated by the proposed Project, and from off-road construction activities associated with the proposed Project (e.g. diesel fuel). Each of these activities would require the use of energy resources. The proposed Project would be responsible for conserving energy, to the extent feasible, and relies heavily on reducing per capita energy consumption to achieve this goal, including through statewide and local measures.

The proposed Project would be in compliance with all applicable federal, State, and local regulations regulating energy usage. For example, Southern California Edison (SCE), the electric and natural gas provider to the proposed Project, is responsible for the mix of energy resources used to provide electricity for its customers, and it is in the process of implementing the statewide RPS to increase the proportion of renewable energy (e.g. solar and wind) within its energy portfolio. SCE is expected to achieve at least a 33% mix of renewable energy resources by 2020, and 60% by 2030. Additionally, energy-saving regulations, including the latest State Title 24 building energy efficiency standards ("part 6"), would be applicable to the proposed project. These regulations would require the proposed project buildings to achieve a high level of energy efficiency. For example, part 6 of the latest Title 24 building energy efficiency standards would require improvements for attics, walls, water heating, and lighting, as compared with the previous version of these standards. Other statewide measures, including those intended to improve the energy efficiency of the statewide passenger and heavy-duty truck vehicle fleet (e.g. the Pavley Bill and the Low Carbon Fuel Standard), would improve vehicle fuel economies, thereby conserving gasoline and diesel fuel. These energy savings would continue to accrue over time.

Furthermore, as described previously, the implementation of Mitigation Measure 3.4-1, as well as Mitigation Measures 3.2-1 and 3.2-2 (as provided by Section 3.2: Air Quality) would further reduce Project energy usage (including from electricity, natural gas, and on-road vehicle gasoline and diesel sources). Overall, the incorporation of mitigation measures would ensure that the proposed Project would avoid and reduce inefficient, wasteful, and unnecessary consumption of energy. The proposed Project would comply with all existing energy standards, including those established by the City of Irwindale, the local air district (SCAQMD), and the State of California, and would not be expected to result in significant adverse impacts on energy resources. For these reasons, the proposed Project would not cause an inefficient, wasteful, or unnecessary use of energy resources nor cause a significant impact on any of the threshold as described by the *CEQA Guidelines*. This is a ***less than significant*** impact.

The purpose of this section is to disclose and analyze the potential impacts associated with hazards and hazardous materials related to the Project site and general vicinity, and to analyze the potential for exposure of people to hazards and hazardous materials as the Project is built and operated in the future. This section is based in part on the: City of Irwindale General Plan Update (City of Irwindale as amended through June 2008) and Draft Environmental Impact Report (State Clearinghouse No. 2005071047) – City of Irwindale General Plan (City of Irwindale 2006).

No comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic. Full comments received are included in Appendix A.

3.5.1 ENVIRONMENTAL SETTING

PHYSICAL SETTING

Project Location

The 5175 Vincent Avenue Project site (Project site) is located north of a Los Angeles County-owned pit, east of Allen Drive, south of Arrow Highway, and west of Vincent Avenue in Irwindale, California. The Project site is immediately adjacent to unincorporated Los Angeles County to the south and east. Figures 2.0-1 and 2.0-2 found in Chapter 2.0, Project Description, illustrate the regional location and Project vicinity.

Existing Site Uses

The Project site is the general location of the former Irwindale Pit No. 1 (Manning Brothers Pit) Project. Mining of the Manning Pit began in the 1930s and was completed in the 1970s. The City of Irwindale acquired the northern portion of the pit (approximately 37 acres) in the late 1980s from the County of Los Angeles, and the County retained the remainder (approximately 45 acres) which is currently used as a supplemental water recharge basin in conjunction with the Irwindale Recharge Basin, located just to the west.

After its acquisition, the City began backfilling the site with a variety of construction debris. However, backfilling was stopped in 1992 when it was discovered that improper filling methods had been used by the contractor. In 2008, the City approved new remediation plans and an Initial Study/Mitigated Negative Declaration (which was subsequently amended in 2009) to excavate the improperly filled site and backfill the site again according to all local, regional, state and federal standards. It was estimated that approximately five million cubic yards of additional backfill material would be needed to fill the pit to near street level. All of these incoming materials would need to be screened to make sure they were not contaminated and met backfill requirements. It was estimated that backfilling and grading of the pit would take approximately six to seven years to complete assuming an annual rate of approximately 840,000 cubic yards of backfill materials. The backfilling

and grading of the pit was completed in January 2019. According to the January 23, 2019 report to the Irwindale City Council, the site was filled entirely with clean soil to street-level¹.

Existing Surrounding Uses

The Los Angeles County-owned pit is located south of the Project site, which is currently being utilized as a supplemental water recharge basin. Single-family residential homes exist directly east of the site across Vincent Avenue and approximately 450 feet to the west of the site across Allen Drive. Industrial and business park uses exist to the north of the Project site. Other nearby uses include the Irwindale Plaza, consisting of various restaurants and commercial/retail uses, approximately 0.25 miles northwest of the Project site and City Hall, the City of Irwindale Police Department, and the Irwindale Park approximately 1,000 feet to the west of the Project site.

Site Topography

The Project site is relatively flat and ranges in elevation from approximately 400 to 460 feet above sea level as shown in Figure 2.0-4 in Section 2.0, Project Description.

HAZARDS ASSESSMENT

For the purposes of this EIR, “hazardous material” is defined as provided in California Health & Safety Code, Section 25501:

- Any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment.

“Hazardous materials” include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

“Hazardous waste” is a subset of hazardous materials. For the purposes of this EIR, the definition of hazardous waste is essentially the same as that in the California Health & Safety Code, Section 25517, and in the California Code of Regulations (CCR), Title 22, Section 66261.2:

- Hazardous wastes are wastes that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may either cause, or significantly contribute to, an increase in mortality or an increase in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

¹ City of Irwindale City Council Hearing. (2019). ‘Item No. 2B: Acceptance of Manning Pit Remediation and Grading Project’. In *City Council Minutes January 23, 2019*. City of Irwindale: Council Chambers.

CCR Title 22 categorizes hazardous waste into hazard classes according to specific characteristics of ignitability, corrosivity, reactivity, or toxicity. Hazardous waste with any of these characteristics is also known as a Resource Conservation and Recovery Act (RCRA) waste.

Hazardous materials can be categorized as hazardous non-radioactive chemical materials, radioactive materials, toxic materials, and biohazardous materials. The previous definitions are adequate for non-radioactive hazardous chemicals. Radioactive and biohazardous materials are further defined as follows:

- Radioactive materials contain atoms with unstable nuclei that spontaneously emit ionizing radiation to increase their stability.
- Radioactive wastes are radioactive materials that are discarded (including wastes in storage) or abandoned.
- Toxic wastes are harmful or fatal when ingested or absorbed (e.g., containing mercury, lead). When toxic wastes are land disposed, contaminated liquid may leach from the waste and pollute groundwater.
- Biohazardous materials include materials containing certain infectious agents (microorganisms, bacteria, molds, parasites, and viruses) that cause or significantly contribute to increased human mortality or organisms capable of being communicated by invading and multiplying in body tissues.
- Medical wastes include both biohazardous wastes (byproducts of biohazardous materials) and sharps (devices capable of cutting or piercing, such as hypodermic needles, razor blades, and broken glass) resulting from the diagnosis, treatment, or immunization of human beings, or research pertaining to these activities.

There are countless categories of hazardous materials and hazardous wastes that could be found on any given property based on past uses. Some common examples include agrichemicals (chlorinated herbicides, organophosphate pesticides, and organochlorine pesticides, such as such as Mecoprop (MCPP), Dinoseb, chlordane, dichloro-diphenyltrichloroethane (DDT), and dichloro-diphenyl-dichloroethylene (DDE)), petroleum based products (oil, gasoline, diesel fuel), a variety of chemicals including paints, cleaners, and solvents, and asbestos-containing or lead-containing materials (e.g., paint, sealants, pipe solder).

Adjoining Properties

The Project site is bounded on the north by industrial warehouses, on the west by undeveloped, recently filled, land apart of the former aggregate mine pit (Manning Pit), on the east by Vincent Avenue, and on the south by supplemental recharge basins. Single family residences are located to the east across Vincent Avenue and approximately 450 feet to the west across Allen Drive.

Site Reconnaissance

On April 23, 2019, the Los Angeles Regional Water Quality Control Board (LARWQCB) staff conducted a site reconnaissance (State of California Regional Water Quality Control Board Los Angeles Region Order No. R4-2019-0107). LARWQCB staff observed that the pit had been filled to street level and

that the property was ready for redevelopment. De Novo Planning Group performed a site reconnaissance in February 2020 to confirm the site conditions.

Historical Use Information

Historical information was reviewed to develop a history of the previous uses on the Project site and surrounding area, in order to evaluate the Project site and adjoining properties for evidence of any environmental concerns. Standard historical sources reviewed included the following, as available: Aerial Photographs, Remediation Reports, Environmental Records, and Databases.

AERIAL PHOTOGRAPHS

Aerial photographs of the Project site and general vicinity were reviewed. Mining of the Manning Pit began in the 1930s and was completed in the 1970s. In the late 1980s, the City of Irwindale acquired the northern portion of the pit (approximately 37 acres) from the County of Los Angeles and appears to have been backfilling the site with a variety of construction debris until 1992. The County retained the remaining southern portion of the pit (approximately 45 acres), which has been used as a supplemental water recharge basin since the mid-1990s. From 1992 to 2008, the Project site appears to have been left undeveloped and vacant. From 2008 to present day, remediation efforts appear to have started.

REMEDIATION OVERVIEW

As previously noted, the backfilling and grading of the Manning Pit was completed in January 2019. On January 23, 2019, the City Manager presented the results of the remediation activities to the City Council and recommended the City Council approve and accept the remediation project and authorize staff to prepare and submit a pit closure report to the LARWQCB. According to the report to City Council, good results were achieved from site compaction tests. Additionally, the site was filled entirely with clean soil and determined to be clean to state and federal standards for housing development. The City Council unanimously approved the remediation project.²

On April 11, 2019, a report titled *Fill Completion Report, North Portion of Manning Pit*, dated January 7, 2019, was submitted to the LARWQCB to inform the Board that the objective of filling the pit to surrounding grade had been completed, and request termination of waste discharge requirements (WDRs). During an inspection of the site on April 23, 2019, LARWQCB staff observed the former mining pit had been filled to street level and that the property was ready for redevelopment. On September 12, 2019, the LARWQCB adopted Order No. R4-2002-0103 to terminate the WDRs finding that the requirements were no longer necessary because discharge of wastes at the site had ceased.

² City of Irwindale City Council Hearing. (2019). 'Item No. 2B: Acceptance of Manning Pit Remediation and Grading Project'. In *City Council Minutes January 23, 2019*. City of Irwindale: Council Chambers.

ENVIRONMENTAL RECORDS

A search of local, state, and federal agency databases for the Project site and known contaminated sites in the vicinity was performed. None of the parcels in the Project site were found to contain any known contamination.

The U.S. Environmental Protection Agency (EPA) Toxic Release Inventory (TRI) tracks the management of certain toxic chemicals that may pose a threat to human health and the environment. Certain industrial facilities in the U.S. must report annually how much of each chemical is recycled, combusted for energy recovery, treated for destruction, and disposed of or otherwise released on- and off-site. The EPA TRI does not list data on disposal or other releases of toxic chemicals in the Project site (USEPA, 2019). There are four TRI sites in the City of Irwindale. The nearest TRI site is the Miller Brewing Company located at 15801 E. 1st Street, approximately 1.2 miles northwest of the Project site. See Table 3.5-1 for a complete list of sites identified by the EPA TRI database the City of Irwindale.

TABLE 3.5-1: EPA TRI FACILITIES WITHIN THE CITY OF IRWINDALE

<i>SITE NAME</i>	<i>CHEMICALS RELEASED</i>	<i>TRI CHEMICAL ID</i>	<i>ADDRESS</i>
Miller Brewing Company	Ammonia	007664417	15801 E. 1 st St., Irwindale
Irwindale Plant 3	Lead Compounds	N420	13631 Live Oak Ave., Irwindale
National Ready Mixed Concrete Company	-	-	2620 Buena Vista St., Irwindale
Calportland Company Live Oak Plant	Lead Compounds	N420	590 E Live Oak Ave., Irwindale

SOURCE: EPA, TRI EXPLORER 2018 FACT SHEET, RELEASED NOVEMBER 2019.

The California Department of Toxic Substances Control (DTSC) maintains the *Envirostor Data Management System*, which provides information on hazardous waste facilities (both permitted and corrective action) as well as any available site cleanup information. There are no sites listed in the Envirostor database within the Project site. The nearest site listed on the Envirostor database is located at 1211 W. Gladstone Street in Azusa, CA, approximately 0.6 miles north of the Project site. This Azusa Land Reclamation site was a rock and gravel quarry that slowly started accepting different types of wastes. In 1984, an inspection was done in response of reports that the site had accepted disposal of hazardous waste. The investigation concluded that some illegal dumping occurred and was already excavated and the other alleged reports were unconfirmed. Thus, the DTSC determined a “No Further Action” cleanup status on March 9, 1995.

GeoTracker is the State Water Resources Control Board’s (SWRCB’s) Internet-accessible database system used by the SWRCB, regional boards, and local agencies to track and archive compliance data from authorized or unauthorized discharges of waste to land, or unauthorized releases of hazardous substances from underground storage tanks (USTs). See Table 3.5-2 for a complete list of sites identified by the GeoTracker database within 0.5 miles of the Project site.

TABLE 3.5-2: GEOTRACKER HAZARDOUS MATERIAL RELEASE SITES WITHIN 0.5 MILES OF PROJECT SITE

<i>SITE NAME</i>	<i>TYPE</i>	<i>CLEANUP STATUS</i>	<i>ADDRESS</i>
Granger's Air Conditioning	LUST Cleanup Site	Completed – Case Closed	16336 Arrow Highway E Irwindale
City of Irwindale Service Yard	LUST Cleanup Site	Completed – Case Closed	16034 Calle del Norte Irwindale
FMR Fairchild Industries / FMR Pacific Precision Metals	Cleanup Program Site	Completed – Case Closed	601 S. Vincent Avenue Azusa
Textone Inc (AKA Woonteck)	LUST Cleanup Site	Completed – Case Closed	1048 Kirkwall Road W Azusa
Elhodor Inc/Wood Tech	LUST Cleanup Site	Completed – Case Closed	1136 Kirkwall Road W Azusa
McKeand Mechanical	LUST Cleanup Site	Completed – Case Closed	1045 Kirkwall Road W Azusa
McKeand Mechanical	LUST Cleanup Site	Completed – Case Closed	1111 Kirkwall Road Azusa
Cardlock Fuels, CFS8	LUST Cleanup Site	Completed – Case Closed	575 S Vincent Avenue Azusa

NOTE: LUST = LEAKING UNDERGROUND STORAGE TANK.

SOURCE: SWRCB, GEOTRACKER, 2020.

The Solid Waste Information System (SWIS) is a database of solid waste facilities that is maintained by the California Integrated Waste Management Board (CIWMB). The SWIS data identifies active, planned and closed sites. According to the SWIS Facility database, the Manning Brothers Class III Landfill was previously located on the Project site; however, the landfill is closed and has not been active since December 31, 1992. The nearest active facility, Azusa Transfer and MRF, is located approximately 0.6 miles north of the Project site.

DATABASES

There is a broad list of federal and state databases that provide information for sites with varying potential for risk from the possible existence of hazardous materials. There are numerous redundancies among these various database listings. Below is a brief summary of each.

National Priorities List: The National Priorities List (NPL) of Superfund Sites and Proposed NPL Sites is EPA's database of more than 1,200 sites designated or proposed for priority cleanup under the Superfund program. NPL sites may encompass relatively large areas. The Project site is not listed in this database.

RCRIS System: The Resource Conservation and Recovery Information System (RCRIS) is an EPA database that includes selective information on sites that generate, transport, store, treat, and/or dispose of hazardous waste as defined by RCRA. Identification on this list does not indicate that there has been an impact on the environment. The Project site is not listed in this database.

CERCLIS Data: Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) is an EPA database that contains information on potential hazardous waste sites that have been reported to the EPA by states, municipalities, private companies, and individuals, pursuant to Section 103 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). CERCLIS contains sites that are either proposed for or on the NPL, as well as

sites that are in the screening and assessment phase for possible inclusion on the NPL. The Project site is not listed in this database.

CORRACTS: Corrective Action Report (CORRACTS) is an EPA database that identifies hazardous waste handlers with RCRA corrective action activity. The Project site is not listed in this database.

Cortese Database: The Cortese database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic material identified through the abandoned site assessment program, sites with USTs having a reportable release, and all solid waste disposal facilities from which there is known hazardous substance migration. The source of this database is the California Environmental Protection Agency (Cal-EPA) and are found in the GeoTracker database. The Project site is not listed in this database.

GeoTracker has replaced past databases, such as the Leaking Underground Storage Tank Information System (LUSTIS) and the Underground Storage Tank (UST) database. Permitted USTs are not located in the Project site. The nearest permitted UST is at an Arco station, located approximately 0.36 miles northwest of the Project site.

None of the records reviewed for the Project site indicate there are any environmental concerns associated with the Project site.

Hazardous Material Sites

As noted above, the State of California Hazardous Waste and Substances Site List (also known as the "Cortese List") is a planning document used by the state, local agencies, and developers to comply with the California Environmental Quality Act (CEQA) requirements for providing information about the location of hazardous materials sites. Government Code Section 65962.5 requires the Cal EPA to annually update the Cortese List. The DTSC is responsible for preparing a portion of the information that comprises the Cortese List. Other state and local government agencies are required to provide additional hazardous material release information that is part of the complete list.

GeoTracker is a geographic information system (GIS) that provides online access to environmental data and is the interface to the Geographic Environmental Information Management System (GEIMS), a data warehouse which tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies. Searches of the above resources and records identified eight hazardous material sites within 0.5 mile of the Project site known to handle and store hazardous materials that are associated with a hazardous material related release or occurrence. The terms "release" or "occurrence" include any means by which a substance could harm the environment: by spilling, leaking, discharging, dumping, injecting, or escaping.

Table 3.5-2 identifies the hazardous material sites and associated hazard within 0.5 mile of the Project site. Additionally, Table 3.5-3 displays the known hazardous material sites and associated hazards within 1.0 mile of the Project site. As noted previously, none of the parcels in the Project site were found to contain any known contamination. The nearest open cases to the Project site are the IOPTEx, Inc. cleanup program site and the Valley Clutch Co. Inc. and American Capacitor Corp cleanup program sites located approximately 0.5 mile west and 0.6 mile northwest of the Project

site, respectively. The Project site and the surrounding areas do not contain identified oil and gas monitoring wells.

TABLE 3.5-3: GEOTRACKER HAZARDOUS MATERIAL RELEASE SITES WITHIN 1.0 MILE OF PROJECT SITE

<i>SITE NAME</i>	<i>TYPE</i>	<i>CLEANUP STATUS</i>	<i>ADDRESS</i>
Granger's Air Conditioning (T0603705503)	LUST Cleanup Site	Completed – Case Closed	16336 Arrow Highway E Irwindale
City of Irwindale Service Yard (T10000000509)	LUST Cleanup Site	Completed – Case Closed	16034 Calle del Norte Irwindale
FMR Fairchild Industries/FMR Pacific Precision Metals (SL603798907)	Cleanup Program Site	Completed – Case Closed	601 S. Vincent Avenue Azusa
Textone Inc (AKA Woontek) (T0603703354)	LUST Cleanup Site	Completed – Case Closed	1048 Kirkwall Road W Azusa
Elhodor Inc/Wood Tech (T0603703356)	LUST Cleanup Site	Completed – Case Closed	1136 Kirkwall Road W Azusa
McKeand Mechanical (T0603704121)	LUST Cleanup Site	Completed – Case Closed	1045 Kirkwall Road W Azusa
McKeand Mechanical (T0603704163)	LUST Cleanup Site	Completed – Case Closed	1111 Kirkwall Road Azusa
Cardlock Fuels, CFS8 (T10000000195)	LUST Cleanup Site	Completed – Case Closed	575 S Vincent Avenue Azusa
Irwindale Redevelopment (T0603703009)	LUST Cleanup Site	Completed – Case Closed	4900 Irwindale Avenue Irwindale
Rodriguez Trucking (T10000000418)	LUST Cleanup Site	Completed – Case Closed	4938 Azusa Canyon Road Irwindale
General Telephone Company (T0603704631)	LUST Cleanup Site	Completed – Case Closed	5010 Azusa Canyon Road N Irwindale
Shannon Casket Co (T0603704656)	LUST Cleanup Site	Completed – Case Closed	15744 Arrow Highway E Irwindale
IOPTEx Inc. (SL603798877)	Cleanup Program Site	Open – Inactive	15715 Arrow Highway Irwindale
Specialty Organics, Inc. (T0603703325)	LUST Cleanup Site	Completed – Case Closed	5263 4 th Street N Irwindale
Valley Clutch Co. Inc. (SL603798885)	Cleanup Program Site	Open – Inactive	5396 Third Street Irwindale
American Capacitor Corp. (SL603798884)	Cleanup Program Site	Open – Inactive	5367 Third Street Irwindale
Jason Wood Products (SL603798879)	Cleanup Program Site	Open – Inactive	15519 Arrow Highway Irwindale
Davis Walker Corporation (T0603700169)	LUST Cleanup Site	Completed – Case Closed	5555 Irwindale Avenue Irwindale
Liquid Carbonic (T0603704614)	LUST Cleanup Site	Completed – Case Closed	16125 Ornelas Street Irwindale
Transit Mixed Concrete Co. (T0603703362)	LUST Cleanup Site	Completed – Case Closed	1201 Gladstone Street Azusa
The Norac Co. (SL603798883)	Cleanup Program Site	Open – Inactive	405 S. Motor Avenue Azusa
Reichhold Chemicals, Inc. (SL603798901)	Cleanup Program Site	Open – Site Assessment	237 S. Motor Avenue Azusa
James Restino (T0603705330)	LUST Cleanup Site	Completed – Case Closed	245 Irwindale Avenue Azusa
Hectors Auto Repair (T0603703368)	LUST Cleanup Site	Completed – Case Closed	301 Irwindale Avenue Azusa
Anglemyer Parts & Service Inc. (SL603798897)	Cleanup Program Site	Completed – Case Closed	320 S. Irwindale Avenue Azusa

<i>SITE NAME</i>	<i>TYPE</i>	<i>CLEANUP STATUS</i>	<i>ADDRESS</i>
CEMEX (T0603760148)	LUST Cleanup Site	Completed – Case Closed	1201 Gladstone Street Azusa
Azusa Light & Power (T0603772260)	LUST Cleanup Site	Completed – Case Closed	710 Gladstone Street Azusa
A-Z Service Station (T0603705553)	LUST Cleanup Site	Completed – Case Closed	16940 Gladstone Street Azusa
Challenge Transport, Inc. (SL603798893)	Cleanup Program Site	Open – Inactive	1190 W. Gladstone Street Azusa
Azusa Land Reclamation Co. (SL603798874)	Cleanup Program Site	Open – Inactive	1168 W. Gladstone Street Azusa
Products Eng. Corp. (SL603798906)	Cleanup Program Site	Completed – Case Closed	503 S. Vincent Avenue Azusa
Azusa Fuel (Former) (T0603794723)	LUST Clean Up Site	Completed – Case Closed	16677 Arrow Highway Azusa

NOTE: LUST = LEAKING UNDERGROUND STORAGE TANK.

SOURCE: SWRCB, GEOTRACKER, 2020.

Transportation of Hazardous Materials

The transportation of hazardous materials within the City of Irwindale Planning Area is subject to various federal, state, and local regulations. The following provisions are included in the California Vehicle Code (CVC) and pertain to the transportation of hazardous related materials.

- The Highway Patrol designates the routes in California which are to be used for the transportation of explosives. (Section 31616)
- The CVC applies when the explosives are transported as a delivery service for hire or in quantities in excess of 1,000 pounds. The transportation of explosives in quantities of 1,000 pounds or less, or other than on a public highway, is subject to the California Health and Safety Code. (Section 31601(a))
- It is illegal to transport explosives or inhalation hazards on any public highway not designated for that purpose, unless the use of the highway is required to permit delivery of, or the loading of, such materials. (Section 31602(b) and Section 32104(a))
- When transporting explosives through or into a city for which a route has not been designated by the Highway Patrol, drivers must follow routes as may be prescribed or established by local authorities. (Section 31614(a))
- Inhalation hazards and poison gases are subject to additional safeguards. These materials are highly toxic, spread rapidly, and require rapid and widespread evacuation if there is loss of containment or a fire. The Highway Patrol designates through routes to be used for the transportation of inhalation hazards. It may also designate separate through routes for the transportation of inhalation hazards composed of any chemical rocket propellant. (Section 32100 and Section 32102(b))

In addition to area roadways, hazardous materials are routinely transported on Union Pacific Railroad (UPRR) lines that are roughly 0.25-mile northwest of the Project boundary. Although hazardous materials are transported on these lines, the risk of accidents, and more specifically accidents involving hazardous materials, is relatively low. The U.S. Department of Transportation Federal Railroad Administration found the UPRR company train accident rate to be 4.18 train accidents per one million train miles traveled, resulting in a less than 0.001% chance of an accident.

Risk of a railroad accident containing hazardous materials is much lower, as only an average of eight accidents involving hazardous material spills occur annually in California.

The UPRR Company does implement a security plan in compliance with the Department of Transportation Final Rule 49 CFR Part 172 Hazardous Materials (HM 232): Security Requirements for Offerors and Transporters of Hazardous Materials. The plan includes requirements to enhance the security of transported hazardous materials and ensures proper cleanup procedures in the instance of an accidental release.

FIRE HAZARDS

Wildfires are a major hazard in the State of California. Wildfires burn natural vegetation on developed and undeveloped lands and include timber, brush, woodland, and grass fires. While low intensity wildfires have a role in the County's ecosystem, wildfires put human health and safety, structures (e.g., homes, schools, businesses, etc.), air quality, recreation areas, water quality, wildlife habitat and ecosystem health, and forest resources at risk. Wildland fire hazards exist in varying degrees in the foothill portion of the County located to the east and southwest of the Project site. The California Department of Forestry has designated the northern edge of the City as a Local Responsibility Area (LRA), which is within the very high fire hazard severity zone; however, this rating does not extend to the Project site. Additionally, the Project site is not located within a State Responsibility Area (SRA). The Project site is located in an area that is predominately urban and industrial, which is not considered at a significant risk of wildfire.

3.5.2 REGULATORY SETTING

FEDERAL

The primary federal agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the EPA, Department of Labor Occupational Safety and Health Administration (OSHA), and the Department of Transportation (DOT). Several laws governing the transport, storage, and use of hazardous materials are governed by these agencies as well as oversight for contaminated sites cleanup. Federal laws and regulations that are applicable to hazards and hazardous materials are presented below.

Resource Conservation and Recovery Act

The 1976 Federal Resource Conservation and Recovery Act (RCRA) and the 1984 RCRA Amendments regulate the treatment, storage, and disposal of hazardous and non-hazardous wastes. The legislation mandated that hazardous wastes be tracked from the point of generation to their ultimate fate in the environment. This includes detailed tracking of hazardous materials during transport and permitting of hazardous material handling facilities.

The 1984 RCRA amendments provided the framework for a regulatory program designed to prevent releases from USTs. The program established tank and leak detection standards, including spill and overflow protection devices for new tanks. The tanks must also meet performance standards to

ensure that the stored material will not corrode the tanks. The RCRA was further amended in 1988 to set additional standards for USTs.

In July 2015, the EPA revised the federal UST regulation, which strengthened the 1988 federal UST regulations by increasing emphasis on properly operating and maintain UST equipment. The revision added new operation and maintenance requirements and addressed UST systems deferred in the 1988 UST regulation. The purpose of the revision was to help prevent and detect UST releases, which are a leading source of groundwater contamination. To ensure compliance performance measures reflect the 2015 UST regulation, the Environmental Protection Agency (EPA) and the Association of State and Territorial Solid Waste Management Officials coordinated to update existing compliance performance measures and add new measures. The measures required states to switch from tracking compliance against significant operational compliance measures to the more stringent technical compliance rate (TCR) measures. As of October 2019, only 43.7 percent of USTs were in compliance with all TCR categories.

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) introduced active federal involvement to emergency response, site remediation, and spill prevention, most notably the Superfund program. The Act was intended to be comprehensive in encompassing both the prevention of, and response to, uncontrolled hazardous substances releases. The Act deals with environmental response, providing mechanisms for reacting to emergencies and to chronic hazardous material releases. In addition to establishing procedures to prevent and remedy problems, it establishes a system for compensating appropriate individuals and assigning appropriate liability. It is designed to plan for and respond to failure in other regulatory programs and to remedy problems resulting from action taken before the era of comprehensive regulatory protection.

Natural Gas Pipeline Safety Act

The Natural Gas Pipeline Safety Act authorizes the U.S. DOT Office of Pipeline Safety to regulate pipeline transportation of natural (flammable, toxic, or corrosive) gas and other gases as well as the transportation and storage of liquefied natural gas. The Office of Pipeline Safety regulates the design, construction, inspection, testing, operation, and maintenance of pipeline facilities. While the federal government is primarily responsible for developing, issuing, and enforcing pipeline safety regulations, the pipeline safety statutes provide for State assumption of the intrastate regulatory, inspection, and enforcement responsibilities under an annual certification. To qualify for certification, a state must adopt the minimum federal regulations and may adopt additional or more stringent regulations as long as they are not incompatible.

STATE

The primary state agencies that are responsible for overseeing regulations and policies regarding hazardous materials are the California Office of Emergency Services (OES), Cal-EPA, Department of Toxic Substances Control (DTSC), California Department of Transportation (Caltrans), California Highway Patrol (CHP), California Water Quality Control Board, and the California Air Resources Board

(CARB). Several laws governing the generation, transport, and disposal of hazardous materials are administered by these agencies. State laws and regulations that are applicable to hazards and hazardous materials are presented below.

California Health and Safety Code

Cal-EPA has established rules governing the use of hazardous materials and the management of hazardous wastes. Many of these regulations are embodied in the California Health and Safety Code. The code includes regulations that govern safe drinking water, substances control, land reuse and revitalization, remediation, restoration, and methamphetamine contaminated cleanups.

California Code of Regulations Title 22 and Title 26

The California Code of Regulations (CCR) Title 22 provides state regulations for hazardous materials, and CCR Title 26 provides regulation of hazardous materials management. In 1996, Cal/EPA established the “Unified Hazardous Waste and Hazardous Materials Management Regulatory Program” (Unified Program) which consolidated the six administrative components of hazardous waste and materials into one program.

LOCAL

Los Angeles County Office of Emergency Management

The Los Angeles County Office of Emergency Management maintains an approved Operational Area Emergency Response Plan (OAERP) for 88 cities, 137 unincorporated communities, and 288 special districts in the county. The OAERP establishes the coordinated emergency management system, which includes prevention, protection, response, recovery and mitigation within the operational area. The OAERP incorporates and complies with the principles and requirements found in Federal and State laws, regulations and guidelines. The OAERP is compliant with the National Incident Management System; the National Response Framework; and, the Standardized Emergency Management System.

The Office of Emergency Management also prepared the 2019 County of Los Angeles All-Hazards Mitigation Plan (AHMP) to meet the Disaster Mitigation Act of 2000. The 2019 AHMP assesses risks posed by natural hazards and identifies a mitigation action plan for reducing the risks in Unincorporated Los Angeles County. The 2019 AHMP is organized to follow the Federal Emergency Management Agency’s Local Mitigation Plan Review Tool, which demonstrates how local Hazard Mitigation Plans meet the DMA 2000 regulations.

Los Angeles County Fire Department Health Hazardous Materials Division

The California Environmental Protection Agency designates specific local agencies as Certified Unified Program Agencies (CUPA), typically at the county level. The Los Angeles County Fire Department’s Health and Hazardous Materials Division is the CUPA designated for City of Irwindale. The Los Angeles County Fire Department’s Health and Hazardous Materials Division is responsible for the implementation of statewide programs within its jurisdiction, including: the Hazardous Waste Generator Program, the Hazardous Materials Release Response Plans and Inventory Program,

the California Accidental Release Prevention Program (Cal-ARP), the Aboveground Storage Tank Program and the Underground Storage Tank Program, etc. Implementation of these programs involves permitting, inspecting, providing education/guidance, investigations, and enforcement.

The Health and Hazardous Materials Division (HHMD) also provides 24-hour emergency services in response to hazardous materials spills or releases and abandonment that occur in areas of HHMD CUPA jurisdiction and in the cities of Los Angeles and Santa Monica. As Deputy Health Officers, the Emergency Response Specialists perform multiple job duties at emergency incidents which include hazard materials categorization, technical advising, entry team participation, and evacuation and re-occupancy determination.

The Los Angeles County Fire Department's HHMD also has a Site Mitigation Unit (SMU) to facilitate the completion of site clean-up projects. The Los Angeles County Fire Department's Site Mitigation Unit's goal is protection of public health and the environment while facilitating completion of site clean-up projects in an expeditious manner. The Los Angeles County Certified Unified Program Agency (LACoCUPA) established its SMU in 1986. Since 1986, the SMU has issued closure for over 800 sites. The SMU's voluntary oversight program operates per Health and Safety Code §101480 which allows oversight of certain contaminated sites. In addition, in May 2008, DTSC delegated corrective action oversight authority to LACoCUPA under chapter 6.5 of Division 20 of California Health and Safety code to implement corrective action under consent agreement at CUPA facilities within its jurisdiction. The SMU voluntary oversight and corrective action oversight programs are options in addition to DTSC and Regional Water Quality Control Board (RWQCB) oversight programs for residents and businesses of Los Angeles County seeking oversight in a cost effective and timely manner for cleanup of their contaminated properties.

City of Irwindale Natural Hazard Mitigation Plan

On February 27, 2013, the City of Irwindale City Council adopted the Natural Hazard Mitigation Plan (NHMP) in accordance with the Federal Disaster Mitigation Act of 2000. The NHMP is a collection of analyses, policies, and actions that serve as a blueprint for how the City of Irwindale can achieve sustainability and disaster resiliency. The Plan ensures that the City of Irwindale will be eligible for future pre-disaster and post-disaster mitigation program funds from the Federal Emergency Management Agency to ensure the health, safety, and welfare of its citizens.

City of Irwindale General Plan

POLICIES: PUBLIC SAFETY ELEMENT

- **Policy 1.** The City of Irwindale will continue to review and if necessary, update its comprehensive emergency preparedness plan and hazard mitigation plan.
- **Policy 2.** The City of Irwindale, at a minimum, will maintain current emergency response standards.
- **Policy 3.** The City of Irwindale will work to reduce potential hazards through conscientious land use planning. The City shall require liquefaction assessment studies as part of development proposals in areas identified by the California Geological Survey as susceptible to liquefaction. The studies shall be conducted in accordance with the California Geological

Survey's Special Publication 117; Guidelines for Evaluating and Mitigating Seismic Hazards in California, and the Southern California Earthquake Center's (1999) procedures to implement Special Publication 117 – Liquefaction Hazards (both documents are incorporated herein by reference). On sites shown to be susceptible to liquefaction, the City shall require the implementation of mitigation measures designed to reduce this hazard to an acceptable level. The City shall require a State-certified engineering geologist or registered civil engineer; have competence in the field of seismic hazard evaluation and mitigation, to review the study at the Applicant's expense. The review shall determine the adequacy of the hazard evaluation and proposed mitigation measures and determine whether the requirements of State law are satisfied, as described in Special Publication 117 by the California Geological Survey.

City of Irwindale Municipal Code

The City of Irwindale's Municipal Code (Code) addresses a variety of hazards and related topics, including hazardous materials and waste and safety. The California Fire Code is adopted as Chapter 15.12 of the Code. Chapter 13.04 of the Code is the Sanitary Sewer and Industrial Waste Ordinance, which regulates the discharge, deposit and disposal of all waste, including any material which may cause pollution of underground or surface waters, in, upon or affecting the City; the design, construction, alteration, use and maintenance of public sewers and house laterals, industrial connection sewers, water pollution control plants, sewage pumping plants, industrial liquid-waste pretreatment plants, dairy screen-chambers, sand and grease interceptors, and appurtenances; the issuance of permits and the collection of fees therefore, and fees to pay the cost of checking plans, inspecting the construction and making record plans of the facilities permitted. Chapter 13.08 of the Code establishes regulations for underground utility districts. Any business operation requesting the use, sale or storage of hazardous materials would also be subject to Conditional Use Permit per IMC Subsection 17.80.030(27).

3.5.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact from hazards and hazardous materials if it will:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment.

- For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.
- Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

IMPACTS AND MITIGATION MEASURES

Impact 3.5-1: Potential to create a significant hazard through the routine transport, use, or disposal of hazardous materials or through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. (Less than Significant with Mitigation)

CONSTRUCTION PHASE IMPACTS

On-site reconnaissance, historical records, and the past uses of the site indicate that there are no known underground storage tanks or pipelines located on the Project site that contain hazardous materials. The Project site has been highly disturbed through mining, reclamation, and backfilling for nearly 100 years. As previously noted, the Project site has undergone remediation activities to properly fill the historic mining pit and prepare the site for future development. The backfilling and grading were completed in January 2019. According to City records, the site was completely filled with clean soil and is clean to state and federal standards for housing development. Additionally, the LARWQCB adopted Order No. R4-2002-0103, which terminated the WDRs for the site due to the board determining that the property was ready for redevelopment and that discharges of waste at the site had ceased. During the backfilling operation, no pipes or storage tanks were placed on the site, nor were these facilities constructed within the site. Therefore, the disturbance of such items during Project construction activities would not occur.

Construction activities would occur in phases through the development of the proposed Project. Construction equipment and materials would likely require the use of petroleum-based products (oil, gasoline, diesel fuel), and a variety of chemicals including paints, cleaners, and solvents. The use of these materials at a construction site could pose a reasonable risk of release into the environment if not properly handled, stored, and transported. More specifically, a release into the environment could pose significant impacts to the health and welfare of people and/or wildlife, and could result in contamination of water (groundwater or surface water), habitat, and other natural resources. Transportation, storage, use, and disposal of hazardous materials during construction activities would be required to comply with applicable federal, state, and local statutes and regulations. Compliance would ensure that human health and the environment are not exposed to hazardous materials resulting in a significant impact.

OPERATIONAL PHASE IMPACTS

The operational phase would occur after construction is completed and business operations commence on a day-to-day basis. Due to the past use of the site and the recent remediation efforts completed by the City, soil contamination and underground facilities (i.e., underground wells, septic systems, etc.) do not occur within the site.

There is not a specific end user/business established for the building at this time. The uses for the proposed building may include any of the following: Manufacturing Warehouse, Light Industrial, High-Cube Short-term, and High-Cube Transload; refer to Section 2.0, Project Description. These uses are allowed under the Industrial/Business Park land use designation and M-2 "Heavy Manufacturing" zoning designation. However, the Project would be conditioned to specifically prohibit the following uses: fulfillment center, parcel hub, and cold storage facility.

Depending on the ultimate end user, there is a risk of release of hazardous materials into the environment if they are not stored and handled in accordance with best management practices. There is a wide variety of hazardous materials that could be used as part of industrial and commercial operations within the proposed warehouse building. Any operations that involve the use of hazardous materials would be required to have the hazardous material transported, stored, used, and disposed of in compliance with local, state, and federal regulations. The Los Angeles County Fire Department Health Hazardous Materials Division is the CUPA for Los Angeles County and is responsible for the implementation of statewide programs within the City including Hazardous Materials Business Plan (HMBP) requirements, among numerous other programs. Implementation of this program involves permitting, inspecting, providing education/guidance, investigations, and enforcement. The Los Angeles County Fire Department Health Hazardous Materials Division also requires facilities/businesses to report hazardous materials using the California Environmental Reporting System (CERS) that exceed the hazardous materials reporting thresholds outlined in their Hazardous Materials Reporting Matrix as well as the thresholds under State Law, pursuant to Health & Safety Code (HSC), Chapter 6.95, Article 1, §25507. State law requires that specified changes or updates to a facility's reportable inventory be submitted in CERS within 30 days (HSC §25508.1). In addition, a facility is required to submit the hazardous materials inventory annually by the deadline set by the Los Angeles County Fire Department Health Hazardous Materials Division. Consistency with local, state, and federal regulations related to the transport, storage, use, and disposal of hazardous materials ensures that the potential risk of upset and accident conditions from a release is minimized to the extent practical.

CONCLUSION

Implementation of the federal, state, and local requirements for the proper handling, transport, and disposal of hazardous materials would reduce potential impacts associated with the Project. As the specific end user is not currently known, compliance with the following mitigation measure will ensure that business operators consult with the Los Angeles County Fire Department Health Hazardous Materials Division for education/guidance related to specific requirements that their businesses must implement in the day-to-day operations. This includes the establishment of management practices for handling, storing, and disposal of hazardous materials, including fuels,

paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. It also includes consultation related to specific permits that a business may require in order to operate (i.e. permits of underground storage tanks if they are part of the business). Impacts associated with potential hazards or hazardous conditions as a result of the proposed Project would be **less than significant** with mitigation.

