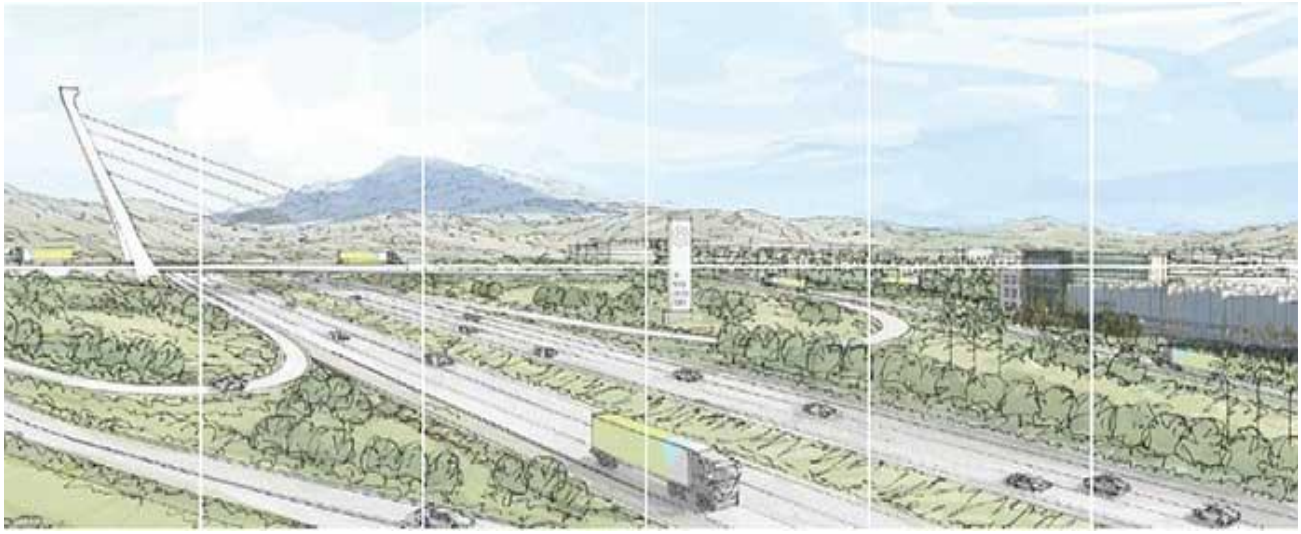
World Logistics Center

WORLD LOGISTICS CENTER

Draft Recirculated Revised Sections of the Final Environmental Impact Report

Moreno Valley, California

State Clearinghouse No. 2012021045



Prepared for:

City of Moreno Valley

December 2019

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NOTE TO READERS: Section 2.0, below, of this Draft Recirculated Revised Sections of the FEIR replaces Section 2.0 of the Revised Sections of the FEIR, circulated in July 2018 ("RSFEIR"). The absence of reference to a portion of Section 2.0 means that the corresponding portion of Section 2.0 in the FEIR prepared in 2015 remains unchanged or has been deleted.

This Draft Recirculated RSFEIR sets forth those portions of the RSFEIR circulated in 2018 that have been revised. Revisions to, and deletions from, the RSFEIR have been identified in a separate document (tracked changes), available for review at the City of Moreno Valley.

2.0 INTRODUCTION AND PURPOSE

Background

In August, 2015, the City Council of the City of Moreno Valley certified a Final Programmatic Environmental Impact Report ("FEIR"), which analyzed the environmental impacts that would result from the construction and operation of the World Logistics Center ("WLC"), as having been prepared in compliance with the California Environmental Quality Act ("CEQA") The City Council the approved a General Plan Amendment ("GPA"), a Zone Change ("Zone Change"), the World Logistics Center Specific Plan ("WLC Specific Plan"), a financing and conveyancing Parcel Map ("Parcel Map 36457"), a Development Agreement ("Development Agreement") and a request that 85 acres in an unincorporated portion of Riverside County be annexed into the City. In September, 2015, a number of lawsuits were filed challenging the City's certification of the FEIR and the approvals granted for the construction and operation of the WLC.

In November, 2015, the City Council, in response to initiative petitions submitted to it for the GPA, the Zone Change, the WLC Specific Plan and the Development Agreement, vacated approvals for those entitlements granted in August, and then readopted the GPA, the Zone Change, the WLC Specific Plan and the Development Agreement. Parcel Map 36547 was not part of the Initiative process and is not currently approved. The World Logistics Center Specific Plan entitles 40.6 million square feet of logistics and associated infrastructure land uses on the 2,610-acre WLC project site.

In February, 2016, lawsuits were filed challenging the use of the initiative process to adopt the Development Agreement. The trial judge rejected the challenges. However, in August 2018, the Court of Appeal, Fourth Appellate District, Division One, reversed the trial court judgment, holding that the initiative process could not be used to adopt the Development Agreement, and directed the trial court to issue a writ of mandate ordering the City to vacate its November, 2015, approval of the Development Agreement. The RSFEIR and this Draft Recirculated Revised Sections of the Final Environmental Impact Report ("Draft Recirculated RSFEIR") will be considered by the City.[1]

In the court ruling dated February, 8, 2018, the Honorable Sharon J. Waters, Judge of the Riverside County Superior Court, identified five deficiencies in the FEIR. The key findings from Judge Waters' ruling are quoted below:

[1] The RSFEIR was also treated as a draft to be circulated and commented on. However, several comments failed to recognize its draft nature. Accordingly, to avoid any misunderstanding, this document has been explicitly identified as a "draft" CEQA document.

- **Energy Impacts**: "The FEIR must provide a comparison of feasible, cost-effective renewable energy technologies in the Energy Impacts analysis".
- **Biological Impacts**: "The FEIR should remove all references to and consideration of the 910 acres of SJWA and MSHCP lands as "buffer zone" or "CDFW Conservation Buffer Area" in the Biological Resources and Habitat Impacts analysis".
- **Noise Impacts**: "The FEIR must provide an analysis of construction noise over ambient levels; provide adequate analysis on construction noise impacts on nearby homes; address the inadequacy of mitigation measures, which fail to include performance standards or ways to reduce construction noise".
- **Agricultural Impacts**: "The FEIR and the resolution certifying the FEIR require clarification as to whether loss of locally important farmland will have a significant direct or cumulative impact on agriculture and, if significant, the FEIR must either explain how proposed mitigation will reduce the impact or why other mitigation is not feasible".
- **Cumulative Impacts**: "The FEIR should include consideration of recently constructed and proposed large warehouse projects in the summary of projections method, and should analyze whether individually significant impacts may be cumulative considerable".

The RSFEIR was prepared to respond to the Judge's ruling and writ by correcting the five deficiencies identified in the ruling. With respect to cumulative impacts, the Judge's ruling did not indicate the specific environmental topics to be evaluated, and thus, to ensure compliance with the ruling, the RSFEIR included an analysis of potential cumulative impacts for all environmental topics, even those not referred to in the Judge's ruling. While such information may not be required to comply with the Judge's ruling, it was included to account for the most conservative interpretation of the Judge's ruling. The court will have the discretion to determine whether it was required to comply with the writ or not. The RSFEIR evaluated the current environmental baseline conditions, impacts and any required additional or revised mitigation measures associated with the construction and operation of the World Logistics Center.

Using this interpretation of the Judge's ruling for cumulative impacts, the RSFEIR included a revised analysis of the WLC's potential transportation impacts to incorporate the cumulative impacts of additional projects, although the adequacy of the FEIR's section on Transportation and Traffic (Section 4.15) was upheld by Judge Waters. Although not required by the Judge's ruling, this section was also revised to reflect the latest trip generation rates found in the Institute of Transportation Engineers' Trip Generation Manual (10th ed., 2017). The revised traffic analysis also formed the basis for revised analyses of air quality, greenhouse gases and traffic noise, even though those sections of the FEIR were upheld by the court (Sections 4.3, 4.7 and portions of 4.12). The reader should note that each section within Section 4.0 of the FEIR contained a subsection analyzing cumulative impacts. Those subsections are no longer applicable and have been replaced with a new Section 6.0 in the Revised Sections of the FEIR and a few sections within Section 6.0 have been updated in this Draft Recirculated RSFEIR.

The Judge found that substantial portions of the FEIR did comply with CEQA so that, only portions of the RSFEIR had to be circulated for public review and comment. The RSFEIR presented additional environmental analyses necessary to respond to the Judge's ruling. Some portions of the RSFEIR added to the FEIR, e.g., new Section 4.17 (Energy), or provided additional information on the same topic, e.g., Section 2.1 (Document Format). Elsewhere in the RSFEIR, individual sections were revised and replaced the corresponding sections in the FEIR (Air Quality, Biological Resources, Greenhouse Gas Emissions/Climate Change). The RSFEIR also identified discretionary actions anticipated to be taken by

the City that are no longer applicable to the CEQA analysis. These discretionary actions were identified as the GPA, Zone Change, the World Logistics Center Specific Plan, and Annexation Request because these actions were approved by the City in compliance the initiative process set forth in the California Elections Code. The RSFEIR in combination with the valid portions of the FEIR, served to evaluate the environmental effects of the World Logistics Center project.

Current Proceedings

After the RSFEIR was circulated in July of 2018, the City of Moreno Valley decided that new information, which was considered significant, required revision and recirculation of portions of the RSFEIR pursuant to Section 15088.5 of the CEQA Guidelines. The sections of the RSFEIR affected by the new information in this Draft Recirculated RSFEIR are:

- Air Quality, including Human Health (Section 4.3 and Section 6.3)
- Greenhouse Gas Emissions (Section 4.7 and Section 6.7)
- Energy (Section 4.17 and Section 6.17)

The air quality, greenhouse gas and energy analyses set forth in the RSFEIR circulated in July of 2018 were based on the California Air Resources Board's EMFAC2014 model. Those analyses have been revised in light of the U.S. Environmental Protection Agency's approval of the use of the EMFAC2017 model on August 15, 2019, and are now set forth in this Draft Recirculated RSFEIR.

A recirculation of portions of the RSFEIR is appropriate because, in accordance with Section 15088.5 of the CEQA Guidelines, a lead agency should recirculate an EIR before certification when new substantive information is added to the EIR after the public notice is given of the availability of the draft EIR (in this case, the RSFEIR).

The RSFEIR was circulated to the public for review and comment in July, 2018. This Draft Recirculated RSFEIR will also be circulated to the public for review and comment. Responses to the comments that were previously received on the RSFEIR as well as the comments that are received on this Draft Recirculated RSFEIR will be prepared. A Final Revised FEIR, which will consist of (1) the comments and responses on the Draft Recirculated RSFEIR and the RSFEIR, (2) the Draft Recirculated RSFEIR, (3) the RSFEIR circulated in July 2018 and (4) the portions of the FEIR that were found to be in compliance with CEQA after trial, will be considered by the City.

The Judge found that substantial portions of the FEIR did comply with CEQA so that only portions of the FEIR had to circulated for public review and comment. The absence of any reference to a section of the FEIR in the RSFEIR and this Draft Recirculated RSFEIR means that the corresponding section in the FEIR remains unchanged because the Judge found that it complied with CEQA. In addition, the absence of any reference to a section of the RSFEIR in this Draft Recirculated RSFEIR means that the corresponding section of the RSFEIR remains unchanged.

2.1 Document Format

As noted above, the Judge's ruling identified five areas where the FEIR failed to comply with CEQA. The ruling required that revisions to the FEIR: (1) provide a comparison of feasible, cost-effective renewable

energy technologies in the Energy Impacts analysis; (2) remove references to and consideration of the northernmost 910 acres of the San Jacinto Wildlife Area (SJWA) as a "buffer zone" or the "CDFW Conservation Buffer Area" in the Biological Resources analysis; (3) provide an analysis of construction noise over ambient levels, provide adequate analysis of construction noise impacts on nearby homes, and address inadequate mitigation measures, which fail to include performance standards or ways to reduce construction noise; (4) clarify as to whether loss of farmlands of local importance was significant and, if so, how it would be mitigated, if feasible; and (5) consider recently constructed and proposed large warehouse projects to determine whether they will result in cumulatively significant impacts.

This RSFEIR responded to each of the five areas as follows:

> **(1) Renewable Energy**: A new section dealing with renewable energy technologies, Section 4.17, was prepared and was included in the RSFEIR. In addition, a new Appendix E, World Logistics Center, Comparison of Renewable Energy Technologies, was prepared and was included in the RSFEIR.
>
> (**2) Biological Resource**s: References to, and consideration of the SJWA as a "buffer zone" or "CDFW Conservation Buffer Area" have been removed from Section 4.4, Biological Resources, and a revised version of that section was prepared. These terms have also been removed in all other relevant sections of the FEIR. Those sections, as revised, were also included in the RSFEIR.
>
> **(3) Construction Noise**: Those portions of Section 4.12, Noise, dealing with construction noise and mitigation measures were revised and included in the RSFEIR. In addition, a revised Appendix K, Noise Technical Report, was prepared and included in the appendices.
>
> **(4) Farmlands of Local Importance**: Those portions of Section 4.2, Agricultural and Forestry Resources, dealing with the loss of farmland of local importance were revised and included in the RSFEIR.
>
> **(5) Cumulative Impacts**: A new Section 6.0, Cumulative Impacts, was prepared and included in the RSFEIR. There are 359 recent past, present and reasonably foreseeable projects that could cumulatively contribute to the WLC's environmental impacts that were identified and considered. These are in addition to the contributions of projects reflected in various planning documents.

As mentioned, the RSFEIR also included revised analyses in Traffic and Circulation, and in Appendix F, Traffic Impact Analysis ("TIA"), Section 4.15, in Air Quality, Section 4.3, and in Appendix D, Air Quality/Health Risk/Greenhouse Gases, Noise, Section 4.12, and in Appendix C, Noise. It should also be noted that the methodologies used to determine the environmental impacts were not changed. As an example, the same general approach, LOS methodologies, and thresholds that were used in the 2014 TIA were repeated in the 2018 TIA, although the input data and study years were updated to reflect the best available current information.

As noted above, the U.S. Environmental Protection Agency's approval of the use of the California EMFAC2017 model on August 15, 2019, has resulted in revisions to portions of the RSFEIR. Because the RSFEIR utilized EMFAC2014 for the project and cumulative analyses for air quality, greenhouse gas, and energy evaluations, these portions of the RSFEIR are the subject of this Draft Recirculated RSFEIR.

2.2 Process for Consideration of the RSFEIR and the Draft Recirculated RSFEIR

CEQA requires the Lead Agency to consider the information contained in an EIR prior to taking any discretionary action on a project. The RSFEIR and this Draft Recirculated RSFEIR correct deficiencies found by the court to exist in the FEIR and provide information to the City and other public agencies and the general public regarding the potential environmental impacts from the construction and operation of the WLC project. The purpose of the public review of an EIR is to evaluate the adequacy of the environmental analysis in terms of compliance with CEQA. Section 15151 of the *CEQA Guidelines* states the following regarding standards from which adequacy is judged:

> "An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among experts. The courts have not looked for perfection but for adequacy, completeness, and a good faith effort at full disclosure."

An EIR is the most comprehensive form of environmental documentation identified in CEQA and the *CEQA Guidelines*, and provides the information needed to assess the environmental consequences of a proposed project. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of the environmental consequences associated with a proposed project that has the potential to result in significant, adverse environmental impacts.

Under CEQA (Public Resources Code §21002.1(a)):

> "The purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the proposed project, and to indicate the manner in which those significant effects can be mitigated or avoided."

The RSFEIR and this Draft Recirculated RSFEIR were prepared to correct deficiencies found by the court to exist in the FEIR by evaluating some of the potential environmental impacts associated with the construction and operation of the WLC project which will include 40.6 million square feet of logistics warehouse facilities, as well as its associated infrastructure. Environmental Science Associates ("ESA") prepared both the RSFEIR and this Draft Recirculated. However, prior to certification of the Revised Final FEIR, responses to comments received on both the RSFEIR as well as this Draft Recirculated RSFEIR will be prepared and included in a Response to Comments document that will be available for public review prior to any action taken by the City.

The RSFEIR and this Draft Recirculated RSFEIR were prepared utilizing information from City planning and environmental documents, applicant-provided technical studies, and other publicly-available data. Additional mitigation measures that would offset, minimize, or otherwise avoid significant environmental impacts from the construction and operation of the WLC project have been identified, where required. These documents have been prepared in accordance with CEQA, California Public Resources Code §21000 *et seq.*; the *Guidelines for California Environmental Quality Act* (California Code of Regulations, Title 14, Chapter 3); and the rules, regulations, and procedures for implementing CEQA as adopted by the City. The objective of the RSFEIR and this Draft Recirculated RSFEIR is to inform City decision-makers,

representatives of other affected/responsible agencies, the public, and other interested parties of the potential environmental consequences that were not adequately dealt with in the FEIR that may be associated with the approval and implementation of the WLC project.

2.3 Incorporated Documents

The CEQA Guidelines (§15150) permits the incorporation by reference of all or portions of other documents that are generally available to the public. Any document incorporated by reference is required to be made available to the public for inspection at a public place or public building and requires that the EIR state where the incorporated documents will be made available for public inspection. The following documents have been incorporated by reference:

City of Moreno Valley General Plan, various elements, adopted by City Council Resolution No. 2006-83, July 11, 2006, and last updated October 2006.

City of Moreno Valley General Plan Final Environmental Impact Report, certified July 2006.

City of Moreno Valley General Plan Land Use Map, last updated November, 2017.

City of Moreno Valley Zoning Atlas, last updated November 2017.

City of Moreno Valley Municipal Code (various chapters), last updated February 2012.

Moreno Highlands Specific Plan EIR, adopted 1992.

World Logistics Center Initiative, November 24, 2015

2.4 Technical Reports

Various technical or project-related reports have been prepared to assess specific issues that may result from the construction and operation of the project. As relevant, information from the following documents and technical reports has been integrated into the RSFEIR as appendices:

"The World Logistics Center Specific Plan" (Highland Fairview) original dated January 30, 2013, revised dated September 2014.

"An Agricultural Industry Analysis of the Inland Empire" (Andrew Chang & Co.), original dated March 2012, revised September 2014.

"Agricultural Resources Assessment for the WLCSP" (Parsons Brinckerhoff), original dated March 2012, revised December 2013.

"Agricultural Assessment for the WLCSP" (Cushman and Wakefield) new report dated December 20, 2013 (prepared for Final EIR in response to comments) and revised September 2014.

"Air Quality, Greenhouse Gas, and Health Risk Assessment for the WLCSP" (MBA), original dated January 2013, revised April 2015.

"Habitat Assessment, MSHCP Consistency Analysis, and JPR Review" (MBA), original dated December 20, 2012, revised September 2014.

"Delineation of Jurisdictional Waters and Wetlands" (MBA), original dated November 2012, revised September 2014.

"Phase I and Phase II Cultural Resources Assessment" (MBA), original dated May 2012, revised September, 2014.

"Preliminary Geotechnical Investigation" (Leighton), original dated March 23, 2012, revised September 2014.

"Supplemental Geotech Assessment for Offsite Improvements Related to the WLCSP" (Leighton), original dated March 23, 2013, revised September 2014.

"Phase 1 Environmental Site Assessments" (various dates, LOR Geotechnical) (not revised).

"Draft Master Plan of Drainage Study" (CH2MHill) original dated November 2012, revised dated September 2014.

"Preliminary Water Quality Management Plan" (CH2MHill) original dated November 2012, revised September 2014.

"Noise Assessment for the WLCSP" (Mestre Greve Associates) original dated January 2013, revised September 2014.

"Traffic Impact Assessment (TIA) for the WLCSP" (Parsons Brinckerhoff) original dated January 2013, revised September 2014.

"NAIOP Assessment of Available High-Cube Trip Generation Rates" (Kunzman Associates), December 20, 2011.

"Water Supply Assessment for the WLCSP" (Eastern Municipal Water District), March 21, 2012.

"Highlands Water Budget" (CH2MHill), original dated December 2012, revised September 2014.

"Water System Modeling Results" (CH2MHill), original dated December 2012, revised dated October 22, 2013.

"Sewer and Reclaimed Wastewater Memorandum" (CH2MHill), original dated April 25, 2012, revised September 2014.