MITIGATION MEASURE(S)

Mitigation Measure 3.5-1: *Prior to the commencement of a business operation that involves the transport, storage, use, or disposal of quantities of hazardous materials that exceed the hazardous materials reporting thresholds set by the Los Angeles County Fire Department Health Hazardous Materials Division and State within the Project site, the business owner shall submit a Hazardous Materials Business Plan (HMBP) for review and approval by the Los Angeles County Fire Department Health Hazardous Materials Division. The HMBP shall establish management practices for handling, storing, and disposal of hazardous materials, including fuels, paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. The HMBP shall also identify the appropriate area for mixing/loading pesticides and fertilizers and for fuel dispensing, which shall be separated to ensure safety. The areas shall be designed with spillage catchments such that any accidental spillage is prevented from entering waterways. The business owner shall also consult with the Los Angeles County Fire Department Health Hazardous Materials Division to ensure that the particular business operations are compliant with all local, state, and federal regulations relative to their operations (i.e. proper permits for the installation and use of an underground storage of hazardous substances (USTs)). The approved HMBP and any other permit deemed to be required in order to commence the specific business operations shall be maintained onsite and all personnel shall acknowledge that they have reviewed and understand the HMBP and any other permit requirements.*

Impact 3.5-2: Potential to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. (Less than Significant)

The closest school to the Project site is Alice M. Ellington Elementary School. The southwestern corner of this school site, which contains a vacant field area, is located approximately 0.20 mile east of the southeastern corner of the proposed Project site. The nearest building on the school site is located approximately 0.24 mile east of the southeastern corner of the proposed Project site; the proposed warehouse building would be over 0.25 mile from the nearest building at Alice M. Ellington Elementary School.

Depending on the ultimate end user, there is a risk of release of hazardous materials into the environment if they are not stored and handled in accordance with best management practices. As noted previously, the Los Angeles County Fire Department Health Hazardous Materials Division is the CUPA for Los Angeles County and is responsible for the implementation of statewide programs within the City including HMBP requirements, among numerous other programs. Implementation of this program involves permitting, inspecting, providing education/guidance, investigations, and

enforcement. Consistency with local, state, and federal regulations related to the transport, storage, use, and disposal of hazardous materials ensures that the potential risk of upset and accident conditions from a release is minimized to the extent practical. The proposed Project business owner would be required to submit a HMBP, as required by Mitigation Measures 3.5-1.

By implementing Mitigation Measure 3.5-1, the Project business owner would establish management practices for handling, storing, and disposal of hazardous materials, including fuels, paints, cleaners, solvents, pesticides, fertilizers, etc., during operations to reduce the potential for spills and to direct the safe handling of these materials if encountered. Additionally, the proposed warehouse building would be over 0.25 mile from the nearest building at Alice M. Ellington Elementary School. Therefore, implementation of the proposed Project would result in a **less than significant** impact relative to this topic.

Impact 3.5-3: Potential to result in impacts from being included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. (Less than Significant)

As previously noted, the backfilling and grading of the project site was completed in January 2019. The site was filled entirely with clean soil and is clean to state and federal standards for housing developments. Additionally, the Project site is not on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. Implementation of the proposed Project would have a **less than significant** impact with regards to this environmental issue.

Impact 3.5-4: Potential to result in a safety hazards for people residing or working on the Project site as a result of public airport, public use airport, or private airstrip. (No Impact)

The Federal Aviation Administration (FAA) establishes distances of ground clearance for take-off and landing safely based on such items as the type of aircraft using the airport. The Project site is not located within the vicinity of a public airport, public use airport, or private airstrip. The closest airport is the San Gabriel Valley Airport in El Monte, approximately six miles southwest of the Project site. According to the San Gabriel Valley Airport Layout Plan, the Project site is not located within the Aircraft Operating Area, nor is the Project located in any identified safety zones.

The proposed warehouse industrial building would extend to a maximum height of 51 feet and would not protrude into active airspace. The proposed building height is consistent with surrounding uses to the north of the site. Therefore, the Project would have **no impact** related to airport safety hazards.

Impact 3.5-5: Potential to impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. (Less than Significant)

As part of the Project review process, the Los Angeles County Fire Department would review the site plans to confirm that adequate emergency access is provided. The Project proposes a 28-foot-wide fire lane surrounding the proposed warehouse building and two access driveways along Vincent

Avenue. The appropriate turning radiuses have been planned to accommodate fire trucks on-site in the event of an emergency. While the proposed Project will minimally impact traffic flow during the temporary construction period, it will not conflict with or interfere with emergency evacuation of the Project area. Arrow Highway, Vincent Avenue, and the surrounding roadways would continue to function as emergency access routes if necessary. No revisions to any adopted emergency plans (i.e., the Los Angeles County Office of Emergency Management OAERP and City of Irwindale NHMP) would be required as a result of the proposed Project. The proposed Project does not include any actions that would impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. Future uses on the Project site will have access to the County and City resources that establish protocols for safe use, handling and transport of hazardous materials. Construction activities are not expected to result in any unknown significant road closures, traffic detours, or congestion that could hinder the emergency vehicle access or evacuation in the event of an emergency. Implementation of the proposed Project would result in **less than significant** impact on this environmental topic.

Impact 3.5-6: Potential to expose people or structures to a risk of loss, injury or death from wildland fires. (Less than Significant)

The Project site is not located within an area or adjacent to an area identified as having the potential for wildland fires. The Project site is within an urbanized area of the City and would be developed with urban uses. The Project will be required to meet all fire code requirements, including the provision of fire hydrants and sprinklers, which will assist with fire suppression efforts if a fire was to occur. Because the Project site is not located within a designated wildfire hazard area and is located in a developed, urbanized area, this is a **less than significant** impact and no mitigation is required.

This page intentionally left blank.

This section describes the regional and local hydrology and water quality, regulatory setting, potential impacts that may result from Project implementation, and measures to reduce potential impacts to associated with hydrology and water quality. This section is based in part on the following documents, reports and studies: City of Irwindale General Plan Update (City of Irwindale as amended through June 2008), Draft Environmental Impact Report (State Clearinghouse No. 2005071047) – City of Irwindale General Plan (City of Irwindale 2006), Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Los Angeles Regional Water Quality Control Board 2014), Five-Year Water Supply Plan (Main San Gabriel Basin Watermaster 2019), Main San Gabriel Basin Watermaster (MSGBW) 2018-2019 Annual Report (MSGBW 2020), State of the Watershed – Report on Surface Water Quality: The San Gabriel River Watershed (California Regional Water Quality Control Board – Los Angeles Region 2000), Low Impact Development Standards Manual (County of Los Angeles Department of Public Works 2014), 2015 Urban Water Management Plan (Azusa Light & Water 2016), Santa Fe Dam Basin Master Plan and Environmental Assessment (US Army Corps of Engineers 2011), Vincent Avenue Industrial Building Hydrology/LID Report (WestLAND Group 2017), and Web Soil Survey (NRCS 2020).

No comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic. Full comments received are included in Appendix A.

3.6.1 ENVIRONMENTAL SETTING

REGIONAL HYDROLOGY

The City of Irwindale is located in the eastern portion of the Los Angeles Region. The Los Angeles Region encompasses all coastal watersheds and drainages flowing to the Pacific Ocean between Rincon Point (on the coast of western Ventura County) and the eastern Los Angeles County line, as well as the drainages of five coastal islands (i.e., Anacapa, San Nicolas, Santa Barbara, Santa Catalina, and San Clemente). The Region also includes all of the coastal waters within three nautical miles off the continental and island coastlines.

The majority of the Los Angeles Region lies within the western portion of the Transverse Ranges Geomorphic Province. The San Andreas transform fault system dissects these western Transverse Ranges, forming the boundary between the North American and Pacific tectonic plates. This fault system bends in an east-west direction through the Transverse Ranges, extending northwesterly from the Salton Sea in southern California to Cape Mendocino in northern California for over 700 miles. This portion of the San Andreas fault system, commonly referred to as the “Big Bend”, formed from complex movements of the Pacific Plate against the North American Plate. Compression generated by such forces resulted in uplift of the Transverse Ranges, which have a conspicuous east-west trend (unlike other major ranges in the continental United States, which typically have a roughly north-south trend).

The Los Angeles Region consists of ten, unique Watershed Management Areas (WMAs):

- Ventura River Watershed;
- Santa Clara River Watershed;

3.6 HYDROLOGY AND WATER QUALITY

- Calleguas Creek Watershed;
- Los Angeles River Watershed;
- Malibu Creek Watershed;
- Ballona Creek Watershed;
- San Gabriel River Watershed;
- Los Cerritos Channel Watershed;
- Dominguez Watershed; and
- Channel Islands Watershed.

The rivers and streams of the Los Angeles Region flow from headwaters in the Santa Monica Mountains National Recreation Area, the Angeles National Forest, and Los Padres National Forest through urbanized foothill and valley areas, high density residential, industrial, or intensely farmed coastal areas, and terminates at highly utilized recreational beaches and harbors.

The Los Angeles Regional Water Quality Control Board (LARWQCB) regulates over 1,000 discharges of wastewater from a variety of industrial and municipal sources and oversees the vast network of municipal separate sewer systems serving the two counties and 99 cities in the Region. Generally, largely uncontrolled discharges of pollutants from municipal separate storm sewer systems and from nonpoint sources are believed to be the greatest threats to rivers and streams within the Region. Recent advances in permitting municipal separate storm sewer system discharges, and control of certain nonpoint sources are expected to remedy many of these threats.

Groundwater accounts for most of the Los Angeles Region's local (i.e., non-imported) supply of fresh water; however, the surface water and groundwater supplies within the Los Angeles Region are insufficient to support the large population. To meet the potable water demand, the Los Angeles Region has developed a complex system of aqueducts to import water to support a rapidly growing population and economy. In addition, the demand for water is increasingly being fulfilled by the use of reclaimed water for indirect potable reuse (i.e., groundwater recharge) and non-potable purposes such as landscape irrigation and industrial processing and servicing.

The Los Angeles Region began importing water in 1913, and today, imported water makes up half of the demand for potable water in the region. The Los Angeles Region currently relies on importing water through the Los Angeles Aqueducts, the California Aqueduct (i.e., The State Water Project), and the Colorado River Aqueduct.

The region is separated into 25 major groundwater basins to collect and treat groundwater to supplement the imported water. The 25 major groundwater basins in the region include the:

- Antelope Valley Groundwater Basin;
- Action Valley Groundwater Basin;
- Santa Clara River Valley Groundwater Basin;
- Hungry Valley Groundwater Basin;
- Lockwood Valley Groundwater Basin;
- Ojai Valley Groundwater Basin;
- Upper Ojai Valley Groundwater Basin;

- Ventura River Valley Groundwater Basin;
- Arroyo Santa Rosa Valley Groundwater Basin;
- Las Posas Valley Groundwater Basin;
- Pleasant Valley Groundwater Basin;
- Conejo Groundwater Basin;
- Tierra Rejada Groundwater Basin;
- Russel Valley Groundwater Basin;
- Thousand Oaks Area Groundwater Basin;
- Hidden Valley Groundwater Basin;
- Malibu Groundwater Basin;
- Coastal Plain of Los Angeles Groundwater Basin;
- Coastal Plain of Orange Country Groundwater Basin;
- Raymond Groundwater Basin;
- Upper Santa Ana Valley Groundwater Basin;
- San Fernando Valley Groundwater Basin; and
- San Gabriel Valley Groundwater Basin.

The City of Irwindale is located in the eastern portion of Los Angeles Region and is within the Los Angeles-San Gabriel Hydrologic Unit, bound by the San Gabriel Mountain Range, which is the origin for most of the region's surface runoff.

The following sections describe the climate, watershed, hydrologic region, and groundwater specific to the City of Irwindale.

Climate

Precipitation generally occurs as rainfall throughout the Los Angeles Region. Annual precipitation in the Los Angeles Region varies between each county. The average annual rainfall for Los Angeles County is 15.7 inches. However, large variations exist within Los Angeles County, as indicated by average annual rainfall of 34.2 inches at Cogswell Dam in the San Gabriel Mountains and average annual rainfall of 13.71 inches for the coastal plain part of the County.

The City of Irwindale's climate is mild, and generally warm and temperate. The average annual temperature is 64.7 degrees with the average temperatures ranging from January lows of 55.0 F to an August high of 75.9 F. The average annual rainfall in the Irwindale area ranges between 18 and 20 inches. The range of annual precipitation for the San Gabriel Basin as a whole, averaged between 10 to 40 inches for the period between 1972 and 1994. Virtually all of the annual rainfall in the Basin occurs during the months of November through April. Rainfall during the summer months is generally limited to widely scattered thundershowers. There are approximately ten days per year that include light to moderate rainfall of 0.5 inches or more in 24-hours and another ten days that have very light rainfall of less than 0.5 inches per day.

Watersheds

A watershed is a region that is bound by a divide that drains to a common watercourse or body of water. Watersheds serve an important biological function, oftentimes supporting an abundance of aquatic and terrestrial wildlife including special-status species and anadromous and native local fisheries. Watersheds provide conditions necessary for riparian habitat.

The State of California uses a hierarchical naming and numbering convention to define watershed areas for management purposes. This means that boundaries are defined according to size and topography, with multiple sub-watersheds within larger watersheds. Table 3.6-1 shows the primary watershed classification levels used by the State of California. The second column indicates the approximate size that a watershed area may be within a particular classification level, although variation in size is common.

TABLE 3.6-1. STATE OF CALIFORNIA WATERSHED HIERARCHY NAMING CONVENTION

<i>WATERSHED LEVEL</i>	<i>APPROXIMATE SQUARE MILES (ACRES)</i>	<i>DESCRIPTION</i>
Hydrologic Region (HR)	12,735 (8,150,000)	Defined by large-scale topographic and geologic considerations. The State of California is divided into ten HRs.
Hydrologic Unit (HU)	672 (430,000)	Defined by surface drainage; may include a major river watershed, groundwater basin, or closed drainage, among others.
Hydrologic Area (HA)	244 (156,000)	Major subdivisions of hydrologic units, such as by major tributaries, groundwater attributes, or stream components.
Hydrologic Sub-Area (HSA)	195 (125,000)	A major segment of an HA with significant geographical characteristics or hydrological homogeneity.

SOURCE: CALIFORNIA DEPARTMENT OF WATER RESOURCES, 2012.

Hydrologic Region

The City of Irwindale is located within the Los Angeles-San Gabriel Hydrologic Unit of the South Coast Hydrologic Region. Portions of the City are located either in the Los Angeles WMA or the San Gabriel River WMA. The project site is located within the Walnut Creek Watershed, which is a sub-watershed of the Upper San Gabriel River Watershed Area within the San Gabriel River WMA. See Figure 3.6-1. The Upper San Gabriel River Watershed Area is 689-square miles, bound by the San Gabriel Mountains to the north, most of San Bernardino/Orange County to the east, the division of the Los Angeles River from the San Gabriel River to the west, and the Pacific Ocean to the south.

The watershed receives drainage from a large area of eastern Los Angeles County with headwaters originating in the San Gabriel Mountains, which consists of extensive areas of undisturbed riparian and woodland habitats in the upper reaches. The upper San Gabriel River and its tributaries remain relatively untouched; however, the West Fork and East Fork of the San Gabriel River includes large wilderness areas and other areas in the upper watershed are utilized heavily for recreational use, including picnicking, off road vehicle use, fishing, and hiking, which threaten the water quality and aquatic and riparian habitats. Additionally, vast amounts of naturally eroding sediment from the rugged San Gabriel Mountains settle in reservoirs behind flood control dams found in the upper

watershed. The improper sediment washing from these reservoirs also has the potential to impact aquatic habitats and groundwater recharge areas.

In the San Gabriel Valley, the middle reaches of the river have been extensively modified in order to control flood and debris flows and to recharge groundwater. The watershed is hydraulically connected to the Los Angeles River through the Whittier Narrows Reservoir (normally only during high storm flows). The lower part of the river flows through a concrete-lined channel in a heavily urbanized portion of the Los Angeles Coastal Plain, before becoming a soft bottom channel once again near the ocean in the City of Long Beach. The lower watershed encompasses an area that historically consisted of extensive wetlands. Large electrical power lines follow the river along the channelized portion; nurseries, small stable areas, and storage facilities are located in these areas. Flow in these lower reaches is dominated by effluent from several municipal wastewater treatment facilities and Municipal Separate Storm Sewer Systems (MS4s) discharges. Impairments vary by reach; depending on the reach, they may include metals, PCBs, pesticides, bacteria, and trash.

Groundwater

Water resources in the City and throughout the San Gabriel Valley are sustained by substantial groundwater basins, which are used as reservoirs to store water during the wet years. These underground reservoirs are tapped throughout the year according to the demand of water. Groundwater conditions in these basins are influenced by natural hydrologic conditions such as percolation of precipitation, groundwater seepage, and ephemeral stream flow within the watershed areas. The groundwater supplies are also augmented with recharged surface water purchased through the State Water Project.

The San Gabriel Valley Groundwater Basin is located in eastern Los Angeles County and includes the water-bearing sediments underlying most of the San Gabriel Valley and a portion of the upper Santa Ana Valley that lies in Los Angeles County. The basin is bounded on the north by the Raymond Fault and the contact between the Quaternary sediments and consolidated basement rocks of the San Gabriel Mountains. Exposed consolidated rocks of the Repetto, Merced, and Puente Hills bound the basin on the south and west, and the Chino Fault and the San Jose Fault form the eastern boundary.

The proposed Project is located within the Main San Gabriel Basin (MSGB). Urbanization of the San Gabriel Valley in the 1940s led to an increased demand for water drawn from the MSGB. By the 1950s, the MSGB went into overdraft (water production exceeding the amount of water being replenished into the basin) due to the ensuing rise in water consumption and extended period of drought. As a result of the decrease in available water supply, parties downstream who relied on the MSGB for a large portion of their natural water supply initiated legal action on behalf of the downstream users to guarantee a source of water to downstream users. On January 2, 1968 a complaint was filed in the Superior Court of the State of California (Case #924128, Upper San Gabriel Valley Municipal Water District, Plaintiff, vs. City of Alhambra, et al., Defendants) to bring about adjudication of water rights in the MSGB.

In January 1973, the Los Angeles County Superior Court entered a judgment creating a new governing body (the Main San Gabriel Basin Watermaster) and described a program for

3.6 HYDROLOGY AND WATER QUALITY

management of water in the Basin. The Main San Gabriel Basin Watermaster determines the annual Operating Safe Yield (OSY) (the amount of groundwater that can be safely extracted) for the succeeding fiscal year and notifies pumpers of their allotted shares. Total water demand in 2018-19 was about 220,000 acre-feet, consisting of approximately 183,100 acre-feet of groundwater production, 7,000 acre-feet of treated local surface water, 24,900 acre-feet of treated imported water, and 5,000 acre-feet of recycled water. The total water demand is about 9 percent lower than the recent ten-year average of approximately 240,000 acre-feet.

The major sources of recharge to the MSGB are direct penetration of rainfall on the valley floor, percolation of runoff from the mountains, percolation of imported water and return flow from applied water. Rainfall occurs predominantly in the winter months and is more intense at higher elevations and closer to the San Gabriel Mountains. The Baldwin Park Key Well is used as the benchmark for determining how the groundwater supply for the entire MSGB is trending. In accordance with the 1973 Judgement, the Watermaster manages the Basin to maintain the groundwater level at the Baldwin Park Key Well between 200 feet and 250 feet, to the extent possible. The lowest the groundwater level at Baldwin Park Key Well ever declined to was about 169 feet in November of 2018. However, as of February 28, 2020, the groundwater level at Baldwin Park Key Well was measured to be at to 209.4 feet.

LOCAL SETTING

The Project site is relatively flat and ranges in elevation from approximately 400 to 460 feet above sea level. There are no natural water courses in the Project site. The Project site is currently undeveloped and the general location of the former Irwindale Pit No. 1 (Manning Brothers Pit) Project, which has been graded and backfilled as part of site remediation.

The Project site is in the Walnut Creek Sub-Watershed within the Upper San Gabriel River Watershed, which is part of San Gabriel River WMA. Water service to the City of Irwindale is provided by six different retail water companies. The Project site is located in the service area of the Azusa Light & Water. The City of Azusa Water Department, which owns the Azusa Light & Water (ALW), provides basic water service to the largest portion of Irwindale from its most northeasterly boundaries to Ornelas Street, including all of the Santa Fe Dam area located to the east of the San Gabriel River Freeway. ALW's water supply consists of imported water, groundwater, and surface water. ALW distributes water to its 23,000 service customers through a 281-mile network of distribution mains ranging from two to 30 inches in size. It is estimated that the proposed Project would generate between 15 and 250 employees, which is estimated to require between 2,937 gallons per day (3.3 acre-feet per year [AFY]) and 48,950 gallons per day (approximately 54.9 AFY).

Groundwater

As previously mentioned, the Project site is located within the MSGB, and will be provided water service by ALW. ALW's groundwater uses are described in the City of Azusa's 2015 UWMP. A description of the groundwater basin and a discussion of historical and projected groundwater pumping is provided below.

BASIN BOUNDARIES, SOILS, AND STORAGE CAPACITY

ALW obtains its groundwater supply from the MSGB. The basin is located in eastern Los Angeles County and overlies the majority of the San Gabriel Valley with a surface area of 167 square miles of valley terrain. The basin is bounded by the San Gabriel Mountains to the north, San Jose Hills to the east, Puente Hills to the south, Raymond Basin to the northwest, and by a series of hills and the Whittier Narrows to the southwest. As a low gap between the Merced and Puente Hills, the Whittier Narrows is a natural topographic divide that directs the movement of groundwater in the basin as groundwater levels generally follow topographic slope, with groundwater flowing from the edges of the basin towards the center and exiting southwestward through the Whittier Narrows.

Groundwater in the MSGB is replenished by percolation from precipitation, receiving an average annual precipitation of 18.5 inches, and by percolation of runoff from the surrounding mountains. The basin is also replenished from imported water conveyed in the San Gabriel River and also from recycled water (in lower portions of basin only). Since the basin is mostly urbanized and soil surfaces have been paved to construct roads, buildings, and flood channels, only a small portion of basin soils are capable of transmitting water to the water-bearing alluvial deposits below. As a result, the basin is prone to overdraft. To help supplement the basin, the San Gabriel Valley Municipal Water District (San Gabriel District or “SGVMWD”) was formed in 1959 to meet the supplemental water needs of the Cities of Alhambra, Azusa, Monterey Park, and Sierra Madre by replenishing the basin at five locations.

Approximately 200 active wells and 50 inactive wells capable of producing over 500,000 AFY of groundwater are located throughout the MSGB. The total storage capacity of the basin is estimated to be approximately 10,400,000 acre-feet (AF). Although the safe yield capacity of the basin is estimated to be 150,000 AFY, groundwater extraction in the basin typically exceeds the safe yield capacity of the basin, and thus imported water is used to supplement natural precipitation and streamflow in 17 spreading basins. The spreading basins are managed by the Los Angeles County Department of Public Works (LACDPW) and are used to replenish the Main Basin with a total recharge capacity of over 600,000 AFY. Six of ALW's twelve wells are located in the San Gabriel Canyon Spreading Grounds located near the San Gabriel River (northwest portion of City).

According to the MSGB Watermaster's Five Year Water Quality and Supply Plan, total basin production during fiscal year 2018–19 was about 190,200 AF, which was about 9 percent lower than the previous year. Production in excess of water rights during fiscal year 2018–19 was about 35,100 AF, about 12 percent lower than the prior year and about 5 percent lower than the long-term average of about 37,000 AF. The Watermaster aggressively responded to the decreasing trend of the groundwater level at the Baldwin Park Key Well during fiscal year 2018–19 by establishing an OSY of 150,000 AF for fiscal year 2019–20. As stated, as of February 28, 2020, the groundwater level at Baldwin Park Key Well had risen to 209.4 feet from 196 feet in June 2019.

PAST AND PROJECTED FUTURE GROUNDWATER PUMPING

ALW maintains 13 groundwater wells, 11 of which are active and located in the MSGB, which have produced approximately 57 to 78 percent of the total water supply between 2011 to 2015. Well No.

3.6 HYDROLOGY AND WATER QUALITY

9 and Well No. 13 are currently inactive due to water quality issues. The wells range in capacity from 900 gpm to 3,000 gpm, as shown in Table 3.6-2.

TABLE 3.6-2. ALW GROUNDWATER WELLS

WELL NUMBER	LOCATION	CAPACITY (GPM)
1	Spreading Grounds	3,000
2	Spreading Grounds	1,500
3	Spreading Grounds	2,900
4	Spreading Grounds	2,900
5	Hermitage Lane south of Sierra Madre Boulevard	900
6	12 th Street near Northside Park	3,000
7	11 th Street/McKeever Avenue	1,000
8	11 th Street/Orange Avenue	2,000
9	710 West Gladstone	n/a
10	Vernon Avenue/Little Dalton	2,500
11	Spreading Grounds	2,200
12	Spreading Grounds	1,850
13	Aspen Well	n/a
Total Capacity		23,750

SOURCE: ALW 2015 UWMP, 2015.

All active wells listed in Table 3.6-2 are equipped with flowmeters to measure water production. Water production is recorded monthly by ALW water staff and reported annually to the DWR. Between 2010 to 2015, groundwater extraction has ranged from approximately 11,800 AF to 16,100 AF (average of 12,993 AF). Table 3.6-3 displays ALW's groundwater production for the years 2010 to 2015.

TABLE 3.6-3. GROUNDWATER PRODUCTION (TOTAL ALL WELLS)

YEAR	PRODUCTION (AF)
2010	12,389
2011	11,874
2012	11,813
2013	16,140
2014	13,396
2015	12,345
Average	12,993
2010 UWMP Average	18,837

SOURCE: ALW 2015 UWMP, 2015.

Between 2010 to 2015, ALW has consumed roughly 20,000 AF of water on an annual basis. Overall, two-thirds of ALW's supplies consist of groundwater pumped from the Main Basin, and one-third consists of treated surface water from the San Gabriel River. However, as noted earlier, the San Gabriel River is a major contributor to groundwater supplies in the Main Basin. As a result, the river truly accounts for much more than just one-third of ALW's supplies. Table 3.6-4 presents a breakdown of ALW's water supply.

TABLE 3.6-4: ALW'S WATER SUPPLY SUMMARY

<i>YEAR</i>	<i>IMPORTED WATER</i>	<i>GROUND WATER</i>	<i>SURFACE WATER</i>	<i>TOTAL</i>
2010	0	12,389	7,406	19,795
2011	0	11,874	7,772	19,646
2012	0	11,813	9,019	20,832
2013	0	16,140	4,603	20,743
2014	0	13,396	6,232	19,628
2015	0	13,345	4,701	17,046
Average	0	12,993	6,622	19,615
2010 UWMP Average	0	18,837	5,122	23,997

SOURCE: CITY OF AZUSA UWMP 2015

According to the ALW 2015 UWMP, ALW intends to focus its efforts on its existing water supply infrastructure in order to maximize its local supply capacity, including testing and reactivating inactive wells (i.e., Aspan Well & Well No. 9). ALW's supply reliability in the near future is expected to increase through continued upgrades to its groundwater facilities, expansion of the Joseph F. Hsu Filtration Plant (from 12 to 16 MGD), continued access to imported water, and the future potential use of recycled water. Based on the current capacity of ALW's supply infrastructure, ALW expects to meet the needs of its customers through 2040.

Drainage

The western portions of the City of Irwindale located in the Los Angeles River WMA and the eastern portions of the City are located within the San Gabriel River WMA. The City drains into Sawpit Wash via the Buena Vista Channel and goes into Rio Hondo Reach 2, which is tributary to the Los Angeles River System. Receiving Water Monitoring is conducted three times per year during wet weather and twice per year during dry weather as stated in Attachment E of the 2012 MS4 Permit.

Historically, stormwater management has consisted of a network of impervious surfaces that directly convey stormwater runoff to curb and gutter systems, the storm drain conveyance system, and downstream receiving waters. Until recently, conventional storm drain and flood control systems were designed to convey stormwater away from developed areas as quickly as possible to manage the risk of floods for homes and development. However, the County's most recent MS4 Permits require that stormwater management provide a more comprehensive approach to address stormwater runoff water quality and groundwater recharge opportunities.

According to the Hydrology/LID Report prepared for the Project, the pre-developed condition currently retains all runoff on-site. The northerly portion of the Project site collects and conveys negligible runoff to an existing storm drain system owned by the City of Irwindale. Based on the study, it was determined that the existing Project site discharges zero flow to the off-site storm drain system.

Flooding

Flooding events can result in damage to structures, injury or loss of human and animal life, exposure of waterborne diseases, and damage to infrastructure. In addition, standing floodwater can destroy agricultural crops, undermine infrastructure and structural foundations, and contaminate groundwater.

The Project site is currently located in Zone X, protected by levee, which by definition indicates an area protected by levees from the 1% annual chance flood. The Project site is not located within the 100-year or 200-year floodplain as delineated on the most recent 200-year flood plain maps for Irwindale. Figure 3.6-2 shows the Project site and the nearest 500-year flood boundaries, which is south of the Project site in the City of West Covina.

Dam Failure

The City of Irwindale is located in an area that is subject to dam inundation. As shown in Figure 3.6-3, the Project is located within a dam inundation area for the San Gabriel No. 1 Dam. Dam failure is generally a result of structural instability caused by improper design or construction, instability resulting from seismic shaking, or overtopping and erosion of the dam. Larger dams that are higher than 25 feet or with storage capacities over 50 acre-feet of water are regulated by the California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring these dams. The Act also requires that dam owners submit to the California Office of Emergency Services inundation maps for dams that would cause significant loss of life or personal injury as a result of dam failure. The Los Angeles County Office of Emergency Services is responsible for developing and implementing a Dam Failure Plan that designates evacuation plans, the direction of floodwaters, and provides emergency information.

Stormwater Quality

Potential hazards to surface water quality include the following nonpoint pollution problems: high turbidity from sediment resulting from erosion of improperly graded construction projects, concentration of nitrates and dissolved solids from agriculture or surfacing septic tank failures, contaminated street and lawn run-off from urban areas, and warm water drainage discharges into cold water streams.

The most critical period for surface water quality is following a rainstorm which produces significant amounts of drainage runoff into streams at low flow, resulting in poor dilution of contaminants in the low flowing stream. Such conditions are most frequent during the fall at the beginning of the rainy season when stream flows are near their lowest annual levels. Besides the greases, oils, pesticides, litter, and organic matter associated with such runoff, heavy metals such as copper, zinc, and cadmium can cause considerable harm to aquatic organisms when introduced to streams in low flow conditions.

Urban stormwater runoff was managed as a non-point discharge (a source not readily identifiable) under the Federal Water Pollution Control Amendments of 1972 (PL 92-500, Section 208) until the mid-1980s. However, since then, the Federal Environmental Protection Agency has continued to

develop implementing rules which categorize urban runoff as a point source (an identifiable source) subject to National Pollution Discharge Elimination System (NPDES) permits. Rules now affect medium and large urban areas, and further rulemaking is expected as programs are developed to meet requirements of Federal water pollution control laws.

Surface water pollution is also caused by erosion. Excessive and improperly managed grading, vegetation removal, quarrying, logging, and agricultural practices all lead to increased erosion of exposed earth and sedimentation of watercourses during rainy periods. In slower moving water bodies these same factors often cause a buildup of siltation, which ultimately reduces the capacity of the water system to percolate and recharge groundwater basins, as well as adversely affecting both aquatic resources and flood control efforts.

303(D) IMPAIRED WATER BODIES

Section 303(d) of the federal Clean Water Act requires States to identify waters that do not meet water quality standards or objectives and thus, are considered "impaired." Once listed, Section 303(d) mandates prioritization and development of a Total Maximum Daily Load (TMDL). The TMDL is a tool that establishes the allowable loadings or other quantifiable parameters for a waterbody and thereby the basis for the States to establish water quality-based controls. The purpose of TMDLs is to ensure that beneficial uses are restored and that water quality objectives are achieved.

According to the California Water Quality Control Monitoring Council, which is part of California Environmental Protection Agency, Natural Resources, there are many areas within Los Angeles Region which are considered Section 303(d) impaired waterbodies. Those areas in the regional vicinity of the Project site that are impaired include the Walnut Creek Wash and the Santa Fe Dam Park Lake.

The Walnut Creek Wash is a 12-mile river/stream, located approximately 0.2 miles south of the project site, that drains from the Puddingstone Reservoir. According to the California Water Board's *CWA Section 303(d) list 2016 Integrated Report*, the Walnut Creek Wash was listed as early as 1996 for Unknown Toxicity (Source Unknown) and then again in 2010 and 2014 for impairment of benthic community structure (Source Unknown) and unknown indicator bacteria (Source Unknown), respectively. The Santa Fe Dam Park Lake is a 20-acre lake and reservoir located approximately 0.9 miles northwest of the Project site. The Santa Fe Dam Park Lake was listed as early as 1996 for unknown toxicity (Source Unknown) and again in 2014 for Polychlorinated Biphenyls (Source Unknown).

3.6.2 REGULATORY SETTING

There are a number of regulatory agencies whose responsibility includes the oversight of the water resources of the state and nation including the Federal Emergency Management Agency (FEMA), the US Environmental Protection Agency (EPA), the State Water Resources Board, and the LARWQCB. The following is an overview of the federal, state and local regulations that are applicable to the proposed Project.

FEDERAL AND STATE

Clean Water Act

The Clean Water Act (CWA), initially passed in 1972, regulates the discharge of pollutants into watersheds throughout the nation. Section 402(p) of the act establishes a framework for regulating municipal and industrial stormwater discharges under the NPDES Program. Section 402(p) requires that stormwater associated with industrial activity that discharges either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by an NPDES permit.

The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and does so through issuing NPDES permits to cities and counties through regional water quality control boards. Federal regulations allow two permitting options for stormwater discharges (individual permits and general permits). The SWRCB elected to adopt a statewide general permit (Water Quality Order No. 2013-001-DWQ-DWQ).

Federal Emergency Management Agency

Los Angeles County is a participant in the National Flood Insurance Program (NFIP), a Federal program administered by FEMA. Participants in the NFIP must satisfy certain mandated floodplain management criteria. The National Flood Insurance Act of 1968 has adopted as a desired level of protection, an expectation that developments should be protected from floodwater damage of the Intermediate Regional Flood (IRF). The IRF is defined as a flood that has an average frequency of occurrence on the order of once in 100 years, although such a flood may occur in any given year. Communities are occasionally audited by the Department of Water Resources to insure the proper implementation of FEMA floodplain management regulations.

California Water Code

The Federal Clean Water Act places the primary responsibility for the control of surface water pollution and for planning the development and use of water resources with the States, although this does establish certain guidelines for the States to follow in developing their programs and allows the Environmental Protection Agency to withdraw control from states with inadequate implementation mechanisms.

California's primary statute governing water quality and water pollution issues with respect to both surface waters and groundwater is the Porter-Cologne Water Quality Control Act of 1970 (Division 7 of the California Water Code) (Porter-Cologne Act). The Porter-Cologne Act grants the State Water Resource Control Board (SWRCB) and each of the RWQCBs power to protect water quality, and is the primary vehicle for implementation of California's responsibilities under the Federal Clean Water Act. The Porter-Cologne Act grants the SWRCB and the RWQCBs authority and responsibility to adopt plans and policies, to regulate discharges to surface and groundwater, to regulate waste disposal sites and to require cleanup of discharges of hazardous materials and other pollutants. The Porter-Cologne Act also establishes reporting requirements for unintended discharges of any hazardous substance, sewage, or oil or petroleum product.

Each RWQCB must formulate and adopt a water quality control plan (Basin Plan) for its region the regional plans are to conform to the policies set forth in the Porter-Cologne Act and established by the SWRCB in its State water policy. The Porter-Cologne Act also provides that a RWQCB may include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

The Water Code Section 13260 requires all dischargers of waste that may affect water quality in waters of the state to prepare and provide a water quality discharge report to the RWQCB. Section 13260a-c is as follows:

(a) Each of the following persons shall file with the appropriate regional board a report of the discharge, containing the information that may be required by the regional board:

(1) A person discharging waste, or proposing to discharge waste, within any region that could affect the quality of the waters of the state, other than into a community sewer system.

(2) A person who is a citizen, domiciliary, or political agency or entity of this state discharging waste, or proposing to discharge waste, outside the boundaries of the state in a manner that could affect the quality of the waters of the state within any region.

(3) A person operating, or proposing to construct, an injection well.

(b) No report of waste discharge need be filed pursuant to subdivision (a) if the requirement is waived pursuant to Section 13269.

(c) Each person subject to subdivision (a) shall file with the appropriate regional board a report of waste discharge relative to any material change or proposed change in the character, location, or volume of the discharge.

National Pollutant Discharge Elimination System

National Pollutant Discharge Elimination System (NPDES) permits are required for discharges of pollutants to navigable waters of the United States, which includes any discharge to surface waters, including lakes, rivers, streams, bays, the ocean, dry stream beds, wetlands, and storm sewers that are tributary to any surface water body. NPDES permits are issued under the Federal Clean Water Act, Title IV, Permits and Licenses, Section 402 (33 USC 466 et seq.)

The LARWQCB issues these permits in lieu of direct issuance by the Environmental Protection Agency, subject to review and approval by the Environmental Protection Agency Regional Administrator. The terms of these NPDES permits implement pertinent provisions of the Federal Clean Water Act and the Act's implementing regulations, including pre-treatment, sludge management, effluent limitations for specific industries, and anti- degradation. In general, the discharge of pollutants is to be eliminated or reduced as much as practicable so as to achieve the Clean Water Act's goal of "fishable and swimmable" navigable (surface) waters. Technically, all NPDES permits issued by the LARWQCB are also Waste Discharge Requirements issued under the authority of the CWA.

Point sources are discrete conveyances such as pipes or man-made ditches. Industrial, municipal, and other similar facilities must obtain permits if their discharges go directly to surface waters. The NPDES permit program is administered by the LARWQCB. Polluted stormwater run-off is commonly transported through MS4s. This run-off is often untreated and discharged into local water bodies. To prevent harmful pollutants from being washed or dumped into an MS4, if tenants perform industrial activities in these facilities, they must obtain coverage under the Industrial General permit and develop a stormwater management program. Industrial uses involving 10,000 square feet or more are subject to the Los Angeles NPDES Permit requirements (Permit No. CAS004001, Order No. R4-2012-0175, as amended by WQ 2015-0075) and develop a stormwater management program. Phase I of the stormwater management program requires medium and large cities, or certain counties with populations of 100,000 or more to obtain NPDES permit coverage for their stormwater discharges. Phase II requires regulated small MS4s in urbanized areas, as well as small MS4s outside the urbanized areas that are designated by the permitting authority, to obtain NPDES permit coverage for their stormwater discharges. Generally, Phase I MS4s are covered by individual permits and Phase II MS4s are covered by a general permit. Each regulated MS4 is required to develop and implement a stormwater management program (SWMP) to reduce the contamination of stormwater run-off and prohibit illicit discharges.

Assembly Bill 3030 - Groundwater Management Act

In 1992, the State Legislature provided for more formal groundwater management with the passage of Assembly Bill (AB) 3030, the Groundwater Management Act (Water Code Section 10750, et seq.). Groundwater management, as defined in DWR's Bulletin 118 Update 2003, is the planned and coordinated monitoring, operation, and administration of a groundwater basin, or portion of a basin, with the goal of long-term groundwater resource sustainability. Groundwater management needs are generally identified and addressed at the local level in the form of Groundwater Management Plans (GMP). The Act provides local water agencies with procedures to develop a GMP to enable those agencies to manage their groundwater resources efficiently and safely while protecting the quality of supplies. Under the Act, development of a GMP by a local water agency is voluntary.

Sustainable Groundwater Management Act

The Sustainable Groundwater Management Act (SGMA) established a framework for sustainable, local groundwater management. SGMA requires groundwater-dependent regions to halt overdraft and bring basins into balanced levels of pumping and recharge. With passage of the SGMA, the Department of Water Resources launched the Sustainable Groundwater Management (SGM) Program to implement the law and provide ongoing support to local agencies around the state. The SGMA defines "sustainable groundwater management" and requires that a Groundwater Sustainability Plan be adopted for the most important groundwater basins in California as a means to empower local agencies to manage basins sustainably. The SGMA establishes basic requirements for the Groundwater Sustainability Plans as well as a timetable for the adoption of the plans.

Main San Gabriel Basin Watermaster

The Main San Gabriel Basin Watermaster (Watermaster) is an agency charged with administering adjudicated water rights and devoted to the management and protection of groundwater resources within the watershed and Main San Gabriel Groundwater Basin. The Watermaster consists of a nine-person board appointed by the Los Angeles County Superior Court that Manages and controls the withdrawal and replenishment of water supplies in the Main San Gabriel Groundwater Basin. The Watermaster determines the annual Operating Safe Yield for the succeeding fiscal year. The Watermaster operates under a formal set of Rules and Regulations, which define the procedures by which Watermaster-controlled activities are to be carried out. Under the Rules and Regulations, water producers in the Basin must obtain a Watermaster approval for activities such as:

- Constructing or modifying a well;
- Constructing a groundwater treatment plant;
- Increasing groundwater extraction;
- Spreading water in the Basin; and
- Spreading and storing supplemental water under a cyclic storage agreement.