"Dry Utilities – Technical Memorandum" (Utility Specialists), original dated December 20, 2012, revised September 2014.

"Electrical System Forecast of Utility Infrastructure" (MVU Engineering), original dated December 2012, revised September 2014.

"Fiscal and Economic Impact Study for the World Logistics Center" (David Taussig and Associates), original dated January 15, 2013, revised September 2014.

Hydrology and Water Quality Memorandum (Woodard Curran), 2018

Traffic Impact Assessment (WSP), 2018

World Logistics Center Comparison of Renewable Energy Technologies (WSP), 2018

World Logistics Center Transportation Energy Technical Study (ESA and CALSTART), 2019

Noise and Vibration Technical Report (ESA), 2018

Biological Resources Assessment (ESA), 2018

Sensitive Species Surveys (ESA), 2018

Air Quality/GHG and Health Risk Assessment Technical Report (Draft Recirculated) (ESA), 2019

In addition to their inclusion in their entireties as appendices to the RSFEIR or this Draft Recirculated RSFEIR, these documents are available for review at the following location:

Moreno Valley City Hall
Community Development Department

Planning Division
14177 Frederick Street
Post Office Box 88005
Moreno Valley, California 92552
Phone: (951) 413-3238
Monday–Thursday 7:30 a.m.– 5:30 p.m.
Friday 7:30 a.m. – 4:30 p.m.

2.5 Public Review of the RSFEIR and Draft Recirculated RSFEIR

The RSFEIR was, and this Draft Recirculated RSFEIR will be, distributed to responsible and trustee agencies, other affected agencies, and interested parties. Additionally, in accordance with Public Resources Code Section 21092(b)(3), the RSFEIR was and this Draft Recirculated RSFEIR will be provided to all parties who previously requested copies. The Notice of Completion ("NOC") and Notice of Availability ("NOA") of the RSFEIR was, and this Draft Recirculated RSFEIR will be, distributed for a 45-day public review period. During the RSFEIR public review period, the RSFEIR and the revised technical appendices were made available for review. During the Draft Recirculated RSFEIR public review period, this Draft Recirculated RSFEIR and the revised technical appendices will be made available for review. Written Comments should be addressed to:

Albert Armijo, Interim Planning Manager
14177 Frederick Street
Post Office Box 88005
Moreno Valley, California 92552
Phone: (951) 413-3206
Email: alberta@moval.org

Written responses to comments on the RSFEIR and this Draft Recirculated RSFEIR will be prepared after the close of the public review period for this Draft Recirculated RSFEIR. These responses will be available for review for a minimum of 10 days prior to the public hearings before the City, at which time the certification of the Final Revised FEIR will be considered. The Final Revised FEIR, which will consist of [1] the comments and responses on the Draft Recirculated RSFEIR and the RSFEIR, [2] the Draft Recirculated RSFEIR, [3] the RSFEIR circulated in July 2018, and [4] the portions of the FEIR found to comply with CEQA will be included as part of the environmental record for consideration by the City decision-makers. The City will respond as appropriate to comments made at public hearings on the WLC Project, the RSFEIR, and the Draft Recirculated RSFEIR.

2.6 Mitigation Monitoring and Reporting Program

The Mitigation Monitoring and Reporting Program (MMRP) will be revised to comply with the requirements of State law (Public Resources Code Section 21081.6) and the court's ruling and writ. When mitigation measures are required to avoid or reduce the severity of significant impacts, State law requires the adoption of an MMRP. The monitoring program is intended to ensure compliance during implementation of the program.

2.7 Potential Impacts of the Project Discussed in the RSFEIR and this Draft Recirculated RSFEIR

The RSFEIR focused on the areas of concern identified by the court ruling and writ. The following seven environmental topics were addressed in the project impacts section (Section 4.0) of the RSFEIR:

Agriculture and Forestry Resources (loss of farmland of local importance)
Biological Resources
Energy
Noise
Traffic
Air Quality
Greenhouse Gas Emissions

The following seventeen environmental topics were addressed in the cumulative impact sections (Section 6.0) of the RSFEIR:

Aesthetics
Agriculture and Forestry Resources
Air Quality, including Human Health
Biological Resources
Cultural Resources
Geology and Soils
Greenhouse Gas Emissions
Hazards and Hazardous Materials
Hydrology, and Water Quality
Land Use and Planning
Mineral Resources
Noise
Population, Housing, and Employment
Public Services and Facilities
Transportation and Traffic
Utilities and Service Systems
Energy

This Draft Recirculated RSFEIR includes only those sections of the RSFEIR that were revised. The following three environmental topics in the project impacts section (Section 4.0) and in the cumulative impacts sections (Section 6.0) are addressed in this Draft Recirculated RSFEIR.

Air Quality, including Human Health (Section 4.3 and Section 6.3)
Greenhouse Gas Emissions (Section 4.7 and Section 6.7)
Energy (Section 4.17 and Section 6.17)

2.8 Cumulative Impacts

Cumulative impacts are discussed in Section 6.0 of the RSFEIR, and this Draft Recirculated RSFEIR includes revised cumulative impacts sections for the three environmental topics identified above.

NOTE TO READERS: Section 3.0, below, of this Draft Recirculated Revised Sections of the FEIR replaces Section 3.0 of the Revised Sections of the FEIR, circulated in July 2018 ("RSFEIR"). The absence of reference to a portion of Section 3.0 means that the corresponding portion of Section 3.0 in the FEIR prepared in 2015 remains unchanged or has been deleted.

The project as originally proposed to the City, and as described and evaluated in the Final Environmental Impact Report certified by the City Council in August, 2015 (2015 FEIR), included both the World Logistics Center (WLC) project and a General Plan Amendment and a rezoning of land (not part of the WLC project) south of the World Logistics Center site to reflect its open space nature. The General Plan Amendment and rezoning have since been adopted through the initiative process. The description of the World Logistics Center has not changed.

In July 2018, the Revised Sections of the Final EIR (RSFEIR) document was prepared and circulated for public review and comment in response to the Superior Court's direction to correct certain identified deficiencies in the 2015 FEIR. The RSFEIR public comment period closed September 7, 2018, and over 350 comment letters were received. The air quality, greenhouse gas and energy analyses set forth in the RSFEIR circulated in July 2018 were based on the California Air Resources Board's EMFAC2014 model. Those analyses have been revised in light of the U.S. Environmental Protection Agency's approval of the use of the EMFAC2017 model on August 15, 2019, and are now set forth in this Draft Recirculated Revised Sections of the Final EIR (Draft Recirculated RSFEIR).

It should be noted that Theodore Street south of SR-60 has been renamed World Logistics Center Parkway.

Responses to comments received on both the RSFEIR as well as this Draft Recirculated RSFEIR will be prepared and included in a Response to Comments document that will be available for public review prior to any action taken by the City.

3.0 PROJECT DESCRIPTION

The World Logistics Center (WLC) project is located on 2,610 acres in the Rancho Belago area at the eastern end of Moreno Valley, south of SR-60, east of Redlands Boulevard, west of Gilman Springs Road and north of the San Jacinto Wildlife Area. The site currently has a General Plan designation of Business Park/Light Industrial and zoning designations of WLCSP-LD (World Logistics Center Specific Plan – Logistics Development) and WLCSP-LL (World Logistics Center Specific Plan – Light Logistics). The site is subject to the adopted World Logistics Center Specific Plan (WLC Specific Plan) which authorizes the construction and operation of 40,600,000 square feet of logistics facilities and associated infrastructure. The land use plan in the Specific Plan is shown in Figure 3-8 and is also shown in this section in Figure 3-1.

The land use entitlements for the WLC project that are in place include the General Plan and zoning designations, the WLC Specific Plan, and a request for annexation of 85 acres of unincorporated land in Riverside County into the City – having been adopted in November, 2015, through the initiative process. The discretionary approvals that will be considered by the City as part of the approval process consist of a development agreement and Parcel Map 36457.

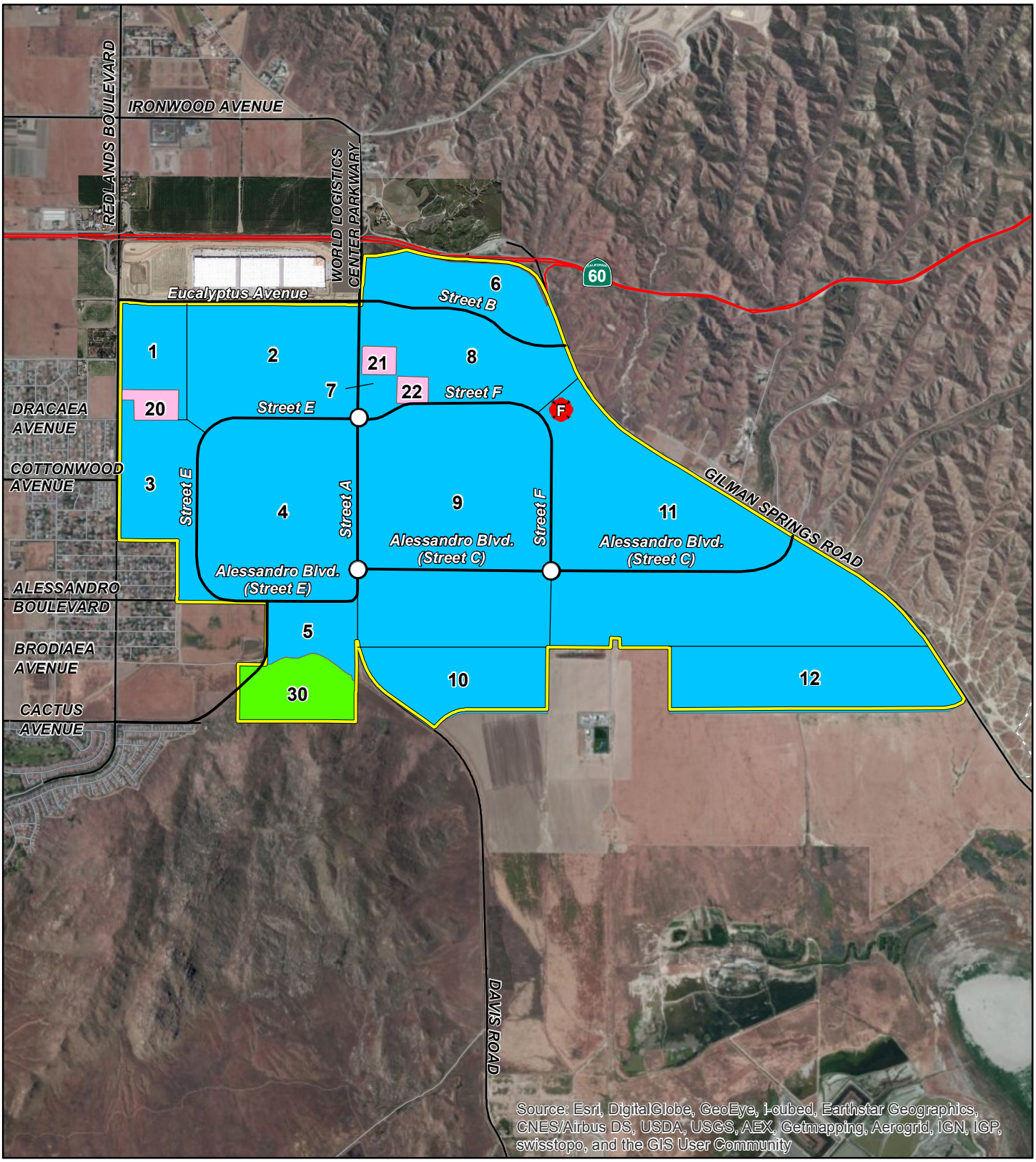
3.4.13 Phasing

Development and occupancy of the WLC project is planned over a period of fifteen years, from 2020 through 2035, although. the actual development phasing and square footage buildout will be based on future market conditions. Section 8.0 of the WLC Specific Plan, *Project Phasing*, suggests that development will likely occur in two large phases, starting in the western portion of the site south of Eucalyptus Avenue This phasing concept is based on beginning construction where infrastructure presently exists and expanding southerly and easterly. It is anticipated that construction of Phase 1 would be completed by 2024 and occupied by 2025 and would contain approximately 50% of

development or approximately 20,300,000 square feet of logistics warehouse uses. Construction of Phase 2 is anticipated to be completed by 2034 and occupied by 2035. Figure 3.19 in the 2015 FEIR shows the proposed phasing plan.

As stated in the WLC Specific Plan, project phasing predictions are conceptual. The actual amount and timing of development and occupancy will be dependent upon numerous factors, many of which are outside the control of the City or the developer, including interest by building users, private developers and local, regional, and national economic conditions. These and other factors acting together will ultimately determine the location and rate at which development within the project area occurs.

The framework for development of the WLC project will be in accordance with the adopted WLC Specific Plan, which identifies the type and intensity of land uses permitted within the project site. It is anticipated that development of the project would occur over time, as the result of the construction of multiple separate independent projects of varying sizes and configurations. Each of these future projects would be required to be consistent with the General Plan and zoning and would comply with all applicable regulations of the WLC Specific Plan. The estimated construction timing in Table 3.E in the 2015 FEIR was revised in the RSFEIR as Table 3.1. This Draft Recirculated RSFEIR includes revisions to the estimated construction equipment and phasing as shown in Table 3.1, below.



LSA

N

0 1,500 3,000

FEET

Project Boundary

Light Logistics

Logistics Development

Open Space

F Fire Station Site

1 Planning Area Number

SOURCE: ESRI World Imagery, 2010; Bing Maps, 2010; Google Maps, 2011.

Figure 3.1

World Logistics Center Specific Plan Project Environmental Impact Report

Specific Plan Land Uses

Table 3.1: Estimated Construction Equipment and Phasing (2020–2034)

Activity/Equipment	#	Duration (months)	Phase 1–		Phase 2–	
			Start	End	Start	End
Mass Grading/Excavation						
Dozers (D8R, D9, D10)	0-14	156	The equipment will be used from January 1 to December 31 during the following years: 2020, 2021, 2022, 2023, and 2024		The equipment will be used from January 1 to December 31 during the following years: 2025, 2026, 2027, 2028, 2029, 2030, 2031, and 2032	
Scraper (651E)	0-20					
Compactor (824C, 834)	0-4					
Motor Grader (140G)	0-2					
Service/Support Truck	0-2					
Other Dozers (D6M, 550)	1-5					
Other[1]	0-30					
Finish Grading						
Dozer (D6M, 550)	1-6	180	The equipment will be used from January 1 to December 31 during the following years: 2020, 2021, 2022, 2023, and 2024		The equipment will be used from January 1 to December 31 during the following years: 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034	
Backhoe (420D)	0-2					
Water Truck	0-2					
Service/Support Truck	0-2					
Building						
Backhoe (590,420)	5-10	180	The equipment will be used from January 1 to December 31 during the following years: 2020, 2021, 2022, 2023, and 2024		The equipment will be used from January 1 to December 31 during the following years: 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034	
Concrete Truck	8-48					
Excavators (9060, 270, 240, mini)	6-18					
Material Delivery Trucks	3-15					
Forklift (420 and 544D)	2-4					
Case and Skip Loaders[2]	10-32					
Service/Support Truck	12-27					
Other[3]	7-14					
Utilities						
Excavators[4]	15-30	180	The equipment will be used from January 1 to December 31 during the following years: 2020, 2021, 2022, 2023, and 2024		The equipment will be used from January 1 to December 31 during the following years: 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034	
Loaders	4-8					
Water Truck	1-8					
Backhoe (420)	1-2					
Service/Support Trucks	8-20					
Delivery Trucks	5-10					
Concrete Trucks	4-8					
Other[5]	3-8					
Interchange						
Dozer (D9, D10)	1	24	The equipment will be used from January 1 to December 31 during the		--	--
PW Scraper (623)	1					
Excavator (324)	1					
Backhoe (430)	1					
Crane	1					

Table 3.1: Estimated Construction Equipment and Phasing (2020–2034)

Activity/Equipment	#	Duration (months)	Phase 1–		Phase 2–	
			Start	End	Start	End
Concrete Truck	4		following years: 2023 and 2024			
Service/Support Truck	4					
Drill Rig	1					
Dump Truck	5					
RT Wheel Loader (950)	1					
Concrete Screed Mach.	1					
Skip Loader (414)	1					
Dozer (D5, D6)	1					
Motor Grader (14M)	1					
Curbing						
Curb Machine/Screed	0-2	180	The equipment will be used from January 1 to December 31 during the following years: 2020, 2021, 2022, 2023, and 2024		The equipment will be used from January 1 to December 31 during the following years: 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034	
Skip Loader (210)	0-2					
Concrete Truck	3-8					
Service/Support Truck	2-6					
Paving						
Roller/Paving/Blade/ Scraper	4-8	180	The equipment will be used from January 1 to December 31 during the following years: 2020, 2021, 2022, 2023, and 2024		The equipment will be used from January 1 to December 31 during the following years: 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034	
Skip Loader	2-4					
Bottom Dump Truck	1-4					
Delivery Truck	2-7					
Service/Support Truck	3-6					
Landscaping						
Loader (310G, 210LE, 544J)	3-6	180	The equipment will be used from January 1 to December 31 during the following years: 2020, 2021, 2022, 2023, and 2024		The equipment will be used from January 1 to December 31 during the following years: 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034	
Water Truck	1-2					
Excavator (mini) /Lift (544D)/ Steer (S190R)	3-6					
Trencher (RT-45)	1-2					
Service/Support Truck	5-10					

Source: Highland Fairview

1. Includes: Water Puller, 420D Backhoe, water trucks, support trucks
2. Includes: 414, 721, cat skip loader, 310G, 210LE, 544J
3. Includes: boom pump/truck, water truck, trencher, skid steer, water truck
4. Includes: 65,000 lbs to 175,000 lbs, 250G, and cat mini
5. Includes: dump truck, crane, fork lift

NOTE TO READERS: Section 4.3, below, of this Draft Recirculated Revised Sections of the FEIR replaces Section 4.3 of the Revised Sections of the FEIR, circulated in July 2018 ("RSFEIR"). The absence of reference to a portion of Section 4.3 means that the corresponding portion of Section 4.3 in the FEIR prepared in 2015 remains unchanged or has been deleted.

4.3 AIR QUALITY

This section analyzes the World Logistics Center project's potential air quality impacts and provides a discussion of the World Logistics Center project, the physical setting of the project area, and the air quality regulatory framework. The air quality analyses evaluate potential air quality impacts by examining the short-term construction as well as long-term operational impacts associated with the project and by evaluating the effectiveness of the identified mitigation measures. Modeled air quality levels are based upon vehicle data, project trip generation, and vehicle miles traveled assumptions included in the project's *Traffic Impact Analysis (TIA)* and peak turn volumes generated for the World Logistics Center project combined with emission factors from the California Air Resources Board (CARB). The evaluation was prepared in accordance with appropriate standards, utilizing procedures and methodologies as recommended by the South Coast Air Quality Management District (SCAQMD), the California Office of Environmental Health Hazards Assessment (OEHHA), and CARB. Air quality data posted by the SCAQMD, CARB, and the EPA web sites are included to document the local air quality environment and are incorporated herein by reference.

Compared to the Revised Sections of the FEIR (2018), construction emissions analyzed herein assume a more average approach to construction phasing and duration and the completion of Phase 1 by December 31, 2024 and the completion of Phase 2 by December 31, 2034. This results in greater consistency with the assumed Project buildout and occupancy schedule with Phase 1 operational in 2025 and Phase 2 operational in 2035. On-road mobile emissions for both construction and operations reflect updated emissions factors using EMFAC2017. The use of EMFAC2017 results in the inclusion of natural gas heavy-duty trucks. Additionally, an early operational year (2035) has been assumed for full Project buildout as opposed to 2040 in the Revised Sections of the FEIR (2018), resulting in less efficient vehicles. Due to these factors, the construction and operational analyses contained herein entirely replace the analyses included in the FEIR and no further comparison is required.