To assure that groundwater pumping does not lead to further degradation of water quality in the Main San Gabriel Basin, the Main San Gabriel Basin Watermaster annually updates a Five-Year Water Quality and Supply Plan. The objective of the Five-Year Water Quality and Supply Plan 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. The plan includes the Main San Gabriel Basin Watermaster's plan for:

- Monitoring groundwater supply and quality;
- Developing projections of future groundwater supply and quality;
- Ensuring adequate supplemental water is available for groundwater replenishment;
- Reviewing and cooperating on cleanup projects, and providing technical assistance to other agencies;
- Assuring that pumping does not lead to further degradation of water quality in the Basin;
- Addressing emerging contaminants in the Basin;
- Developing a cleanup and water supply program consistent with the U.S. Environmental Protection Agency plans for its San Gabriel Basin Superfund sites; and
- Continue to perform responsibilities under the Baldwin Park Operable Unit (BPOU) Project Agreement relating to project administration and performance evaluation.

In addition to the Rules and Regulations and the Five-Year Water Quality and Supply Plan, the Main San Gabriel Basin Watermaster also prepares and maintains a Resource Development Assessment Report, 3-Year Water Supply Plan, Annual Watermaster Reports, and a Salt and Nutrient Management Plan.

Water Quality Control Plan for the Los Angeles Region

The Water Quality Control Plan for the Los Angeles Region, also known as the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan), includes a summary of

beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term “water quality standards,” as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The RWQCB regulates waste discharges to minimize and control their effects on the quality of the region’s ground and surface water. Permits are issued under a number of programs and authorities. The terms and conditions of these discharge permits are enforced through a variety of technical, administrative, and legal means. Water quality problems in the region are listed in the Basin Plan, along with the causes, where they are known. For water bodies with quality below the levels necessary to allow all the beneficial uses of the water to be met, plans for improving water quality are included. The Basin Plan reflects, incorporates, and implements applicable portions of a number of national and statewide water quality plans and policies, including the California Water Code and the Clean Water Act.

LOCAL

City of Irwindale NPDES Permit

The City relies on regulations established by the State Department of Water Resources (DWR), the SWRCB, and the Los Angeles RWQCB for ordinances and codes related to water quality and water rights regulation.

The City is a co-permittee under the NPDES MS4 Permit No. CAS 004001 (Order RA -2012- 0175), adopted in 2012. The NPDES MS4 permit is intended to regulate the discharge of urban runoff from the MS4 within Los Angeles County. Under the NPDES MS4 permit, the City is responsible for the management of storm drain systems within its jurisdiction. Cities are required to implement management programs, monitoring programs, implementation plans, and all applicable BMPs outlined in the Los Angeles County NPDES MS4 permit.

The NPDES permit requires implementation of a Standard Urban Stormwater Mitigation Plan (SUSMP) for all designated projects. The proposed project is an industrial development with 10,000 square feet or more of surface area. Therefore, the proposed development is subject to the Los Angeles County Department of Public Works (LACDPW) SUSMP requirements under the "New Development – Industrial Parks" category and will be required to implement specific source control and stormwater quality control measures.

City of Irwindale General Plan

INFRASTRUCTURE ELEMENT

- **Policy 1.** The City will continue to support the efforts of the City of Irwindale Public Works Department in maintaining the highest level of service standards feasible.
- **Policy 2.** The City will continue to cooperate with those utility providers in the City to ensure that sufficient infrastructure capacity is available to meet current and future service demands.
- **Policy 4.** The City of Irwindale will strive to ensure that new development implements its “fair-share” of improvements to offset the potential adverse impacts associated with the additional traffic that will be generated by the new development.

RESOURCE MANAGEMENT ELEMENT

- **Policy 1.** The City of Irwindale will continue to work with the quarries and other regulatory agencies to facilitate their reclamation.
- **Policy 4.** The City of Irwindale will continue to protect the use of the area’s resources through appropriate land use controls and planning.
- **Policy 6.** The City Irwindale will evaluate the feasibility of expanded joint-use of the open space lands used for flood control.
- **Policy 9.** The City of Irwindale will continue to cooperate with the other agencies that are charged with improving air and water quality in the region.

City of Irwindale Municipal Code

The City of Irwindale’s Municipal Code (Code) addresses a variety of hydrology and water quality related topics. Chapter 8.28 of the Code (Storm Water and Urban Runoff Pollution) was adopted pursuant to the Federal Water Pollution Control Act and is to protect and improve water quality of receiving waters by:

- Reducing illicit discharges to the municipal storm water system to the maximum extent practicable.
- Eliminating illicit connections to the municipal storm water system.
- Eliminating spillage, dumping, and disposal of pollutant materials into the municipal storm water system.
- Reducing pollutant loads in storm water and urban.

Chapter 13.04 of the Code is the Sanitary Sewer and Industrial Waste Ordinance, which regulates the discharge, deposit and disposal of all waste, including any material which may cause pollution of underground or surface waters, in, upon or affecting the City; the design, construction, alteration, use and maintenance of public sewers and house laterals, industrial connection sewers, water pollution control plants, sewage pumping plants, industrial liquid-waste pretreatment plants, dairy screen-chambers, sand and grease interceptors, and appurtenances; the issuance of permits and the collection of fees therefore, and fees to pay the cost of checking plans, inspecting the construction and making record plans of the facilities permitted.

Chapter 15.04 of the Code (Building Code) adopts the Los Angeles County Building Code, 2017 Edition (Title 26 of the Los Angeles County Code), which incorporates and amends the 2016 California Building Code, including all appendixes thereto and changes made by the county of Los Angeles and by the City of Irwindale, as the City of Irwindale's building code. The building code regulates and controls the design, construction, quality of materials, grading, use, occupancy, location and maintenance of all buildings or structures and prescribing conditions under which such work may be carried on within the city and providing for the issuance of permits and the collection of fees therefor.

3.6.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the proposed Project will have a significant impact on the environment associated with hydrology and water quality if it will:

- Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality;
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that would:
 - Result in substantial erosion or siltation on- or off-site;
 - Substantially increase the rate or amount of surface runoff in a manner that would result in flooding on- or off-site;
 - Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff
 - Impede or redirect flood flows;
- In flood hazard, tsunami, or seiche zones, risk release of pollutants due to Project inundation;
- Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan.

IMPACTS AND MITIGATION

Impact 3.6-1: The proposed Project has the potential to violate water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality. (Less than Significant)

Grading, excavation, removal of vegetation cover, and loading activities associated with construction activities could temporarily increase runoff, erosion, and sedimentation. Construction activities also could result in soil compaction and wind erosion effects that could adversely affect

soils and reduce the revegetation potential at construction sites and staging areas. To ensure Project construction activities are covered under General Permit 2009-0009-DWQ (amended by 2010-0014-DWQ & 2012-0006-DWQ), the Project would be required to prepare a Stormwater Pollution Prevention Plan (SWPPP) containing Best Management Practices (BMPs) to reduce erosion and sediments to meet water quality standards. Such BMPs may include: temporary erosion control measures such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover. The BMPs and overall SWPPP is reviewed by the Regional Water Quality Control Board as part of the permitting process. The SWPPP, once approved, is kept on site and implemented during construction activities and must be made available upon request to representatives of the RWQCB and/or the lead agency. Upon completion of the project, the applicant would be required to submit a Notice of Termination to the State Regional Water Quality Control Board to indicate that construction is completed. Mandatory compliance with the SWPPP would ensure that the proposed Project would not violate any water quality standards or waste discharge requirements during construction activities. Therefore, water quality impacts associated with construction activities would be less than significant.

The long-term operations of the proposed Project (all phases) could result in long-term impacts to surface water quality from urban stormwater runoff. The proposed Project would result in increased impervious area at the site as a result of the proposed development. Normal activities in these developed areas include the use of various automotive petroleum products (i.e. oil, grease, and fuel), common household hazardous materials, heavy metals, pesticides, herbicides, fertilizers, and sediment. Within urban areas, these pollutants are generally called nonpoint source pollutants. The pollutant levels vary based on factors such as time between storm events, volume of storm event, type of uses, and density of people.

The Project site consists of two drainage sub-areas, 1A (12.83 acres) and 2A (12.62 acres), which roughly bisect the site. The onsite runoff will be conveyed via curb gutter, ribbon gutter, downspouts and sheet flow into proposed catch basins with filter inserts then routed via storm drain pipes to a proposed underground infiltration/detention system. The underground infiltration system will be utilized as a combination of stormwater treatment/storage and on-site detention system. Any excess flow would be routed off-site via a 30-inch storm drain pipe prior to ultimately discharging to an existing 90-inch storm drain pipe which is owned and maintained by the Los Angeles County Flood Control District.

In order to meet the City of Irwindale and County of Los Angeles storm water quality requirements, a combination of a rain garden and/or underground infiltration/detention system will be utilized as LID treatment devices to treat the low-flow. The underground infiltration/detention system will be located within an area (50-foot wide, eight-foot high, and 653-foot long) on the west side of the property. The rain garden areas will be located throughout the site, mainly around the perimeter. Within subarea 2A, the low flow will discharge into the LID treatment device rain garden via curb openings and then directed into the underground infiltration/detention system via infiltration. Subarea 1A will be directed to and treated by the proposed underground infiltration/detention system via underground storm drain pipe. The owner of the property will privately maintain the on-site drainage system, which would consist of catch basin, curb drains, and infiltration/detention

system. The proposed storm drains and infiltration/detention system has been designed to convey the required flow rates and will comply with the flood protection and storm water quality requirements of the City of Irwindale and County of Los Angeles. Thus, construction and operation of the proposed storm drain facilities would ensure that storm water would be conveyed and treated prior to outletting to the regional storm drain system, resulting in less than significant impacts to water quality.

Overall, implementation of the proposed Project would have a **less than significant** impact relative to this topic.

MITIGATION MEASURE(S)

Implement **Mitigation Measure Geo-1** (from Section VII, Geology and Soils, of the Initial Study) reproduced below as Mitigation Measure 3.6-1.

***Mitigation Measure 3.6-1:** The project applicant shall submit a Notice of Intent (NOI) and Storm Water Pollution Prevention Plan (SWPPP) to the RWQCB in accordance with the NPDES General Construction Permit requirements. The SWPPP shall be designed to control pollutant discharges utilizing Best Management Practices (BMPs) and technology to reduce erosion and sediments. BMPs may consist of a wide variety of measures taken to reduce pollutants in stormwater runoff from the project site. Measures shall include temporary erosion control measures (such as silt fences, staked straw bales/wattles, silt/sediment basins and traps, check dams, geofabric, sandbag dikes, and temporary revegetation or other ground cover) that will be employed to control erosion from disturbed areas. Final selection of BMPs will be subject to approval by the City and the RWQCB. The SWPPP will be kept on site during construction activity and will be made available upon request to representatives of the RWQCB and City.*

Impact 3.6-2: The proposed Project has the potential to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. (Less than Significant)

The proposed Project would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. The collection of rainwater for those areas of impervious surfaces will be routed into the proposed Project's storm drainage system, which includes an underground infiltration/detention system. The proposed rain garden area, landscape area and infiltration/detention system would allow for some infiltration of surface water into the groundwater. The Project site is not a significant source of groundwater for public water supplies.

Water resources in the City and throughout the San Gabriel Valley are sustained by substantial groundwater basins, which are used as reservoirs to store water during the wet years. These underground reservoirs are tapped throughout the year according to the demand of water. Groundwater conditions in these basins are influenced by natural hydrologic conditions such as percolation of precipitation, groundwater seepage, and ephemeral stream flow within the

watershed areas. The groundwater supplies are also augmented with recharged surface water purchased through the State Water Project.

As stated, the Project site is located within the MSGB, and will be provided water service by ALW. In accordance with the requirements of Section 28 of its Rules and Regulations, the MSGB Watermaster annually prepares and updates their Five-Year Water Quality and Supply Plan to summarize the MSGB Watermaster's plans to manage the MSGB and monitor the groundwater supply and quality. The Five-Year Water Quality and Supply Plan develops projections of future groundwater supply and quality and outlines how the MSGB Watermaster plans to maintain the Key Well elevation between 200 feet and 250 feet, to the extent possible. According to the MSGB Watermaster website, the groundwater level at Baldwin Park Key Well is at 209.4 feet as of February 28, 2020.

It is estimated that the proposed project would generate between 15 and 250 employees, which is estimated to require between 2,937 gallons per day (3.3 acre-feet per year [AFY]) and 48,950 gallons per day (approximately 54.9 AFY). According to the ALW's 2015 UWMP, ALW intends to focus its efforts on its existing water supply infrastructure in order to maximize its local supply capacity. ALW's supply reliability in the near future is expected to increase through continued upgrades to its groundwater facilities, expansion of the Joseph F. Hsu Filtration Plant), continued access to imported water, and the future potential use of recycled water. Therefore, ALW can expect to meet the needs of its customers through 2040 and as sufficient capacity to handle the increased water demand from the proposed Project.

Additionally, the Project site is also the general location of the former Irwindale Pit No. 1 (Manning Brothers Pit) Project. The City of Irwindale acquired the northern portion of the pit (approximately 37 acres) in the late 1980s from the County of Los Angeles, and the County retained the remainder (approximately 45 acres) which is currently used as a supplemental water recharge basin in conjunction with the Irwindale Recharge Basin, located just to the west. The recharge basin located south of the Project site will remain intact and will not be impacted by development of the proposed Project.

For the reasons mentioned above, the proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin. As such, implementation of the proposed Project would have a **less than significant** impact relative to this topic.

Impact 3.6-3: The proposed Project would not alter the existing drainage pattern of the site or area, including the alteration of the course of a river or through the addition of impervious surfaces, in a manner which would result in substantial erosion, siltation, surface runoff, flooding, or polluted runoff. (Less than Significant)

The proposed Project is in a developed urban area, in which no streams or rivers pass through the Project site. As such, there is no potential for the project to alter a watercourse, which could lead to on- or off-site flooding. Currently, the Project site retains all runoff on-site. The northerly portion of

3.6 HYDROLOGY AND WATER QUALITY

the Project site, collects and conveys negligible runoff to an existing storm drain system owned by the City of Irwindale.

The proposed Project would alter the existing drainage of the Project site through grading and development of an industrial warehouse building and associated parking lot, as described in Chapter 2. Development of the proposed Project, when complete, would result in impervious surfaces and thus could result in an incremental reduction in the amount of natural soil surfaces available for infiltration of rainfall and runoff, thereby generating additional runoff during storm events. Additional runoff could contribute to increased erosion, siltation, and pollution, and increase in flood potential, or runoff that could exceed the capacity of the City's drainage system. However, as previously discussed, in order to meet the City of Irwindale and County of Los Angeles storm water quality requirements, biofiltration BMP will be utilized to meet low impact development (LID)/storm water quality requirements. Planned biofiltration BMPs include Measure BIO-1 (biofiltration) of the County of Los Angeles Department of Public Works LID Standards Manual (February 2014).

Any excess flow would be routed off-site via a 30-inch storm drain pipe prior to ultimately discharging to an existing 90-inch storm drain pipe which is owned and maintained by the Los Angeles County Flood Control District. The property owner will maintain the on-site drainage system, which would consist of catch basin, curb drains, and infiltration/detention system. The proposed storm drains and infiltration/detention system has been designed to convey the required flow rates and will comply with the flood protection and storm water quality requirements of the City of Irwindale and County of Los Angeles.

According to the Hydrology/LID Report prepared by WestLAND Group (May 15, 2017), the proposed infiltration/detention system complies with the necessary retention/detention requirements of the City of Irwindale and County of Los Angeles. Additionally, the report concludes the proposed development runoff is designed to control outlet flow and poses no flood risk to neighboring properties. Therefore, implementation of the Project would not result in flooding on- or off-site or runoff water exceeding the capacity of existing or planned stormwater drainage systems.

Construction would include excavation and the overall disturbance of existing landscape, and would expose bare soil, and could temporarily alter drainage patterns with the potential to cause erosion and sedimentation. Adherence with statewide NPDES Construction General Permit and MS4 Permit construction requirements would ensure erosion or siltation does not occur onsite through implementation of erosion and sediment control BMPs during construction of the proposed Project. These requirements (see Mitigation Measure 3.6-1) would include the implementation of minimum BMPs, typical Source Control BMPs, and typical Treatment Control BMPs for erosion, sediment, non-storm water management and waste management. Adherence to the MS4 Permit and Construction General Permit conditions would ensure that potential water quality degradation associated with the construction of future development projects within the Project area would be minimized. With implementation of erosion and sediment control BMPs, as would be required by the appropriate permitting authorities and goals, policies, and implementation measures to reduce water quality impacts, construction-related impacts related to alteration of an existing drainage pattern that could result in substantial erosion or siltation on- or off-site from future development projects occurring under the proposed Project would be less than significant.

Additionally, planned urbanization of the Project site would result in changes to land use, natural vegetation, and infiltration characteristics, and would introduce new sources of water pollutants, producing “urban runoff.” Pollutants contained within urban runoff may include, but are not limited to sediment, oxygen-demanding substances (e.g., organic matter), nutrients (primarily nitrogen and phosphorus), heavy metals, bacteria, oil and grease, and toxic chemicals that can degrade receiving waters. Urban runoff pollutants may stem from erosion of disturbed areas, deposition of atmospheric particles derived from automobile or industrial sources, corrosion or decay of building materials, rainfall contact with toxic substances, decomposing plant materials, animal excrement, and spills of toxic materials on surfaces which receive rainfall and generate runoff. New industrial development can generate urban runoff from parking areas, as well as any areas of hazardous materials storage exposed to rainfall.

In order to ensure that stormwater runoff from the Project site does not adversely increase pollutant levels in adjacent surface waters and stormwater conveyance infrastructure, or otherwise degrade water quality, Mitigation Measure 3.6-1 requires the preparation of a SWPPP, and structural BMPs. The SWPPP would require the application of BMPs to effectively reduce pollutants from stormwater leaving the site, which would ensure that stormwater runoff does not adversely increase pollutant levels, and would reduce the potential for disturbed soils and ground surfaces to result in erosion and sediment discharge into adjacent surface waters during construction and operational phases of the Project.

Additionally, proposed biofiltration systems use vegetation and soils or other filtration media to treat stormwater runoff. As stormwater runoff passes through the vegetation and the filtration media, the combined effects of filtration, adsorption, and biological uptake remove pollutants. In biofiltration systems, organic material in the soils retains water and promotes pollutant adsorption (i.e., dissolved metals, petroleum hydrocarbons) into the soil matrix. Plants use soil moisture, promote the drying of the soil through transpiration, and uptake pollutants in their roots and leaves. Plants with extensive root systems also help to maintain infiltration rates. Vegetation also decreases the velocity of flow and allows for particulates to settle. Biofiltration systems must be designed according to specifications outlined in the Biofiltration Fact Sheet (BIO-1) in Appendix E of the LID Standards Manual. Biofiltration systems with liners and underdrains will be located around the site perimeter, as well as proprietary high-flow devices that are approved for use by the County. An underground detention system will be required to mitigate peak flows, consistent with County requirements. The implementation of these requirements would reduce this impact to a less-than-significant level.

Compliance with these standards and regulations would ensure that erosion, siltation, and polluted runoff is minimized such that the Project would not result in substantial erosion, siltation, surface runoff, flooding, or polluted runoff and that the impact would be **less than significant**.

MITIGATION MEASURE(S)

Implement **Mitigation Measure Geo-1** (from Section VII, Geology and Soils, of the Initial Study) reproduced above as Mitigation Measure 3.6-1.

Impact 3.6-4 The proposed Project has the potential to, in a flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation. (Less than Significant)

As shown on Figure 3.6-2, the Project site is not within a 100-year flood zone as delineated by FEMA. The Project site is not located within the 200-year floodplain as delineated on the most recent 200-year flood plain maps for Irwindale. Additionally, the Project site is not located in an area with the potential for tsunami inundation or within an area with a control levee.

The Santa Fe Dam Park Lake is a 20-acre lake and reservoir located approximately 0.9 miles northwest of the Project site. According to the Santa Fe Dam Basin Master Plan and Environmental Assessment, the Project site is outside of the basin boundaries and is not located in the dam inundation zone. However, as shown in Figure 3.6-3, the Project site is located within a dam inundation area for the San Gabriel No. 1 Dam. Due to the size of this dam, it is regulated by California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring the dam in perpetuity. The proposed Project would not result in actions that could result in a higher likelihood of dam failure at the San Gabriel No. 1 Dam. There will always be a remote chance of dam failure that results in flooding of the City of Irwindale, including the Project site. However, given the regulations provided in the California Dam Safety Act, and the ongoing monitoring performed by the DSD, the risk of loss, injury, or death to people or structures from dam failure at the proposed Project site would be negligible, and no impact would result.

As a result, the proposed Project would have a **less-than-significant** impact relative to this topic.

Impact 3.5-The proposed Project has the potential to conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan. (Less than Significant)

The Water Quality Control Plan for the Los Angeles Region and the MSGB Watermaster Five-Year Water Quality and Supply Plan are the two guiding documents for water quality and sustainable groundwater management in the Project area. Consistency with the two plans are discussed below.

WATER QUALITY CONTROL PLAN FOR THE LOS ANGELES REGION

The Water Quality Control Plan for the Los Angeles Region, also known as the Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties (Basin Plan), includes a summary of beneficial water uses, water quality objectives needed to protect the identified beneficial uses, and implementation measures. The Basin Plan establishes water quality standards for all the ground and surface waters of the region. The term “water quality standards,” as used in the Federal Clean Water Act, includes both the beneficial uses of specific water bodies and the levels of quality that must be met and maintained to protect those uses. The Basin Plan includes an implementation plan describing the actions by the RWQCB and others that are necessary to achieve and maintain the water quality standards.

The Project would include a combination of a rain garden and/or underground infiltration/detention systems utilized as LID treatment devices. The proposed storm drains and infiltration/detention system has been designed to convey the required flow rates and will comply with the flood protection and storm water quality requirements of the City of Irwindale and County of Los Angeles. As discussed in Impacts 3.6-1, impacts related to water quality during construction and operation would be less-than-significant with implementation of the Mitigation Measure 3.6-1. Mitigation Measure 3.6-1, requires the preparation of a SWPPP, and structural BMPs to effectively reduce pollutants from stormwater leaving the site, which would ensure that stormwater runoff does not adversely increase pollutant levels. The Project would also be subject to the applicable water quality regulations, including but not limited to Chapter 8.28 of the Irwindale Municipal Code (*Storm Water and Urban Runoff Pollution*), which was adopted pursuant to the Federal Water Pollution Control Act and is to protect and improve water quality of receiving waters.

MSGB WATERMASTER FIVE-YEAR WATER QUALITY AND SUPPLY PLAN

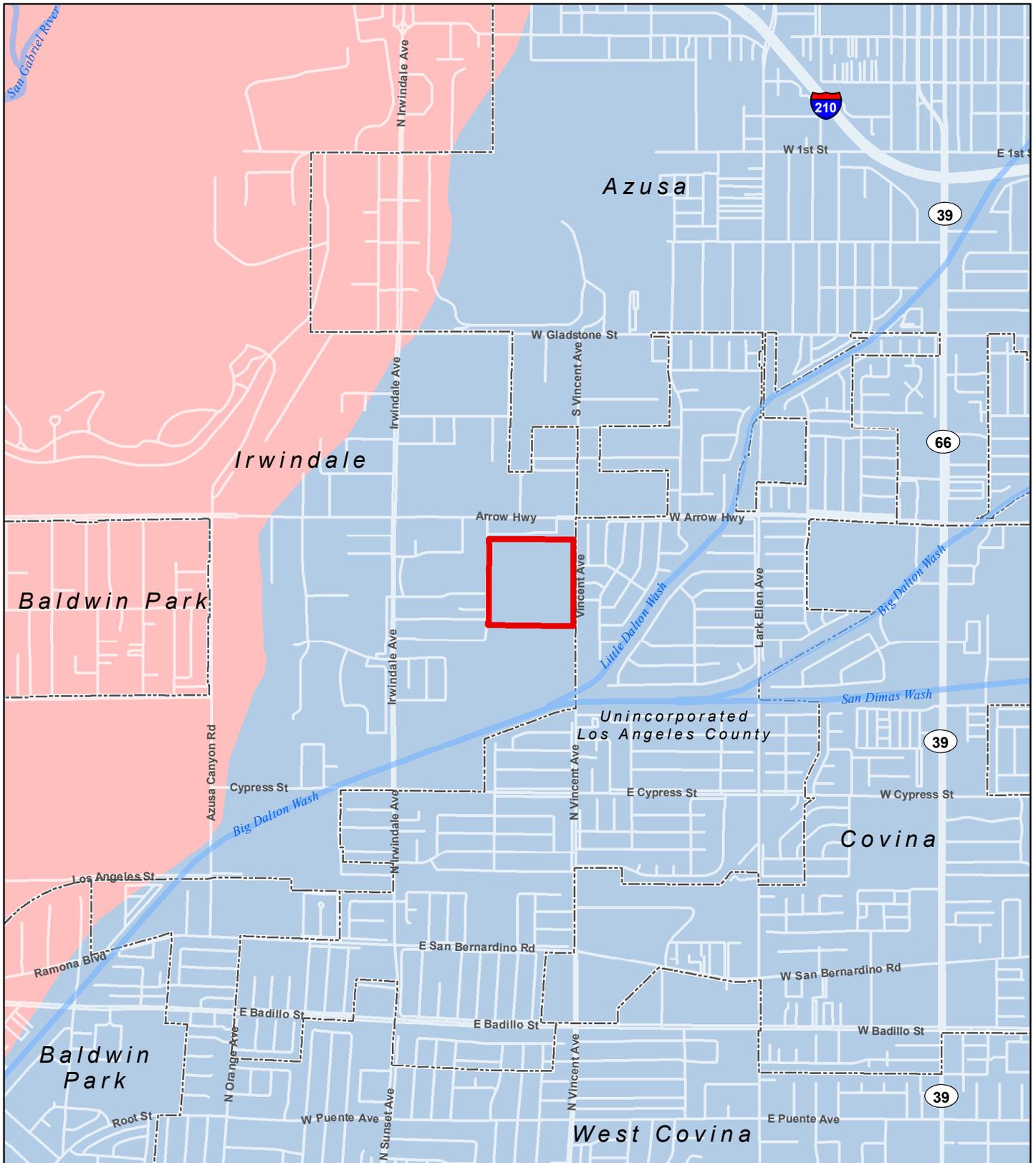
The MSGB Watermaster Five-Year Water Quality and Supply Plan is prepared and updated annually to coordinate groundwater-related activities so that both water supply and water quality in the MSGB are protected and improved. As discussed in Impact 3.6-2, the Project would not decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin. It is estimated that the proposed project would require between 2,937 gallons per day (3.3 acre-feet per year [AFY]) and 48,950 gallons per day (approximately 54.9 AFY). Based on the current capacity of ALW's supply infrastructure, ALW can expect to meet the needs of its customers through 2040. Furthermore, the groundwater level at Baldwin Park Key Well is at 209.4 feet as of February 28, 2020, which is between the 200 feet and 250 feet elevation that MSGB Watermaster strives to maintain.

Additionally, Mitigation Measure 3.6-1 requires the preparation of a SWPPP, and structural BMPs. The SWPPP would require the application of BMPs to effectively reduce pollutants from stormwater leaving the site, which would ensure that stormwater runoff does not adversely increase pollutant levels, and would reduce the potential for disturbed soils and ground surfaces to result in erosion and sediment discharge into adjacent surface waters during construction and operational phases of the Project. The Project would also be subject to the applicable water quality regulations, including but not limited to Chapter 8.28 of the Irwindale Municipal Code (*Storm Water and Urban Runoff Pollution*), which was adopted pursuant to the Federal Water Pollution Control Act and is to protect and improve water quality of receiving waters.

CONCLUSION

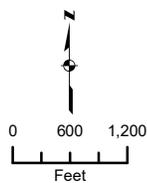
Overall, implementation of the proposed Project and adherence to the requirements of Mitigation Measures 3.6-1 would have a **less than significant** impact related to conflicts with the Basin Plan and Five-Year WQSP.

This page intentionally left blank.



Legend

- Project Boundary
- City Boundary
- USGS Primary Watershed**
- Lower San Gabriel River
- Walnut Creek

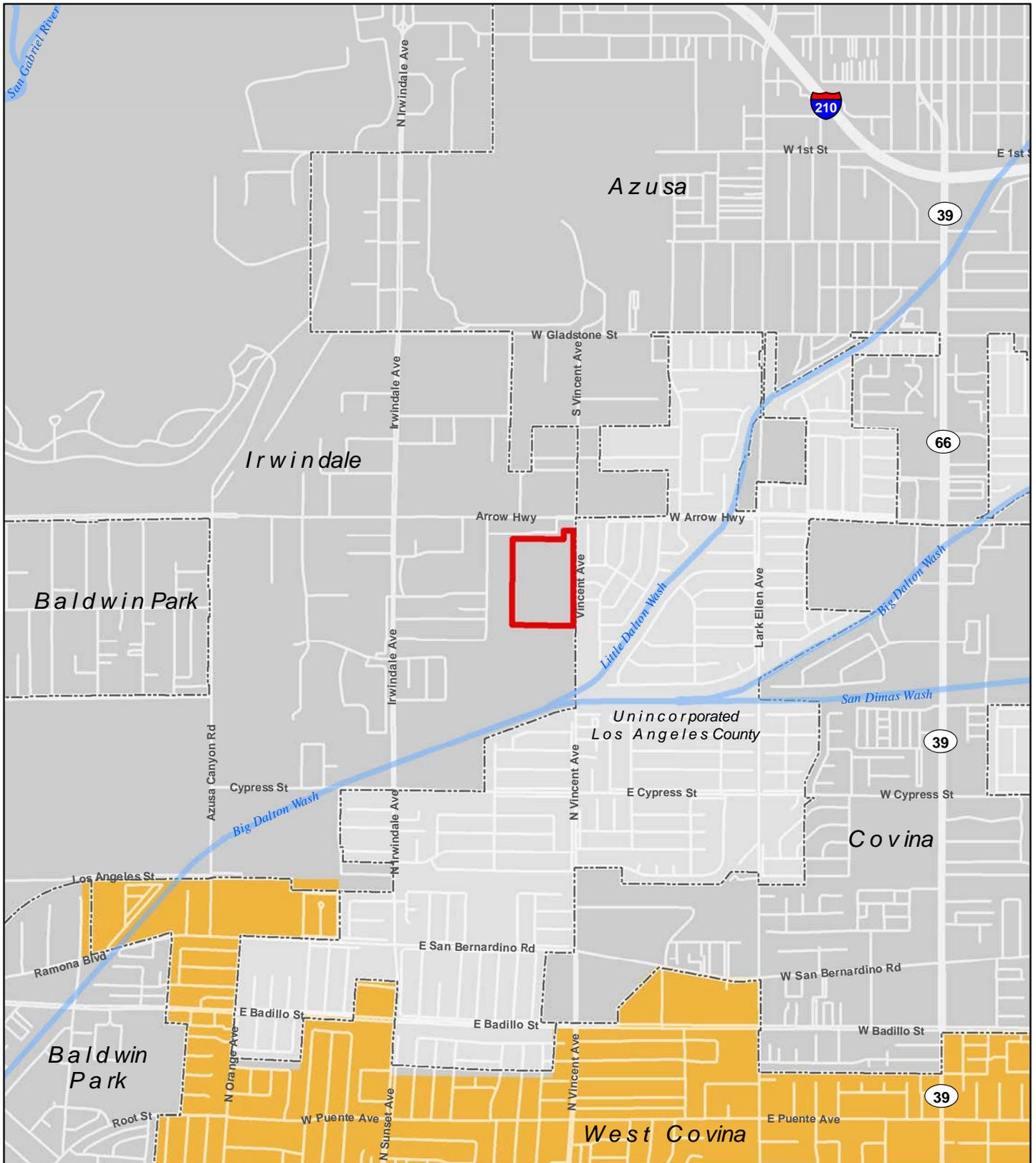


**CITY OF IRWINDALE
SWC VINCENT AVENUE AND ARROW HIGHWAY**

Figure 3.6-1. Principal Watershed

Source: USGS Watershed Boundary Dataset; Los Angeles County EGIS. Map date: February 25, 2020.

This page intentionally left blank.



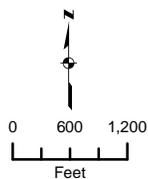
Legend

Project Boundary

City Area

FEMA Flood Zone Designation

2% Annual Chance Flood Hazard (500-Year Flood Plain)

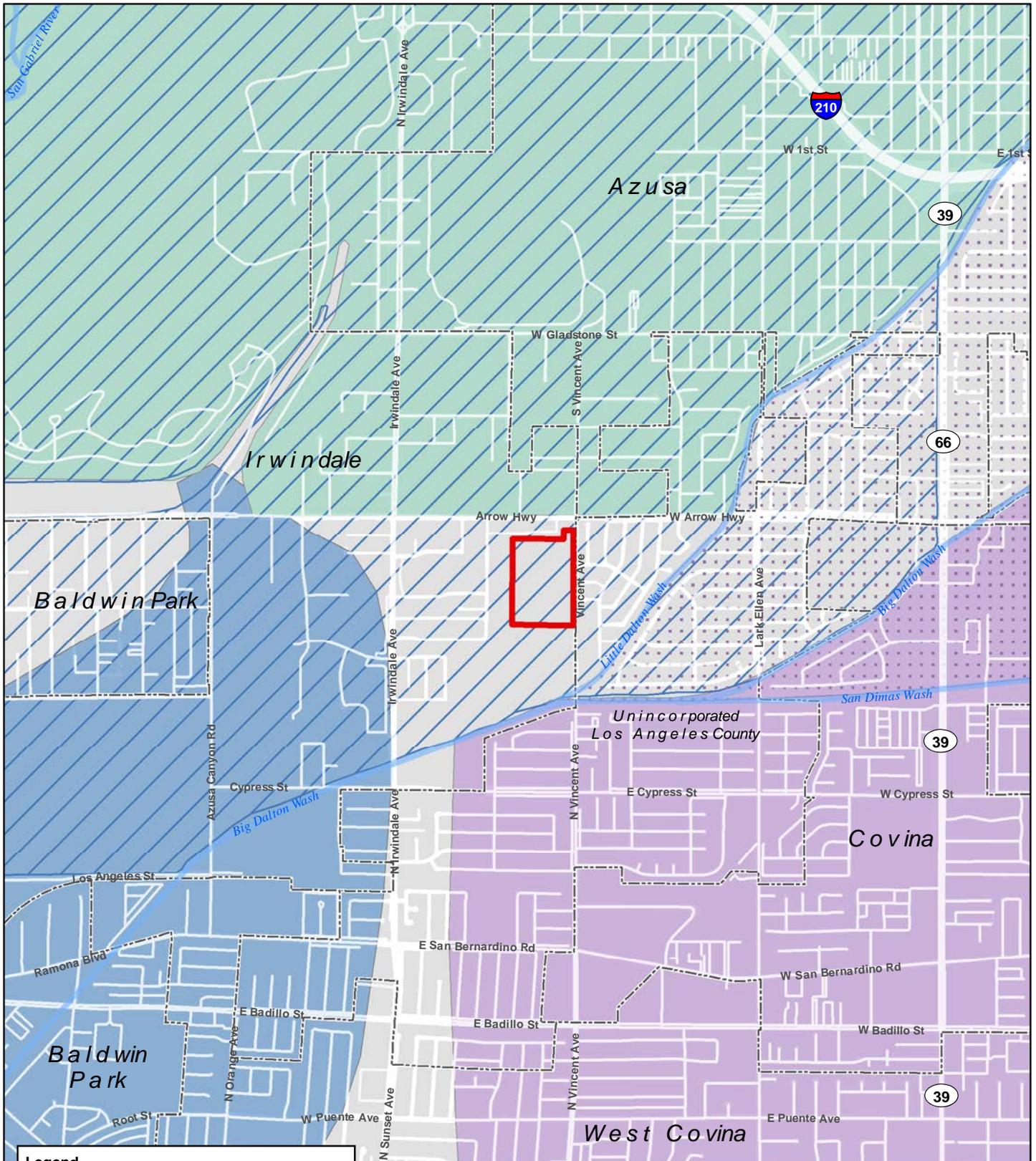


**CITY OF IRWINDALE
5175 VINCENT AVENUE**

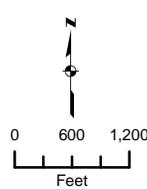
Figure 3.6-2. FEMA Flood Insurance Rate Map

Source: Los Angeles County EGIS, FEMA NFHL_06037C, effective date 4/4/18, Map date: May 8, 2018, Revised 5/15/18.

This page intentionally left blank.



Legend	
 San Gabriel No 1	 Project Boundary
 Morris	 City Boundary
 San Dimas	
 Santa Fe	
 Big Dalton	



CITY OF IRWINDALE
5175 VINCENT AVENUE

Figure 3.6-3. Dam Inundation Map

Source: Governor's Office of Emergency Services Statewide Dam Inundation Map Service, accessed 5/8/2018.; Los Angeles County EGIS. Map date: May 8, 2018. Revised 5/15/2018.

This page intentionally left blank.

This section provides a general description of the existing noise sources in the Project vicinity, a discussion of the regulatory setting, and identifies potential noise impacts associated with the proposed Project. Project impacts are evaluated relative to applicable noise level criteria and to the existing ambient noise environment. Mitigation measures have been identified for significant noise-related impacts. Information in this section is based on the Environmental Noise Assessment completed for the Project (Saxelby Acoustics, 2020).

One comment was received during the scoping meeting for the Notice of Preparation regarding this topic from Edward and Margaret Curren (February 20, 2020). The portion of the comment related to this topic is addressed within this section. Full comments received are included in Appendix A.

As discussed in in the Initial Study prepared for the proposed Project, the Project has been determined to not be located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport. The closest airport is the El Monte Airport approximately six miles southwest of the Project site. As such, there is no impact related to this topic and this California Environmental Quality Act (CEQA) topic will not be further discussed. The Initial Study is included in Appendix A of this Draft EIR.

3.7.1 ENVIRONMENTAL SETTING

KEY TERMS

Acoustics	The science of sound.
Ambient Noise	The distinctive acoustical characteristics of a given area consisting of all noise sources audible at that location. In many cases, the term ambient is used to describe an existing or pre-project condition such as the setting in an environmental noise study.
Attenuation	The reduction of noise.
A-Weighting	A frequency-response adjustment of a sound level meter that conditions the output signal to approximate human response.
Decibel or dB	Fundamental unit of sound, defined as ten times the logarithm of the ratio of the sound pressure squared over the reference pressure squared.
CNEL	Community noise equivalent level. Defined as the 24-hour average noise level with noise occurring during evening hours (7 - 10 p.m.) weighted by a factor of three and nighttime hours weighted by a factor of 10 prior to averaging.
Frequency	The measure of the rapidity of alterations of a periodic acoustic signal, expressed in cycles per second or Hertz.
Impulsive	Sound of short duration, usually less than one second, with an abrupt onset and rapid decay.
L_{dn}	Day/Night Average Sound Level. Similar to CNEL but with no evening weighting.
L_{eq}	Equivalent or energy-averaged sound level.
L_{max}	The highest root-mean-square (RMS) sound level measured over a given period of time.

L_(n)	The sound level exceeded a described percentile over a measurement period. For instance, an hourly L ₅₀ is the sound level exceeded 50 percent of the time during the one hour period.
Loudness	A subjective term for the sensation of the magnitude of sound.
Noise	Unwanted sound.
SEL	Sound exposure levels. A rating, in decibels, of a discrete event, such as an aircraft flyover or train passby, that compresses the total sound energy into a one-second event.

FUNDAMENTALS OF ACOUSTICS

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), then they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound, and is expressed as cycles per second or Hertz (Hz).

Noise is a subjective reaction to different types of sounds. Noise is typically defined as (airborne) sound that is loud, unpleasant, unexpected or undesired, and may therefore be classified as a more specific group of sounds. Perceptions of sound and noise are highly subjective from person to person.

Measuring sound directly in terms of pressure would require a very large and awkward range of numbers. To avoid this, the decibel scale was devised. The decibel scale uses the hearing threshold (20 micropascals), as a point of reference, defined as 0 dB. Other sound pressures are then compared to this reference pressure, and the logarithm is taken to keep the numbers in a practical range. The decibel scale allows a million-fold increase in pressure to be expressed as 120 dB, and changes in levels (dB) correspond closely to human perception of relative loudness.

The perceived loudness of sounds is dependent upon many factors, including sound pressure level and frequency content. However, within the usual range of environmental noise levels, perception of loudness is relatively predictable, and can be approximated by A-weighted sound levels. There is a strong correlation between A-weighted sound levels (expressed as dBA) and the way the human ear perceives sound. For this reason, the A-weighted sound level has become the standard tool of environmental noise assessment. All noise levels reported in this section are in terms of A-weighted levels, but are expressed as dB, unless otherwise noted.

The decibel scale is logarithmic, not linear. In other words, two sound levels 10 dB apart differ in acoustic energy by a factor of 10. When the standard logarithmic decibel is A-weighted, an increase of 10 dBA is generally perceived as a doubling in loudness. For example, a 70 dBA sound is half as loud as an 80 dBA sound, and twice as loud as a 60 dBA sound.

Community noise is commonly described in terms of the ambient noise level, which is defined as the all-encompassing noise level associated with a given environment. A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{eq}), which corresponds

to a steady-state A weighted sound level containing the same total energy as a time varying signal over a given time period (usually one hour). The L_{eq} is the foundation of the composite noise descriptor, L_{dn} , and shows very good correlation with community response to noise.