The analysis contained in this section is based on the following technical studies prepared for the World Logistics Center project:

- *Air Quality, Greenhouse Gas, and Health Risk Assessment Report* (Environmental Science Associates, dated November 2019) contained in Appendix A.1 of this Draft Recirculated Revised Sections of the FEIR; and
- *Traffic Impact Analysis Report, The World Logistics Center,* (WSP USA, Inc., dated June 2018) contained in Appendix L of the Revised Sections of the FEIR.
- Additional Information Regarding Potential Health Effects of Air Quality Impacts (Ramboll, dated November 2019) contained in Appendix A.2 of this Draft Recirculated Revised Sections of the FEIR.

On September 29, 2019, the United States Environmental Protection Agency (US EPA) and the National Highway Traffic Safety Administration (NHTSA) published the "Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule Part One: One National Program." (84 Fed. Reg. 51,310 (Sept. 27, 2019)). The Part One Rule revokes California's authority to set its own greenhouse gas emissions standards and set zero-emission vehicles mandates in California.

Generally, after the SAFE Rule Part One becomes effective on November 26, 2019, EMFAC2014 and EMFAC2017 will not accurately estimate future transportation emissions until they are updated with new assumptions reflecting the SAFE Rule Part One in off-model adjustment factors provided by CARB. CARB has prepared off-model adjustment factors for both the EMFAC2014 and EMFAC2017 models to account for the impact of the SAFE Vehicle Rule Part One. These adjustments provided in the form

of multipliers can be applied to emissions outputs from EMFAC model to account for the impact of this rule for gasoline light duty vehicles.

Since a vast majority of the project emissions are from non-gasoline heavy duty vehicles, the change in total project emissions for NO_X, PM_{10}, and $PM_{2.5}$ is less than 1 percent and for CO less than 2.5 percent. As a result, the off-model adjustment factors will not substantially increase any of the significant impacts (or create a new impact).

4.3.1 Existing Setting

4.3.1.1 Regional Air Quality Improvements

The American Lung Association website (lung.org) includes data collected from State air quality monitors that are used to compile an annual *State of the Air* report. These reports have been published over the last 13 years. The latest *State of the Air Report* compiled for the Basin was in 2017 (American Lung Association, 2017). As noted in this report, air quality in the Basin has significantly improved in terms of both pollution levels and high pollution days over the past three decades. Riverside County's average number of unhealthy ozone days dropped from 203 days per year in the initial 2000 State of the Air report to 122 in the 2017 report and San Bernardino County's number of unhealthy ozone days dropped from 230 in 2000 to 142 in 2017. Both Counties has seen dramatic reduction in particle pollution since the initial State of the Air report (2000). While the 2017 *State of the Air Report* shows a slight uptick in the number of days of unhealthy particle pollution for both counties since the 2016 report, it is important to note that pollution levels measured in this latter report were affected by fluctuations in weather conditions.

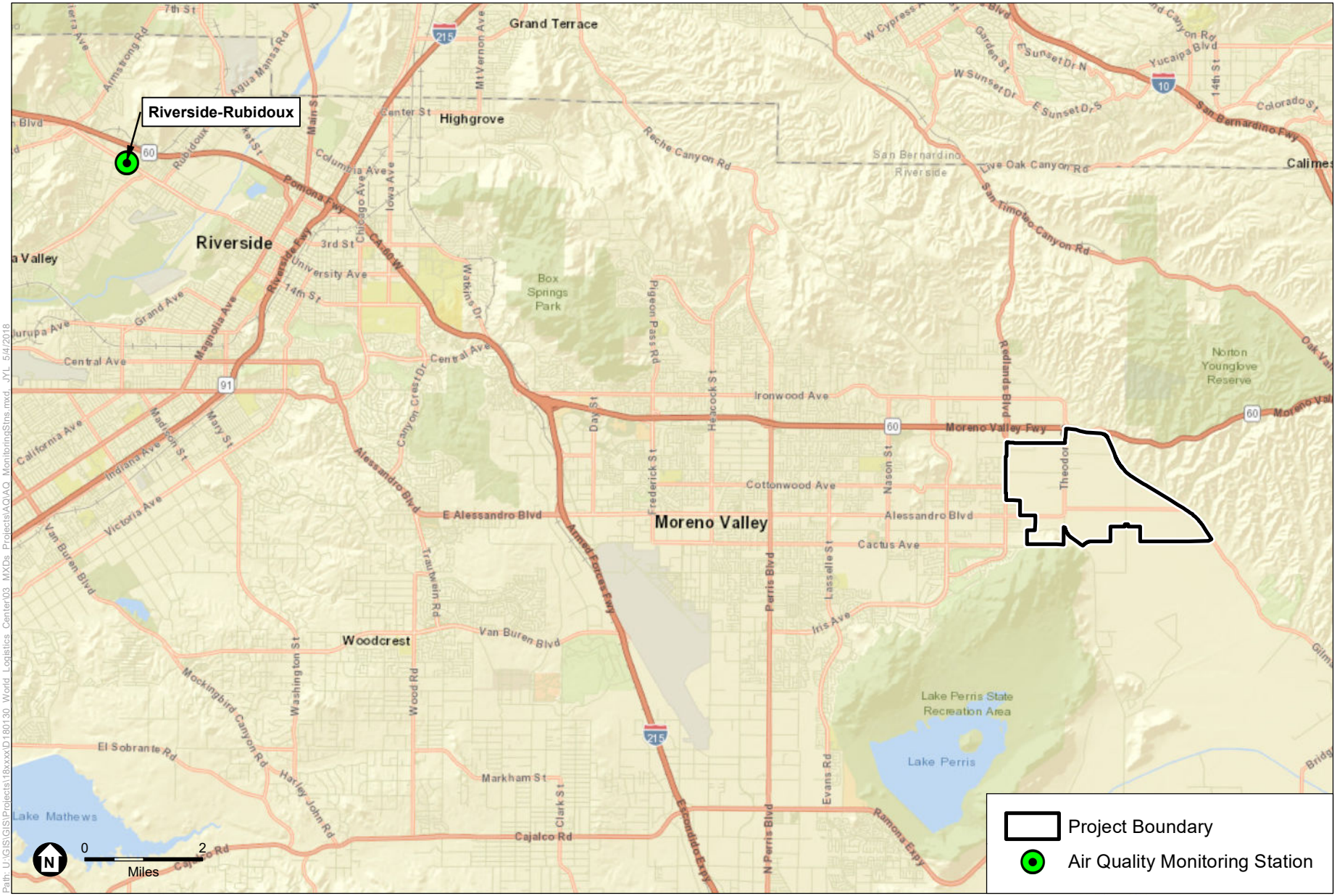
The 2016 Air Quality Management Plan (SCAQMD, 2017) outlines a comprehensive control strategy that meets the requirement for expeditious progress towards an attainment date for the five National Ambient Air Quality Standards (NAAQS) being analyzed. As stated in the 2016 AQMP, "The ozone and PM levels continue to trend downward as the economy and population increase, demonstrating that it is possible to maintain a healthy economy while improving public health through air quality improvements" (SCAQMD, 2017). NO_X, VOC, PM, NH_3, have been decreasing in the Basin since 2000 and are projected to continue to decrease through 2035 (CARB, 2013). These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NO_X and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_X emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. The number of days exceeding the ozone national 8-hour standard has decreased between 1992 and 2011. During the 1992 time period, nearly all of the South Coast Air Basin had more than 50 exceedance days, with more than 100 days in nearly one-third of the Basin. This is equivalent to more than three months during a year with ozone concentrations above the level of the standard. Much of this area currently meets the national standard, including about two-thirds of Orange County and one-third of Los Angeles County, where the majority of the Basin population lives and works (CARB, 2013).

The reduction in air pollution levels experienced in the Basin is attributable to multiple factors. First, Federal and State regulatory strategies requiring the use of cleaner fuels and use of emissions control technology in the transportation and energy production industries have proven to greatly reduce the amount of tailpipe emission (vehicles) and point source (power plants) pollutants (e.g., NO_X and ROG). Second, the SCAQMD's rules and regulatory programs have proven to be instrumental in improving the air quality in the Basin. As an example, the SCAQMD has adopted multiple rules regarding fugitive dust (PM_{10} and $PM_{2.5}$) and construction emissions that have resulted in reduced emission levels. Third, the SCAQMD's creation of the 1993 CEQA review handbook has resulted in lead agencies throughout the air basin employing uniform CEQA analyses and methodologies. The use of uniform CEQA review has allowed the SCAQMD and lead agencies that rely on the 1993 SCAQMD Air Quality Handbook to perform CEQA analysis to better track progress and to employ uniform mitigation and design feature strategies. Fourth, the use of the SCAQMD thresholds of significance to determine a project's direct and cumulative impact has allowed the SCAQMD to make tremendous progress toward achieving air

quality attainment. The discussion above (pertaining to the air quality improvements achieved over the past 20 years) demonstrates that the SCAQMD's rules and procedures, including the uniform utilization of the thresholds of significance recommended in the SCAQMD *CEQA Air Quality Handbook* are contributing toward the achievement of improved air quality in the Basin.

4.3.1.2 Local Air Quality

The SCAQMD, together with the CARB, maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station most representative of the project site is the Riverside-Rubidoux station. This station monitors CO, SO_2, NO_2, O_3, PM_{10}, and $PM_{2.5}$. Some monitoring data for SO_2 has been omitted as attainment is regularly met for this pollutant within the Basin. This station characterizes the air quality representative of the ambient air quality in the project area. The ambient air quality data in Table 4.3-3 identify that CO and NO_2 levels are consistently below the relevant State and Federal standards in the project vicinity. O_3, PM_{10}, and $PM_{2.5}$ levels all exceed State and/or Federal standards regularly. Figure 4.3-1 identifies the location of the monitoring station relative to the World Logistics Center project site.



SOURCE: ESRI

World Logistics Center

Figure 4.3.1
Air Quality Monitoring Station

ESA

Table 4.3-1: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)[8]	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter ($PM_{2.5}$)[9]	24-Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	12.0 µg/m^3	15.0 µg/m^3	
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm(40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)[10]	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	Gas Phase Chemiluminescence	53 ppb (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.18 ppm (339 µg/m^3)		100 ppb (188 µg/m^3)	None	
Sulfur Dioxide (SO_2)[11]	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (for certain areas)[11]	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	—	
	3-Hour	—		—	0.5 ppm (1300 µg/m^3)	
	1-Hour	0.25 ppm (655 µg/m^3)		75 ppb (196 µg/m^3)	—	
Lead[12, 13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average[11]	—		0.15 µg/m^3		
Visibility-Reducing Particles[14]	8-Hour	Extinction coefficient of 0.23 per kilometer - visibility of ten miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.	Beta Attenuation and Transmittance through Filter Tape	**No Federal Standards**		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Footnotes

1 California standards for ozone; carbon monoxide (except 8-hour Lake Tahoe); sulfur dioxide (1- and 24-hour); nitrogen dioxide; particulate matter (PM_{10} and $PM_{2.5}$ and visibility-reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

2 National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth-highest eight-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current federal policies.

3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

4 Any equivalent measurement method which can be shown to the satisfaction of the CARB to give equivalent results at or near the level of the air quality standard may be used.

5 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

6 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

7 Reference method as described by the EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the EPA.

8 On October 1, 2015, the natural eight-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

9 On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

10 To attain the 1-hour national standard, the 3-year average of the 98th percentile of the daily maximum concentrations at each site must not exceed 0.100 ppm. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

11 On June 2, 2010, a new 1-hour SO_2 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 0.75 ppb. The 1971 SO2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm).

12 The CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13 The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

°C = degrees Celsius
EPA = United States Environmental Protection Agency
µg/m^3 = micrograms per cubic meter
mg/m^3 = milligrams per cubic meter
ppm = parts per million
ppb = parts per billion

Source: CARB, 2016a

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Table 4.3-2: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment	N/A
O_3 8-hour	Nonattainment	Extreme Nonattainment
PM_{10}	Nonattainment	Maintenance – serious (San Bernardino County is in nonattainment)
$PM_{2.5}$	Nonattainment	Moderate Nonattainment
CO	Attainment	Serious Maintenance
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Pb	Attainment	Attainment
All others	Attainment/Unclassified	Attainment/Unclassified

Unclassified designation: a pollutant that is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
Attainment designation: a pollutant is designated attainment if the State standard for that pollutant was not violated at any site in the area during a 3-year period.
Nonattainment: a pollutant is designated nonattainment if there was at least one violation at any site in the area during a 3-year period.
Source: CARB, 2017a. USEPA, 2018a

4.3.1.3 Sensitive Land Uses in the Project Vicinity

Sensitive receptors include residences, schools, medical offices, convalescent facilities, and similar uses where people sensitive to air pollutants may be located (i.e., the ill, elderly, pregnant women, and children). There are currently six occupied single-family homes and associated ranch/farm buildings in various locations on the World Logistics Center project site. These residences are existing on-site sensitive receptors. The nearest off-site existing sensitive receptors in the vicinity of the project site are the residences located along Bay Avenue, Merwin Street, west of Redlands Boulevard, and scattered residences along Gilman Springs Road north of Alessandro Boulevard. Nearby sensitive land uses are depicted in Figure 4.3-2.

4.3.1.4 Existing Project Area Emissions

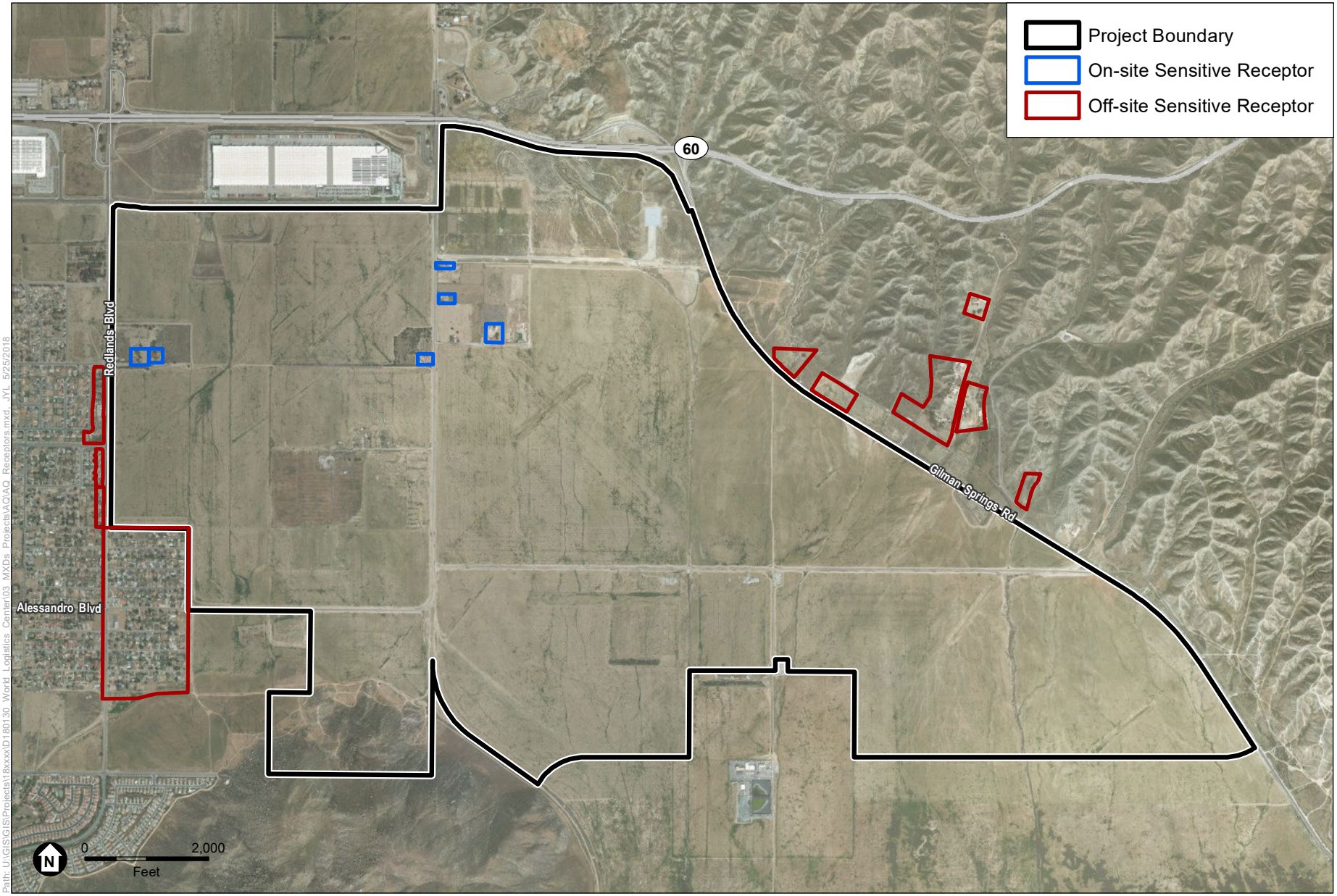
The project area is largely vacant undeveloped marginal agricultural land, with six occupied single-family homes and associated ranch/farm buildings in various locations on the property. Much of the site is currently used for dry farming. San Diego Gas & Electric (SDG&E) operates a natural gas compressor plant, known as the Moreno Compressor Station, on 19 acres south of the site. The Southern California Gas Company (SCGC) also operates a metering and pipe cleaning station on two separate parcels (totaling 1.5 acres) south of the site south of Alessandro Boulevard along existing Virginia Street. Existing air quality conditions at the project site reflect ambient[1] monitored conditions as presented in Table 4.3-3.

[1] Ambient: of or related to the immediate surroundings of something; in this context it means “in the air”

Table 4.3-3: Ambient Air Quality Monitored in the Project Vicinity

Pollutant	Standard	2014	2015	2016	2017
Carbon Monoxide (CO)					
Maximum 1-hr concentration (ppm)		2.4	2.5	1.6	2.4
Number of days exceeded:	State: > 20 ppm	0	0	0	0
	Federal: > 35 ppm	0	0	0	0
Maximum 8-hr concentration (ppm)		1.9	1.7	1.3	1.8
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0	0
	Federal: ≥ 9 ppm	0	0	0	0
Ozone (O_3)					
Maximum 1-hr concentration (ppm)		0.141	0.132	0.142	0.145
Number of days exceeded:	State: > 0.09 ppm	29	31	33	ND
Maximum 8-hr concentration (ppm)		0.105	0.106	0.105	0.118
Number of days exceeded:	State: > 0.070 ppm	69	59	71	ND
	Federal: > 0.075 ppm	41	39	47	84
Coarse Particulates (PM_{10})					
Maximum 24-hr concentration (µg/m^3)		100	69	84	92
Number of days exceeded:	State: > 50 µg/m^3	125	92	ND	ND
	Federal: > 150 µg/m^3	0	0	0	0
Annual arithmetic mean concentration (µg/m^3)		44.8	40.0	ND	ND
Exceeded for the year	State: > 20 µg/m^3	Yes	Yes	ND	ND
Fine Particulates ($PM_{2.5}$)					
Maximum 24-hr concentration (µg/m^3)		50.6	61.1	60.8	50.3
Number of days exceeded:	Federal: > 35 µg/m^3	ND	10	5	ND
Annual arithmetic mean (µg/m^3)		16.8	15.3	12.6	12.2
	State: > 12 µg/m^3	Yes	Yes	Yes	Yes
Exceeded for the year	Federal: > 12.0 µg/m^3	Yes	Yes	Yes	Yes
Nitrogen Dioxide (NO_2)					
Maximum 1-hr concentration (ppm)		0.0600	0.057	0.073	0.063
Number of days exceeded:	State: > 0.18 ppm	0	0	0	0
Annual arithmetic mean concentration (ppm)		0.015	0.0144	0.015	0.015
Exceeded for the year	State: > 0.030 ppm Federal: > 0.053 ppm	No No	No No	ND	ND
Sulfur Dioxide (SO_2)					
Maximum 24-hr concentration (ppm)		1.3	1.0	1.2	1.2
Number of days exceeded:	State: > 0.04 ppm	ND	ND	ND	ND
Annual arithmetic average concentration (ppm)		0.26	0.27	0.23	0.29
Exceeded for the year:	Federal: > 0.030 ppm	No	No	No	No

µg/m^3 = micrograms per cubic meter
EPA = United States Environmental Protection Agency
ID = Insufficient data
ND = No data
ppm = parts per million
Source: CARB, 2018 for the SCAQMD Riverside-Rubidoux air monitoring station.