The day/night average level (L_{dn}) is based upon the average noise level over a 24-hour day, with a +10 decibel weighting applied to noise occurring during nighttime (10:00 p.m. to 7:00 a.m.) hours. The nighttime penalty is based upon the assumption that people react to nighttime noise exposures as though they were twice as loud as daytime exposures. Because L_{dn} represents a 24-hour average, it tends to disguise short-term variations in the noise environment. CNEL is similar to L_{dn} , but includes a +5 dB penalty for evening noise. Table 3.7-1 lists several examples of the noise levels associated with common situations.

TABLE 3.7-1: TYPICAL NOISE LEVELS

<i>COMMON OUTDOOR ACTIVITIES</i>	<i>NOISE LEVEL (DBA)</i>	<i>COMMON INDOOR ACTIVITIES</i>
	--110--	Rock Band
Jet Fly-over at 300 m (1,000 ft)	--100--	
Gas Lawn Mower at 1 m (3 ft)	--90--	
Diesel Truck at 15 m (50 ft), at 80 km/hr (50 mph)	--80--	Food Blender at 1 m (3 ft) Garbage Disposal at 1 m (3 ft)
Noisy Urban Area, Daytime Gas Lawn Mower, 30 m (100 ft)	--70--	Vacuum Cleaner at 3 m (10 ft)
Commercial Area Heavy Traffic at 90 m (300 ft)	--60--	Normal Speech at 1 m (3 ft)
Quiet Urban Daytime	--50--	Large Business Office Dishwasher in Next Room
Quiet Urban Nighttime	--40--	Theater, Large Conference Room (Background)
Quiet Suburban Nighttime	--30--	Library
Quiet Rural Nighttime	--20--	Bedroom at Night, Concert Hall (Background)
	--10--	Broadcast/Recording Studio
Lowest Threshold of Human Hearing	--0--	Lowest Threshold of Human Hearing

SOURCE: CALTRANS, TECHNICAL NOISE SUPPLEMENT, TRAFFIC NOISE ANALYSIS PROTOCOL. SEPTEMBER 2013.

EFFECTS OF NOISE ON PEOPLE

The effects of noise on people can be placed in three categories:

- Subjective effects of annoyance, nuisance, and dissatisfaction;
- Interference with activities such as speech, sleep, and learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories. Workers in industrial plants can experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise or the corresponding reactions of annoyance and dissatisfaction. A wide variation in individual thresholds of annoyance exists and different tolerances to noise tend to develop based on an individual’s past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so-called ambient noise level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Except in carefully controlled laboratory experiments, a 1 dBA change cannot be perceived;
- Outside of the laboratory, a 3 dBA change is considered a just-perceivable difference;
- A change in level of at least 5 dBA is required before any noticeable change in human response would be expected; and
- A 10 dBA change is subjectively heard as approximately a doubling in loudness, and can cause an adverse response.

Stationary point sources of noise – including stationary mobile sources such as idling vehicles – attenuate (lessen) at a rate of approximately 6 dB per doubling of distance from the source, depending on environmental conditions (i.e. atmospheric conditions and either vegetative or manufactured noise barriers, etc.). Widely distributed noises, such as a large industrial facility spread over many acres, or a street with moving vehicles, would typically attenuate at a lower rate.

GROUNDBORNE VIBRATION

Vibration is like noise in that it involves a source, a transmission path, and a receiver. While vibration is related to noise, it differs in that noise is generally considered to be pressure waves transmitted through air, whereas vibration usually consists of the excitation of a structure or surface. As with noise, vibration consists of an amplitude and frequency. A person's perception to the vibration will depend on their individual sensitivity to vibration, as well as the amplitude and frequency of the source and the response of the system which is vibrating.

Vibration can be measured in terms of acceleration, velocity, or displacement. A common practice is to monitor vibration measures in terms of peak particle velocities in inches per second. Standards pertaining to perception as well as damage to structures have been developed for vibration levels defined in terms of peak particle velocities (p.p.v.).

SENSITIVE RECEPTORS

Sensitive noise receptors within the area include residential uses located in the residential areas to the north (opposite Arrow Highway), south (along Bellbrook Street), east (opposite Vincent Avenue), and west (opposite Allen Drive) of the Project site.

EXISTING NOISE LEVELS

Existing and Surrounding Land Uses

In the vicinity of the Project site, surrounding land uses include existing residential and industrial uses. Residential uses are located to the east and west of the Project site along Vincent Avenue and Allen Drive. Industrial uses are located directly north of the Project site. Land to the south of the

Project site is occupied by an inactive quarry. Undeveloped land directly west of the Project site is currently zoned for future industrial use.

Existing Ambient Noise Levels

To quantify the existing ambient noise environment in the Project vicinity, continuous (24-hour) noise level measurements were conducted on the Project site on February 11 and 12, 2020. The noise measurement locations are shown on Figure 3.7-1. The noise level measurement survey results are provided in Table 3.7-2. Appendix B of Appendix C shows the complete results of the continuous noise monitoring at sites LT-1 through LT-4.

The sound level meters were programmed to collect hourly noise level intervals at each site during the survey. The maximum value (L_{max}) represents the highest noise level measured during an interval. The average value (L_{eq}) represents the energy average of all of the noise measured during an interval. The median value (L_{50}) represents the sound level exceeded 50 percent of the time during an interval.

TABLE 3.7-2: SUMMARY OF EXISTING BACKGROUND NOISE MEASUREMENT DATA

SITE	LOCATION	L_{DN}	AVERAGE MEASURED HOURLY NOISE LEVELS, dB					
			DAYTIME (7AM-10PM)			NIGHTTIME (10PM-7AM)		
			L_{EQ}	L_{50}	L_{MAX}	L_{EQ}	L_{50}	L_{MAX}
<i>CONTINUOUS (24-HOUR) NOISE LEVEL MEASUREMENTS</i>								
LT-1	Northeast corner of site	73.5	70.7	67.2	88.9	66.0	57.1	85.1
LT-2	Southeast corner of site	75.3	72.5	69.6	88.0	67.9	59.0	87.3
LT-3	Southwest corner of site	60.5	51.3	47.3	68.4	54.4	53.0	67.8
LT-4	Northwest corner of site	60.0	51.3	48.2	68.6	53.8	52.4	66.2

SOURCE: SAXELBY ACOUSTICS, 2020.

Larson Davis Laboratories (LDL) Model 812 and 820 precision integrating sound level meters were used for the ambient noise level measurement survey. The meters were calibrated before and after use with an LDL Model CAL200 acoustical calibrator to ensure the accuracy of the measurements. The equipment used meets all pertinent specifications of the American National Standards Institute for Type 1 sound level meters (ANSI S1.4).

Existing Roadway Noise Levels

To predict existing noise levels due to traffic, the Federal Highway Administration (FHWA) Highway Traffic Noise Prediction Model (FHWA RD-77-108) was used. The model is based upon the Calveno reference noise emission factors for automobiles, medium trucks, and heavy trucks, with consideration given to vehicle volume, speed, roadway configuration, distance to the receiver, and the acoustical characteristics of the site. The FHWA model was developed to predict hourly L_{eq} values for free-flowing traffic conditions. While the newer FHWA traffic noise model (TNM 3.0) is required for use on federally funded highway projects, the FHWA RD-77-108 model is still widely used in the industry and recognized as an accurate screening tool, typically resulting in slight over-predictions in traffic noise levels at typical receptor setback distances.

3.7 NOISE

Traffic volumes for existing conditions were obtained from the traffic data prepared for the Project as part of the Traffic Impact Analysis (Ganddini Group Inc.). The traffic volumes are shown in Appendix C of Appendix C of the Draft EIR. Truck percentages and vehicle speeds on the local area roadways were estimated from field observations.

Traffic noise levels are predicted at the sensitive receptors located at the closest typical setback distance along each Project-area roadway segment. Where traffic noise barriers are predominately along a roadway segment, a -5 dB offset was added to the noise prediction model to account for various noise barrier heights. A -5 dB offset was also applied where outdoor activity areas are shielded by intervening buildings. In some locations, sensitive receptors may be located at distances which vary from the assumed calculation distance and may experience shielding from intervening barriers or sound walls. However, the traffic noise analysis is believed to be representative of the majority of sensitive receptors located closest to the Project-area roadway segments analyzed in this section.

Table 3.7-3 shows the existing traffic noise levels in terms of L_{dn} at closest sensitive receptors along each roadway segment. A complete listing of the FHWA Model input data is contained in Appendix B of Appendix C.

TABLE 3.7-3: EXISTING TRAFFIC NOISE LEVELS AND DISTANCES TO CONTOURS

ROADWAY	SEGMENT	EXTERIOR TRAFFIC NOISE LEVEL, DB L_{DN}
Arrow Hwy.	Maine Ave. to Azusa Canyon Rd.	65.9
Arrow Hwy.	Azusa Canyon Rd. to 4th St.	59.0
Arrow Hwy.	4th St. to Irwindale Ave.	70.7
Arrow Hwy.	Irwindale Ave. to Vincent Ave.	71.8
Arrow Hwy.	East of Vincent Ave.	73.0
Azusa Ave.	Paramount St. Gladstone St.	68.2
Cypress St.	West of Vincent Ave.	63.5
Cypress St.	East of Vincent Ave.	68.2
Gladstone St.	Vincent Ave. to Vernon Ave.	72.1
Gladstone St.	Vernon Ave. to Azusa Ave.	69.5
Irwindale Ave.	South of Arrow Hwy.	66.7
Vernon Ave.	North of Gladstone St.	66.1
Vincent Ave.	Gladstone St. to Arrow Hwy.	68.0
Vincent Ave.	Project North Driveway to Project South Driveway	69.8
Vincent Ave.	Project South Driveway to Cypress St.	70.5
Vincent Ave.	Project South Driveway to Cypress St.	70.6
Vincent Ave.	Cypress St. to San Bernardino Rd.	69.7
Vincent Ave.	San Bernardino to Badillo St.	50.4
Vincent Ave.	Badillo St. to Puente Ave.	70.5
Vincent Ave.	Puente Ave. to Rowland St.	71.2
Vincent Ave.	Rowland St. to Workman Ave.	71.4
Vincent Ave.	Workman Ave. to I-10 WB Ramps	69.9

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KUNZMAN ASSOCIATES, INC., AND SAXELBY ACOUSTICS, 2020.

Stationary Noise Sources

The Project vicinity consists of industrial, residential, recreational, and public facility uses. The primary sources of stationary noise in the Project vicinity are urban-related activities (e.g., heating, ventilation, and air conditioning units, parking areas, and conversations). The noise associated with these sources may represent a single-event or a continuous occurrence.

3.7.2 REGULATORY SETTING

FEDERAL

There are no federal regulations related to noise that apply to the proposed Project.

STATE

California Building Code

California Building Code (CBC), Title 24, Section 1207.11.2, *Allowable Interior Noise Levels*, requires that interior noise levels attributable to exterior sources not exceed 45 dBA in any habitable room. The noise metric is evaluated as either Ldn or CNEL, consistent with the noise element of the local general plan.

California Green Building Standards Code

The California Green Building Standards Code (CALGreen) has requirements for insulation that affect exterior-interior noise transmission for non-residential structures. Pursuant to CALGreen Section 5.507.4.1, *Exterior Noise Transmission*, an architectural acoustics study may be required when a project site is within a 65 dBA CNEL or Ldn noise contour of an airport, freeway or expressway, railroad, industrial source, or fixed-guideway source.

Where noise contours are not readily available, if buildings are exposed to a noise level of 65 dBA Leq during any hour of operation, specific wall and ceiling assembly and sound-rated windows may be necessary to reduce interior noise to acceptable levels. A performance method may also be used per CALGreen Section 5.507.4.2 to show compliance with State interior noise requirements.

LOCAL

City of Irwindale General Plan

The City of Irwindale 2020 General Plan – Public Safety Element establishes policies relative to the reduction and mitigation of natural and manmade hazards, such as noise, that must be considered in future planning and decision-making (City of Irwindale, 2008). The City's policies related to noise issues stress the importance of protecting residents from excessive noise and reducing the high levels of noise exposure associated with the existing development and transportation facilities in the City. Specific policies include:

- **Policy 5.** The City of Irwindale will work towards reducing noise exposure in the City by considering noise and land use compatibility in land use planning.
- **Policy 6.** The City of Irwindale will continue to investigate strategies that will be effective in reducing the community’s exposure to harmful noise levels.

The City’s General Plan recognizes the State Office of Noise Control’s Guidelines for the Preparation and Content of Noise Elements of General Plans, which is a guide for compatibility of noise-sensitive land uses in areas subject to noise levels of 55 to 80 dBA CNEL or Ldn. In summary:

- **Residential uses** are *normally unacceptable* in areas exceeding 70 dBA CNEL; and *conditionally acceptable* between 55 and 70 dBA CNEL for low-density single-family dwelling units, duplexes, and mobile homes, and between 60 and 70 dBA CNEL for multiple-family units.
- **Schools, libraries, hospitals, and nursing homes** are treated as noise-sensitive land uses, requiring acoustical studies within areas exceeding 60 dBA CNEL.
- **Commercial/professional office buildings and industrial uses** are *normally unacceptable* in areas exceeding 75 dBA CNEL, and are *conditionally acceptable* within 67 to 78 dBA CNEL (for commercial and professional offices only).

Irwindale Municipal Code

The City of Irwindale regulates noise through enforcement of its noise ordinance, Irwindale Municipal Code (IMC) Chapter 9.28 Noise Regulation (City of Irwindale, 2009). Per IMC Section 9.28.030, if the ambient noise level is less than designated in Table 3.7-4 City of Irwindale Ambient Base Noise Levels, the ambient base noise level in Table 3.7-4 shall govern.

TABLE 3.7-4 CITY OF IRWINDALE AMBIENT BASE NOISE LEVELS

<i>ZONE</i>	<i>10 P.M. TO 7 A.M.</i>	<i>7 A.M. TO 10 P.M.</i>
Residential	45 dBA	50 dBA
Commercial	50 dBA	55 dBA
Industrial	60 dBA	70 dBA

SOURCE: IRWINDALE MUNICIPAL CODE, CHAPTER 9.28.030.

Per IMC Section 9.28.040, it is unlawful for any person to willfully make or continue, or cause to be made or continued any noise at a level which exceeds by more than five dBA the ambient or the ambient base level as set forth in Section 9.28.030, whichever is greater, when measured at any boundary line of the property from which the noise emanates.

IMC Section 9.28.110 states it is unlawful for any person within a residential zone, or within a radius of five hundred feet therefrom, to operate equipment or perform any outside construction or repair work on buildings, structures, or projects or to operate any pile driver, steam shovel, pneumatic hammer, derrick, steam or electric hoist or other construction type device on a development requiring a city permit, in such a manner that noise is produced which would exceed the ambient or the ambient base noise level by more than five (5) dBA when measured at any boundary line of the property from which the noise emanates, unless beforehand authorization

therefore has been duly obtained from the building inspector. Such activity is unlawful without a permit during all hours on Sunday. All construction governed by this Section of the IMC is limited to occur between seven (7) a.m. and seven (7) p.m.

IMC Section 9.28.230 Exclusions to chapter applicability, states the provisions of this chapter shall not apply to:

- A. Sound produced by motor vehicles as regulated by sound limitation provisions of the California Vehicle Code when such vehicle is located or operated on any public street, right-of-way or highway;
- B. Aircraft operated in conformity with federal law;
- C. Public and private schools, organized activities including sports, carnivals, assemblies and other regular activities;
- D. Construction, operation, maintenance and repairs of equipment, apparatus or facilities of park and recreation departments, public works projects or essential public services and facilities, including those of public utilities subject to the regulatory jurisdiction of the California Public Utilities Commission;
- E. Activities of the federal, state or local government;
- F. Any noise continuing for less than thirty seconds at intervals greater than once in three hours.

VIBRATION STANDARDS

The City of Irwindale does not have specific policies pertaining to vibration levels. However, vibration levels associated with construction activities are addressed as potential noise impacts associated with Project implementation.

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.7-5 indicates that the threshold for damage to structures ranges from 0.2 to 0.6 p.p.v. in inches per second (in/sec p.p.v). A threshold of 0.20 in/sec p.p.v. is considered to be a reasonable threshold for short-term construction projects.

TABLE 3.7-5: EFFECTS OF VIBRATION ON PEOPLE AND BUILDINGS

PEAK PARTICLE VELOCITY		HUMAN REACTION	EFFECT ON BUILDINGS
MM/SEC.	IN./SEC.		
0.15-0.30	0.006-0.019	Threshold of perception; possibility of intrusion	Vibrations unlikely to cause damage of any type
2.0	0.08	Vibrations readily perceptible	Recommended upper level of the vibration to which ruins and ancient monuments should be subjected
2.5	0.10	Level at which continuous vibrations begin to annoy people	Virtually no risk of "architectural" damage to normal buildings
5.0	0.20	Vibrations annoying to people in buildings (this agrees with the levels established for people standing on bridges and subjected to relative short periods of vibrations)	Threshold at which there is a risk of "architectural" damage to normal dwelling - houses with plastered walls and ceilings. Special types of finish such as lining of walls, flexible ceiling treatment, etc., would minimize "architectural" damage
10-15	0.4-0.6	Vibrations considered unpleasant by people subjected to continuous vibrations and unacceptable to some people walking on bridges	Vibrations at a greater level than normally expected from traffic, but would cause "architectural" damage and possibly minor structural damage.

SOURCE: CALTRANS. TRANSPORTATION RELATED EARTHBOEN VIBRATIONS. TAV-02-01-R9601 FEBRUARY 20, 2002.

3.7.3 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact related to noise if it will result in:

- Generation of a temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies; and/or
- Generation of excessive groundborne vibration or groundborne noise levels.

Determination of a Significant Increase in Noise Levels

TEMPORARY IMPACTS

With temporary noise impacts (construction), identification of "substantial increases" depends upon the duration of the impact, the temporal daily nature of the impact, and the absolute change in decibel levels. Per the City of Irwindale noise ordinance, if construction activities are within 500 feet of a residential zone, construction activities exceeding 75 dBA ambient base noise levels between 7 a.m. and 7 p.m. at the property boundary of an industrial zone would be considered a significant impact, unless authorization has been duly obtained beforehand from the building inspector.

OPERATIONAL IMPACTS

The noise standards applicable to the Project include the relevant portions of the Irwindale General Plan and the City’s Municipal Code described in the Regulatory Framework Section above (Section 3.7.2), and the following standards. Generally, a project may have a significant effect on the environment if it will substantially increase the ambient noise levels for adjoining areas or expose people to severe noise levels. In practice, more specific professional standards have been developed. These standards state that a noise impact may be considered significant if it would generate noise that would conflict with local project criteria or ordinances, or substantially increase noise levels at noise sensitive land uses. The potential increase in traffic noise from the Project is a factor in determining significance. Research into the human perception of changes in sound level indicates the following:

- A 3-dB change is barely perceptible,
- A 5-dB change is clearly perceptible, and
- A 10-dB change is perceived as being twice or half as loud.

A limitation of using a single noise level increase value to evaluate noise impacts is that it fails to account for pre-Project-noise conditions. Table 3.7-6 is based upon recommendations made by the Federal Interagency Committee on Noise (FICON) to provide guidance in the assessment of changes in ambient noise levels resulting from aircraft operations. The recommendations are based upon studies that relate aircraft noise levels to the percentage of persons highly annoyed by the noise. Although the FICON recommendations were specifically developed to assess aircraft noise impacts, it has been accepted that they are applicable to all sources of noise described in terms of cumulative noise exposure metrics such as the L_{dn} .

TABLE 3.7-6: SIGNIFICANCE OF CHANGES IN NOISE EXPOSURE

<i>AMBIENT NOISE LEVEL WITHOUT PROJECT, LDN</i>	<i>INCREASE REQUIRED FOR SIGNIFICANT IMPACT</i>
<60 dB	+5.0 dB or more
60-65 dB	+3.0 dB or more
>65 dB	+1.5 dB or more

SOURCE: FEDERAL INTERAGENCY COMMITTEE ON NOISE (FICON)

Based on the Table 3.7-6 data, an increase in the traffic noise level of 5 dB or more would be significant where the pre-Project noise levels are less than 60 dB L_{dn} , or 3 dB or more where existing noise levels are between 60 to 65 dB L_{dn} . Extending this concept to higher noise levels, an increase in the traffic noise level of 1.5 dB or more may be significant where the pre-Project traffic noise level exceeds 65 dB L_{dn} . The rationale for the Table 3.7-6 criteria is that, as ambient noise levels increase, a smaller increase in noise resulting from a Project is sufficient to cause annoyance.

IMPACTS AND MITIGATION MEASURES

Impact 3.7-1: The Project may result in exposure of persons to or generation of substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies – Project Operation. (Less than Significant)

OFF-SITE TRAFFIC NOISE AT OFF-SITE RECEPTORS

Implementation of the proposed Project would result in an increase in daily traffic volumes on the local roadway network, and consequently, an increase in noise levels from traffic sources along affected segments. Tables 3.7-7 to 3.7-9 show the predicted traffic noise level increases on the local roadway network for Existing, Existing + Project, Baseline, Baseline + Project, Cumulative, and Cumulative + Project conditions. Appendix C of Appendix C provides the complete inputs and results of the FHWA traffic noise modeling.

TABLE 3.7-7: EXISTING AND EXISTING PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	APPROX. RECEPTOR DISTANCE	NOISE LEVELS (L_{DN} , dB) AT NEAREST SENSITIVE RECEPTORS				
			EXISTING	EXISTING + PROJECT	CHANGE	CRITERIA ¹	SIGNIFICANT?
Arrow Hwy.	Maine Ave. to Azusa Canyon Rd.	160	65.8	66.2	0.4	+1.5 dB	No
Arrow Hwy.	Azusa Canyon Rd. to 4th St.	500	59.0	59.4	0.4	+5.0 dB	No
Arrow Hwy.	4th St. to Irwindale Ave.	80	70.7	71.1	0.4	+1.5 dB	No
Arrow Hwy.	Irwindale Ave. to Vincent Ave.	60	71.8	72.3	0.5	+1.5 dB	No
Arrow Hwy.	East of Vincent Ave.	50	73.0	73.1	0.1	+1.5 dB	No
Azusa Ave.	Paramount St. Gladstone St.	70	68.2	68.5	0.3	+1.5 dB	No
Cypress St.	West of Vincent Ave.	100	63.5	63.6	0.0	+3.0 dB	No
Cypress St.	East of Vincent Ave.	50	68.2	68.2	0.0	+1.5 dB	No
Gladstone St.	Vincent Ave. to Vernon Ave.	45	72.1	72.6	0.5	+1.5 dB	No
Gladstone St.	Vernon Ave. to Azusa Ave.	65	69.5	69.8	0.4	+1.5 dB	No
Irwindale Ave.	South of Arrow Hwy.	50	66.7	66.7	0.0	+1.5 dB	No
Vincent Ave.	Gladstone St. to Arrow Hwy.	50	70.1	71.3	1.2	+1.5 dB	No
Vincent Ave.	Project North Driveway to Project South Driveway	50	70.7	71.9	1.2	+1.5 dB	No
Vincent Ave.	Project South Driveway to Cypress St.	45	71.4	72.0	0.6	+1.5 dB	No
Vincent Ave.	Project South Driveway to Cypress St.	45	71.5	72.1	0.6	+1.5 dB	No
Vincent Ave.	Cypress St. to San Bernardino Rd.	45	70.4	70.9	0.5	+1.5 dB	No
Vincent Ave.	San Bernardino to Badillo St.	500	50.4	50.8	0.4	+5.0 dB	No
Vincent Ave.	Badillo St. to Puente Ave.	55	70.5	70.8	0.3	+1.5 dB	No
Vincent Ave.	Puente Ave. to Rowland St.	50	71.2	71.5	0.3	+1.5 dB	No
Vincent Ave.	Rowland St. to Workman Ave.	50	71.4	71.7	0.2	+1.5 dB	No
Vincent Ave.	Workman Ave. to I-10 WB Ramps	60	70.9	71.1	0.2	+1.5 dB	No

¹ WHERE EXISTING NOISE LEVELS ARE LESS THAN 60 DB AN INCREASE OF 5 DB WOULD BE A SIGNIFICANT INCREASE. ADDITIONALLY, ANY INCREASE CAUSING NOISE LEVELS TO EXCEED THE CITY'S NORMALLY ACCEPTABLE 60 DB LDN NOISE LEVEL STANDARD AT AN EXISTING OUTDOOR ACTIVITY AREA OF A RESIDENTIAL USE WOULD ALSO BE SIGNIFICANT. WHERE EXISTING NOISE LEVELS EXCEED 60 DB BUT ARE LESS THAN 65 DB, AN INCREASE OF 3 DB OR MORE WOULD BE SIGNIFICANT. WHERE EXISTING NOISE LEVELS EXCEED 65

dB, AN INCREASE OF 1.5 dB OR MORE WOULD BE SIGNIFICANT.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KUNZMAN ASSOCIATES AND SAXELBY ACOUSTICS. 2020.

TABLE 3.7-8: BASELINE AND BASELINE PLUS PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	APPROX. RECEPTOR DISTANCE	NOISE LEVELS (L _{DN} , dB) AT NEAREST SENSITIVE RECEPTORS				
			BASELINE	BASELINE + PROJECT	CHANGE	CRITERIA ¹	SIGNIFICANT?
Arrow Hwy.	Maine Ave. to Azusa Canyon Rd.	160	65.8	66.2	0.4	+1.5 dB	No
Arrow Hwy.	Azusa Canyon Rd. to 4th St.	500	59.1	59.5	0.4	+5.0 dB	No
Arrow Hwy.	4th St. to Irwindale Ave.	80	70.7	71.2	0.4	+1.5 dB	No
Arrow Hwy.	Irwindale Ave. to Vincent Ave.	60	71.8	72.3	0.5	+1.5 dB	No
Arrow Hwy.	East of Vincent Ave.	50	73.0	73.1	0.1	+1.5 dB	No
Azusa Ave.	Paramount St. Gladstone St.	70	68.3	68.6	0.3	+1.5 dB	No
Cypress St.	West of Vincent Ave.	100	63.6	63.6	0.0	+3.0 dB	No
Cypress St.	East of Vincent Ave.	50	68.2	68.2	0.0	+1.5 dB	No
Gladstone St.	Vincent Ave. to Vernon Ave.	45	72.2	72.7	0.5	+1.5 dB	No
Gladstone St.	Vernon Ave. to Azusa Ave.	65	69.5	69.9	0.4	+1.5 dB	No
Irwindale Ave.	South of Arrow Hwy.	50	66.7	66.7	0.0	+1.5 dB	No
Vincent Ave.	Gladstone St. to Arrow Hwy.	50	70.2	71.4	1.2	+1.5 dB	No
Vincent Ave.	Project North Driveway to Project South Driveway	50	70.7	71.5	0.8	+1.5 dB	No
Vincent Ave.	Project South Driveway to Cypress St.	45	71.4	71.6	0.2	+1.5 dB	No
Vincent Ave.	Project South Driveway to Cypress St.	45	71.5	72.2	0.6	+1.5 dB	No
Vincent Ave.	Cypress St. to San Bernardino Rd.	45	70.4	70.9	0.5	+1.5 dB	No
Vincent Ave.	San Bernardino to Badillo St.	500	50.4	50.8	0.4	+5.0 dB	No
Vincent Ave.	Badillo St. to Puente Ave.	55	70.5	70.8	0.3	+1.5 dB	No
Vincent Ave.	Puente Ave. to Rowland St.	50	71.3	71.5	0.3	+1.5 dB	No
Vincent Ave.	Rowland St. to Workman Ave.	50	71.5	71.7	0.2	+1.5 dB	No
Vincent Ave.	Workman Ave. to I-10 WB Ramps	60	70.9	71.1	0.2	+1.5 dB	No

¹ WHERE EXISTING NOISE LEVELS ARE LESS THAN 60 DB AN INCREASE OF 5 DB WOULD BE A SIGNIFICANT INCREASE. ADDITIONALLY, ANY INCREASE CAUSING NOISE LEVELS TO EXCEED THE CITY'S NORMALLY ACCEPTABLE 60 DB LDN NOISE LEVEL STANDARD AT AN EXISTING OUTDOOR ACTIVITY AREA OF A RESIDENTIAL USE WOULD ALSO BE SIGNIFICANT. WHERE EXISTING NOISE LEVELS EXCEED 60 DB BUT ARE LESS THAN 65 DB, AN INCREASE OF 3 DB OR MORE WOULD BE SIGNIFICANT. WHERE EXISTING NOISE LEVELS EXCEED 65 DB, AN INCREASE OF 1.5 DB OR MORE WOULD BE SIGNIFICANT.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KUNZMAN ASSOCIATES AND SAXELBY ACOUSTICS. 2020.

TABLE 3.7-9: CUMULATIVE AND CUMULATIVE + PROJECT TRAFFIC NOISE LEVELS

ROADWAY	SEGMENT	APPROX. RECEPTOR DISTANCE	NOISE LEVELS (L _{DN} , dB) AT NEAREST SENSITIVE RECEPTORS				
			CUMULATIVE	CUMULATIVE + PROJECT	CHANGE	CRITERIA ¹	SIGNIFICANT?
Arrow Hwy.	Maine Ave. to Azusa Canyon Rd.	160	66.3	66.7	0.4	+1.5 dB	No
Arrow Hwy.	Azusa Canyon Rd. to 4th St.	500	59.4	59.8	0.4	+5.0 dB	No
Arrow Hwy.	4th St. to Irwindale Ave.	80	71.1	71.5	0.4	+1.5 dB	No
Arrow Hwy.	Irwindale Ave. to Vincent Ave.	60	72.3	72.8	0.5	+1.5 dB	No
Arrow Hwy.	East of Vincent Ave.	50	73.2	73.3	0.1	+1.5 dB	No
Azusa Ave.	Paramount St. Gladstone St.	70	68.5	68.7	0.3	+1.5 dB	No
Cypress St.	West of Vincent Ave.	100	63.6	63.6	0.0	+3.0 dB	No
Cypress St.	East of Vincent Ave.	50	68.2	68.2	0.0	+1.5 dB	No

3.7 NOISE

ROADWAY	SEGMENT	APPROX. RECEPTOR DISTANCE	NOISE LEVELS (L_{DN} , DB) AT NEAREST SENSITIVE RECEPTORS				
			CUMULATIVE	CUMULATIVE + PROJECT	CHANGE	CRITERIA ¹	SIGNIFICANT?
Gladstone St.	Vincent Ave. to Vernon Ave.	45	72.3	72.8	0.5	+1.5 dB	No
Gladstone St.	Vernon Ave. to Azusa Ave.	65	69.6	70.0	0.4	+1.5 dB	No
Irwindale Ave.	South of Arrow Hwy.	50	66.8	66.9	0.0	+1.5 dB	No
Vincent Ave.	Gladstone St. to Arrow Hwy.	50	70.4	71.6	1.1	+1.5 dB	No
Vincent Ave.	Project North Driveway to Project South Driveway	50	71.0	72.2	1.1	+1.5 dB	No
Vincent Ave.	Project South Driveway to Cypress St.	45	71.7	72.3	0.6	+1.5 dB	No
Vincent Ave.	Project South Driveway to Cypress St.	45	71.8	72.4	0.6	+1.5 dB	No
Vincent Ave.	Cypress St. to San Bernardino Rd.	45	70.6	71.1	0.5	+1.5 dB	No
Vincent Ave.	San Bernardino to Badillo St.	500	50.6	51.0	0.4	+5.0 dB	No
Vincent Ave.	Badillo St. to Puente Ave.	55	70.6	70.9	0.3	+1.5 dB	No
Vincent Ave.	Puente Ave. to Rowland St.	50	71.4	71.6	0.3	+1.5 dB	No
Vincent Ave.	Rowland St. to Workman Ave.	50	71.5	71.8	0.2	+1.5 dB	No
Vincent Ave.	Workman Ave. to I-10 WB Ramps	60	71.0	71.2	0.2	+1.5 dB	No

¹ WHERE EXISTING NOISE LEVELS ARE LESS THAN 60 DB AN INCREASE OF 5 DB WOULD BE A SIGNIFICANT INCREASE. ADDITIONALLY, ANY INCREASE CAUSING NOISE LEVELS TO EXCEED THE CITY'S NORMALLY ACCEPTABLE 60 DB LDN NOISE LEVEL STANDARD AT AN EXISTING OUTDOOR ACTIVITY AREA OF A RESIDENTIAL USE WOULD ALSO BE SIGNIFICANT. WHERE EXISTING NOISE LEVELS EXCEED 60 DB BUT ARE LESS THAN 65 DB, AN INCREASE OF 3 DB OR MORE WOULD BE SIGNIFICANT. WHERE EXISTING NOISE LEVELS EXCEED 65 DB, AN INCREASE OF 1.5 DB OR MORE WOULD BE SIGNIFICANT.

SOURCE: FHWA-RD-77-108 WITH INPUTS FROM KUNZMAN ASSOCIATES AND SAXELBY ACOUSTICS. 2020.

Based upon data in Tables 3.7-7, 3.7-8, and 3.7-9, the proposed Project is predicted to result in a maximum traffic noise level increase of 1.2 dB at various roadways segments under the Existing + Project and Baseline + Project conditions. In the Cumulative + Project condition, the maximum traffic noise level increase would be 1.1 dB. Increases of 1.1 to 1.2 dB are less than the FICON increase criteria as outlined in Table 3.7-6. Therefore, off-site traffic noise at off-site receptors as a result of the proposed Project would be **less than significant**.

NON-TRANSPORTATION NOISE AT OFF-SITE RECEPTORS

The primary non-transportation noise sources associated with the proposed Project are on-site parking lot circulation and the proposed loading docks. In order to evaluate these noise sources at the nearest sensitive receptors, Saxelby Acoustics used the SoundPLAN noise prediction model to generate noise level predictions according to the assumptions outlined below.

The SoundPLAN noise prediction model was used to plot noise contours and to calculate noise levels at the sensitive receptors located around the Project site. Inputs to the SoundPLAN model included ground topography and ground type, noise source locations and heights, receiver locations, and sound power level data. These predictions are made in accordance with International Organization for Standardization (ISO) standard 9613-2:1996 (Acoustics – Attenuation of sound during propagation outdoors).

It should be noted that sound power is a measure of the total acoustic energy emitted by a noise source and is irrespective of distance from the source. Sound power is input into the SoundPLAN model as a representation of the total acoustic energy emitted by a specific noise source. Sound power levels in this section are reported as A-weighted decibel levels, noted as “dBA, PWL” per industry standards. The model then corrects for the many factors (i.e. distance, terrain shielding, atmospheric absorption, etc.) which effect sound propagation from the noise source to the receiver location.

Loading Dock Noise Generation

To determine typical noise levels associated with the proposed loading docks, noise level measurement data from the Clearlake Wal-Mart store was used. The noise level measurements were conducted at a distance of 100 feet from the center of the two-bay loading dock and circulation area. Activities during the peak hour of loading dock activities included truck arrival/departures, truck idling, truck backing, air brake release, and operation of truck-mounted refrigeration units.

A retail store loading dock, such as Wal-Mart, is typically busier than a warehouse loading dock. The Clearlake Wal-Mart dock included use of outdoor forklifts, smaller deliver trucks (containing bread, soda, etc.), and typical full-size semitrucks accessing the two loading bays, including refrigerated semitrucks. These two Clearlake Wal-Mart loading docks served a store of approximately 108,000 square feet, or one dock per 54,000 square feet of retail space. The proposed Project includes 114 loading docks serving approximately 544,000 square feet of warehouse space, or one dock per 4,772 square feet of warehouse space. Therefore, the Clearlake Wal-Mart loading docks handle a much larger area per square feet than the proposed Project. For the proposed Project analysis, all 114 loading docks were assumed to operate at a similar level of activity during one busy hour. This assumption is extremely conservative as simultaneous use of all facility loading docks is not common, and Saxelby Acoustics has not observed this type of busy operation at a large industrial facility. As such, the underlying assumptions made by Saxelby Acoustics are purposely conservative because the specific end user is unknown.

The results of the loading dock noise measurements indicate that a busy hour generated an average noise level of 61 dBA L_{eq} at a distance of 100 feet from the center of the loading dock truck maneuvering lanes. This analysis conservatively assumes that all proposed loading docks could operate at this level of activity in a busy hour.

Parking Lot Circulation

Based upon the traffic study completed for the Project, the Project result in 300 peak hour car trips and 82 peak hour tractor-trailer trips. Based upon noise measurements conducted of vehicle movements in parking lots, the sound exposure level (SEL) for a single passenger vehicle is 71 dBA at a distance of 50 feet, while the SEL of a tractor-trailer is 85 dBA at the same distance.

Saxelby Acoustics used the SoundPLAN noise model to calculate noise levels at the nearest sensitive receptors. Input data included the loading dock and parking lot noise generation, as discussed above. Figure 3.7-2 shows the results of this analysis for the primary site layout in terms of the peak

hour average (L_{eq}). Assuming continuous (24-hour) operation of the Project at operational levels equal to the peak hour, the day/night average (L_{dn}) noise levels associated with the Project are shown on Figure 3.7-3.

Based upon Figure 3.7-2, the Project would generate peak hour noise levels of 65 dBA L_{eq} , or less, at the boundaries of the Project site. This would comply with the City of Irwindale limit of 65 dBA L_{eq} for industrial property noise during nighttime hours (10:00 p.m. to 7:00 a.m.).

Based upon Figure 3.7-3, the proposed Project is predicted to generate noise levels of approximately 58.1 dBA L_{dn} at the residential uses to the west of the Project. Existing ambient noise measurements in the vicinity of these receptors were found to be approximately 60.0 dBA L_{dn} , as shown by Table 3.7-2. At this location, the increase in noise levels due to the proposed Project is estimated to be 2.2 dBA. This would be less than the FICON increase criteria of 3 dBA where existing noise levels are between 60 to 65 dBA.

Based upon Figure 3.7-3, the proposed Project is predicted to generate noise levels of approximately 64.4 dBA L_{dn} at the residential uses to the east of the Project. Existing ambient noise measurements in the vicinity of these receptors was found to be approximately 73.5 dBA L_{dn} , as shown by Table 3.7-2. At this location, the increase in noise levels due to the proposed Project is estimated to be 0.5 dBA. This would be less than the FICON increase criteria of 1.5 dBA where existing noise levels exceed 65 dBA. Therefore, off-site traffic noise at off-site receptors as a result of the proposed Project would be **less than significant**.

Impact 3.7-2: The Project may result in exposure of persons to or generation of substantial temporary increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies – Project Construction. (Less than Significant)

The FHWA Roadway Construction Noise Model (RCNM) was used to predict noise levels for standard construction equipment used for roadway improvement projects. The assessment of potential significant noise effects due to construction is based on the standards and procedures described in the Federal Transit Authority (FTA) guidance manual and FHWA's RCNM.

The RCNM is a Windows-based noise prediction model that enables the prediction of construction noise levels for a variety of construction equipment based on a compilation of empirical data and the application of acoustical propagation formulas. It enables the calculation of construction noise levels in more detail than the manual methods, which eliminates the need to collect extensive amounts of Project-specific input data. RCNM allows for the modeling of multiple pieces of construction equipment working either independently or simultaneously, the character of noise emission, and the usage factors for each piece of equipment.

Construction noise varies depending on the construction process, type of equipment involved, location of the construction site with respect to sensitive receptors, the schedule proposed to carry

out each task (e.g., hours and days of the week), and the duration of the construction work. Noise sources in the RCNM database include actual noise levels and equipment usage percentages. This source data was used in this construction noise analysis. Table 3.7-10 shows predicted construction noise levels for each of the Project construction phases. These assumptions are consistent with the air quality assessment prepared for the Project.

Based upon the Table 3.7-10 data, site preparation, grading, and building construction are predicted to be the loudest phases of construction with an average noise exposure of 88 dBA at 50 feet. Saxelby Acoustics used the SoundPLAN noise model to calculate noise levels at the nearest sensitive receptors assuming the construction activity were uniformly distributed across the Project site. The results of this analysis are shown graphically on Figure 3.7-4.

TABLE 3.7-10: CONSTRUCTION EQUIPMENT NOISE LEVELS FOR PRIMARY CONSTRUCTION PHASES

<i>EQUIPMENT</i>	<i>QUANTITY</i>	<i>USAGE (%)</i>	<i>MAXIMUM, LMAX (dBA AT 50 FEET)</i>	<i>HOURLY AVERAGE, LEQ (dBA AT 50 FEET)</i>
<i>SITE PREPARATION</i>				
Dozer	3	40	82	83
Tractor/Loader/Backhoe	4	40	84	86
Total				88
<i>GRADING</i>				
Excavator	2	40	81	80
Grader	1	40	85	81
Dozer	1	40	82	78
Scraper	2	40	84	83
Tractor/Loader/Backhoe	2	40	84	83
Total				88
<i>BUILDING CONSTRUCTION</i>				
Crane	1	16	81	73
Forklift	3	40	83	84
Generator	1	50	81	78
Tractor/Loader/Backhoe	3	40	84	85
Welder/Torch	1	40	74	70
Total				88
<i>PAVING</i>				
Paver	2	50	77	77
Paving Equipment	2	50	77	77
Rollers	2	20	80	76
Total				81
<i>ARCHITECTURAL COATING</i>				
Air Compressor	1	40	79	75
Total				75

SOURCE: FHWA, ROADWAY CONSTRUCTION NOISE MODEL (RCNM), JANUARY 2006.