SOURCE: ESRI 2016; County of Riverside 2017

World Logistics Center

Figure 4.3.2
Existing Sensitive Receptors

ESA

4.3.2 Policies and Regulations

4.3.2.1 Federal Regulations

Clean Air Act. Pursuant to the Federal Clean Air Act (CAA) of 1970, the EPA established national ambient air quality standards (NAAQS). The NAAQS were established for six major pollutants, termed "criteria" pollutants. Criteria pollutants are defined as those pollutants for which the Federal and State governments have established ambient air quality standards, or criteria, for outdoor concentrations in order to protect public health.

Effective June 2, 2010, the EPA revised the primary standard for SO_2 by establishing a new 1-hour standard at a level of 75 ppb. The EPA revoked the two existing primary standards of 140 ppb evaluated over 24 hours and 30 ppb evaluated over an entire year as they would not provide additional public health protection given a 1-hour standard at 75 ppb. To attain this standard, the 3-year average of the 99th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 75 ppb.

Effective December 14, 2012, the national annual $PM_{2.5}$ standard was lowered from 15 µg/m^3 to 12 µg/m^3 but the existing 24-hour and annual secondary standards were retained.

On October 1, 2015, the national eight-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm, respectively.

4.3.2.2 Regional Regulations

Regional Air Quality Management Plan (AQMP). The SCAQMD and the SCAG are responsible for formulating and implementing the AQMP, which has a 20-year horizon 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 Federal and/or California ambient air quality standards. The SCAQMD and SCAG must update the AQMP every three years.

2012 AQMP. The 2012 AQMP was adopted December 7, 2012 (SCAQMD, 2012b). The purpose of the 2012 AQMP for the Basin was to set forth a program that would lead the Basin into compliance with the Federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update of the Basin's projections in meeting the Federal 8-hour ozone standards. The AQMP was adopted by the SCAQMD Board; therefore, it was submitted to the EPA as the State Implementation Plan (SIP). Specifically, the AQMP served as the official SIP submittal for the Federal 2006 24-hour $PM_{2.5}$ standard. In addition, the AQMP updated specific elements of the previously approved 8-hour ozone SIP: (1) an updated emissions inventory, and (2) new control measures and commitments for emissions reductions to help fulfill the Section 182(e)(5) portion of the 8-hour ozone SIP.

The 2012 AQMP states, "The remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs."

The 2012 AQMP proposed Basin-wide $PM_{2.5}$ measures that would be implemented by the 2014 attainment date, episodic control measures to achieve air quality improvements (would only apply during high $PM_{2.5}$ days), Section 182(e)(5) implementation measures (to maintain progress toward meeting the 2023 8-hour ozone national standard), and transportation control measures. Most of the control measures focused on incentives, outreach, and education.

Proposed $PM_{2.5}$ reduction measures in the 2012 AQMP included the following:

- Further NO_X reductions from the SCAQMD's Regional Clean Air Incentives Market (RECLAIM) program. The RECLAIM program was adopted by the SCAQMD in October 1993 and set an emissions cap and declining balance for many of the largest facilities emitting NO_X and SO_x in the

South Coast Air Basin. RECLAIM includes over 350 participants in its NO_X market and about 40 participants in its SO_x market. RECLAIM has the longest history and practical experience of any locally designed and implemented air emissions cap and trade program. RECLAIM allows participating facilities to trade air pollution while meeting clean air goals.

- Further reductions from residential wood-burning devices.
- Further reductions from open burning.
- Emission reductions from under-fired char broilers.
- Further ammonia reductions from livestock waste.
- Backstop measures for indirect sources of emissions from ports and port-related sources.
- Further criteria pollutant reductions from education, outreach, and incentives.

There were multiple VOC and NO_X reductions in the 2012 AQMP to attempt to reduce ozone formation, including further VOC reductions from architectural coatings, miscellaneous coatings, adhesives, solvents, lubricants, and mold release products.

The 2012 AQMP also contained proposed mobile source implementation measures for the deployment of zero and near-zero emission on-road heavy-duty vehicles, locomotives, and cargo handling equipment. There were measures for the deployment of cleaner commercial harbor craft, cleaner ocean-going marine vessels, cleaner off-road equipment, and cleaner aircraft engines.

The 2012 AQMP proposed the following mobile source implementation measures:

- On-road mobile sources:
    - Accelerated penetration of partial zero-emission and zero-emission vehicles. This measure proposed to continue incentives for the purchase of zero-emission vehicles and hybrid vehicles with a portion of their operation in an all-electric range mode. The state Clean Vehicle Rebate Pilot program was proposed to continue from 2015 to 2023 with a proposed funding for up to $5,000 per vehicle. The measure seeks to provide funding assistance for up to 1,000 zero-emission or partial-zero emission vehicles per year.
    - Accelerated penetration of partial zero-emission and zero-emission light-heavy and medium-heavy duty vehicles through funding assistance for purchasing the vehicles. The objective of the proposed action was to accelerate the introduction of advanced hybrid and zero-emission technologies for Class 4 through 6 heavy-duty vehicles. The state is currently implementing a Hybrid Vehicle Incentives Project program to promote zero-emission and hybrid heavy-duty vehicles. The proposed measure aims to continue the program from 2015 to 2023 to deploy up to 1,000 zero- and partial-zero emission vehicles per year with up to $25,000 funding assistance per vehicle. Zero-emission vehicles and hybrid vehicles with a portion of their operation in an all-electric range mode would be given the highest priority.
    - Accelerated retirement of older light-, medium-, and heavy-duty vehicles through funding incentives.
    - Further emission reductions from heavy-duty vehicles serving near-dock rail yards This proposed control measure called for a requirement that any cargo container moved between the ports of Los Angeles and Long Beach to the nearby rail yards be with zero-emission technologies. The measure would be fully implemented by 2020 through the deployment of zero-emission trucks or any alternative zero-emission container movement system such as a fixed guideway system. The measure called for the CARB to either adopt a new regulation or amend an existing regulation to require such deployment by 2020.

- Off-road mobile sources:
    - Extension of the Surplus Off-Road Opt-In for NO_X (SOON) provision for construction/industrial equipment, which provides funding to repower or replace older Tier 0 and Tier 1 equipment.
    - Further emission reductions from freight and passenger locomotives called for an accelerated use of Tier 4 locomotives in the Basin.
    - Further emission reductions from ocean-going marine vessels while at berth.
    - Emission reductions from ocean-going marine vessels.

The 2012 AQMP also relied upon the SCAG regional transportation strategy, which is in its adopted 2012–2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and 2011 Federal Transportation Improvement Program (FTIP), which contains the following sections:

1. Linking regional transportation planning to air quality planning and making sure that the regional transportation plan supports the goals and objectives of the AQMP/SIP.
2. Regional transportation strategy and transportation control measures: The RTP/SCS contains improvements to the regional multimodal transportation system including the following: active transportation (non-motorized transportation, e.g., biking and walking); transportation demand management; transportation system management; transit; passenger and high-speed rail; goods movement; aviation and airport ground access; highways; arterials; and operations and maintenance.
3. Reasonably available control measure analysis.

2016 AQMP. On March 3, 2017, SCAQMD approved the Final 2016 Air Quality Management Plan (2016 AQMP) that demonstrates attainment of the 1-hr and 8-hr ozone NAAQS as well as the latest 24-hr and annual $PM_{2.5}$ standards. Currently, the 2016 AQMP is being reviewed by the U.S. EPA and CARB. Until the approval of the EPA and CARB, the current regional air quality plan is the Final 2012 Air Quality Management Plan (AQMP) adopted by the SCAQMD on December 7, 2012.The Final 2016 AQMP includes the integrated strategies and measures needed to meet the NAAQS.

The 2016 AQMP seeks to achieve multiple goals in partnership with other entities promoting reductions in criteria pollutant, greenhouse gases, and toxic risk, as well as efficiencies in energy use, transportation, and goods movement. The most effective way to reduce air pollution impacts on the health of our nearly 17 million residents, including those in disproportionally impacted and environmental justice communities that are concentrated along our transportation corridors and goods movement facilities, is to reduce emissions from mobile sources, the principal contributor to our air quality challenges. For that reason, the SCAQMD worked closely with CARB and the U.S. EPA who have primary responsibility for these sources. The Plan recognized the critical importance of working with other agencies to develop new regulations, as well as secure funding and other incentives that encourage the accelerated transition of vehicles, buildings, and industrial facilities to cleaner technologies in a manner that benefits not only air quality, but also local businesses and the regional economy. These “win-win” scenarios will be key to implementation of this Plan with broad support from a wide range of stakeholders. The 2016 AQMP also includes transportation control measures (TCMs) developed by SCAG from the 2016 RTP/SCS.

The RTP/SCS and FTIP were developed in consultation with federal, state and local transportation and air quality planning agencies and other stakeholders. The four County Transportation Commissions (CTCs) in the South Coast Air Basin, namely Los Angeles County Metropolitan Transportation Authority, Riverside County Transportation Commission, Orange County Transportation Authority and the San Bernardino Associated Governments, were actively involved in the development of the regional transportation measures. In the South Coast Air Basin, TCMs include the following three main

categories of transportation improvement projects and programs that have funding programmed for right-of-way and/or construction in the first two years of the 2015 FTIP:

- Transit, Intermodal Transfer, and Active Transportation Measures;
- High Occupancy Vehicle (HOV) Lanes, High Occupancy Toll (HOT) Lanes, and their pricing alternatives; and
- Information-based Transportation Strategies.