During the construction phases of the Project, noise from construction activities would add to the noise environment in the immediate Project vicinity. Based upon the Figure 3.7-4 data, the proposed Project is predicted to generate average construction noise levels of less than 75 dBA L_{eq} at the boundaries of the Project site.

Per the City of Irwindale noise ordinance, if construction activities are within a radius of 500 feet of a residential zone, construction activities exceeding 75 dBA ambient base noise levels between 7 a.m. and 7 p.m. at the property boundary of an industrial zone would be considered a significant impact, unless authorization therefore has been duly obtained beforehand from the building inspector. Based upon Figure 3.7-4, construction of the Project is not predicted to cause construction noise levels to exceed 75 dBA L_{eq} at the Project boundaries.

Compliance with the City's permissible hours of construction, as well as implementing the best management noise reduction techniques and practices (both outlined in Mitigation Measure 3.7-1), would ensure that construction noise would not result in a substantial temporary increase in ambient noise levels that would result in annoyance or sleep disturbance of nearby sensitive receptors. Therefore, with implementation of Mitigation Measure 3.7-1, temporary construction noise impacts would remain **less than significant**.

MITIGATION MEASURE(S)

Mitigation Measure 3.7-1: *To reduce potential construction noise impacts during Project construction, the following multi-part mitigation measure shall be implemented for the Project:*

- *All construction equipment powered by internal combustion engines shall be properly muffled and maintained.*
- *Quiet construction equipment, particularly air compressors, are to be selected whenever possible.*
- *All stationary noise-generating construction equipment such as generators or air compressors are to be located as far as is practical from existing residences. In addition, the Project contractor shall place such stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the Project site.*
- *Unnecessary idling of internal combustion engines is prohibited.*
- *The construction contractor shall, to the maximum extent practical, locate on-site equipment staging areas so as to maximize the distance between construction-related noise sources and noise-sensitive receptors nearest the Project site during all Project construction.*
- *Construction shall be limited to 7 AM to 7 PM on weekdays and 8 AM to 4 PM on Saturdays with no work allowed on Sundays unless otherwise authorized by the City in writing.*
- *Staging areas on the Project site shall be located in areas that maximize, to the extent feasible, the distance between staging activity and sensitive receptors.*

These requirements shall be noted on the Project improvement plans.

Impact 3.7-3: The Project may result in exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels. (Less than Significant)

The primary vibration-generating activities would be grading, utilities placement, and parking lot construction. Table 3.7-11 shows the typical vibration levels produced by construction equipment.

Construction vibration impacts include human annoyance and building structural damage. Human annoyance occurs when construction vibration rises significantly above the threshold of perception. Building damage can take the form of cosmetic or structural damage.

With the exception of vibratory compactors, the Table 3.7-11 data indicate that construction vibration levels anticipated for the Project are less than the 0.2 in/sec threshold at a distance of 25 feet. Use of vibratory compactors within 26 feet of the adjacent buildings could cause vibrations in excess of 0.2 in/sec. Sensitive receptors which could be impacted by construction-related vibrations, especially vibratory compactors/rollers, are located approximately 100 feet, or further, from the Project site. Therefore, this is a **less-than-significant** impact and no mitigation is required.

TABLE 3.7-11: VIBRATION LEVELS FOR VARIOUS CONSTRUCTION EQUIPMENT

<i>TYPE OF EQUIPMENT</i>	<i>PEAK PARTICLE VELOCITY AT 25 FEET (IN/SEC)</i>	<i>PEAK PARTICLE VELOCITY AT 50 FEET (IN/SEC)</i>	<i>PEAK PARTICLE VELOCITY AT 100 FEET (IN/SEC)</i>
Large Bulldozer	0.089	0.031	0.011
Loaded Trucks	0.076	0.027	0.010
Small Bulldozer	0.003	0.001	0.000
Auger/drill Rigs	0.089	0.031	0.011
Jackhammer	0.035	0.012	0.004
Vibratory Hammer	0.070	0.025	0.009
Vibratory Compactor/roller	0.210 (Less than 0.20 at 26 feet)	0.074	0.026

SOURCE: TRANSIT NOISE AND VIBRATION IMPACT ASSESSMENT GUIDELINES. FEDERAL TRANSIT ADMINISTRATION. MAY 2006.

This page left intentionally blank.



5175 Vincent Ave. Irwindale

City of Irwindale, California

Figure 3.7-1

Noise Measurement Sites

Legend

 Noise Measurement - Long Term



Projection: State Plane (California Zone 5) / NAD83 / meters
Rev. Date: 02/19/2020



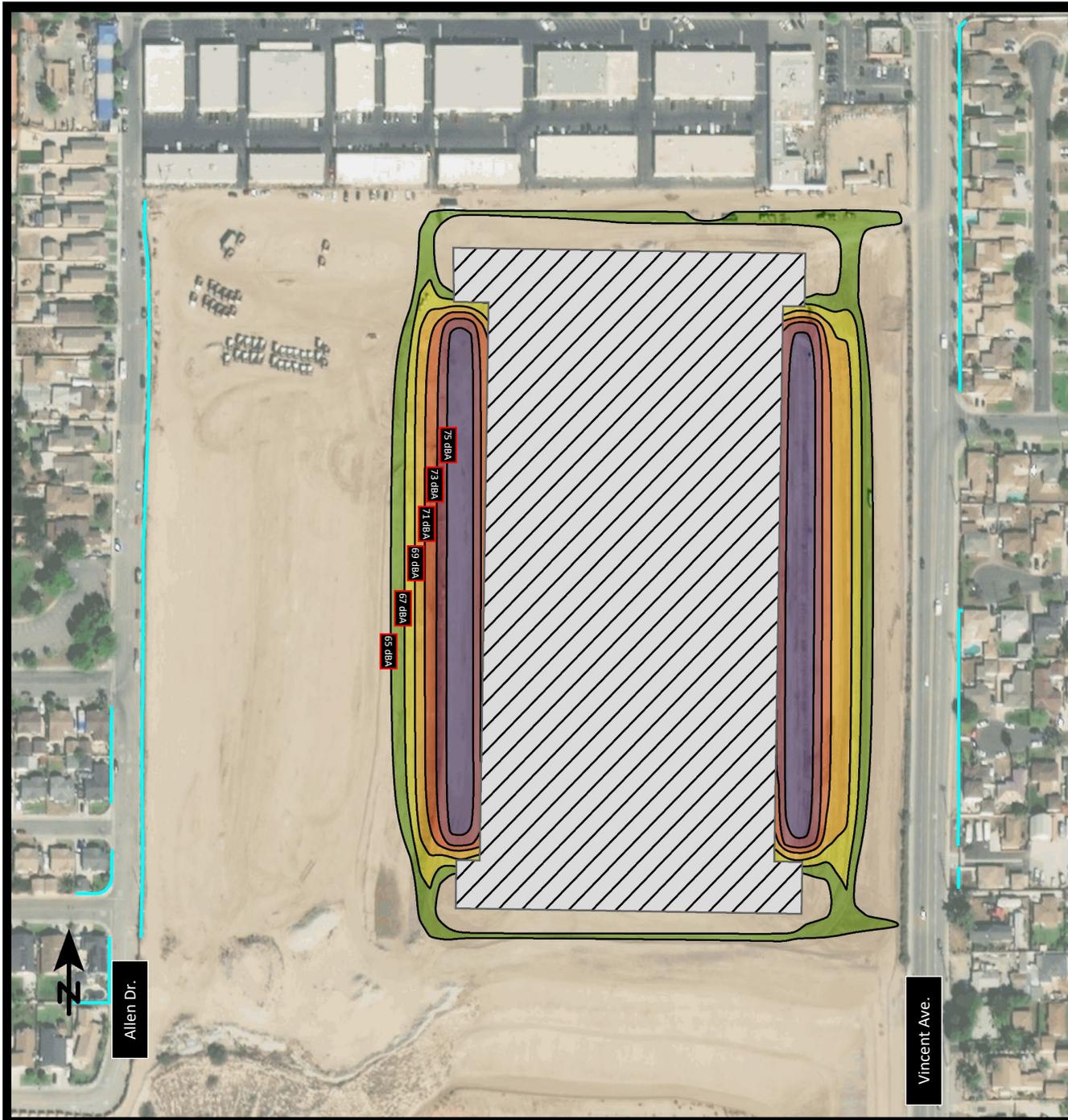
This page left intentionally blank.

5175 Vincent Ave Project

City of Irwindale, California

Figure 3.7-2

Predicted Project Noise Contours
(dBA L_{eq}) – Proposed Site Layout



Signs and symbols

Existing Sound Wall

Levels in dB(A)

Green	<= 65
Yellow-Green	65 - 67
Yellow	67 - 69
Orange	69 - 71
Red	71 - 73
Purple	73 - 75
Dark Blue	> 75

1 : 2786

0 15 30 60 90 120 m

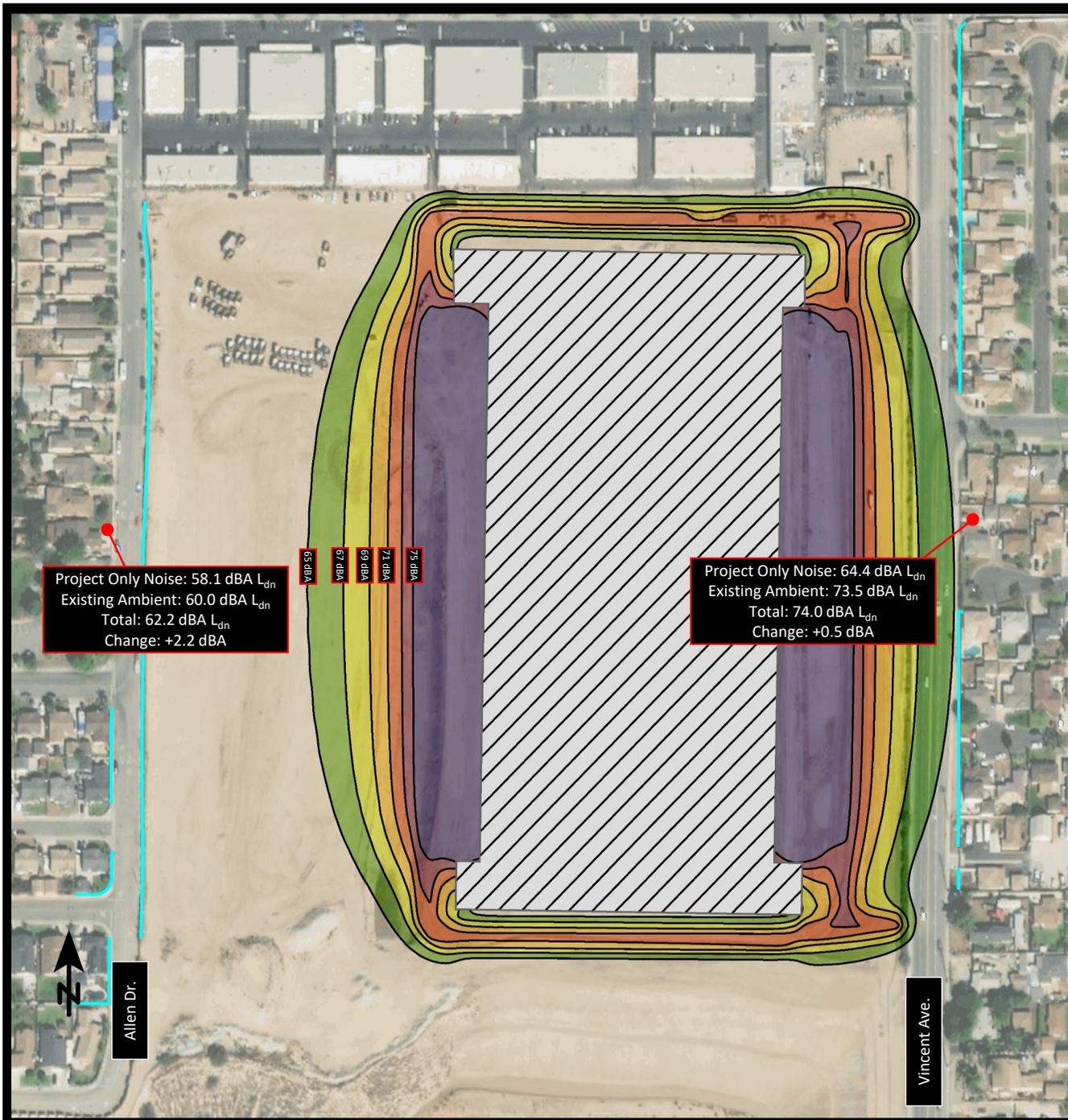
This page left intentionally blank.

5175 Vincent Ave Project

City of Irwindale, California

Figure 3.7-3

Predicted Project Noise Contours (dBA L_{dn}) – Proposed Site Layout



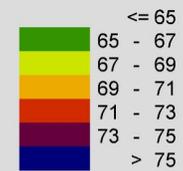
Project Only Noise: 58.1 dBA L_{dn}
Existing Ambient: 60.0 dBA L_{dn}
Total: 62.2 dBA L_{dn}
Change: +2.2 dBA

Project Only Noise: 64.4 dBA L_{dn}
Existing Ambient: 73.5 dBA L_{dn}
Total: 74.0 dBA L_{dn}
Change: +0.5 dBA

Signs and symbols

Existing Sound Wall

Levels in dB(A)



1 : 2786



This page left intentionally blank.

5175 Vincent Ave Project

City of Irwindale, California

Figure 3.7-4

Predicted Construction Noise Contours
(dBA L_{eq})

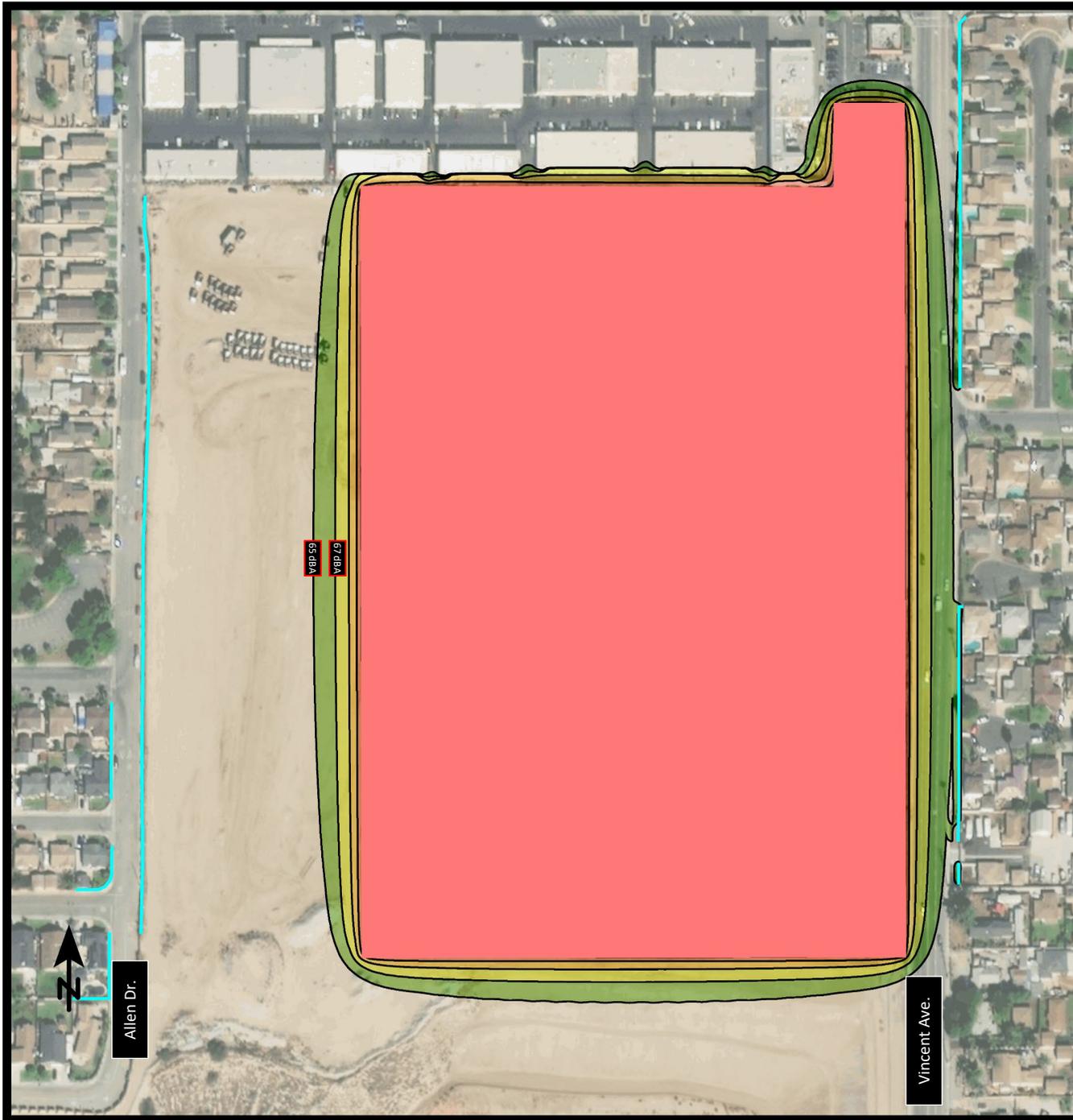
Signs and symbols

- Existing Sound Wall
- Construction Noise Source

Levels in dB(A)

Green	<= 65
Light Green	65 - 67
Yellow	67 - 69
Orange	69 - 71
Red	71 - 73
Dark Red	73 - 75
Blue	> 75

1 : 2786



This page left intentionally blank.

This section of the EIR analyzes the potential impacts of the proposed 5175 Vincent Avenue Project (proposed Project) on the surrounding transportation system including roadways, bicycle/pedestrian facilities, and transit facilities/services. This section identifies the significant impacts of the proposed Project and recommends mitigation measures to lessen their significance. An evaluation of vehicular access to the Project is also provided. This section is based on the Traffic Impact Analysis completed for the Project (Ganddini Group Inc., December 2020), which is included as Appendix D of the Draft EIR.

Comments were received during the public review period or scoping meeting for the Notice of Preparation regarding this topic from the following: California Department of Transportation (Caltrans, March 11, 2020), Anonymous (February 20, 2020), Edward and Margaret Curren (February 20, 2020), and James Trenkamp and Charlotte Santos (February 20, 2020). Each of the comments related to this topic are addressed within this section. Full comments received are included in Appendix A.

3.8.1 ENVIRONMENTAL SETTING

PROJECT LOCATION

The 5175 Vincent Avenue Project site (Project site) is located north of a Los Angeles County-owned pit, east of Allen Drive, south of Arrow Highway, and west of Vincent Avenue in Irwindale, California. The Project site totals approximately 26.05 acres and is comprised of two vacant parcels; one of which is an undeveloped, recently filled, former aggregate mine pit known as the Manning Pit.

Regional access to the Project area is provided by the Interstate 605 (I-605) Freeway to the west, Interstate 10 (I-10) Freeway to the south, and the Interstate 210 (I-210) Freeway to the north. Key north-south roadways providing local access include Irwindale Avenue, Vincent Avenue, and Lark Ellen Avenue. Key east-west roadways providing local access include Gladstone Street, Arrow Highway, and Cypress Street.

Figure 2.0-2 in Chapter 2.0, Project Description, displays the regional location of the Project site relative to the surrounding transportation system.

STUDY AREA ROADWAYS

The following describes the key roadways in the study area.

Arrow Highway is an east-west, four-lane roadway that is located north of the Project site. At the eastern terminus, Arrow Highway turns into W. La Verne Avenue in the City of La Verne. At the western terminus, Arrow Highway turns into E. Live Oak Avenue near Mayflower Village. Through the study area, the speed limit of Arrow Highway is 40 miles-per-hour (mph).

Vincent Avenue is a north-south, four-lane roadway that is located east of the Project site. The roadway terminates at W. Gladstone Street to the north and turns into S. Glendora Avenue to the south in West Covina. Through the study area, the speed limit of Vincent Avenue is 35 mph. Project access would be provided off Vincent Avenue.

3.8 TRANSPORTATION AND CIRCULATION

Irwindale Avenue is a north-south, four-lane roadway that is located west of the Project site. The roadway terminates at W. Foothill Boulevard to the north and turns into N. Sunset Avenue to the south at the intersection with Badillo Street. Through the study area, the speed limit of Irwindale Avenue is 40 mph.

EXISTING PEDESTRIAN AND BICYCLE FACILITIES

Existing pedestrian facilities in the vicinity of the Project site are shown on Figure 3.8-1. Sidewalks are currently provided on both sides of Vincent Avenue along the Project site frontage. Figure 3.8-2 shows the City of Irwindale Bicycle route map. There are no existing bicycle facilities within proximity to the Project site. As shown on Figure 3.8-2, there are buffered bike lanes/separated bikeways (Class II/IV) recommended along Live Oak Avenue, Arrow Highway, Azusa Canyon Road, and Irwindale Avenue in the Project vicinity.

TRANSIT SERVICE

The study area is served by the Foothill Transit and Baldwin Park Transit. Figure 3.8-3 shows existing transit service within the City of Irwindale. As shown on Figure 3.8-3, Foothill Transit Routes 185/272/492 and the Baldwin Park Teal Line provide transit service along parts of Live Oak Avenue, Baldwin Park Boulevard, Arrow Highway, and Irwindale Avenue. The nearest transit stop to the Project is for Foothill Transit Route 492 located at the intersection of Vincent Avenue/Arrow Highway approximately 300 feet from the Project site.

3.8.2 ANALYSIS METHODS

An analysis of vehicle miles traveled (VMT) was performed for the Project. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. The City of Irwindale adopted Resolution No. 2020-53-3163 in November 2020, which establishes VMT thresholds of significance for purposes of analyzing transportation impacts under CEQA. Table 3.8-1 shows the City of Irwindale VMT thresholds of significance as adopted via Resolution No. 2020-53-3163.

TABLE 3.8-1: CITY OF IRWINDALE VMT THRESHOLDS OF SIGNIFICANCE

<i>PROJECT TYPE</i>	<i>THRESHOLDS</i>
Land Use Plan	<ol style="list-style-type: none">Project Impact: A significant impact would occur if the VMT rate for the plan would exceed a level of 15 percent below the applicable baseline VMT rate.Cumulative Project Effect: A significant impact would occur if the project increases total regional VMT compared to cumulative no project conditions.
Land Use Project	<ol style="list-style-type: none">Project Impact: A significant impact would occur if the VMT rate for the project would exceed a level of 15 percent below the applicable baseline VMT rate.Cumulative Project Effect: A significant impact would occur if the project increases total regional VMT compared to cumulative no project conditions.

PROJECT TYPE	THRESHOLDS
Retail Project (over 50,000 square feet)	1. Project Impact: A significant impact would occur if the VMT rate for the project would exceed a level of 15 percent below the applicable baseline VMT rate. 2. Cumulative Project Effect: A significant impact would occur if the project increases total VMT in the study area compared to baseline conditions.
Transportation Project	A significant impact would occur if the project causes a net increase in total regional VMT compared to baseline conditions, opening year no project conditions, or cumulative no project conditions.
All land use and transportation projects	A significant impact would occur if the project is inconsistent with the SCAG Regional Transportation Plan/Sustainable Communities Strategy.

NOTES: (1) THE BASELINE VMT RATE IS DEFINED AS THE CITY OF IRWINDALE AVERAGE VMT RATE PER APPLICABLE SERVICE POPULATION.

(2) THE BASELINE VMT IS SUBJECT TO CHANGE PENDING UPDATES TO THE SCAG RTP MODEL.

SOURCE: CITY OF IRWINDALE RESOLUTION NO. 2020-53-3163, 2020.

Because the proposed Project consists of an industrial land use, the applicable VMT per service population is defined as home-base work VMT per employee. Based on the City-adopted thresholds, a “yes” to any of the following applicable criteria would indicate a significant VMT impact for the proposed Project:

- **Project Impact:** Would the Project-generated home-based work VMT per employee exceed a level of 15 percent below City of Irwindale average home-based work VMT per employee?
- **Cumulative Impact:** Would the Project increase the total regional VMT compared to cumulative no Project conditions?
- **Cumulative Impact:** Is the Project inconsistent with the Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS)?

Because City of Irwindale’s adopted VMT thresholds do not include screening criteria, the Project VMT screening assessment is based on guidance from the State’s Technical Advisory and review of draft VMT procedures for the San Gabriel Valley Council of Governments (SGVCOG). The Technical Advisory provides the following potential screening criteria for certain land development projects that may be presumed to result in a less than significant VMT impact:

- **Local serving** retail, schools, daycare, student housing, etc.
- **Small projects** generating less than 110 trips per day.
- Residential and office projects located in areas with **low-VMT**.
- Projects **near transit** stations or major transit stop.
- Residential projects with a high percentage of **affordable housing**.

For mixed-use projects, the Technical Advisory recommends that lead agencies can evaluate each component of a mixed-use project independently and apply the thresholds of significance for each lane use (e.g., office and retail). Alternatively, a lead agency may consider only the project’s dominant use. In the analysis of each use, a project should take credit for internal capture.

3.8 TRANSPORTATION AND CIRCULATION

SCREENING ASSESSMENT FOR LOCAL SERVING USES

The Technical Advisory defines local serving retail as less than 50,000 square feet. New retail development typically redistributes shopping trips rather than creating new trips. By adding retail opportunities into the urban fabric and thereby improving proximity, local-serving retail tends to shorten trips and reduce VMT. Similarly, other local serving uses such as schools, daycare, student housing, and public facilities would typically improve the proximity of such uses within the community, thereby shortening travel distances and reducing VMT.

The proposed Project does not include a retail component; therefore, this screening criteria does not apply.

SCREENING ASSESSMENT FOR SMALL PROJECTS

As noted in the Technical Advisory, California Environmental Quality Act (CEQA) Guidelines § 15301, subdivision (e)(2) provides a categorical exemption for existing facilities, including additions to existing structures of up to 10,000 square feet, so long as the project is in an area where public infrastructure is available to allow for maximum planned development and the project is not in an environmentally sensitive area. Typical project types for which trip generation increases relatively linearly with building footprint (i.e., general office building, single tenant office building, office park, and business park) generate or attract an additional 110-124 trips per 10,000 square feet. Therefore, absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 or fewer trips could be considered not to lead to a significant impact.

Early adopters of the VMT metric are using similar or slightly higher thresholds for small projects. The Cities of Santa Ana and San Jose, for example, have adopted a screening threshold for small infill projects based on 110 daily trips. The City of Los Angeles has established a screening threshold for projects that generate fewer than 250 net daily trips. The draft guidelines by the San Diego Section of the Institute of Transportation Engineers recommends a screening threshold as high as 1,000 daily trips for projects that are consistent with a General or Community Plan or 500 daily trips for projects that are inconsistent with a General or Community Plan.

The proposed Project is forecast to generate more than 110 net new daily weekday trips; therefore, the proposed Project does not satisfy this screening criteria.

It is noted that scoping coordination with City of Irwindale staff considered several methods for project trip generation, including review of ITE rates for warehousing and high-cube warehousing combined with SCAQMD-recommended truck mix. Ultimately, the trip generation forecast used in the final traffic impact analysis was determined to provide a more conservative analysis than using ITE rates for warehousing or high-cube warehousing with SCAQMD-recommended warehouse truck mixes since the ITE rates for light industrial are substantially higher.

Scoping coordination occurred in 2018 prior to release of more recent truck generation data from ITE; therefore, truck mix data for light industrial uses from the City of Fontana study was used as that document had historically been an industry accepted reference for the region, in particular for the light industrial land use. Comparison to more recent truck generation data from ITE indicates

that the number of daily truck trips analyzed in the final traffic impact analysis is higher than it would be using the more recent ITE warehouse truck rates combined with SCAQMD-recommended truck mix data for high-cube warehouses. It is noted that the high-cube fulfillment center warehouse with sorting (ITE 155) would generate more daily passenger car trips but this rate is based on a limited sample size not considered suitable for analysis.

SCREENING ASSESSMENT FOR PROJECTS IN LOW VMT AREAS

The Technical Advisory provides guidance indicating that residential and office projects located in areas with low VMT and that exhibit similar VMT-related features (e.g., density, mix of uses, transit accessibility), will typically exhibit similarly low VMT. Identifying low VMT areas requires maps to be created using VMT data from travel surveys or a travel demand model that illustrate areas that are below the established VMT threshold.

Low VMT screening for the Project was assessed using the San Gabriel Valley Council of Governments (SGVCOG) VMT Evaluation Tool, which was developed by SGVCOG on behalf of member agencies, including the City of Irwindale, and is based on the SCAG Regional Travel Demand Model (2016 RTP Base Year 2012 data version). Based on the SGVCOG VMT Evaluation Tool, the proposed Project is located in a zone that is between zero and 15 percent below the existing baseline VMT for the City of Irwindale. Because the City's threshold of significance is 15 percent below the existing baseline VMT, the proposed Project does not satisfy the low VMT screening criteria.

See Impact 3.8-1 for more discussion regarding the Project-related VMT.

SCREENING ASSESSMENT FOR PROJECTS NEAR TRANSIT STATIONS

As noted in the Technical Advisory, CEQA Guideline Section 15064.3, subdivision (b)(1) states that lead agencies generally should presume that certain projects proposed within one-half mile of an existing major transit stop or an existing stop along a high-quality transit corridor¹ will have a less than significant impact on VMT. This presumption would not apply, however, if project-specific information indicates that the project may still generate significant levels of VMT.

Based on review of the SCAG High Quality Transit Area map for the year 2016, the proposed Project is not located within one-half mile of a major transit stop or high-quality transit corridor; therefore, the proposed Project does not satisfy this screening criteria.

SCREENING ASSESSMENT FOR AFFORDABLE HOUSING

The proposed Project does not contain an affordable housing component; therefore, this screening criteria does not apply.

¹ Pub. Resources Code, § 21155 ("For purposes of this section, a high-quality transit corridor means a corridor with fixed route bus service with service intervals no longer than 15 minutes during peak commute hours.").

3.8.3 REGULATORY SETTING

Existing transportation polices, laws, and regulations that would apply to the proposed Project are summarized below. This information provides a context for the impact discussion related to the Project's consistency with applicable regulatory conditions and development of significance criteria for evaluating Project impacts.

FEDERAL

No federal plans, policies, regulations, or laws pertaining to transportation have been determined to be applicable to this Project.

STATE

Caltrans

Caltrans is responsible for planning, designing, constructing, operating, and maintaining all state-owned roadways in California. Federal highway standards are implemented in California by Caltrans. Any improvements or modifications to the state highway system within the City of Irwindale need to be approved by Caltrans. The City of Irwindale does not have the ability to unilaterally make improvements to the state highway system.

Senate Bill 743

California Senate Bill 743 (SB 743) directs the State Office of Planning and Research (OPR) to amend the CEQA Guidelines for evaluating transportation impacts to provide alternatives to Level of Service that "promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks, and a diversity of land uses." In December 2018, the California Natural Resources Agency certified and adopted the updated CEQA Guidelines package. The amended CEQA Guidelines, specifically Section 15064.3, recommend the use of VMT as the primary metric for the evaluation of transportation impacts associated with land use and transportation projects. In general terms, VMT quantifies the amount and distance of automobile travel attributable to a project or region. Agencies may currently opt-in to applying the updated CEQA guidelines for VMT analysis and implementation is required State-wide by July 1, 2020.

The updated CEQA Guidelines allow for lead agency discretion in establishing methodologies and thresholds provided there is substantial evidence to demonstrate that the established procedures promote the intended goals of the legislation. Where quantitative models or methods are unavailable, Section 15064.3 allows agencies to assess VMT qualitatively using factors such as availability of transit and proximity to other destinations. The Technical Advisory on Evaluating Transportation Impacts in CEQA (State of California, December 2018) ["Technical Advisory"] provides technical considerations regarding methodologies and thresholds with a focus on office, residential, and retail developments as these projects tend to have the greatest influence on VMT.

LOCAL

City of Irwindale General Plan

INFRASTRUCTURE ELEMENT

- **Policy 3.** The City of Irwindale will continue to develop and enhance the existing streets and intersections in the City.
- **Policy 4.** The City of Irwindale will strive to ensure that all new development implements its “fair-share” of infrastructure improvements to offset the potential adverse impacts associated with the additional traffic that will be generated by the new development.
- **Policy 5.** The City of Irwindale will continue to support the development and expansion of the region’s public and mass transit system.

3.8.4 IMPACTS AND MITIGATION MEASURES

THRESHOLDS OF SIGNIFICANCE

Consistent with Appendix G of the CEQA Guidelines, the Project will have a significant impact related to transportation and circulation if it will result in:

- Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities.
- Conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b).
- Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment).
- Result in inadequate emergency access.

IMPACTS AND MITIGATION MEASURES

Impact 3.8-1: The Project would not conflict or be inconsistent with CEQA Guideline section 15064.3, subdivision (b)². (Less Than Significant with Mitigation)

As noted previously, because the proposed Project does not satisfy any of the SGVCOG screening criteria, a detailed VMT analysis for the Project was performed using the SGVCOG VMT Evaluation

² CEQA Guidelines section 15064.3, subdivision (b), states:

“(b) Criteria for Analyzing Transportation Impacts.

(1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high quality transit corridor should be presumed to cause a less than significant

3.8 TRANSPORTATION AND CIRCULATION

Tool. The SGVCOG VMT Evaluation Tool was developed using data from the SCAG Regional Travel Demand Model (2016 RTP Base Year 2012 data version). The Project site is located in Traffic Analysis Zone (TAZ) 22307100. A baseline year of 2020 was used for the analysis. The SGVCOG VMT Evaluation Tool report is provided in Appendix F of Appendix D.

Project Impact: Would the Project-generated home-based work VMT per employee exceed a level of 15% below City of Irwindale average home-based work VMT per employee?

Based on the SGVCOG VMT Evaluation Tool, the average City of Irwindale VMT for the 2020 baseline year is 22.51 home-based work VMT per employee. Accordingly, a project impact would be significant if the project-generated home-based work VMT per employee exceeds 19.13. Based on SGVCOG VMT Evaluation Tool Report, the Project-generated home-based work VMT per employee is equal to 21.72. Therefore, the proposed Project would exceed the City-established threshold, and mitigation would be required to reduce the Project-generated home-based work VMT.

With implementation of Mitigation Measure 3.8-1, the Project-generated home-based work VMT Project employee is equal to 17.38. Therefore, with implementation of this mitigation, the proposed Project would result in a *less than significant* impact related to VMT.

Cumulative Impact: Would the Project increase the total regional VMT compared to cumulative no project conditions?

The State's Technical Advisory notes that a project's cumulative impacts are based on an assessment of whether the "incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects." (Pub. Resources Code, § 21083, subd. (b)(2); see CEQA

transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact.

(2) Transportation Projects. Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152.

(3) Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.

(4) Methodology. A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled, and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section."

Guidelines, § 15064, subd. (h)(1).)” The Technical Advisory further clarifies that a project that falls below an efficiency-based threshold (such as VMT per employee) that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less than significant project impact would imply a less than significant cumulative impact, and vice versa.

With implementation of Mitigation Measure 3.8-1, the Project is forecast to generate VMT that is 15% below the City of Irwindale average. Therefore, the Project would not increase the total regional VMT. Overall, with implementation of this mitigation, the proposed Project would result in a **less than significant** cumulative impact related to VMT.

Cumulative Impact: Is the Project inconsistent with the SCAG RTP/SCS?

The SCAG 2020-2045 RTP/SCS, also known as Connect SoCal, was developed with input from all 197 local jurisdictions, including the City of Irwindale. The information used to develop the RTP/SCS includes the current land use, socio-economic demographics, and sustainability practices and is documented in a Data Map/Book for each jurisdiction. The Data Map/Book illustrates that the Project site is designated as “Industrial” land use in the 2016 SCAG Land Use Codes. Therefore, the proposed Project is consistent with the SCAG RTP/SCS, and a **less than significant** impact related to this topic would occur.

CONCLUSION

To mitigate the Project VMT impacts to a less than significant level, Mitigation Measure 3.8-1 is required. This mitigation measure requires the Project employer to provide general commute benefits to employees, which may include financial subsidies or pre-tax deductions for transit, carpooling, and vanpooling activities. Additionally, all employees must be eligible for alternative transportation benefits.

The efficacy of these mitigation strategies is evidenced by a study which contains several case studies on the influence of commuter benefits on employee travel.³ The one most fitting for this category is that travel impacts are affected by the magnitude of the benefit and the quality of travel options available. Mode shifts tend to be greatest if current transit use is low. In New York City, where transit commute rates are already high, transit benefits only increased transit use 16% to 23%, while in Philadelphia, transit commuting increased 32%. Similarly, only 30% of employees who received transit benefits who work in San Francisco increased their transit use, while 44% of those in other parts of the region commuted by transit more. The 44% figure was used in the SGVCOG VMT Evaluation Tool and an assumption was made of a one-to-one relationship between increased

³ Litman, Todd. 2017. *Understanding Transport Demands and Elasticities*. Victoria Transport Policy Institute (VTPI).

3.8 TRANSPORTATION AND CIRCULATION

transit use and reduced commute VMT. The reduction in VMT was calculated using the following formula:

$$\% \text{ VMT reduction} = \% \text{ reduction in commute VMT} \times \% \text{ of employees eligible for benefits}$$

As shown in the SGVCOG VMT Evaluation Tool Report and discussed above, with implementation of Mitigation Measure 3.8-1, the Project-generated home-based work VMT per employee is equal to 17.38, which does not exceed the City-established threshold of 15% below the City of Irwindale average, or 19.13 home-based work VMT per employee; therefore, with implementation of this mitigation measure, the proposed Project would result in *less than significant* VMT impact.

MITIGATION MEASURE(S)

Mitigation Measure 3.8-1: *The Project employer shall be required to provide general commute benefits to employees, which may include financial subsidies or pre-tax deductions for transit, carpooling, and vanpooling activities. All employees shall be eligible for alternative transportation benefits.*

Impact 3.8-2: The Project would not conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities. (Less Than Significant)

The guests and employees of the proposed Project will have the option of driving, taking transit, walking, or bicycling to and from the proposed Project. The proposed Project was evaluated to determine if it would likely conflict with a program, plan, ordinance, or policy supporting alternative transportation (e.g., bus turnouts, bicycle racks) or generate pedestrian, bicycle, or transit travel demand that would not be accommodated by existing transit, bicycle, or pedestrian facilities and plans.

TRANSIT

As noted previously, the study area is served by the Foothill Transit and Baldwin Park Transit. Foothill Transit Routes 185/272/492 and the Baldwin Park Teal Line provide transit service along parts of Live Oak Avenue, Baldwin Park Boulevard, Arrow Highway, and Irwindale Avenue. Employees of the Project could potentially make use of the transit service; however, the number of riders would be relatively minor and spread over a number of work shifts typical of warehousing employment. It is estimated that additional transit riders could be accommodated by the existing service, spread out over the various routes and frequency of service. Further, the Project would not physically interfere with the existing bus stop that occurs at Vincent Avenue and Arrow Highway. Thus, the Project's impact on transit facilities is not considered significant.

PEDESTRIAN AND BICYCLE

There are no bicycle facilities located adjacent to or in proximity of the Project site. Buffered bike lanes/separated bikeways (Class II/IV) along Live Oak Avenue, Arrow Highway, Azusa Canyon Road,

and Irwindale Avenue are recommended in the Project vicinity as part of the City of Irwindale Bicycle Master Plan. The proposed Project would not interfere with implementation of these recommendations, as the Project does not propose to alter any of these roadways thereby removing the ability for implementation of the recommended bikeways. No impact to bicycle facilities would occur as a result of the Project.

Sidewalks currently exist along both sides of Vincent Avenue and Arrow Highway adjacent to the Project site. Controlled pedestrian crossings currently exist at the Vincent Avenue and Arrow Highway intersection. As part of the Project, Vincent Avenue along the Project site's frontage would be improved to its ultimate half-section width, including landscaping and parkway improvements, as required by the City of Irwindale. The improvements would provide continuous sidewalks adjacent to the site that would connect to existing sidewalks within the area. With planned improvements, the Project does not result in any unsafe condition for pedestrians or bicyclists and does not conflict with planned pedestrian and bicycle facilities identified in adopted plans. Thus, the Project's impact on pedestrian circulation is not considered significant.

As part of the proposed Project, the Project will improve Vincent Avenue along the Project site frontage to its ultimate half-section width, including landscaping and parkway improvements, in conjunction with development or as required by the City of Irwindale.

CONCLUSION

Overall, Project implementation would not result in significant impacts to transit, pedestrian, or bicycle facilities in the area. Therefore, the Project would have a *less than significant* impact on public transit, pedestrian, or bicycle facilities.

Impact 3.8-3: The Project would not substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment). (Less than Significant)

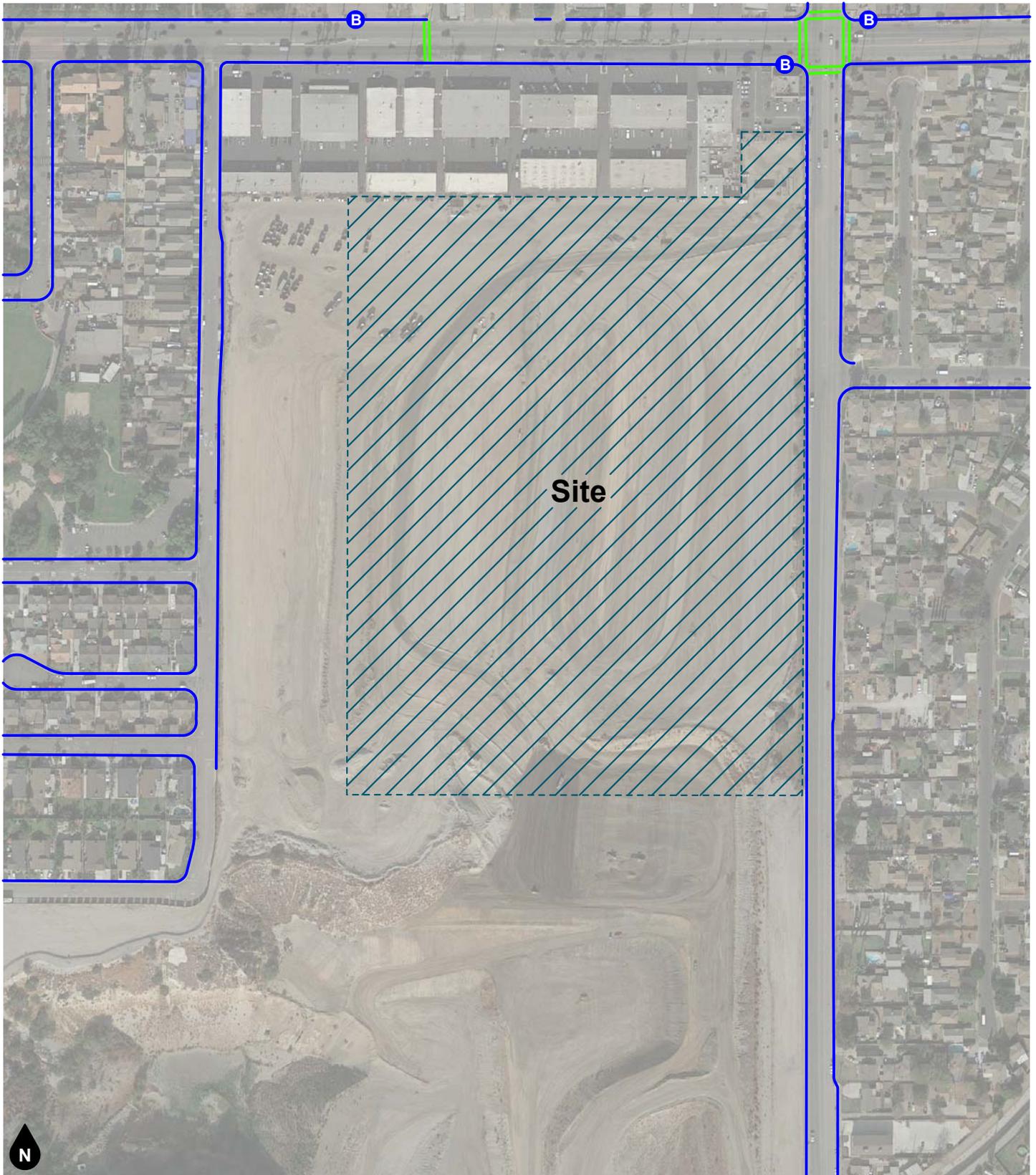
Access to the Project site would be provided from Vincent Avenue at the northeastern and southeastern corners of the Project site. The proposed driveways are located in the same general location as the existing driveways that are used to access the Project site. The proposed site plan does not include any sharp curves or dangerous intersections. The Project would allow for circulation and turning movements of the vehicles accessing the site. The site plan includes adequate right-of-way and turning radii for emergency vehicles within the Project site. Additionally, the site plan would be reviewed by the City of Irwindale and the Los Angeles County Fire Department to ensure the on-site circulation provides adequate access and turning radii for emergency vehicles. Sight distance at Project access driveways would comply with applicable City of Irwindale/Caltrans sight distance standards. The final grading, landscaping, and street improvement plans would demonstrate that sight distance standards are met and would be subject to City approval. Further, on-site traffic signing and striping would be implemented in conjunction with detailed construction plans for the Project. On-site traffic control plans would comply with the California Manual of

Uniform Traffic Control Devices (2014), as required and confirmed through the City's site plan review process. Overall, this is considered a *less than significant* impact.

Impact 3.8-4: The Project would not result in inadequate emergency access. (Less than Significant)

It is anticipated that emergency vehicles would be able to access the Project site using the two proposed access points along Vincent Avenue if the Project were implemented. The proposed site plan provides adequate access to the Project site, which would adequately accommodate emergency vehicles. Implementation of the proposed Project would have a less than significant impact related to emergency access, and would not interfere with an emergency evacuation plan.

Additionally, as noted in Impact 3.8-3 above, the City and the Los Angeles County Fire Department would review the site plan to ensure the on-site circulation provides adequate access and turning radii for emergency vehicles. As part of the City's review of the Project, sight distance and access driveways would be reviewed to ensure adequate sight distance is provided for vehicles existing and traveling within the site, including ensuring that the landscaping adjacent to the site would not interfere or impede visibility for travelers. Overall, this is considered a *less than significant* impact.



Legend

- Sidewalk
- Cross Walk
- B Bus Stop

Figure 3.8-1
Existing Pedestrian Facilities

This page intentionally left blank.

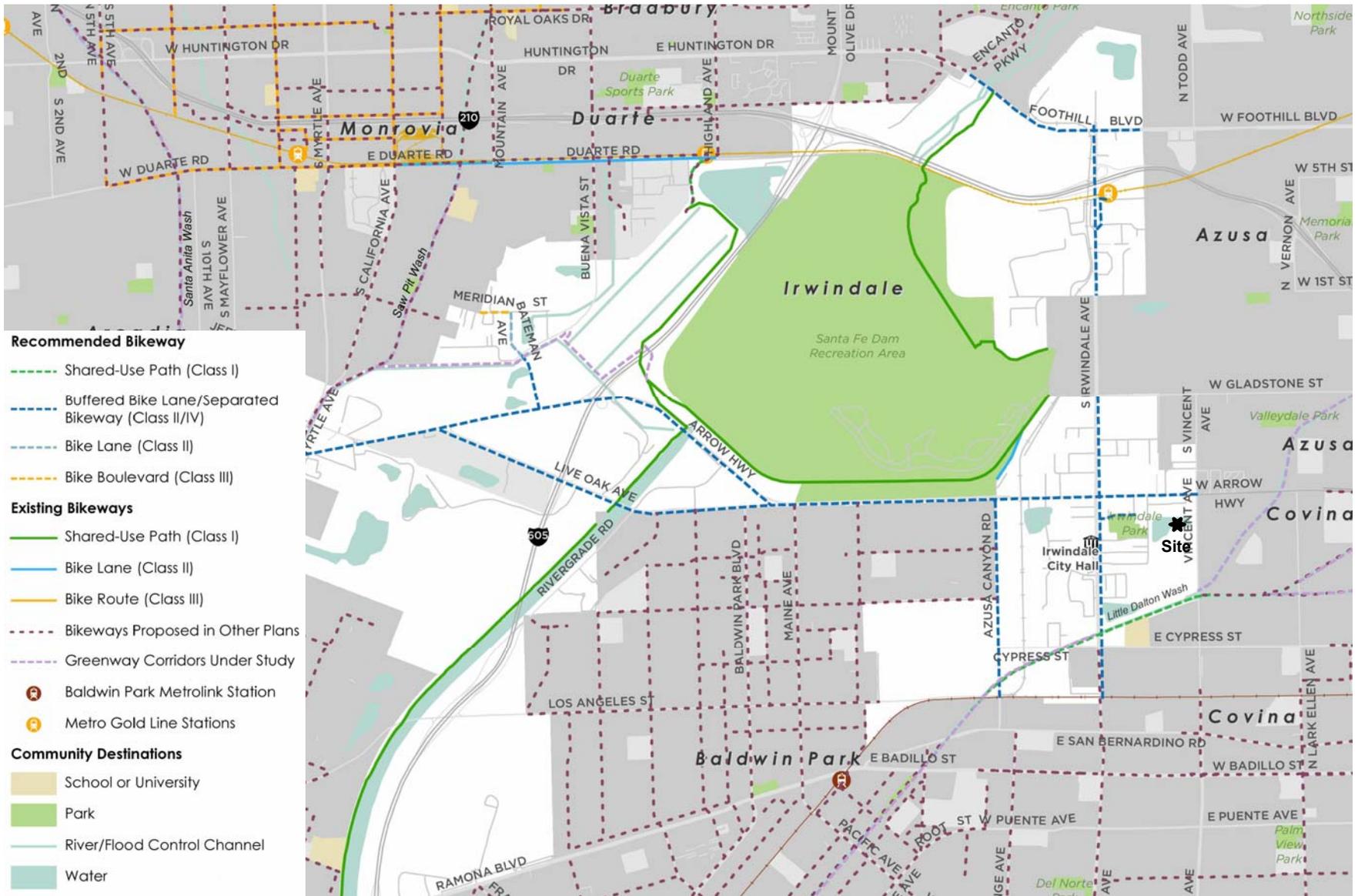


Figure 3.8-2
City of Irwindale Bicycle Master Plan

Source: City of Irwindale



This page intentionally left blank.

This page intentionally left blank.

The California Environmental Quality Act (CEQA) requires an Environmental Impact Report (EIR) to evaluate a project's effects in relationship to broader changes occurring, or that are foreseeable to occur, in the surrounding environment. Accordingly, this chapter presents a discussion of CEQA-mandated analysis for cumulative impacts, significant irreversible effects, growth-inducing impacts, and significant and unavoidable impacts associated with the proposed Project.

4.1 CUMULATIVE SETTING AND IMPACT ANALYSIS

INTRODUCTION

CEQA requires that an EIR contain an assessment of the cumulative impacts that could be associated with the proposed Project. According to CEQA Guidelines Section 15130(a), "an EIR shall discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable." "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects (as defined by Section 15130). As defined in CEQA Guidelines Section 15355, a cumulative impact consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. A cumulative impact occurs from:

...the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

In addition, Section 15130(b) identifies that the following three elements are necessary for an adequate cumulative analysis:

1) Either:

(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 agency; or,

(B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact. Any such planning document shall be referenced and made available to the public at a location specified by the lead agency.

2) A summary of the expected environmental effects to be produced by those projects with specific reference to additional information stating where that information is available; and

4.0 OTHER CEQA-REQUIRED TOPICS

3) A reasonable analysis of the cumulative impacts of the relevant projects. An EIR shall examine reasonable, feasible options for mitigating or avoiding the project's contribution to any significant cumulative effects.

Where a lead agency is examining a project with an incremental effect that is not "cumulatively considerable," a lead agency need not consider that effect significant, but shall briefly describe its basis for concluding that the incremental effect is not cumulatively considerable.

CUMULATIVE SETTING

The cumulative setting uses growth projections listed in the general plan, other planning documents and Department of Finance statistics. Table 4.0-1 shows growth projections.

TABLE 4.0-1: ESTIMATED POPULATION GROWTH PROJECTIONS

CALENDAR YEAR	IRWINDALE	LOS ANGELES COUNTY	CALIFORNIA
2020	1,506	10,257,557	40,619,346
2035	1,800	10,368,380	45,747,645
2040	2,000	10,335,448	47,233,240

SOURCES: SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS (2012), DEPARTMENT OF FINANCE (2020).

CUMULATIVE EFFECTS OF THE PROJECT

Cumulative settings are identified under each cumulative impact analysis. Cumulative settings vary because the area that the impact may affect is different. For example, noise impacts generally only impact the local surrounding area because noise travels a relatively short distance while air quality impacts affect the whole air basin as wind currents control air flow and are not generally affected by natural or manmade barriers which would affect noise. Cumulative Project impacts are addressed and summarized below.

Method of Analysis

Although the environmental effects of an individual project may not be significant when that project is considered separately, the combined effects of several projects may be significant when considered collectively. State CEQA Guidelines 15130 requires a reasonable analysis of a project's cumulative impacts, which are defined as "two or more individual effects which, when considered together are considerable or which compound or increase other environmental impacts." The cumulative impact that results from several closely related projects is: the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines 15355[b]). Cumulative impact analysis may be less detailed than the analysis of the project's individual effects (State CEQA Guidelines 15130[b]).

There are two approaches to identifying cumulative projects and the associated impacts. The list approach identifies individual projects known to be occurring or proposed in the surrounding area in order to identify potential cumulative impacts, in accordance with Section 15130(b)(1)(A) of the CEQA Guidelines. The projection approach uses a summary of projections in adopted General Plans

or related planning documents to identify potential cumulative impacts, in accordance with Section 15130(b)(1)(A) of the CEQA Guidelines. This EIR uses the projection approach for the cumulative analysis and considers the development anticipated to occur upon buildout of the various General Plans in the area, such as the Los Angeles County General Plan 2035 (adopted October 2015).

Project Assumptions

The proposed Project's contribution to environmental impacts under cumulative conditions is based on full buildout of the Project site. See Chapter 2.0, Project Description, for a complete description of the proposed Project.

Cumulative Impacts

Some cumulative impacts for issue areas are not quantifiable and are therefore discussed in general terms as they pertain to development patterns in the surrounding region. Exceptions to this are traffic, utilities, noise and air quality (the latter two of which are associated with traffic volumes), which may be quantified by estimating future traffic patterns, pollutant emitters, etc. and determining the combined effects that may result. In consideration of the cumulative scenario described above, the proposed Project may result in the following cumulative impacts.

AESTHETICS AND VISUAL RESOURCES

The cumulative setting for aesthetics and visual resources is the City of Irwindale and surrounding areas of Irwindale and Los Angeles County.

Impact 4.1: Cumulative Impacts on Aesthetics and Visual Resources (Less than Significant and Less than Cumulatively Considerable)

As described in Section 3.1, Aesthetics and Visual Resources, the Project site is not designated as a scenic vista by the City of Irwindale General Plan or the Los Angeles County General Plan, nor does it contain any unique or distinguishing features that would qualify the site for designation as a scenic vista. The Project site is located in an urbanized area. According to the City's General Plan, there are no scenic vistas within the Project area. The San Gabriel Mountains, located approximately 20 miles to the north of the Project site, are an important part of the local scenery. However, views of the San Gabriel Mountains from the Project site are limited and obstructed by existing surrounding urban development. Limited distant views of the San Gabriel Mountains are available from the Project site and roadways adjacent to the Project site. They occur in the background with foreground and middleground views consisting of development immediately adjacent to the Project site and within the surrounding area. Additionally, existing views in this urban and developed area are limited. As such, the Project would not result in effects on scenic vistas.

Future projects within Irwindale, Los Angeles County, and nearby cities would be subject to the regulations pertaining to scenic vistas and views established by the individual jurisdictions. These regulations are designed to minimize impacts of new development on scenic vistas and views. Implementation of these regulations would ensure that future projects minimize their potential scenic vista impacts.

4.0 OTHER CEQA-REQUIRED TOPICS

According to the U.S. Bureau of the Census, the Project site is mapped and designated as urbanized area. In addition, the Project site is located within the City of Irwindale, which is located in the greater urban area of Los Angeles County which has an estimated population of approximately 39 million people; meaning the Project site is within an urbanized area and subjected to applicable zoning or other regulations governing scenic quality. Future development of the Project site would convert the Project site from its existing state to an industrial warehouse.

The Project is consistent with the City's Design Guidelines and the City's design review ordinance. Development within the Project site is required to be consistent with the General Plan and the Irwindale Zoning Ordinance which includes design standards in order to ensure quality and cohesive design of the Project site. These standards include specifications for building height, massing, and orientation; exterior lighting standards and specifications; and landscaping standards. Implementation of the design standards would ensure quality design throughout the Project site, and result in a Project that would be internally cohesive while maintaining aesthetics similar to surrounding uses.

Compliance with the Commercial and Industrial Design Guidelines and development standards for Irwindale's Zoning District's for height and bulk, and landscaping requirements found in the Zoning code, would reduce visual impacts to the greatest extent feasible. While the proposed Project would permanently convert the vacant land to urbanized uses, the Project site is designated for and consistent with industrial and urban uses established by the General Plan. Future development projects in the Project vicinity and Los Angeles County would be subject to the applicable zoning and other regulations governing scenic quality within an urbanized area.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the proposed development standards and the subsequent design review of the Project would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. Future projects within Irwindale, Los Angeles County, and nearby cities would be subject to the light and glare standards established by the individual jurisdictions. These regulations are designed to minimize potential light and glare impacts of new development. Implementation of these regulations would ensure that future projects minimize their potential light and glare impacts.

Overall, impacts related to aesthetics and visual resources would be a **less than cumulatively considerable contribution**, and no mitigation is required.

AIR QUALITY

The cumulative setting for air quality impacts is the South Coast Air Basin (SCAB or Basin), which includes the southern two-thirds of Los Angeles County, all of Orange County, and the western urbanized portions of Riverside and San Bernardino counties.

Impact 4.2: Cumulative Impact on the Region's Air Quality (Cumulatively Considerable and Significant and Unavoidable)

Under buildout conditions in Los Angeles County, the SCAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.2, Los Angeles County has a state designation of nonattainment for ozone, fine particulate matter (PM₁₀), and respirable particulate matter (PM_{2.5}) and is either unclassified or attainment for all other criteria pollutants. The County has a national designation of nonattainment for ozone and PM_{2.5}. Table 3.2-2 in Section 3.2 presents the State and Federal attainment status for Los Angeles County.

As discussed under Impact 3.2-2 in Section 3.2, the proposed Project would result in increased emissions primarily from vehicle miles travelled associated with Project implementation. The South Coast Air Quality Management District (SCAQMD) has established operation-related emissions thresholds of significance and it was determined that daily emissions of reactive organic compounds (ROG), PM₁₀, PM_{2.5}, sulfur oxides (SOx), and carbon monoxide (CO) resulting from Project buildout would not exceed the SCAQMD thresholds of significance. However, the emissions threshold for nitrogen oxides (NOx) would be exceeded, primarily due to the generation of heavy-duty trucks as part of the proposed Project.

Implementation of CARB and SCAQMD recommendations in Mitigation Measure 3.2-1 would be required. However, even with the implementation of identified mitigation, Project-related heavy-duty truck travel would result in SCAQMD daily significance thresholds being exceeded. This results in a cumulatively considerable net increase of NOx (an ozone precursor), for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard.

In addition to regional significance thresholds, the SCAQMD developed localized significance thresholds (LSTs) for emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at new development sites (offsite mobile source emissions are not included in the LST analysis protocol). LSTs represent the maximum emissions that can be generated at a Project site without expecting to cause or substantially contribute to an exceedance of the most stringent national or State ambient air quality standards. LSTs are based on the ambient concentrations of that pollutant within the Project source receptor area (SRA), as demarcated by the SCAQMD, and the distance to the nearest sensitive receptor.

According to the SCAQMD localized significance threshold methodology, LSTs would apply to the operational phase of a proposed Project only if the Project includes stationary sources or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., warehouse or transfer facilities). The proposed Project includes one 545,735-sf warehouse. Therefore, in the case of the Proposed Project, the operational phase LST protocol is applied. Operational LSTs apply to CO, NO₂, PM₁₀, and PM_{2.5}. As shown in Table 3.2-6, the emissions of these pollutants on the peak day of operations would not result in significant concentrations of pollutants at nearby sensitive receptors.

4.0 OTHER CEQA-REQUIRED TOPICS

Although implementation of the proposed Project would not generate significant concentrations of pollutants at nearby sensitive receptors, the proposed Project is expected to exceed the SCAQMD mass threshold for operational NO_x, as modelled. Mitigation is provided to reduce emissions to the maximum extent feasible. However, even after implementation of these mitigation measures, operation of the Project would have a significant and unavoidable impact related to the potential to expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment.

Additionally, as discussed in Impact 3.2-3, construction-generated emissions are temporary and short-term but have the potential to represent a significant air quality impact. Predicted maximum daily construction-generated emissions for the proposed Project are summarized in Table 3.2-7. As shown, emissions generated during Project construction would not exceed the SCAQMD's regional thresholds of significance. Therefore, criteria pollutant emissions generated during Project construction would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is nonattainment under an applicable federal or state ambient air quality standard. Further, as discussed in Impact 3.2-3, diesel emissions generated during the construction of the Project could impact sensitive receptors within the Project area. As shown in Table 3.1-9, maximum air pollutant emissions resulting from Project construction would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, impacts concerning LSTs during construction activities would be less than significant.

The increases in criteria pollutants generated by the proposed Project when combined with the existing criteria pollutants emitted regionally, would affect people, especially those with impaired respiratory systems located in the immediate vicinity of the Project site. Construction emissions would be temporary in nature, while the operational activities of a Project would be most likely to cause substantial adverse effects on human beings, since ongoing, chronic, and lifetime exposure to criteria pollutants are key in the level of health impact. However, the increases of these pollutants generated by the proposed Project are not on their own likely to generate an increase in the number of days exceeding the health-based national or state air quality standards, based on the size of the Project in comparison to Los Angeles County as a whole. Nevertheless, even with implementation of the mitigation measures provided in this section (Mitigation Measures 3.1-1 and 3.1-2), operational NO_x emissions would be above the applicable SCAQMD mass emission threshold.

Overall, implementation of the proposed Project would have a **cumulatively considerable contribution** and **significant and unavoidable** impact from air emissions.

GEOLOGY AND SOILS

Impacts related to geology and soils are not inherently cumulative. Geology and soils concerns are related to risks, hazards or development constraints that are largely site-specific. However, seismic hazards are regional, and management of seismic hazards is vested with the local planning and building authority. For these reasons, the potential for cumulative geology and soils impacts are considered in the context of the City of Irwindale and vicinity.

Impact 4.3: Cumulative Impact on Geologic and Soils Resources (Less than Significant and Less than Cumulatively Considerable)

As discussed in Section 3.3, Geology and Soils, the Project site does not have a significant risk of becoming unstable as a result landslide, subsidence, or soil collapse. There is a potential for liquefaction, liquefaction induced settlement, and lateral spreading, of the underlying soils. Additionally, although engineered artificial fills occur within the Project Site, seismic hazard zoning for expansive soils of the Project site is governed by the expansive susceptibility of natural soils underlying the fill sites. According to the NRCS Web Soil Survey, the soils in the Project site have a low shrink-swell potential. The NRCS Web Soil Survey indicates that near surface soils within the Project site have low plasticity, and the expansion potential of the soils would respond to fluctuations in moisture content. However, Mitigation Measure 3.3-1 provided in Section 3.3 would ensure this impact will be less than significant.

Due to the site's location within the seismically active region of southern California, the Project site is expected to experience seismic ground shaking during the life of the proposed Project. There will always be a potential for groundshaking caused by seismic activity anywhere in California, including the Project site. Seismic activity could come from a known active fault such as the Montebello fault, the Chino fault, the Cucamonga fault, and the San Gabriel fault, or any number of other faults in the region. In order to minimize potential damage to the buildings and site improvements, all construction in California is required to be designed in accordance with the latest seismic design standards of the California Building Code. The California Building Code, Title 24, Part 2, Chapter 16 addresses structural design and Chapter 18 addresses soils and foundations. Collectively, these state requirements, which have been adopted by the City of Irwindale, include design standards and requirements that are intended to minimize impacts to structures in seismically active areas of California. Section 1613 specifically provides structural design standards for earthquake loads. Section 1803.5.11 and 1803.5.12 provide requirements for geotechnical investigations for structures assigned varying Seismic Design Categories in accordance with Section 1613. Design in accordance with these standards and policies would reduce any potential impact to a less than significant level.

Geologic and soils impacts tend to be site-specific and Project-specific. With the mitigation measure presented in Section 3.3, implementation of the proposed Project would not result in increased risks or hazards related to geologic conditions in the cumulative setting area, nor would it result in any off-site or indirect impacts. Implementation of the proposed Project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to geologic and soil resources would result in a **less than cumulatively considerable contribution**.

GREENHOUSE GASES, CLIMATE CHANGE AND ENERGY

The cumulative setting for greenhouse gas (GHG) emissions and climate change impacts for this analysis is Los Angeles County, which is the boundary for the California Air Resources Board's regional GHG emissions reduction targets.

Impact 4.4: Cumulative Impact on Climate Change from Increased Project-Related Greenhouse Gas Emissions (Less than Significant and Less than Cumulatively Considerable)

GHG emissions from a single Project will not cause global climate change; however, GHG emission from multiple projects throughout a region or state could result in a cumulative impact with respect to global climate change.

In California, there has been extensive legislation passed with the goal of reducing GHG emissions. The legislative goals are as follows: 1) 2000 levels by 2010, 2) 1990 levels by 2020 and 3) 80 percent below the 1990 levels by the year 2050. To achieve these goals, the CARB has developed regional GHG emission reduction targets for the automobile and light truck sectors (the largest single source of GHG emissions) for 2020 and 2035. The regional GHG emission reduction targets for each region in California were established by the California Air Resources Board.

To date, neither the City of Irwindale, nor any regional agency has prepared a qualified GHG reduction plan that is applicable to the proposed Project. However, Irwindale is a member city of the Southern California Association of Governments (SCAG). SCAG's 2016–2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), adopted April 7, 2016, is a long-range visioning plan that balances future mobility and housing needs with economic, environmental, and public health goals. The RTP/SCS establishes GHG emissions goals for automobiles and light-duty trucks for 2020 and 2035 and establishes an overall GHG target for the region consistent with both the Statewide GHG-reduction targets for 2020 and the post-2020 statewide GHG reduction goals. The 2016 RTP/SCS contains over 4,000 transportation projects, including highway improvements, railroad grade separations, bicycle lanes, new transit hubs, and replacement bridges. These future investments were included in county plans developed by the six-county transportation commissions and seek to reduce traffic bottlenecks, improve the efficiency of the region's network, and expand mobility choices. The RTP/SCS is an important planning document for the region, allowing project sponsors to qualify for federal funding. In addition, the RTP/SCS is supported by a combination of transportation and land use strategies that help the region achieve state GHG emission reduction goals and federal CAA requirements, preserve open space areas, improve public health and roadway safety, support the vital goods movement industry, and use resources more efficiently. The proposed Project would not conflict with the stated goals of the RTP/SCS.

The proposed Project's short-term construction-related and long-term operational GHG emissions were estimated using the California Emission Estimator Model (CalEEMod)TM (v.2016.3.2). As shown in Table 3.4-1, Project construction would result in the generation of approximately 2,831.5 metric tons of CO₂e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. The amortized construction emissions are added to the annual average operational emissions. As shown in Table 3.4-2, operational-generated emissions would not exceed the SCAQMD's numeric bright-line threshold of 10,000 metric tons of CO₂e annually. Nevertheless, out of an abundance of caution, the proposed Project would be required to implement Mitigation Measure 3.4-1, which include CARB and SCAQMD-recommended measures to reduce GHG emissions through the implementation of solar and energy-conserving systems, landscaping, and use of light colored paving and roofing materials. Therefore, with implementation of CARB and

SCAQMD recommendations contained in mitigation measure 3.4-1, Project-related heavy-duty truck travel emissions would be reduced beyond those emissions identified in Table 3.4-2.

Overall, impacts related to GHG and climate change would result in a **less than cumulatively considerable contribution**.

HAZARDS AND HAZARDOUS MATERIALS

The cumulative context for the analysis of cumulative hazards and human health impacts is Los Angeles County, including all cumulative growth therein, as represented by full implementation of each respective General Plan (i.e. Irwindale, Irwindale, and Los Angeles County). As discussed in Section 3.5, Hazards and Hazardous Materials, implementation of the proposed Project would not result in any significant impacts related to this environmental topic with the implementation of the mitigation measures provided in Section 3.5.

Impact 4.5: Cumulative Impact Related to Hazards and Hazardous Materials (Less than Significant and Less than Cumulatively Considerable)

The proposed Project, in conjunction with cumulative development in the region, would include areas designated for a variety of urban, agricultural, and open space uses as defined by the applicable General Plan. Cumulative development would include continued operation of, or development of, new facilities as allowed under each land use designation. New development would inevitably increase the use of hazardous materials within the region, resulting in potential health and safety effects related to hazardous materials use. For the most part, potential impacts associated with new and future development would be confined to commercial and industrial areas and would not involve the use of hazardous substances in large quantities or that would be particularly hazardous. Incidents, if any, would typically be site specific and would involve accidental spills or inadvertent releases. Associated health and safety risks would generally be limited to those individuals using the materials or to persons in the immediate vicinity of the materials and would not combine with similar effects elsewhere (i.e., construction workers). Hazard-related impacts tend to be site-specific and Project-specific. The Project site is not associated with any existing hazardous materials spills; however, there are numerous areas throughout the County where hazardous conditions are present.

Implementation of the proposed Project would not result in significant increased risks of hazards in the cumulative setting area, nor would it result in any significant off-site or indirect impacts. Mitigation measures have been included to reduce the risk of on-site hazards associated with the use of on-site hazardous materials. Implementation of the proposed Project would have a **less than significant** cumulative impact relative to this environmental topic. As such, impacts related to hazards and hazardous materials would result in a **less than cumulatively considerable contribution**.

HYDROLOGY AND WATER QUALITY

Potential cumulative issues associated with surface waters can be addressed on a watershed basis, or in the case of groundwater, in the context of a groundwater basin. Because water resources are

4.0 OTHER CEQA-REQUIRED TOPICS

highly interconnected, the cumulative setting is based on Los Angeles County which is located in the Los Angeles Region. Cumulative development in this region, including the proposed Project, would impact the water quality and hydrological features of the Los Angeles Region. The City of Irwindale and much of the surrounding area is located in the Main San Gabriel Basin (MSGB). The Project site is in the Walnut Creek Sub-Watershed within the Upper San Gabriel River Watershed, which is part of San Gabriel River Water Management Area (WMA). Any matter that may affect water quality draining from the Project site will eventually end up in the groundwater basin.

Impact 4.6: Cumulative Impact Related to Hydrology and Water Quality (Less than Significant and Less than Cumulatively Considerable)

The long-term operations of the proposed Project (all phases) could result in long-term impacts to surface water quality from urban stormwater runoff. The proposed Project would result in increased impervious area at the site as a result of the proposed development, which could increase peak stormwater runoff rates and volumes on and downstream on the Project site. However, the proposed Project includes an extensive system of on-site stormwater collection facilities to accommodate the increased stormwater flows that would originate in the Project site.

In order to meet the City of Irwindale and County of Los Angeles storm water quality requirements, a combination of a rain garden and/or underground infiltration/detention system will be utilized as low impact development (LID) treatment devices to treat the low-flow. The underground infiltration/detention system will be located within an area (50-feet wide, eight-feet high, and 653-feet long) on the west side of the property. The rain garden areas will be located throughout the site, mainly around the perimeter. Within subarea 2A, the low flow will discharge into the LID treatment device rain garden via curb openings and then directed into the underground infiltration/detention system via infiltration. Subarea 1A will be directed to and treated by the proposed underground infiltration/detention system via underground storm drain pipe. The owner of the property will privately maintain the on-site drainage system, which would consist of catch basin, curb drains, and infiltration/detention system. The proposed storm drains and infiltration/detention system has been designed to convey the required flow rates and will comply with the flood protection and storm water quality requirements of the City of Irwindale and County of Los Angeles. Thus, construction and operation of the proposed storm drain facilities would ensure that storm water would be conveyed and treated prior to outletting to the regional storm drain system, resulting in less than significant impacts to water quality. With the design and construction of these stormwater improvements, the proposed Project would not increase peak stormwater runoff.

Construction of the proposed Project would contribute to a cumulative increase in urban pollutant loading, which could adversely affect water quality. The proposed Project will be required to comply with Mitigation Measure 3.6-1 (which is identical to Mitigation Measure Geo-1 from Section VII, Geology and Soils, of the Initial Study) which requires the development and approval of a Stormwater Pollution Prevention Plan (SWPPP). The SWPPP will include Best Management Practices (BMPs) to regulate stormwater quality for the Project site which will be designed in accordance with the City of Irwindale's National Pollutant Discharge Elimination System Permit (NPDES) issued by the RWQCB. While there are no assurances that other projects in the County would incorporate the

same degree or methods of treatment as the proposed Project, each project that would discharge stormwater runoff would be required to comply with NPDES discharge permits from the RWQCB, which adjusts requirements on a case-by-case basis to avoid significant degradation of water quality. Therefore, the associated surface water quality impacts would be expected to be less than significant because of improved or similar quality of runoff compared to existing conditions.

The proposed Project would result in new impervious surfaces and could reduce rainwater infiltration and groundwater recharge. As stated, the Project site is located within the MSGB, and will be provided water service by Azusa Light & Water (ALW). In accordance with the requirements of Section 28 of its Rules and Regulations, the Five-Year Water Quality and Supply Plan develops projections of future groundwater supply and quality and outlines how the MSGB Watermaster plans to maintain the Key Well elevation between 200 feet and 250 feet, to the extent possible. According to the MSGB Watermaster website, the groundwater level at Baldwin Park Key Well is at 209.4 feet as of February 28, 2020. ALW can expect to meet the needs of its customers through 2040 and as sufficient capacity to handle the increased water demand from the proposed Project. Additionally, as discussed in Section 3.6, the recharge basin located south of the Project site will remain intact and will not be impacted by development of the proposed Project. The proposed Project would not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin.

As shown on Figure 3.6-2, the Project site is not within a 100-year flood zone as delineated by FEMA. The Project site is not located within the 200-year floodplain as delineated on the most recent 200-year flood plain maps for Irwindale. Additionally, the Project site is not located in an area with the potential for tsunami inundation or within an area with a control levee. Further, as shown in Figure 3.6-3, the Project site is located within a dam inundation area for the San Gabriel No. 1 Dam. Due to the size of this dam, it is regulated by California Dam Safety Act, which is implemented by the California Department of Water Resources, Division of Safety of Dams (DSD). The DSD is responsible for inspecting and monitoring the dam in perpetuity. The proposed Project would not result in actions that could result in a higher likelihood of dam failure at the San Gabriel No. 1 Dam. There will always be a remote chance of dam failure that results in flooding of the City of Irwindale, including the Project site. However, given the regulations provided in the California Dam Safety Act, and the ongoing monitoring performed by the DSD, the risk of loss, injury, or death to people or structures from dam failure at the proposed Project site would be negligible, and no impact would result.

Implementation of the proposed Project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

NOISE

The cumulative setting for noise impacts consists of the existing and future noise sources that could affect the Project site or surrounding uses.

Impact 4.7: Cumulative Impact Related to Noise (Less than Significant and Less than Cumulatively Considerable)

The cumulative context for noise impacts associated with the proposed Project consists of the existing and future noise sources that could affect the Project or surrounding uses. Noise generated by construction would be temporary, and would not add to the permanent noise environment or be considered as part of the cumulative context. The total noise impact of the proposed Project would be fairly small and would not be a substantial increase to the existing future noise environment.

Cumulative noise impacts would occur primarily as a result of increased traffic on local roadways due to the proposed Project and on-site activities resulting from operation of the proposed Project. Table 3.7-9 in Section 3.7, Noise, shows cumulative traffic noise levels with and without the proposed Project. As discussed in Section 3.7, the Project would not result in significant increases in traffic noise levels at existing sensitive receptors under the Cumulative Plus Project Condition. Additionally, increases in non-traffic noise levels, such as loading dock and parking lot noise, would not be significant.

Implementation of the proposed Project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

TRANSPORTATION AND CIRCULATION

The cumulative setting for transportation and circulation impacts consists of the existing and future trip generation sources that could affect the Project site or surrounding roadways.

Impact 4.8: Cumulative Impact Related to Transportation and Circulation (Less than Significant and Less than Cumulatively Considerable)

As discussed in Section 3.8, Transportation and Circulation, cumulative VMT impacts are measured using two criteria. Based on the City-adopted thresholds, a “yes” to any of the following applicable criteria would indicate a significant cumulative VMT impact for the proposed Project:

- **Cumulative Impact:** Would the Project increase the total regional VMT compared to cumulative no Project conditions?
- **Cumulative Impact:** Is the Project inconsistent with the Southern California Association of Governments (SCAG) Regional Transportation Plan/Sustainable Communities Strategies (RTP/SCS)?

The State’s Technical Advisory notes that a project’s cumulative impacts are based on an assessment of whether the ““incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects.” (Pub. Resources Code, § 21083, subd. (b)(2); see CEQA Guidelines, § 15064, subd. (h)(1).)” The Technical Advisory further clarifies that a project that falls below an efficiency-based threshold (such as VMT per employee) that is aligned with long-term environmental goals and relevant plans would have no cumulative impact distinct from the project impact. Accordingly, a finding of a less than significant project impact would imply a less than significant cumulative impact, and vice versa. With implementation of Mitigation Measure 3.8-1

included in Section 3.8, the Project is forecast to generate VMT that is 15% below the City of Irwindale average. Therefore, the Project would not increase the total regional VMT.

Additionally, the SCAG 2020-2045 RTP/SCS was developed with input from all 197 local jurisdictions, including the City of Irwindale. The information used to develop the RTP/SCS includes the current land use, socio-economic demographics, and sustainability practices and is documented in a Data Map/Book for each jurisdiction. The Data Map/Book illustrates that the Project site is designated as “Industrial” land use in the 2016 SCAG Land Use Codes. Therefore, the proposed Project is consistent with the SCAG RTP/SCS. Overall, cumulative VMT impacts associated with the Project would be less than significant and less than cumulatively considerable.

The Project area is served by Foothill Transit and Baldwin Park Transit. Foothill Transit Routes 185/272/492 and the Baldwin Park Teal Line provide transit service along parts of Live Oak Avenue, Baldwin Park Boulevard, Arrow Highway, and Irwindale Avenue. Employees of the Project could potentially make use of the transit service; however, the number of riders would be relatively minor and spread over a number of work shifts typical of warehousing employment.

As part of the Project, Vincent Avenue along the Project site’s frontage would be improved to its ultimate half-section width, including landscaping and parkway improvements, as required by the City of Irwindale. The improvements would provide continuous sidewalks adjacent to the site that would connect to existing sidewalks within the area. With planned improvements, the Project does not result in any unsafe condition for pedestrians or bicyclists and does not conflict with planned pedestrian and bicycle facilities identified in adopted plans. Thus, the Project’s impact on pedestrian circulation is not considered significant.

Additionally, the proposed site plan does not include any sharp curves or dangerous intersections. The Project would allow for circulation and turning movements of the vehicles accessing the site. The site plan includes adequate right-of-way and turning radii for emergency vehicles within the Project site. The site plan would be reviewed by the City of Irwindale and the Los Angeles County Fire Department to ensure the on-site circulation provides adequate access and turning radii for emergency vehicles. Sight distance at Project access driveways would comply with applicable City of Irwindale/Caltrans sight distance standards. The final grading, landscaping, and street improvement plans would demonstrate that sight distance standards are met and would be subject to City approval. Further, on-site traffic signing and striping would be implemented in conjunction with detailed construction plans for the Project. On-site traffic control plans would comply with the California Manual of Uniform Traffic Control Devices (2014), as required and confirmed through the City’s site plan review process.

Implementation of the proposed Project would have a **less than significant** and **less than cumulatively considerable** impact relative to this topic.

4.2 SIGNIFICANT IRREVERSIBLE EFFECTS

LEGAL CONSIDERATIONS

CEQA Section 15126.2(c) and Public Resources Code Sections 21100(b)(2) and 21100.1(a), require that the EIR include a discussion of significant irreversible environmental changes which would be involved in the proposed action should it be implemented. Irreversible environmental effects are described as:

- The project would involve a large commitment of nonrenewable resources;
- The primary and secondary impacts of a project would generally commit future generations to similar uses (e.g., a highway provides access to previously remote area);
- The project involves uses in which irreversible damage could result from any potential environmental accidents associated with the project; or
- The phasing of the proposed consumption of resources is not justified (e.g., the project involves the wasteful use of energy).

Determining whether the proposed Project would result in significant irreversible effects requires a determination of whether key resources would be degraded or destroyed such that there would be little possibility of restoring them. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.

Analysis

Implementation of the proposed Project would result in the conversion of 26.05 acres of land currently undeveloped but previously used for mining uses for the development of industrial uses. Development of the proposed Project would constitute a long-term commitment to these uses. It is unlikely that circumstances would arise that would justify the return of the land to its original condition as a mining pit.

A variety of resources, including land, energy, water, construction materials, and human resources would be permanently committed for the initial construction, infrastructure installation and connection to existing utilities, and its continued maintenance. Construction of the proposed Project would require the commitment of a variety of other non-renewable or slowly renewable natural resources such as lumber and other forest products, sand and gravel, asphalt, petrochemicals, and metals.

Additionally, a variety of resources would be committed to the ongoing operation and life of the proposed Project. The introduction of industrial high cube warehouse uses to the Project site will result in an increase in area traffic over existing conditions. Fossil fuels are the principal source of energy and the proposed Project will increase consumption of available supplies, including gasoline and diesel. These energy resource demands relate to initial Project construction, Project operation and site maintenance and the transport of people and goods to and from the Project site.

4.3 GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the CEQA Guidelines requires an EIR to “discuss the ways in which the project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth...” In general terms, a project may result in a significant growth inducing impact if it individually or cumulatively with other projects results in any of the actions described in the following examples:

- The project removes an obstacle to growth, such as: the establishment of an essential public service, the provision of new access to an area, or a change in zoning or general plan designation.
- The project results in economic expansion, population growth or the construction of additional housing occurs in the surrounding environment in response to the project, either directly or indirectly.

Existing storm drain, sewer, water, and gas lines/pipes are currently located along Vincent Avenue and Allen Drive. The Project would be served by existing sewer, water and other utility services that have been established on the Project site and in the Project area. Access to the Project would be provided by existing roads and no road improvements would be required to obtain access to the Project site. Therefore, the proposed Project would not require an extension of public services that have the potential to result in or facilitate unplanned growth in the Project area.

The proposed Project would provide employment opportunities for City and County residents on a site that has been planned for redevelopment by the City for decades. The City of Irwindale General Plan specifically addresses development of the Manning Pit, a portion of which is the Project site. Construction of the proposed warehouse would alleviate pressure to provide industrial warehouses in an area of the City that is currently vacant and undeveloped. Overall, the additional industrial uses in the City would not have the long-term effect of inducing population growth.

The Project would result in an increase in employment opportunities by creating full-time job positions. The Project would also generate short-term construction employment opportunities, but these opportunities would not result in substantial population growth in the project region. Therefore, the proposed Project would not result in significant growth inducing impacts.

4.4 SIGNIFICANT AND UNAVOIDABLE IMPACTS

CEQA Guidelines Section 15126.2(b) requires an EIR to discuss unavoidable significant environmental effects, including those that can be mitigated but not reduced to a level of insignificance. The following significant and unavoidable impacts of the proposed Project are discussed in Sections 3.1 through 3.8 and previously in this chapter (cumulative-level). Refer to those discussions for further details and analysis of the significant and unavoidable impact identified below:

4.0 OTHER CEQA-REQUIRED TOPICS

- Impact 3.2-1: The proposed Project has the potential to conflict with or obstruct implementation of the applicable air quality plan.
- Impact 3.2-2: Proposed Project operation has the potential to expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard.
- Impact 3.2-5: The proposed Project has the potential cause substantial adverse effects on human beings, either directly or indirectly.
- Impact 4.2: Cumulative Impact on the Region's Air Quality.

5.1 CEQA REQUIREMENTS

The California Environmental Quality Act (CEQA) requires that an Environmental Impact Report (EIR) analyze a reasonable range of feasible alternatives that meet most or all project objectives while reducing or avoiding one or more significant environmental effects of the project. The range of alternatives required in an EIR is governed by a “rule of reason” that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice (CEQA Guidelines Section 15126.6[f]). Where a potential alternative was examined but not chosen as one of the range of alternatives, the CEQA Guidelines require that the EIR briefly discuss the reasons the alternative was dismissed.

PROJECT OBJECTIVES

The principal objective of the proposed Project is the approval and subsequent implementation of the 5175 Vincent Avenue Project (the proposed Project). The principal objective of the proposed Project is the approval and subsequent development of the 26.05-acre parcel for Industrial uses. The quantifiable objectives of the proposed Project include the development of 26.05 acres with a 545,735 square-foot industrial warehouse building.

The proposed Project identifies the following objectives:

- **Quantified Development:** Development of land use densities and intensities at quantities that maximize the use of the land as a single development to meet the demands of the market while considering zoning and land uses restrictions. The quantifiable objectives include the development of approximately to 26.05 acres with a 545,735 square-foot industrial warehouse that provides employment-generating development.
- **Economic Contribution:** Strengthen the City’s economic base through Project’s job creation; development related investment; disposable income from future employees; and increased property, sales, and transient occupancy taxes.
- **Employment Opportunities:** Provide for local and regional employment opportunities that take advantage of the areas high level of accessibility, allow for the expansion of the City’s economic base, help create a jobs/housing balance, and reduce the commute for local residents.
- **Public Facilities and Services:** Provide infrastructure and services that meet City standards, integrate with existing and planned facilities and connections and do not diminish services to existing residents of the City.
- **Marketable High Cube Warehouse:** Provide for the construction of a high-cube warehouse facility that could attract a variety of end users, including transload facility, short-term storage facility, light industrial, and/or manufacturing uses. The facility should be designed with efficient transportation access and circulation within the site, accessible loading bays on two sides of the building, and a high level of on-site automation and logistics management to enable highly-efficient processing of goods through the high-cube warehouse.

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

- End User Restrictions: Restrict the use of the warehouse building such that no business would be able to operate a fulfillment center, parcel hub, or cold storage facility. The intent of this restriction is to minimize the potential air quality impacts from such end users.
- Buffer Surrounding Uses: Provide a landscaped buffer with sound attenuation along Vincent Avenue to buffer neighboring uses.
- Redevelopment of the Manning Pit: With the completed remediation and closure of the Manning Pit, provide for redevelopment of the site in accordance with the General Plan, such that the site can be utilized in a manner that provides jobs and provides a tax base for the community.

ALTERNATIVES NOT SELECTED FOR FURTHER ANALYSIS

A Notice of Preparation was circulated to the public to solicit recommendations for a reasonable range of alternatives to the proposed Project. Additionally, a public scoping meeting was held during the public review period to solicit recommendations for a reasonable range of alternatives to the proposed Project. A Project alternative which provides for multiple smaller warehouse buildings instead of one building was suggested by the general public during the NOP public review process. This suggested alternative is included in this Draft EIR and discussed further below. An alternative location was not suggested during the NOP public review process.

The City of Irwindale considered alternative locations early in the public scoping process. The City's key considerations in identifying an alternative location were as follows:

- Is there an alternative location where significant effects of the Project would be avoided or substantially lessened?
- Is there a site available within the City's Sphere of Influence with the appropriate size and characteristics such that it would meet the basic Project objectives?

The City has reviewed maps and planning documents in their consideration of alternative locations for the Project. The City has not found an alternative location that exists within the City's Sphere of Influence with the appropriate size and characteristics that would meet the basic Project objectives. An alternative location would also specifically conflict with the objective of "Redevelopment of the Manning Pit." As such, an alternative location is not feasible.

Reduced Land Area Project Alternative

Under this alternative, the portion of Assessor's Parcel Number 8417-034-016 which would require a General Plan Amendment to change the current designation from "Residential" to "Industrial/Business Park" would be removed from the Project site; this would result in reducing the Project site by approximately 26.6 percent. This alternative assumes that the approximately 6.93 acres of land along the western boundary of the Project site, which is currently designated Residential, would be removed from the development and would remain as undeveloped land. The balance of the parcel, the 19.12 acres of land making up the eastern portion of the Project site, which is currently designated Industrial/Business Park, would be developed with a high cube warehouse building. This alternative would not warrant a General Plan amendment for the 6.93 acres of residential land, because it would not be a part of the development. The existing General

Plan designation and zoning designation for the 6.93 acres would remain in conflict and would require reconciliation at some other time.

In addition to the zoning conflict that would result from this Alternative, the City considered this alternative and found that the residual 6.93-acre parcel would be very difficult to develop by itself as either residential or industrial at some future time given its shape and size. The 6.93-acre area is approximately 250 feet (0.05 miles) by 1,240 feet (0.23 miles). Development on an area that is only 250 feet wide results in difficult planning circumstances. For example, roadway, sidewalk, and landscaping improvements would be required to access and move through the 6.93-acre area. These improvements would further reduce the area buildable for residential uses. Setbacks and sound walls may also be warranted, which would further reduce the usable area. The City found that there is a high likelihood that the 6.93 acres may end up being a residual undevelopable parcel, and that this alternative is in conflict with the Project objectives which include strengthening the City's economic base through job creation, development related investment, increased property, sales, and transient occupancy taxes, and to generating local and regional employment opportunities. Further, this alternative would not achieve or would partially not achieve most of the Project objectives, including the quantified development objective, the economic contribution objective, the employment opportunities objective, the marketable high cube warehouse objective, and the redevelopment of the Manning Pit objective. As such, the reduced land area alternative is not a feasible alternative.

5.2 ALTERNATIVES CONSIDERED IN THIS EIR

Three alternatives to the proposed Project were developed based on input from City staff, the public during the NOP review period, and the technical analysis performed to identify the environmental effects of the proposed Project. The alternatives analyzed in this EIR include the following three alternatives in addition to the proposed Project.

- **No Project (No Build) Alternative:** Under this alternative, development of the Project site would not occur, and the Project site would remain in its current existing condition.
- **Multiple Building Alternative:** Under this alternative, the proposed Project would be developed with the same type of use as described in the Project Description, but the warehouse building would be split into three smaller warehouse buildings.
- **Maximum FAR Alternative:** Under this alternative, the proposed Project would be developed using the maximum floor-area-ratio (FAR).

NO PROJECT (NO BUILD) ALTERNATIVE

The CEQA Guidelines (Section 15126.6[e]) require consideration of a no project alternative that represents the existing conditions, as well as what would reasonably be expected to occur in the foreseeable future if the project were not approved. For purposes of this analysis, the No Project (No Build) Alternative assumes that development of the Project would not occur, and the Project site would remain in its current undeveloped condition. It is noted that the No Project (No Build) Alternative would fail to meet the Project objectives identified for the proposed Project and is inconsistent with the goals of the General Plan for the development of the Manning Pit.

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

MULTIPLE BUILDING ALTERNATIVE

Under this alternative, the Project site would be developed with three separate industrial warehouse buildings: Building 1 (121,397 sf with 111 parking stalls); Building 2 (121,373 sf with 91 parking stalls); and Building 3 (301,713 sf with 194 parking stalls). As shown in Figure 5.0-1, Buildings 1 and 2 would be located along Vincent Avenue (on the eastern half of the site), and Building 3 would be located on the western half of the site. Buildings 1 and 2 would each contain two 5,000 sf office areas, and Building 3 would contain four 5,000 sf office areas. Automobile parking among the three buildings would not be shared and would be dedicated to each building. However, the trailer parking for the trucks would be shared. Overall, the Multiple Building Alternative would include development of up to 544,483 sf of industrial uses (a reduction of 1,252 sf compared to the Project).

The following table summarizes the building area, parking, and lot coverage for each of the three buildings proposed under the Multiple Building Alternative:

TABLE 5.0-1: MULTIPLE BUILDING ALTERNATIVE

	BUILDING AREA (SF)			LOT COVERAGE (FAR %)
	OFFICE	WAREHOUSE	TOTAL	
Building 1	10,000	111,397	121,397	43.88
Building 2	10,000	111,373	121,373	46.42
Building 3	20,000	281,713	301,713	51.30
Overall	40,000	504,483	544,483	47.2 (average)

SOURCE: DE NOVO PLANNING GROUP, 2020.

MAXIMUM FAR ALTERNATIVE

Under this alternative, the Project site would have the same footprint as the proposed Project. This alternative assumes that the full 26.05 acres would be developed using the maximum floor-area-ratio (FAR) for the Industrial/Business Park designation (1.0). This alternative would result in a high cube warehouse that would total 1,134,738 square feet of industrial uses. This alternative would warrant a General Plan amendment for the 6.93 acres of residential land, because it would be a part of the development. The existing General Plan designation and zoning designation for the 6.93 acres would be reconciled through the General Plan amendment.

5.3 ENVIRONMENTAL ANALYSIS

The alternatives analysis provides a summary of the relative impact level of significance associated with each alternative for each of the environmental issue areas analyzed in this EIR. Following the analysis of each alternative, Table 5.0-1 summarizes the comparative effects of each alternative.

NO PROJECT (NO BUILD) ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, the Project site is not designated as a scenic vista by the City of Irwindale General Plan or the Los Angeles County General Plan, nor does it contain any unique or distinguishing features that would qualify the site for designation as a scenic vista. The Project site

is located in an urbanized area. According to the City's General Plan, there are no scenic vistas within the Project area. Compliance with the Commercial and Industrial Design Guidelines and development standards for Irwindale's Zoning District's for height and bulk, and landscaping requirements found in the Zoning code, would reduce visual impacts to the greatest extent feasible. While the proposed Project would permanently convert the vacant land to urbanized uses, the Project site is designated for and consistent with industrial and urban uses established by the General Plan.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

The No Project (No Build) Alternative would leave the Project site in its existing state and would not result in increases in daytime glare or nighttime lighting. The visual character of the Project site would not change under this alternative compared to existing conditions.

Although with mitigation, the proposed Project would not result in significant impacts to aesthetics and visual resources, the No Project (No Build) Alternative would avoid potential aesthetic and visual resources impacts altogether. As such, this impact would be reduced when compared to the proposed Project.

Air Quality

As discussed under Impact 3.2-2 in Section 3.2, the proposed Project would be a direct and indirect source of air pollution, in that it would generate and attract vehicle trips in the region (mobile source emissions) and it would increase area source emissions and energy consumption. The mobile source emissions would be entirely from vehicles, while the area source emissions would be primarily from the use of natural gas fuel combustion, landscape fuel combustion, consumer products, and architectural coatings. The Southern California Air Quality Management District (SCAQMD) provides a list of applicable construction and operation air quality mass emissions thresholds, as well as a list of mitigation measures to incorporate in circumstances where emissions are above applicable thresholds. Table 3.2-5 shows proposed Project maximum daily operation emissions as provided by CalEEMod, which include mobile, area source, and energy emissions of criteria pollutants that would result from operations of the proposed Project under the provided assumptions. As shown in Table 3.2-5, daily emissions of ROG, PM₁₀, PM_{2.5}, SO_x, and CO resulting from Project buildout would not exceed the SCAQMD thresholds of significance. However, the emissions threshold for NO_x would be exceeded, primarily due to the generation of heavy-duty trucks as part of the proposed Project.

In addition to regional significance thresholds, the SCAQMD developed localized significance thresholds (LSTs) for emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at new development sites (offsite mobile source emissions are not included in the LST analysis protocol). Table 3.2-6 in Section 3.2 shows the LST analysis for the Project operations. As seen in Table 3.2-6, the emissions of these

pollutants on the peak day of operations would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, significant impacts would not occur concerning LSTs during operational activities. Although implementation of the proposed Project would not generate significant concentrations of pollutants at nearby sensitive receptors, the proposed Project is expected to exceed the SCAQMD mass threshold for operational NO_x, as modelled. Mitigation Measure 3.2-1 would reduce emissions to the maximum extent feasible.

As provided in Tables 3.2-7 and 3.2-9, compliance with federal, State, SCAQMD, and other local regulations and requirements, would ensure the Project would not cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation, with respect to the construction of the proposed Project. The proposed Project would be required to implement Mitigation Measure 3.2-2, which would ensure that the proposed Project would have a less than significant impact related to the potential to expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment.

Implementation of the proposed Project would cause an increase in emissions, mainly from the mobile and area categories. Under the No Project (No Build) Alternative, the Project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to air quality. The Manning Pit would be left in the current condition, and intermittent dust events due to high winds in the area would remain. As such, this impact would be reduced when compared to the proposed Project.

Geology and Soils

The No Project (No Build) Alternative would result in the Project site remaining in its existing condition. The Project site is a former mining pit that contains no existing structures. The No Project (No Build) Alternative would not involve new construction that could be subject to seismic, geologic or soils hazards; thus, this alternative would have no potential for impact. Although the Project would not result in significant geology and soils impacts associated with development of the site, as proposed, impacts associated with geology and soils would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

Greenhouse Gases, Climate Change and Energy

Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 3.4-1 in Section 3.4 illustrates the specific construction-generated GHG emissions that would result from construction of the Project. As shown, Project construction would result in the generation of approximately 2,831.5 metric tons of CO₂e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. The amortized construction emissions are added to the annual average operational emissions. Additionally, operation of the Project would result in GHG emissions predominantly associated with motor vehicle use. Long-term operational GHG emissions

attributable to the Project are identified in Table 3.4-2 and compared to SCAQMD's interim screening level numeric bright-line threshold of 10,000 metric tons of CO₂e annually. Operational-generated emissions would not exceed the SCAQMD's numeric bright-line threshold of 10,000 metric tons of CO₂e annually. Nevertheless, out of an abundance of caution, the proposed Project would be required to implement Mitigation Measure 3.4-1, which include CARB and SCAQMD-recommended measures to reduce GHG emissions through the implementation of solar and energy-conserving systems, landscaping, and use of light colored paving and roofing materials.

Under the No Project (No Build) Alternative, the Project site would not be developed, and there would be no net change in emissions and no potential for a conflict with any adopted plans or policies related to GHG reductions. As such, this impact would be reduced when compared to the proposed Project.

Hazards and Hazardous Materials

Depending on the ultimate end user for the proposed Project, there is a risk of release of hazardous materials into the environment if they are not stored and handled in accordance with best management practices. There is a wide variety of hazardous materials that could be used as part of industrial and commercial operations within the proposed warehouse building. Any business operation requesting the use, sale or storage of hazardous materials would also be subject to Conditional Use Permit per IMC Subsection 17.80.030(27). There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by the Los Angeles County Fire Department Health Hazardous Materials Division.

Under the No Project (No Build) Alternative, no new land uses would be introduced to the Project site, and the potential for hazardous material release on the Project site would be eliminated. Although the Project would not result in significant hazards and hazardous materials impacts associated with development of the site, as proposed, impacts associated with hazards and hazardous materials would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.6, implementation of the proposed Project has the potential to result in the violation of water quality standards and the discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at the construction site and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff that could enter groundwater or surface water systems. The mitigation measure provided in Section 3.6 would reduce potential water quality impacts to a less than significant level. The proposed Project would not significantly impact groundwater recharge or place persons or structures in a flood hazard zone. The proposed Project would also not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

Under the No Project (No Build) Alternative, potential water quality impacts from construction and operation of the proposed Project would not occur. Under this alternative, the Project site would remain in its current condition as an undeveloped, recently filled, former aggregate mine pit. Because the Project site would remain open to the elements under the No Project (No Build) Alternative, the erosion potential would be greater than the proposed Project. This alternative would not submit a Storm Water Pollution Prevention Plan designed to control pollutant discharges utilizing Best Management Practices and technology to reduce erosion and sediments. This alternative also would not alter the drainage pattern of the site. While groundwater recharge is not considered a significant impact under the proposed Project, the No Project (No Build) Alternative will have a greater chance of groundwater recharge because it does not introduce large areas of impervious surfaces as would the proposed Project. Although with the implementation of mitigation, the Project would not result in significant hydrology and water quality impacts, potential impacts related to hydrology and water quality would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

Noise

The proposed Project could increase noise-generating activities associated with the maintenance and operation of the proposed Project, as well as from vehicular traffic. Short-term construction noise would also result. Mitigation Measure 3.7-1 provided in Section 3.7 would reduce the potential impact associated with Project construction noise to a less than significant level.

Under the No Project (No Build) Alternative, the Project site would not be developed and there would be no potential for new noise sources. Although with the implementation of mitigation, the Project would not result in significant noise impacts, potential noise impacts would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

Transportation and Circulation

The No Project (No Build) Alternative would not introduce additional vehicle trips and miles traveled on the area roadways. It was determined that the proposed Project would result in 23.4 work vehicle-miles-traveled (VMT) per employee. The existing baseline for the City of Irwindale is 24.0 work VMT per employee; as such, the proposed Project is forecast to result in better than existing baseline VMT. Additionally, impacts associated with bicycle facilities, pedestrian facilities, transit facilities, emergency access, and hazards due to design features were determined to be less than significant.

Under the No Project (No Build) Alternative, the Project site would not be developed and there would be no increased traffic activities, including both automobile and non-automobile activities associated with the site. Although the Project would not result in significant transportation impacts, and would result in VMT below the City's baseline, transportation impacts would be reduced under the No Project (No Build) Alternative when compared to the proposed Project.

MULTIPLE BUILDING ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, the Project site is not designated as a scenic vista by the City of Irwindale General Plan or the Los Angeles County General Plan, nor does it contain any unique or distinguishing features that would qualify the site for designation as a scenic vista. The Project site is located in an urbanized area. According to the City's General Plan, there are no scenic vistas within the Project area. Compliance with the Commercial and Industrial Design Guidelines and development standards for Irwindale's Zoning District's for height and bulk, and landscaping requirements found in the Zoning code, would reduce visual impacts to the greatest extent feasible. While the proposed Project would permanently convert the vacant land to urbanized uses, the Project site is designated for and consistent with industrial and urban uses established by the General Plan.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

Under this alternative, the Project site would be developed with three separate industrial warehouse buildings: Building 1 (121,397 sf with 111 parking stalls); Building 2 (121,373 sf with 91 parking stalls); and Building 3 (301,713 sf with 194 parking stalls). As shown in Figure 5.0-1, Buildings 1 and 2 would be located along Vincent Avenue (on the eastern half of the site), and Building 3 would be located on the western half of the site. In order to accommodate multiple buildings on the Project site, the building setbacks would be significantly reduced compared to the proposed Project.

Visual simulations for the Multiple Building Alternative were completed by the Project applicant and are shown in Figure 5.0-2a, 5.0-2b, and 5.0-2c. As shown, the buildings would be substantially similar in style, height, and type. However, the reduced building setbacks would result in narrower landscape strips along the perimeter of the site. Additionally, under the proposed Project, parked trucks and trailers would be visible from Vincent Avenue. Under the Multiple Building Alternative, the trailers and trucks would be parked internal to the site, and would not be visible from Vincent Avenue. The narrow landscape strips would not screen the buildings to the same extent as the proposed Project landscaping. The visual change from Vincent Avenue would be more pronounced compared to the Project. As shown in Figure 5.0-2a, views of the San Gabriel Mountains from Vincent Avenue under the Multiple Building Alternative would be obscured by the two warehouse buildings on the eastern portion of the site. As compared to Figure 3.1-1a in Section 3.1, views of the mountains would be more obscured under the Multiple Building Alternative than the proposed Project. Both the Multiple Building Alternative and the proposed Project would result in less than significant impacts related to scenic vistas and conflicts with applicable zoning or other regulation governing scenic quality within an urbanized area.

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project and Multiple Building Alternative would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation under this alternative.

However, due to the decreased building setbacks and narrow landscape strips which would screen the buildings to a lesser extent than the Project, the Multiple Building Alternative would have a slightly increased impact on visual resources when compared to the proposed Project.

Air Quality

Under buildout conditions in Los Angeles County, the SCAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.2, the SCAB is designated as a nonattainment area for the federal ozone and PM_{2.5} standards and is also a nonattainment area for the state standards for ozone, PM₁₀, and PM_{2.5}. Table 3.2-2 in Section 3.2 presents the state and federal attainment status for each criteria pollutant.

As discussed under Impact 3.2-2 in Section 3.2, the proposed Project would be a direct and indirect source of air pollution, in that it would generate and attract vehicle trips in the region (mobile source emissions) and it would increase area source emissions and energy consumption. The mobile source emissions would be entirely from vehicles, while the area source emissions would be primarily from the use of natural gas fuel combustion, landscape fuel combustion, consumer products, and architectural coatings. The SCAQMD provides a list of applicable construction and operation air quality mass emissions thresholds, as well as a list of mitigation measures to incorporate in circumstances where emissions are above applicable thresholds. Table 3.2-5 shows proposed Project maximum daily operation emissions as provided by CalEEMod, which include mobile, area source, and energy emissions of criteria pollutants that would result from operations of the proposed Project under the provided assumptions. As shown in Table 3.2-5, daily emissions of ROG, PM₁₀, PM_{2.5}, SO_x, and CO resulting from Project buildout would not exceed the SCAQMD thresholds of significance. However, the emissions threshold for NO_x would be exceeded, primarily due to the generation of heavy-duty trucks as part of the proposed Project.

In addition to regional significance thresholds, the SCAQMD developed LSTs for emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at new development sites (offsite mobile source emissions are not included in the LST analysis protocol). Table 3.2-6 in Section 3.2 shows the LST analysis for the Project operations. As seen in Table 3.2-6, the emissions of these pollutants on the peak day of operations would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, significant impacts would not occur concerning LSTs during operational activities. Although implementation of the proposed Project would not generate significant concentrations of pollutants at nearby sensitive receptors, the proposed Project is expected to exceed the SCAQMD mass threshold for operational NO_x, as modelled. Mitigation Measure 3.2-1 would reduce emissions to the maximum extent feasible.

As provided in Tables 3.2-7 and 3.2-9, compliance with federal, State, SCAQMD, and other local regulations and requirements, would ensure the Project would not cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation, with respect to the construction of the proposed Project. The proposed Project would be required to implement Mitigation Measure 3.2-2, which would ensure that the proposed Project would have a less than significant impact related to the potential to expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment.

Implementation of the proposed Project would cause an increase in emissions, mainly from the mobile and area categories. The proposed Project mobile source emissions would be entirely from vehicles, while the area source emissions would be primarily from the use of natural gas fuel combustion, landscape fuel combustion, consumer products, and architectural coatings. Under the Multiple Building Alternative, the proposed Project would be developed with the same industrial warehouse use as described in the Project Description. However, instead of one large warehouse building, this alternative would provide three separate industrial warehouse buildings. The slight reduction in industrial square footage would result in a slight reduction in VMT. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the slight reduction in trip volume would result in a slight reduction in the amount of the mobile source emissions. The area source emissions would be similar to the Project. Additionally, under this alternative, the truck parking areas would be internal to the site; as such, the mobile emissions associated with truck movement and idling would be further away from nearby residential receptors.

Uses in the Multiple Building Alternative would be required to adhere to the same mitigation measures as the proposed Project. Because the Multiple Building Alternative would locate truck parking areas internal to the site and would slightly reduce VMT compared to the Project, this alternative would result in slightly reduced impacts related to air quality when compared to the proposed Project. Significant and unavoidable impacts would still occur under this alternative.

Geology and Soils

As described in Section 3.6, the Project site does not have a significant risk of becoming unstable as a result landslide, subsidence, or soil collapse. However, there is a potential for liquefaction, liquefaction induced settlement, and lateral spreading, of the underlying soils. Additionally, although engineered artificial fills occur within the Project Site, seismic hazard zoning for expansive soils of the Project site is governed by the expansive susceptibility of natural soils underlying the fill sites. According to the NRCS Web Soil Survey, the soils in the Project site have a low shrink-swell potential. The NRCS Web Soil Survey indicates that near surface soils within the Project site have low plasticity, and the expansion potential of the soils would respond to fluctuations in moisture content. However, Mitigation Measure 3.3-1 provided in Section 3.3 would ensure this impact will be less than significant.

Under the Multiple Building Alternative, the amount of developed area would be similar to the Project and the large warehouse building proposed by the Project would be split into three smaller buildings. Geologic and soils impacts tend to be site-specific and Project-specific. As such, the

Multiple Building Alternative would be subject to the same hazardous geological conditions. The proposed Project is not anticipated to result in significant impacts from geology and soils with mitigation. The Multiple Building Alternative would be subject to the same mitigation and would result in similar potential for geology and soils impacts when compared to the proposed Project.

Greenhouse Gases, Climate Change and Energy

As stated previously, construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 3.4-1 in Section 3.4 illustrates the specific construction-generated GHG emissions that would result from construction of the Project. As shown, Project construction would result in the generation of approximately 2,831.5 metric tons of CO₂e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. The amortized construction emissions are added to the annual average operational emissions. Additionally, operation of the Project would result in GHG emissions predominantly associated with motor vehicle use. Long-term operational GHG emissions attributable to the Project are identified in Table 3.4-2 and compared to SCAQMD's interim screening level numeric bright-line threshold of 10,000 metric tons of CO₂e annually. Operational-generated emissions would not exceed the SCAQMD's numeric bright-line threshold of 10,000 metric tons of CO₂e annually. Nevertheless, out of an abundance of caution, the proposed Project would be required to implement Mitigation Measure 3.4-1, which include CARB and SCAQMD-recommended measures to reduce GHG emissions through the implementation of solar and energy-conserving systems, landscaping, and use of light colored paving and roofing materials. All impacts associated with GHGs and energy would be less than significant or less than significant with mitigation.

Under the Multiple Building Alternative, the proposed Project would be developed with the same industrial warehouse use as described in the Project Description. However, instead of one large warehouse building, this alternative would provide three separate industrial warehouse buildings. The slight reduction in industrial square footage would result in a slight reduction in VMT. Mobile GHG emissions are directly correlated to traffic volume; therefore, it is estimated that the slight reduction in trip volume would result in a slight reduction in the amount of the mobile source GHG emissions. All uses in the Multiple Building Alternative would be required to adhere to the same mitigation measure as the proposed Project. Nevertheless, because the Multiple Building Alternative would slightly reduce VMT compared to the Project, this alternative would result in slightly reduced impacts related to GHGs, climate change, and energy when compared to the proposed Project.

Hazards and Hazardous Materials

Depending on the ultimate end user, there is a risk of release of hazardous materials into the environment if they are not stored and handled in accordance with best management practices. There is a wide variety of hazardous materials that could be used as part of industrial and

commercial operations within the proposed warehouse building. Any business operation requesting the use, sale or storage of hazardous materials would also be subject to Conditional Use Permit per IMC Subsection 17.80.030(27). There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by the Los Angeles County Fire Department Health Hazardous Materials Division.

Under the Multiple Building Alternative, the allowable uses on the site would not change when compared to the proposed Project. This alternative would likely use similar hazardous materials as those identified under the proposed Project. As such, this alternative would have the potential for similar impacts from hazards and hazardous materials when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.6, implementation of the proposed Project has the potential to result in the violation of water quality standards and the discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction, and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. The mitigation measure provided in Section 3.6 would reduce potential water quality impacts to a less than significant level. The proposed Project would not significantly impact groundwater recharge or place persons or structures in a flood hazard zone. The proposed Project would also not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.

Under the Multiple Building Alternative, potential construction-related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be equivalent to the proposed Project. The amount of impervious surfaces would also be comparable to the proposed Project. As with the proposed Project, this alternative will include stormwater detention/basins, and provide natural BMPs to reduce pollutants in stormwater runoff. As such, potential impacts related to hydrology and water quality would be similar under the Multiple Building Alternative when compared to the proposed Project.

Noise

The proposed Project could increase noise-generating activities associated with the maintenance and operation of the proposed Project, as well as from vehicular traffic. Short-term construction noise would also result. Mitigation Measure 3.7-1 provided in Section 3.7 would reduce the potential impact associated with construction noise to a less than significant level.

The Multiple Building Alternative would result in a similar use as the Project with a similar total square footage as the proposed Project. The potential noise impacts associated with the Multiple Building Alternative were evaluated. Figure 5.0-3 shows the results of this analysis for the Multiple Building Alternative site layout in terms of the peak hour average (L_{eq}). Assuming continuous (24-

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

hour) operation of the Multiple Building Alternative at operational levels equal to the peak hour, the day/night average (L_{dn}) noise levels are shown on Figure 5.0-4.

Based upon Figure 5.0-3, the Multiple Building Alternative would generate peak hour noise levels of 65 dBA L_{eq} , or less, at the boundaries of the Project site. This would comply with the City of Irwindale limit of 65 dBA L_{eq} for industrial property noise during nighttime hours (10:00 p.m. to 7:00 a.m.).

Based upon Figure 5.0-4, the Multiple Building Alternative is predicted to generate noise levels of approximately 53.5 dBA L_{dn} at the residential uses to the west of the Project site (compared to 58.1 dBA L_{dn} under the proposed Project). Existing ambient noise measurements in the vicinity of these receptors was found to be approximately 60.0 dBA L_{dn} , as shown by Table 3.7-2 of Section 3.7. At this location, the increase in noise levels due to the Multiple Building Alternative is estimated to be 0.9 dBA (compared to 2.2 dBA under the proposed Project). This would be less than the Federal Interagency Committee on Noise (FICON) increase criteria of 3 dBA where existing noise levels are between 60 and 65 dBA. Both the proposed Project and the Multiple Building Alternative would result in less than significant traffic noise impacts for the residents to the west.

Based upon Figure 5.0-4, the Multiple Building Alternative is predicted to generate noise levels of approximately 52.9 dBA L_{dn} at the residential uses to the east of the Project site (compared to 64.4 dBA L_{dn} under the proposed Project). Existing ambient noise measurements in the vicinity of these receptors was found to be approximately 73.5 dBA L_{dn} , as shown by Table 3.7-2 of Section 3.7. At this location, the increase in noise levels due to the Multiple Building Alternative is estimated to be 0.0 dBA (compared to 0.5 BA under the proposed Project). This would be less than the FICON increase criteria of 1.5 dBA where existing noise levels exceed 65 dBA. Both the proposed Project and the Multiple Building Alternative would result in less than significant traffic noise impacts for the residents to the east.

Both the proposed Project and the Multiple Building Alternative would not cause construction noise levels to exceed 75 dBA L_{eq} at the project boundaries. The reduction of 1,252 sf of industrial uses under this alternative compared to the Project was determined to not affect the overall noise environment. Overall, because the resulting noise levels at the nearest residential receptors would be less with the Multiple Building Alternative than the proposed Project, this alternative would have reduced noise impacts when compared to the proposed Project.

Transportation and Circulation

Similar to the Project, the Multiple Building Alternative would introduce additional vehicle trips and miles traveled on the area roadways. It was determined that the proposed Project would result in 23.4 work VMT per employee. The existing baseline for the City of Irwindale is 24.0 work VMT per employee; as such, the proposed Project is forecast to result in better than existing baseline VMT. Additionally, impacts associated with bicycle facilities, pedestrian facilities, transit facilities, emergency access, and hazards due to design features were determined to be less than significant.

Under this alternative, the Project site would be developed with three separate industrial warehouse buildings: Building 1 (121,397 sf with 111 parking stalls); Building 2 (121,373 sf with 91 parking stalls); and Building 3 (301,713 sf with 194 parking stalls). The Project proposes development

of a 545,735-sf concrete tilt-up industrial warehouse building, while the Multiple Building Alternative would include development of up to 544,483 sf of industrial uses (a reduction of 1,252 sf). The slight reduction in industrial square footage would result in a slight reduction in VMT. Nevertheless, under both the Multiple Building Alternative and the proposed Project, impacts associated with CEQA Guideline section 15064.3 would be less than significant.

Both the proposed Project and the Multiple Building Alternative would include construction of bicycle and pedestrian facilities. Vincent Avenue along the Project site's frontage would be improved to its ultimate half-section width, including landscaping and parkway improvements, as required by the City of Irwindale. The improvements would provide continuous sidewalks adjacent to the site that would connect to existing sidewalks within the area. Bicycle parking would also be provided under the proposed Project and the Multiple Building Alternative. The number of transit riders under this alternative would be relatively minor and spread over a number of work shifts typical of warehousing employment.

The site plan under both the Project and this alternative would be reviewed by the City of Irwindale and the Los Angeles County Fire Department to ensure the on-site circulation provides adequate access and turning radii for emergency vehicles. Sight distance at access driveways would comply with applicable City of Irwindale/Caltrans sight distance standards. The final grading, landscaping, and street improvement plans would demonstrate that sight distance standards are met and would be subject to City approval. Further, on-site traffic signing and striping would be implemented in conjunction with detailed construction plans for the Project. On-site traffic control plans would comply with the California Manual of Uniform Traffic Control Devices (2014), as required and confirmed through the City's site plan review process.

Overall, because the resulting VMT would be slightly less than the proposed Project, this alternative would have slightly reduced impacts related to transportation and circulation compared to the proposed Project.

MAXIMUM FAR ALTERNATIVE

Aesthetics and Visual Resources

As described in Section 3.1, the Project site is not designated as a scenic vista by the City of Irwindale General Plan or the Los Angeles County General Plan, nor does it contain any unique or distinguishing features that would qualify the site for designation as a scenic vista. The Project site is located in an urbanized area. According to the City's General Plan, there are no scenic vistas within the Project area. Compliance with the Commercial and Industrial Design Guidelines and development standards for Irwindale's Zoning District's for height and bulk, and landscaping requirements found in the Zoning code, would reduce visual impacts to the greatest extent feasible. While the proposed Project would permanently convert the vacant land to urbanized uses, the Project site is designated for and consistent with industrial and urban uses established by the General Plan.

Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views

5.0 ALTERNATIVES TO THE PROPOSED PROJECT

of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation.

Under this alternative, the Project site would have the same footprint as the proposed Project. This alternative assumes that the full 26.05 acres would be developed using this maximum FAR for the Industrial/Business Park designation (1.0). This alternative would result in a high cube warehouse that would total 1,134,738 square feet of industrial uses, which is over twice the size of the warehouse building proposed by the Project. In order to accommodate over double the amount of industrial uses on the Project site, the building setbacks would be significantly reduced compared to the proposed Project, and increased building heights may be required. This would result in increased impacts associated with the scenic character of the site.

Due to the doubling of building square footage under this alternative, increased lighting may be warranted. Implementation of the lighting plan required by Mitigation Measure 3.1-1 would ensure that lighting features do not result in light spillage onto adjacent properties and do not significantly impact views of the night sky. Adherence to the mitigation measure would ensure that excessively reflective building materials are not used, and that the proposed Project and Maximum FAR Alternative would not result in significant impacts related to daytime glare. As such, impacts related to nighttime lighting and daytime glare would be less than significant with mitigation under this alternative.

Overall, because the Maximum FAR Alternative would significantly increase the size of the proposed warehouse building, impacts associated with aesthetics would be greater when compared to the proposed Project.

Air Quality

Under buildout conditions in Los Angeles County, the SCAB would continue to experience increases in criteria pollutants and efforts to improve air quality throughout the basin would be hindered. As described in Section 3.2, the SCAB is designated as a nonattainment area for the federal ozone and PM_{2.5} standards and is also a nonattainment area for the state standards for ozone, PM₁₀, and PM_{2.5}. Table 3.2-2 in Section 3.2 presents the state and federal attainment status for each criteria pollutant.

As discussed under Impact 3.2-2 in Section 3.2, the proposed Project would be a direct and indirect source of air pollution, in that it would generate and attract vehicle trips in the region (mobile source emissions) and it would increase area source emissions and energy consumption. The mobile source emissions would be entirely from vehicles, while the area source emissions would be primarily from the use of natural gas fuel combustion, landscape fuel combustion, consumer products, and architectural coatings. The SCAQMD provides a list of applicable construction and operation air quality mass emissions thresholds, as well as a list of mitigation measures to incorporate in circumstances where emissions are above applicable thresholds. Table 3.2-5 shows proposed Project maximum daily operation emissions as provided by CalEEMod, which include mobile, area source, and energy emissions of criteria pollutants that would result from operations of the

proposed Project under the provided assumptions. As shown in Table 3.2-5, daily emissions of ROG, PM₁₀, PM_{2.5}, SO_x, and CO resulting from Project buildout would not exceed the SCAQMD thresholds of significance. However, the emissions threshold for NO_x would be exceeded, primarily due to the generation of heavy-duty trucks as part of the proposed Project.

In addition to regional significance thresholds, the SCAQMD developed LSTs for emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at new development sites (offsite mobile source emissions are not included in the LST analysis protocol). Table 3.2-6 in Section 3.2 shows the LST analysis for the Project operations. As seen in Table 3.2-6, the emissions of these pollutants on the peak day of operations would not result in significant concentrations of pollutants at nearby sensitive receptors. Therefore, significant impacts would not occur concerning LSTs during operational activities. Although implementation of the proposed Project would not generate significant concentrations of pollutants at nearby sensitive receptors, the proposed Project is expected to exceed the SCAQMD mass threshold for operational NO_x, as modelled. Mitigation Measure 3.2-1 would reduce emissions to the maximum extent feasible.

As provided in Tables 3.2-7 and 3.2-9, compliance with federal, State, SCAQMD, and other local regulations and requirements, would ensure the Project would not cause a violation of an air quality standard or contribute substantially to an existing or projected air quality violation, with respect to the construction of the proposed Project. The proposed Project would be required to implement Mitigation Measure 3.2-2, which would ensure that the proposed Project would have a less than significant impact related to the potential to expose sensitive receptors to substantial pollutant concentrations or result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment.

Implementation of the proposed Project would cause an increase in emissions, mainly from the mobile and area categories. The proposed Project mobile source emissions would be entirely from vehicles, while the area source emissions would be primarily from the use of natural gas fuel combustion, landscape fuel combustion, consumer products, and architectural coatings. Under the Maximum FAR Alternative, the amount of developed area would be similar to the Project. Although the building square footage would increase, a comparable amount of land would be converted to urban uses under this alternative. The near doubling of building size would result in an increase in VMT. Mobile source air emissions are directly correlated to traffic volume; therefore, it is estimated that the increase in trip volume would result in an increase in the amount of the mobile source emissions. The area source emissions would be similar to the Project. Additionally, under this alternative, the truck parking areas would be located along the site perimeter, similar to the Project; as such, the mobile emissions associated with truck movement and idling would be similar distances away from nearby residential receptors as the Project.

Uses in the Maximum FAR Alternative would be required to adhere to the same mitigation measures as the proposed Project. Because the Maximum FAR Alternative would increase VMT compared to the Project, this alternative would result in increased impacts related to air quality when compared to the proposed Project. Significant and unavoidable impacts would still occur under this alternative.

Geology and Soils

As described in Section 3.6, the Project site does not have a significant risk of becoming unstable as a result landslide, subsidence, or soil collapse. However, there is a potential for liquefaction, liquefaction induced settlement, and lateral spreading, of the underlying soils. Additionally, although engineered artificial fills occur within the Project Site, seismic hazard zoning for expansive soils of the Project site is governed by the expansive susceptibility of natural soils underlying the fill sites. According to the NRCS Web Soil Survey, the soils in the Project site have a low shrink-swell potential. The NRCS Web Soil Survey indicates that near surface soils within the Project site have low plasticity, and the expansion potential of the soils would respond to fluctuations in moisture content. However, Mitigation Measure 3.3-1 provided in Section 3.3 would ensure this impact will be less than significant.

Under the Maximum FAR Alternative, the amount of developed area would be similar to the Project and the larger warehouse building proposed by the Project. Although the building square footage would increase, a comparable amount of land would be converted to urban uses under this alternative. Geologic and soils impacts tend to be site-specific and Project-specific. As such, the Maximum FAR Alternative would be subject to the same hazardous geological conditions. The proposed Project is not anticipated to result in significant impacts from geology and soils with mitigation. The Maximum FAR Alternative would be subject to the same mitigation and would result in similar potential for geology and soils impacts when compared to the proposed Project.

Greenhouse Gases, Climate Change and Energy

Short-term construction GHG emissions are a one-time release of GHGs and are not expected to significantly contribute to global climate change over the lifetime of the proposed Project. Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment (e.g., dozers, loaders, excavators). Table 3.4-1 in Section 3.4 illustrates the specific construction-generated GHG emissions that would result from construction of the Project. As shown, Project construction would result in the generation of approximately 2,831.5 metric tons of CO₂e over the course of construction. Once construction is complete, the generation of these GHG emissions would cease. The amortized construction emissions are added to the annual average operational emissions. Additionally, operation of the Project would result in GHG emissions predominantly associated with motor vehicle use. Long-term operational GHG emissions attributable to the Project are identified in Table 3.4-2 and compared to SCAQMD's interim screening level numeric bright-line threshold of 10,000 metric tons of CO₂e annually. Operational-generated emissions would not exceed the SCAQMD's numeric bright-line threshold of 10,000 metric tons of CO₂e annually. Nevertheless, out of an abundance of caution, the proposed Project would be required to implement Mitigation Measure 3.4-1, which include CARB and SCAQMD-recommended measures to reduce GHG emissions through the implementation of solar and energy-conserving systems, landscaping, and use of light colored paving and roofing materials.

Under the Maximum FAR Alternative, the proposed Project would be developed with the same industrial warehouse use as described in the Project Description. However, the building square

footage would be doubled under this alternative. The increase in industrial square footage would result in an increase in VMT and area source emissions. Mobile GHG emissions are directly correlated to traffic volume; therefore, it is estimated that the increase in trip volume would result in an increase in the amount of the mobile source GHG emissions. All uses in the Maximum FAR Alternative would be required to adhere to the same mitigation measure as the proposed Project. Nevertheless, because the Maximum FAR Alternative would increase VMT compared to the Project and would double the industrial building size, this alternative would result in increased impacts related to GHGs, climate change, and energy when compared to the proposed Project.

Hazards and Hazardous Materials

Depending on the ultimate end user, there is a risk of release of hazardous materials into the environment if they are not stored and handled in accordance with best management practices. There is a wide variety of hazardous materials that could be used as part of industrial and commercial operations within the proposed warehouse building. Any business operation requesting the use, sale or storage of hazardous materials would also be subject to Conditional Use Permit per IMC Subsection 17.80.030(27). There will be a risk of release of these materials into the environment if they are not stored and handled in accordance with best management practices approved by the Los Angeles County Fire Department Health Hazardous Materials Division.

Under the Maximum FAR Alternative, the allowable uses on the site would not change when compared to the proposed Project. This alternative would likely use similar hazardous materials as those identified under the proposed Project. As such, this alternative would have the potential for similar impacts from hazards and hazardous materials when compared to the proposed Project.

Hydrology and Water Quality

As described in Section 3.6, implementation of the proposed Project has the potential to result in the violation of water quality standards and the discharge of pollutants into surface waters during both construction and long-term operations. Construction operations could result in temporary increases in runoff, erosion, sedimentation, soil compaction and wind erosion effects that could adversely affect soils and reduce the revegetation potential at construction sites and staging areas. The long-term operation of the proposed Project could result in long-term impacts to surface water quality from urban stormwater runoff and could enter groundwater or surface water systems. The mitigation measure provided in Section 3.6 would reduce potential water quality impacts to a less than significant level. The proposed Project would not significantly impact groundwater recharge or place persons or structures in a flood hazard zone. The proposed Project would also not cause the substantial depletion of groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin.

Under the Maximum FAR Alternative, potential construction-related and long-term operational impacts to water quality or waste discharge related to stormwater runoff would be similar to the proposed Project. Despite the increased building size under this alternative, the amount of impervious surfaces would also be comparable to the proposed Project. As with the proposed Project, this alternative will include stormwater detention/basins, and provide natural BMPs to reduce pollutants in stormwater runoff and the mitigation measure identified for the Project would

be applicable to this Alternative. As such, potential impacts related to hydrology and water quality would be similar under the Maximum FAR Alternative when compared to the proposed Project.

Noise

The proposed Project could increase noise-generating activities associated with the maintenance and operation of the proposed Project, as well as from vehicular traffic. Short-term construction noise would also result. Mitigation Measure 3.7-1 provided in Section 3.7 would reduce the potential impact associated with construction noise to a less than significant level.

The Maximum FAR Alternative would result in a similar use as the Project, but with over twice as much building square footage as the Project. The doubling of building size would result in a subsequent increase in traffic and operational noise when compared to the Project.

Because the Maximum FAR Alternative would result in more development, the noise impacts associated with future uses would be increased when compared to the proposed Project. Under this alternative, noise impacts would be increased proportionate to the increased development size when compared to the proposed Project.

Transportation and Circulation

Similar to the Project, the Maximum FAR Alternative would introduce additional vehicle trips and miles traveled on the area roadways. It was determined that the proposed Project would result in 23.4 work VMT per employee. The existing baseline for the City of Irwindale is 24.0 work VMT per employee; as such, the proposed Project is forecast to result in better than existing baseline VMT. Additionally, impacts associated with bicycle facilities, pedestrian facilities, transit facilities, emergency access, and hazards due to design features were determined to be less than significant.

Under this alternative, the Project site would be developed with 1,134,738 square feet of industrial uses within one warehouse building. The near doubling of building size would result in an increase in VMT. The increase in VMT would result in a worse than existing baseline VMT. Under the Maximum FAR Alternative, impacts associated with CEQA Guideline section 15064.3 would be significant and unavoidable.

Both the proposed Project and the Maximum FAR Alternative would include construction of bicycle and pedestrian facilities. Vincent Avenue along the Project site's frontage would be improved to its ultimate half-section width, including landscaping and parkway improvements, as required by the City of Irwindale. The improvements would provide continuous sidewalks adjacent to the site that would connect to existing sidewalks within the area. Bicycle parking would also be provided under the proposed Project and the Maximum FAR Alternative. The number of transit riders under this alternative would be relatively minor and spread over a number of work shifts typical of warehousing employment. It is noted, however, that because this alternative would increase the number of employees on the site as a result of the increased building square footage, more employees would likely use transit than under the proposed Project.

The site plan under both the Project and this alternative would be reviewed by the City of Irwindale and the Los Angeles County Fire Department to ensure the on-site circulation provides adequate

access and turning radii for emergency vehicles. Sight distance at access driveways would comply with applicable City of Irwindale/Caltrans sight distance standards. The final grading, landscaping, and street improvement plans would demonstrate that sight distance standards are met and would be subject to City approval. Further, on-site traffic signing and striping would be implemented in conjunction with detailed construction plans for the Project. On-site traffic control plans would comply with the California Manual of Uniform Traffic Control Devices (2014), as required and confirmed through the City's site plan review process.

Overall, because the resulting VMT would be significantly greater than the proposed Project, this alternative would have increased impacts related to transportation when compared to the proposed Project.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires that an environmentally superior alternative be identified among the alternatives that are analyzed in the EIR. If the No Project Alternative is the environmentally superior alternative, an EIR must also identify an environmentally superior alternative among the other alternatives (CEQA Guidelines Section 15126.6(e)(2)). The environmentally superior alternative is that alternative with the least adverse environmental impacts when compared to the proposed Project.

Table 5.0-1 presents a comparison of the alternative Project impacts with those of the proposed Project. As shown in the table, the No Project (No Build) Alternative is the environmentally superior alternative. However, as required by CEQA, when the No Project (No Build) Alternative is the environmentally superior alternative, the environmentally superior alternative among the others must be identified. Therefore, the Multiple Building Alternative would be the next environmentally superior alternative because this alternative would reduce impacts related to noise and transportation. However, the Multiple Building Alternative would not fully meet all of the Project objectives.

TABLE 5.0-1: COMPARISON OF ALTERNATIVE PROJECT IMPACTS TO THE PROPOSED PROJECT

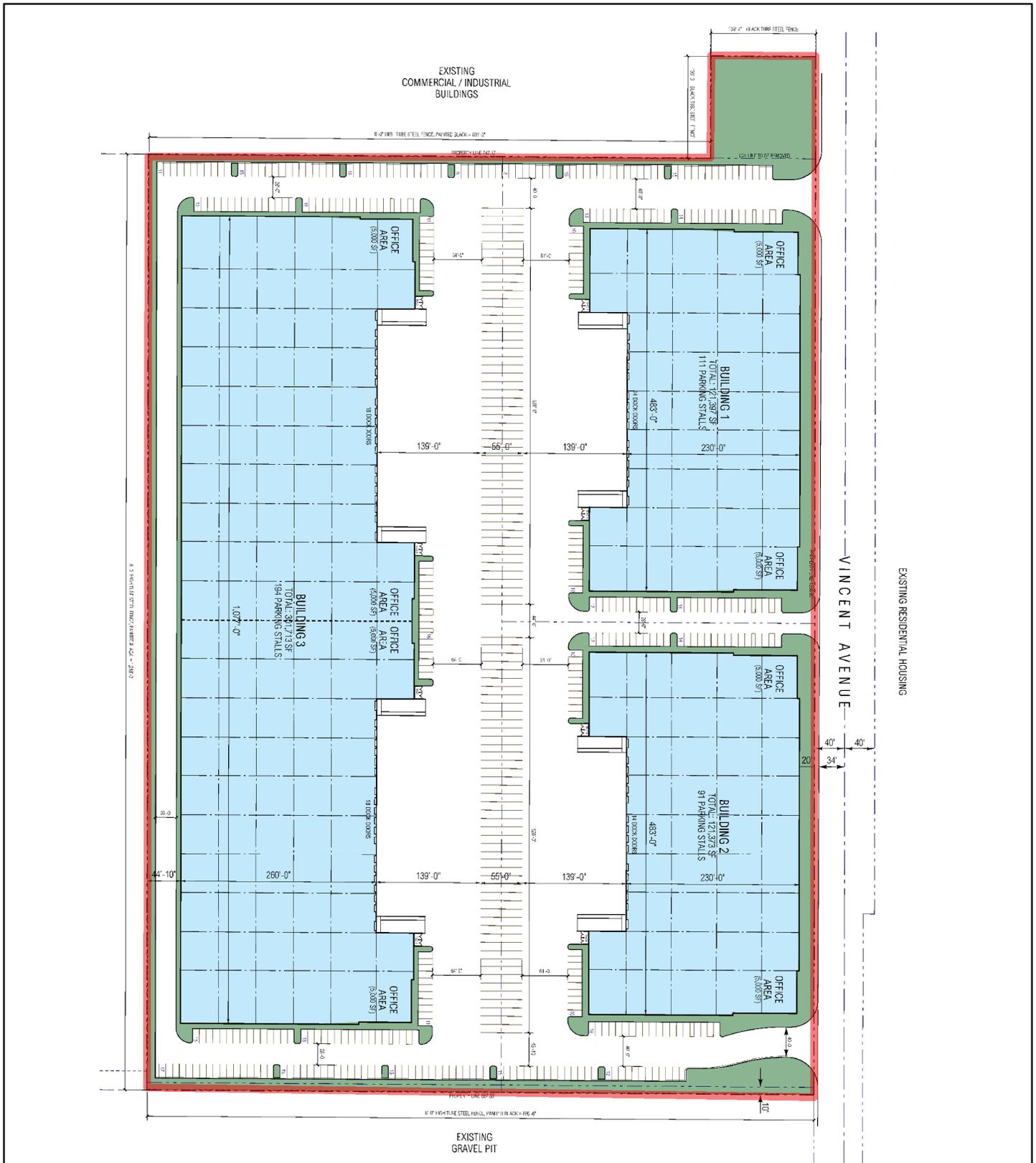
<i>ENVIRONMENTAL ISSUE</i>	<i>NO PROJECT (NO BUILD) ALTERNATIVE</i>	<i>MULTIPLE BUILDING ALTERNATIVE</i>	<i>MAXIMUM FAR ALTERNATIVE</i>
Aesthetics and Visual Resources	Less (Best)	Greater (2nd Best)	Greater (3rd Best)
Air Quality	Less (Best)	Equal (2nd Best)	Greater (3rd Best)
Geology and Soils	Less (Best)	Equal (2nd Best)	Equal (3rd Best)
Greenhouse Gases, Climate Change and Energy	Less (Best)	Equal (2nd Best)	Greater (3rd Best)
Hazards and Hazardous Materials	Less (Best)	Equal (2nd Best)	Equal (3rd Best)
Hydrology and Water Quality	Less (Best)	Equal (2nd Best)	Equal (3rd Best)
Noise	Less (Best)	Less (2nd Best)	Greater (3rd Best)
Transportation and Circulation	Less (Best)	Less (2nd Best)	Greater (3rd Best)

GREATER = GREATER IMPACT THAN THAT OF THE PROPOSED PROJECT

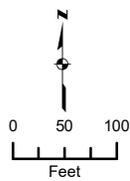
LESS = LESS IMPACT THAN THAT OF THE PROPOSED PROJECT

EQUAL = NO SUBSTANTIAL CHANGE IN IMPACT FROM THAT OF THE PROPOSED PROJECT

This page intentionally left blank.



Legend
 Project Boundary

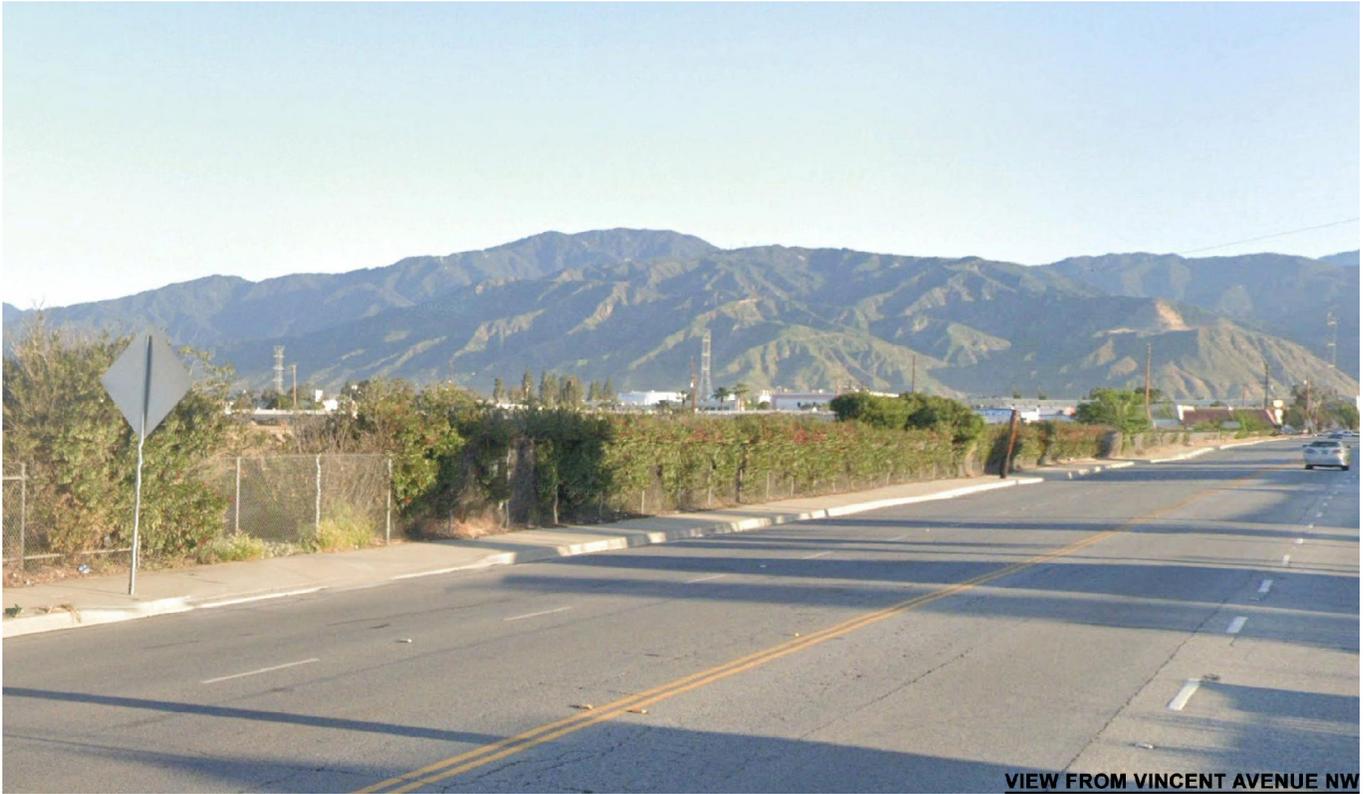


Source: RGA Office of Architectural Design, Site Plan, 12/10/19.
 Map date: December 31, 2019.

**CITY OF IRWINDALE
 SWC VINCENT AVENUE AND ARROW HIGHWAY**

Figure 5.0-1. Multiple Building Alternative

This page intentionally left blank.



VIEW FROM VINCENT AVENUE NW



**CITY OF IRWINDALE
SWC VINCENT AVENUE AND ARROW HIGHWAY**

**Figure 5.0-2a. Visual Simulations
From Vincent Avenue NW**

Map date: August 19, 2020.

This page intentionally left blank.



VIEW FROM VINCENT AVENUE SW



**CITY OF IRWINDALE
SWC VINCENT AVENUE AND ARROW HIGHWAY**

**Figure 5.0-2b. Visual Simulations
From Vincent Avenue SW**

Map date: August 19, 2020.

This page intentionally left blank.



VIEW FROM ALLEN DRIVE W



**CITY OF IRWINDALE
SWC VINCENT AVENUE AND ARROW HIGHWAY**

**Figure 5.0-2c. Visual Simulations
From Allen Drive W**

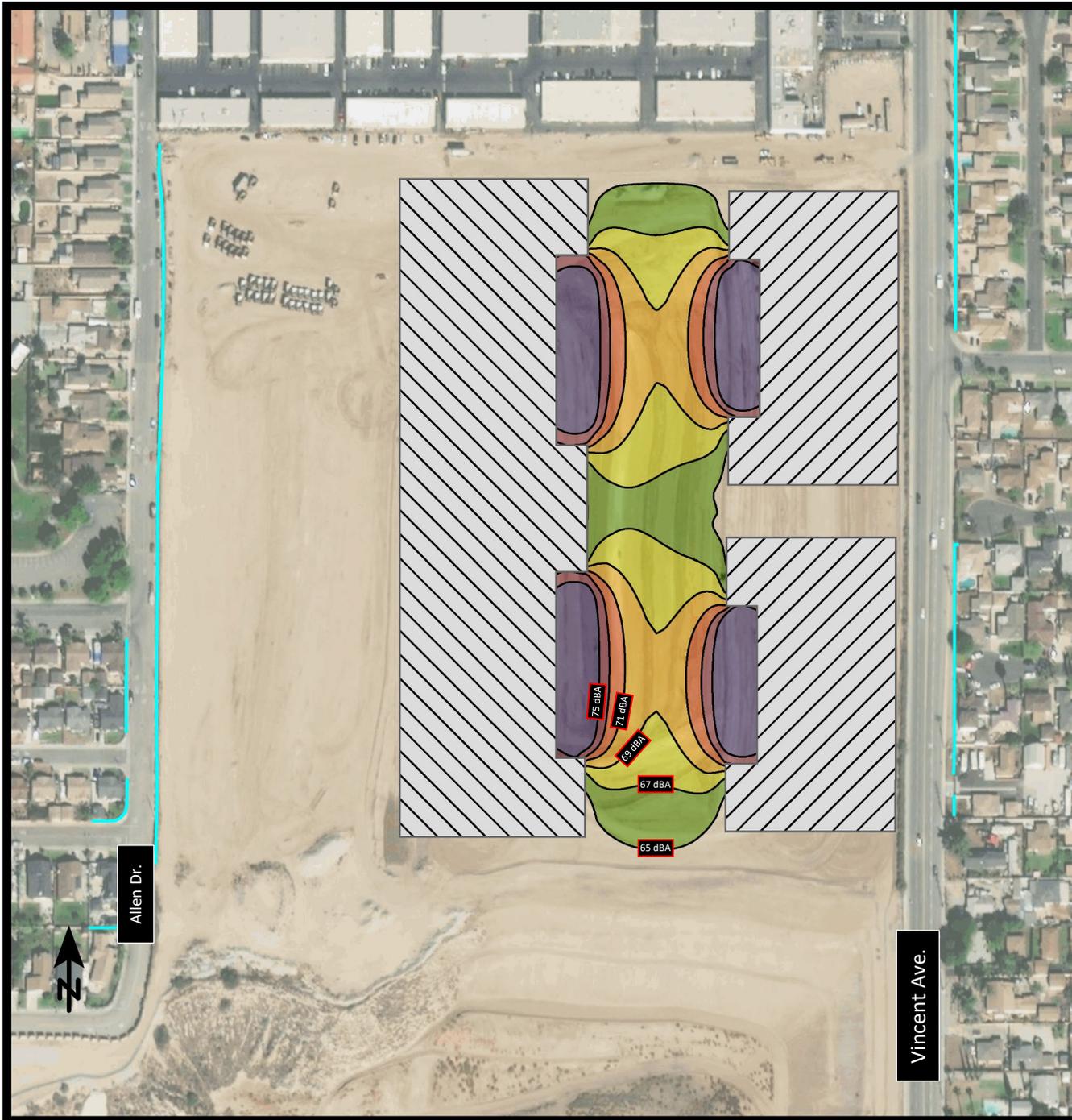
This page intentionally left blank.

5175 Vincent Ave Project

City of Irwindale, California

Figure 5.0-3

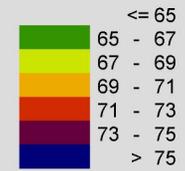
Predicted Project Noise Contours (dBA L_{eq}) – Alternate Site Layout



Signs and symbols

Existing Sound Wall

Levels in dB(A)



1 : 2854



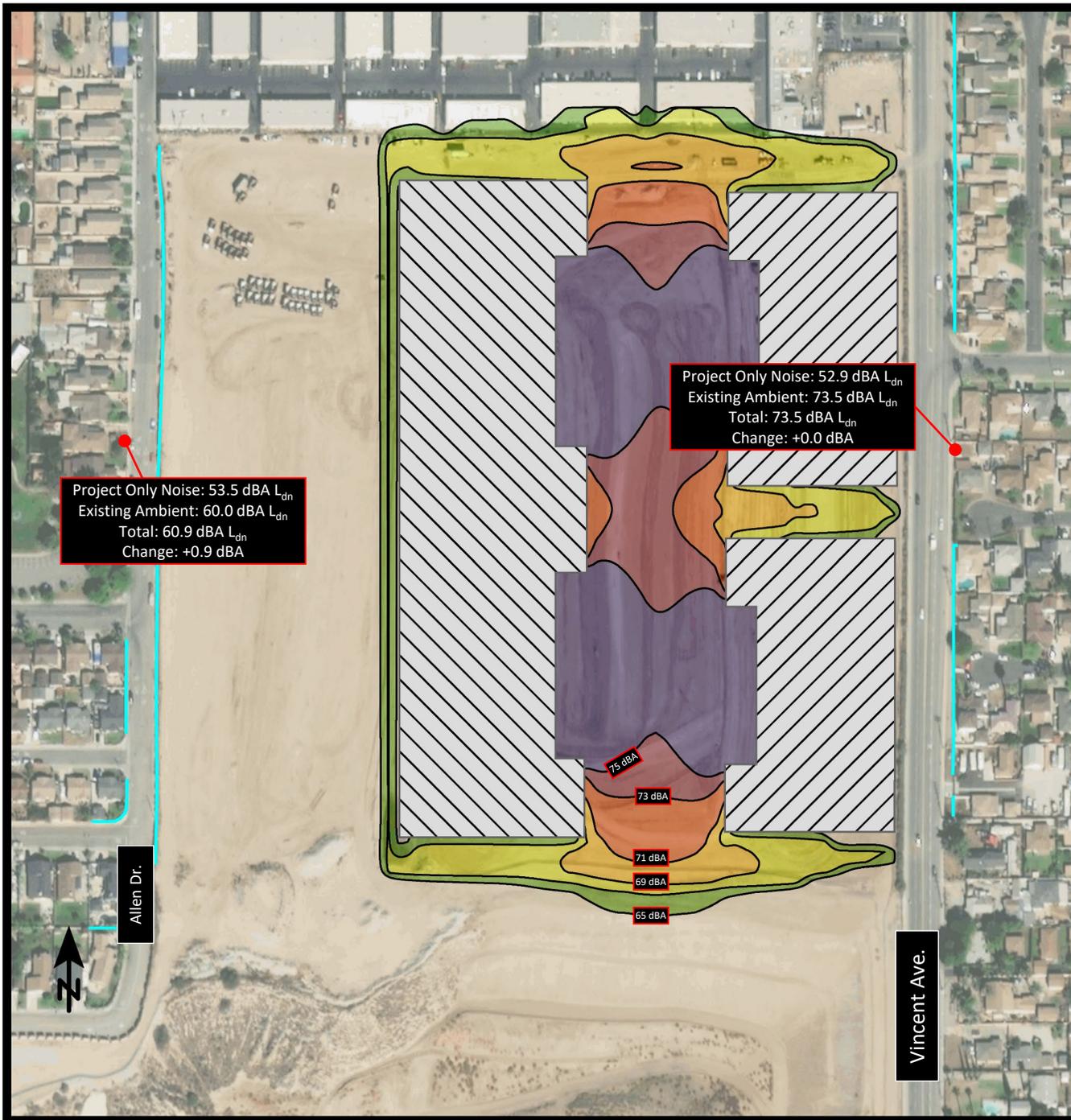
This page intentionally left blank.

5175 Vincent Ave Project

City of Irwindale, California

Figure 5.0-4

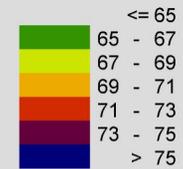
Predicted Project Noise Contours (dBA L_{dn}) – Alternate Site Layout



Signs and symbols

Existing Sound Wall

Levels in dB(A)



1 : 2854



This page intentionally left blank.

REPORT PREPARERS

City of Irwindale

Marilyn Simpson Community Development Manager/City Planner
 Brandi JonesSenior Planner
 Daniel Co Assistant Engineer
 Adrian GuerraCity Attorney

De Novo Planning Group

Steve McMurtry Principal Planner/Project Manager
 Elise CarrollSenior Planner
 Josh SmithAssociate Planner
 Jeff Setterlund.....Associate Planner
 Zach Dahla.....Associate Planner

Ganddini Group – Traffic Consultant

Giancarlo Ganddini Principal

Saxelby Acoustics – Noise Consultant

Luke Saxelby, INCE Bd. Cert. Principal Consultant

This page intentionally left blank.

REFERENCES

- Association of Environmental Professionals. 2020. 2020 California Environmental Quality Act (CEQA) Statute and Guidelines. January 1, 2020. Available: https://www.califaep.org/docs/2020_ceqa_book.pdf
- Azusa Light & Water. 2015 Urban Water Management Plan. June 2016.
- Bay Area Air Quality Management District (BAAQMD). 2017. Spare the Air: Cool the Climate. April 2017. San Francisco, CA. Accessed: August 5, 2020. Available: http://www.baaqmd.gov/~media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en
- C. Donald Ahrens. 2006. Meteorology Today: An Introduction to Weather, Climate, & the Environment.
- California Air Pollution Control Officers Association (CAPCOA). 2016. Air Toxics Hotspot Program. Available: <http://www.capcoa.org/wp-content/uploads/2016/08/CAPCOA%20Prioritization%20Guidelines%20-%20August%202016%20FINAL.pdf>
- California Air Pollution Control Officers Association (CAPCOA). 2017. CalEEMod version 2016.3.2. November 2017. Available: <http://www.caleemod.com/>.
- California Air Resources Board (CARB). 2005. Air Quality and Land Use Handbook: A Community Health Perspective. Available: <https://www.arb.ca.gov/ch/landuse.htm>
- California Air Resources Board (CARB). 2014. Background Material: Almanac of Emissions and Air Quality 2013 Edition - Chapter 4 Regional Trends and Forecasts. Available: <https://ww3.arb.ca.gov/aqd/almanac/almanac13/chap413.htm>
- California Air Resources Board (CARB). 2014a. 2020 Statewide Greenhouse Gas Emissions and the 2020 Target. Available: https://ww3.arb.ca.gov/cc/inventory/data/misc/2020_forecast_base0911_2015-01-22.pdf
- California Air Resources Board (CARB). 2014b. First Update to the Climate Change Scoping Plan. May 2014. Available: https://www.arb.ca.gov/cc/scopingplan/2013_update/first_update_climate_change_scoping_plan.pdf
- California Air Resources Board (CARB). 2016b. California Climate Strategy. January 29, 2016. Available: http://docketpublic.energy.ca.gov/PublicDocuments/15-RETI-02/TN210091_20160129T154626_California_Climate_Strategy_CARB_for_RETI_20_Plenary_Meeting_on.pdf

7.0 REFERENCES

- California Air Resources Board (CARB). 2017c. California's 2017 Climate Change Scoping Plan. November 2017. Available: https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf
- California Air Resources Board (CARB). 2019a. Area Designations Map/State and National. Available: <http://www.arb.ca.gov/desig/adm/adm.htm>.
- California Air Resources Board (CARB). 2019b. EMFAC2017 Web Database. Available: https://www.arb.ca.gov/emfac/2017/?_ga=2.20421496.1398984907.1573588491-982950436.1560338559
- California Air Resources Board (CARB). 2019c. California Ambient Air Quality Standards (CAAQS). Available: <http://www.arb.ca.gov/research/aaqs/aaqs/aaqs.htm>
- California Air Resources Board (CARB). 2019d. 2016 SIP Emission Projection Data. Statewide. Available: https://www.arb.ca.gov/app/emsinv/2017/emssumcat_query.php?F_YR=2012&F_DIV=-4&F_SEASON=A&SP=SIP105ADJ&F_AREA=CA#5
- California Air Resources Board (CARB). 2019e. AQMIS 2. Air Quality Data (PST) Query Tool. Accessed on August 5, 2020. Available: <https://www.arb.ca.gov/aqmis2/aqdselect.php>.
- California Air Resources Board (CARB). 2019f. ARB Databases: Aerometric Data Analysis and Management System (ADAM). Accessed on August 5, 2020. Available: <https://www.arb.ca.gov/adam>
- California Air Resources Board (CARB). 2020. California Ambient Air Quality Standards (CAAQS). Available: <http://www.arb.ca.gov/research/aaqs/aaqs/aaqs.htm>
- California Climate Change Center. 2006. Our Changing Climate: Assessing the Risks to California. Available: <http://climate.calcommons.org/bib/our-changing-climate-assessing-risks-california-summary-report-california-climate-change-center>
- California Department of Conservation. 2002. California Geological Survey, Note 36.
- California Department of Conservation, Division of Oil, Gas & Geothermal Resources. 2016.
- California Department of Forestry and Fire Protection. June 2008. Irwindale Fire Hazard Severity Zones in LRA. Accessed May 2020. Available at: <https://osfm.fire.ca.gov/media/5823/irwindale.pdf>.
- California Department of Forestry and Fire Protection. November 2007. Fire Hazard Severity Zones in State Responsibility Areas. Accessed May 2020. Available at: https://osfm.fire.ca.gov/media/6636/fhszs_map.pdf.
- California Department of Toxic Substances Control. DTSC's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List). Available: <https://dtsc.ca.gov/dtscs-cortese-list/>

- California Department of Toxic Substances Control. 2007. Envirostor Data Management System. Available: <http://www.envirostor.dtsc.ca.gov/public/>
- California Department of Transportation (Caltrans). 2014. Air Quality Conformity Analysis Annotated Outline. Posted 2/12/2016. Available: <https://dot.ca.gov/programs/environmental-analysis/standard-environmental-reference-ser/forms-templates#conformity>
- California Department of Transportation. 2020. Officially Designated State Scenic Highways. Available: <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways>.
- California Division of Mines and Geology. 1997. Guidelines for Evaluating Seismic Hazards in California. CDMG Special Publication 117.
- California Energy Commission (CEC). 2012. Energy Almanac. Available: <https://www.energy.ca.gov/data-reports/energy-almanac>
- California Energy Commission (CEC). 2013. Available: https://energyarchive.ca.gov/title24/2013standards/rulemaking/documents/2013_Building_Energy_Efficiency_Standards_FAQ.pdf
- California Energy Commission (CEC). 2015. 2016 Building Energy Efficiency Standards Adoption Hearing. June 10, 2015. Available at: https://www.calbo.org/sites/main/files/file-attachments/2015-06-10_adoption_hearing_presentation.pdf?1520982919
- California Energy Commission (CEC). 2017. California Energy Commission – Tracking Progress. Available at: <https://www.energy.ca.gov/data-reports/tracking-progress>
- California Energy Commission (CEC). 2018. California Energy Consumption Database. Available: ecdms.energy.ca.gov
- California Energy Commission (CEC). 2019 Building Energy Efficiency Standards. Abstract, pg. 5.
- California Energy Commission (CEC). 2020. California Greenhouse Gas Emission Inventory – 2019 Edition. Accessed March 10, 2020. Available at: <https://ww2.arb.ca.gov/ghg-inventory-data>
- California Environmental Protection Agency. 2010. Climate Action Team Report to Governor Schwarzenegger and the Legislature. December 2010. Available: <https://ww2.energy.ca.gov/2010publications/CAT-1000-2010-005/CAT-1000-2010-005.PDF>
- California Geological Survey. 2019. Seismic Shaking Hazards in California Based on the USGS/CGS Probabilistic Seismic Hazards Assessment (PSHA) Model. Available at: <http://www.conservacion.ca.gov/cgs/rghm/psha>.
- California Geological Survey. 1999, Revised 2002. Simplified Fault Activity Map of California. Compiled by Charles W. Jennings and George J. Saucedo.

7.0 REFERENCES

- California Geological Survey. 1992. Fault Rupture Hazard Zones in California, Alquist-Priolo Special Studies Zone Act of 1972 with Index to Special Studies Zones Maps.
- California Geological Survey (formerly California Division of Mines and Geology, CDMG) Special Publication 42, Revised 1992. State of California Department of Conservation.
- California Public Utilities Commission (CPUC). 2018. California Renewables Portfolio Standard (RPS). Available: http://www.cpuc.ca.gov/RPS_Homepage/
- California Water Resources Control Board. 2020. GeoTracker. Available: <https://geotracker.waterboards.ca.gov/>
- Central Intelligence Agency (CIA). 2009. The World Factbook 2009. Available: <https://www.cia.gov/library/publications/download/download-2009/>
- City of Irwindale. City of Irwindale Municipal Code. Current Ordinances through 686, Codified Ordinances through 731, Supplement No. 13.
- City of Irwindale. Draft Environmental Impact Report (SCH No. 2005071047) City of Irwindale General Plan Update. September 2006.
- City of Irwindale. City of Irwindale General Plan Update. June 2008.
- City of Irwindale. Commercial and Industrial Design Guidelines. Adopted January 14, 2016.
- City of Irwindale City Council Hearing. (2019). 'Item No. 2B: Acceptance of Manning Pit Remediation and Grading Project'. In City Council Minutes January 23, 2019. City of Irwindale: Council Chambers.
- City of Irwindale. Natural Hazard Mitigation Plan. Adopted: February 27, 2013.
- County of Los Angeles. 2019 County of Los Angeles All-Hazards Mitigation Plan. October 4, 2019.
- County of Los Angeles Department of Public Works. Low Impact Development Standards Manual. February 2014.
- De Novo Planning Group. 2020. Analysis of Public Health Risks for the 5175 Vincent Avenue Project.
- ENVIRON. 2013. Appendix A: Calculation Details for CalEEMod. Available: <http://www.aqmd.gov/docs/default-source/caleemod/caleemod-appendixa.pdf?sfvrsn=2>
- Ganddini Group, Inc. Vincent Avenue Industrial Building Traffic Impact Analysis, City of Irwindale. June 30, 2020 (Updated December 15, 2020).
- Google. Google Earth Pro Version 7.3.2.5776 (32-bit). March 5, 2019.

- Intergovernmental Panel on Climate Change (IPCC). 2013. "Climate Change 2013: The Physical Science Basis, Summary for Policymakers." Available: http://www.climatechange2013.org/images/report/WG1AR5_SPM_FINAL.pdf
- International Energy Agency. 2018. FAQs: Oil. Available: <https://www.eia.gov/tools/faqs/faq.php?id=38&t=6>
- Los Angeles Regional Water Quality Control Board (LARWQCB). Basin Plan for the Coastal Watersheds of Los Angeles and Ventura Counties. September 11, 2014.
- LARWQCB. Termination of Waste Discharge Requirements - Manning Pit Inert Landfill, Irwindale, California (File No. 61-101, Order No. R4-2019-0107, Ci-6149, Geotracker Global Id L10002323364). September 12, 2019.
- Main San Gabriel Watermaster (MSGBW). Five-Year Water Quality and Supply Plan. November 2019. Available: <https://www.watermaster.org/reports>
- MSGBW. MSGBW 2018-2019 Annual Report. October 2019. Available: <https://www.watermaster.org/reports>
- Saxelby Acoustics. Environmental Noise Assessment, 5175 Vincent Avenue, City of Irwindale, California (Project # 200107). June 11, 2020.
- Southern California Association of Governments (SCAG). 2016. Final 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy. Adopted April 2016. Available: <http://scagrtpscscs.net/Documents/2016/final/f2016RTPSCS.pdf>
- State of California Regional Water Quality Control Board – Los Angeles Region. State of the Watershed – Report on Surface Water Quality: The San Gabriel River Watershed. June 2000.
- United States Army Corps of Engineers. Santa Fe Dam Basin Master Plan and Environmental Assessment. September 2011.
- United States Climate Data. 2020. Climate data for Irwindale CA. Available: usclimatedata.com
- United States Department of Agriculture, Natural Resources Conservation Service (NRCS) Web Soil Survey (WSS). Available at: <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>.
- United States Energy Information Administration (U.S. EIA). 2020. California State Energy Profile. Last updated January 16, 2020. Available: <https://www.eia.gov/state/print.php?sid=CA>
- United States Energy Information Administration (U.S. EIA). 2019. 2018 Total System Electric Generation. Available: http://www.energy.ca.gov/almanac/electricity_data/total_system_power.html
- United States Environmental Protection Agency (USEPA). 2015. National Ambient Air Quality Standards (NAAQS). Available: <https://www.epa.gov/criteria-air-pollutants/naaqs-table>

7.0 REFERENCES

- United States Environmental Protection Agency (USEPA). 2016. Basic Information about Carbon Monoxide (CO) Outdoor Air Pollution. Accessed: July 11, 2019. Available: <https://www.epa.gov/co-pollution/basic-information-about-carbon-monoxide-co-outdoor-air-pollution#Effects>
- United States Environmental Protection Agency (USEPA). 2017. Sulfur Dioxide Concentrations – EPA. Accessed: July 11, 2019. Available: https://cfpub.epa.gov/roe/indicator_pdf.cfm?i=91
- United States Environmental Protection Agency (USEPA). 2018. National Air Quality: Status and Trends of Key Air Pollutants. Accessed: July 11, 2019. Available: <https://www.epa.gov/air-trends>
- United States Environmental Protection Agency (USEPA). 2019a. Health Effects of Ozone Pollution. Accessed: July 11, 2019. Available: <https://www.epa.gov/ground-level-ozone-pollution/health-effects-ozone-pollution>
- United States Environmental Protection Agency (USEPA). 2019b. Health Effects of Ozone In the General Population. Accessed: July 11, 2019. Available: <https://www.epa.gov/ozone-pollution-and-your-patients-health/health-effects-ozone-general-population>
- United States Environmental Protection Agency (USEPA). 2019c. Health and Environmental Effects of Particulate Matter (PM). Accessed: July 12, 2019. Available: <https://www.epa.gov/pm-pollution/health-and-environmental-effects-particulate-matter-pm>
- United States Environmental Protection Agency (USEPA). 2019d. Basic Information About Lead Pollution. Accessed: July 12, 2019. Available: <https://www.epa.gov/lead-air-pollution/basic-information-about-lead-air-pollution#how>
- United States Environmental Protection Agency. 2020. National Priorities List (NPL) of Superfund Sites and Proposed NPL Sites. Available: <http://www.epa.gov/superfund/npl-site-status-information>
- United States Environmental Protection Agency. 2020. Toxic Release Inventory (TRI) Program. Available: <http://www.epa.gov/toxics-release-inventory-tri-program>
- United States Environmental Protection Agency. 2020. Comprehensive Environmental Response, Compensation and Liability Information System (CERCLIS) Search. Available: <http://www.epa.gov/enviro/cerclis-search>
- United States Green Building Council. 2016. LEED 2009 for New Construction and Major Renovations. USGBC Member Approved November 2008 (Updated July 2016). Available: <https://www.usgbc.org/resources/leed-new-construction-v2009-current-version>
- WestLAND Group. Vincent Avenue Industrial Building Hydrology/LID Report. May 15, 2017.