South Coast Air Quality Management District Proposed Indirect Sources Rules for Warehouses. In order to obtain the 80 ppb and 75 ppb 8-hour ozone standards by the 2023 and 2031 attainment dates, respectively, and in support of the 2016 AQMP, the SCAQMD is formulating Facility Based Mobile Sources Rules to reduce NO_X emissions from indirect sources (e.g., mobile sources generated by, or attracted to facilities). This proposed rule or set of rules would reduce emissions associated with emissions sources operating in and out of warehouse and distribution centers, consistent with Control Measures MOB 03 from the 2016 AQMP, and is anticipated to be brought before the Board for consideration in the second quarter of 2020 (SCAQMD, 2019a).[2] The SCAQMD is looking at a variety of options which could include voluntary reduction strategies, as well as, regulations to limit emissions. The voluntary emission reduction strategies for warehouses and distribution centers could include: (1) development of a SCAQMD administered CEQA air quality mitigation fund, for warehouse projects to opt into, which would be used to reduce project emissions by funding financial incentives for fleet owners to purchase cleaner trucks; (2) development of updated guidance for warehouse siting and operations; (3) development of the necessary fueling/charging infrastructure by working with utilities and regulatory agencies; and (4) development of "green delivery options" which could involve a small, voluntary, opt-in surcharge for consumers when purchasing goods online with the funds generated used towards reducing truck fleet emissions (SCAQMD, 2018).[3] A regulatory approach is being proposed as well, since the recommended voluntary measures would only result in limited emissions reductions. The proposed Warehouse Indirect Source Rule is aimed at reducing trucking emissions and could provide several compliance options that facilities could choose including: (1) requirements for warehouses to ensure that construction fleets and truck fleets that serve their facility during operations are cleaner than required by CARB regulations (verified through a voluntary fleet certification program); (2) facility emission caps that would require warehouses to directly control the emissions associated with trucks visiting the facility; (3) mitigation fees if the facilities emissions exceed cap levels set in the Indirect Source Rule, (4) crediting options for other activities like installation of charging/fueling infrastructure for cleaner trucks and transportation refrigeration units, conversion of cargo handling equipment to zero emission technologies, etc.; (5) requiring facilities to utilize zero emission trucks and build the infrastructure to support them; and (6) a points based system for the warehouse Indirect Source Rule (SCAQMD, 2019a, SCAQMD, 2019b,[4] SJVAPCD, 2017[5]). This proposed rule would further reduce air quality emissions, beyond those calculated in this analysis, as future operations of the WLC would be subject to this rule once it is proposed and approved.

Diesel Regulations. The Ports of Long Beach and Los Angeles and the CARB have adopted regulations aimed at reducing the amount of diesel particulate. These programs are the Ports of Los Angeles and Long Beach "Clean Truck Program" (POLA, 2018), the CARB Drayage Truck Regulation (CARB, 2017b), and the CARB statewide On-road Truck and Bus Regulation (CARB, 2017c). Each of

[2] South Coast Air Quality Management District, 2019a. General Board Meeting November 1, 2019 Agenda No. 1. Attached Minutes of the October 4 2019 Meeting. Available online: http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2019/2019-nov1-001.pdf?sfvrsn=6 Accessed November 6, 2015.

[3] South Coast Air Quality Management District, 2018. Board Meeting, March 2, 2018. Agenda No. 32. Available online: http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2018/2018-mar2-032.pdf?sfvrsn=7. Accessed November 3, 2019.

[4] South Coast Air Quality Management District General Board Meeting March 1, 2019 Agenda No. 25. Mobile Source Committee Meeting February 15, 2019. Available online: http://www.aqmd.gov/docs/default-source/Agendas/Governing-Board/2019/2019-mar1-025.pdf?sfvrsn=6. Accessed November 6, 2019.

[5] San Joaquin Valley Air Pollution Control District, 2017. Rule 9510 Indirect Source Review (ISR) (Adopted December 15, 2005, Amended December 21, 2017, but not in effect until March 21, 2018). Available online: http://www.valleyair.org/rules/currntrules/r9510-a.pdf. Accessed November 6, 2015.

these regulatory programs will require an accelerated introduction of “clean trucks” into the statewide truck fleet that will result in substantially lower diesel emissions during the 2008 to 2020 timeframe. Additionally, the Ports of Long Beach and Los Angeles updated the Clean Air Action Plan in 2017, providing new strategies and emission targets supporting zero-emissions and freight efficiency targets (POLA and POLB, 2017).

Toxic Air Contaminants. A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality (death) or 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 low concentrations. Hazardous Air Pollutants (HAPs) and TACs are used interchangeably in this discussion. HAPs are regulated by the EPA under the Federal Clean Air Act. TAC is the term used under the California Clean Air Act to regulate the same hazardous pollutants. These contaminants tend to be localized and are found in relatively low concentrations in ambient air. However, they can result in adverse chronic health effects if exposure to low concentrations occurs for periods of several years. Many of these contaminants originate from human activities, such as fuel combustion and solvent use.

In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts are not expected to occur. This contrasts with the criteria pollutants carbon dioxide, nitrogen dioxide, particulate matter, and ozone for which acceptable levels of exposure can be determined and for which the State and federal governments have set ambient air quality standards. For this reason, thresholds for TAC impacts for regulatory purposes and for CEQA thresholds have been set based on the increase in risk of cancer of a specific amount at sensitive receptors located near the source of TAC emissions.

The California Almanac of Emissions and Air Quality presents the relevant concentration and cancer risk data for the ten TACs that pose the most substantial health risk in California based on available data. These TACs are as follows: acetaldehyde, benzene, 1.3-butadiene, carbon tetrachloride, hexavalent chromium, paradichlorobenzene, formaldehyde, methylene chloride, perchloroethylene, and diesel particulate matter (diesel PM).

TAC measurements, available at the SCAQMD Riverside Rubidoux monitoring station (14 miles northwest of the project site) can be used to characterize the “background” health risks from regional TAC emission sources. Table 4.3-4 provides this summary of TAC levels in the project area and health risk information. This table lists the air concentration levels and associated health cancer risks for eight of the nine TACs reported by the CARB in its Almanac as measured at the Riverside-Rubidoux air monitoring station. Note that since diesel PM cannot be measured directly, the table does not provide estimates of either measured diesel PM or the cancer risk associated with diesel PM.

Past studies have indicated that diesel PM poses the greatest health risk among the TACs listed in Table 4.3-4. The principal concern regarding exposures to diesel PM lies in its small size and thus its ability to penetrate deep into lung tissues when inhaled. Diesel exhaust has been found to cause health effects from short-term or acute exposures and from long-term chronic exposures, such as repeated occupational exposures. The type and severity of health effects depends upon several factors including the amount of chemical you are exposed to and the length of time you are exposed. Individuals also react differently to different levels of exposure. There is limited information on exposure to just diesel PM but there is enough evidence to indicate that inhalation exposure to diesel exhaust causes acute and chronic health effects.

Long-term (chronic) exposure to diesel exhaust is likely to occur when a person works in a field where diesel is used regularly or experiences repeated exposure to diesel fumes over a long period of time. Human health studies demonstrate a correlation between exposure to diesel exhaust and increased lung cancer rates in occupational settings. Experimental animal inhalation studies of chronic exposure to diesel exhaust have shown that a range of doses causes varying levels of inflammation and cellular changes in the lungs. Human and laboratory studies have also provided considerable evidence that diesel exhaust is a likely carcinogen.

Table 4.3-4: Toxic Air Contaminant Concentration Levels and Associated Health Effects (Riverside, California)

TAC	Concentration[A]/ Health Risk[B]	2015	2016	2017	Health Effects
Acetaldehyde	Mean	1.48	1.44	1.08	Acetaldehyde is a carcinogen that also causes chronic non-cancer toxicity in the respiratory system. Symptoms of chronic intoxication of acetaldehyde in humans resemble those of alcoholism. The primary acute effect of inhalation exposure to acetaldehyde is irritation of the eyes, skin, and respiratory tract in humans. At higher exposure levels, erythema, coughing, pulmonary edema, and necrosis may also occur. Acute inhalation of acetaldehyde resulted in a depressed respiratory rate and elevated blood pressure in experimental animals.
	Health Risk	22	21	16	
Benzene	Mean	ID	0.27	0.271	Benzene is highly carcinogenic and occurs throughout California. Benzene also has non-cancer health effects. Brief inhalation exposure to high concentrations can cause central nervous system depression. Acute effects include central nervous system symptoms of nausea, tremors, drowsiness, dizziness, headache, intoxication, and unconsciousness. Neurological symptoms of inhalation exposure to benzene include drowsiness, dizziness, headaches, and unconsciousness in humans. Ingestion of large amounts of benzene may result in vomiting, dizziness, and convulsions in humans. Exposure to liquid and vapor may irritate the skin, eyes, and upper respiratory tract in humans. Redness and blisters may result from dermal exposure to benzene. Chronic inhalation of certain levels of benzene causes disorders in the blood in humans. Benzene specifically affects bone marrow (the tissues that produce blood cells). Aplastic anemia, excessive bleeding, and damage to the immune system (by changes in blood levels of antibodies and loss of white blood cells) may develop. Increased incidence of leukemia (cancer of the tissues that form white blood cells) has been observed in humans occupationally exposed to benzene.
	Health Risk	ID	85	70	
Chromium Hex	Mean	0.083	0.045	ID	In California, hexavalent chromium has been identified as a carcinogen. There is epidemiological evidence that exposure to inhaled hexavalent chromium may result in lung cancer. The principal acute effects are renal toxicity, gastrointestinal hemorrhage, and intravascular hemolysis. The respiratory tract is the major target organ for chromium (VI) following inhalation exposure in humans. Other effects noted from acute inhalation exposure to very high concentrations of chromium (VI) include gastrointestinal and neurological effects, while dermal exposure causes skin burns in humans. Chronic inhalation exposure to chromium (VI) in humans results in effects on the respiratory tract, with perforations and ulcerations of the septum, bronchitis, decreased pulmonary function, pneumonia, asthma, and nasal itching and soreness reported. Chronic human exposure to high levels of chromium (VI) by inhalation or oral exposure may produce effects on the liver, kidneys, gastrointestinal and immune systems, and possibly the blood.
	Health Risk	34	19	ID	

Table 4.3-4: Toxic Air Contaminant Concentration Levels and Associated Health Effects (Riverside, California)

TAC	Concentration[A]/ Health Risk[B]	2015	2016	2017	Health Effects
Para-Dichlorobenzene	Mean	ID	ID	ID	In California, para-dichlorobenzene has been identified as a carcinogen. Acute exposure to 1,4-dichlorobenzene via inhalation results in irritation to the eyes, skin, and throat in humans. In addition, long-term inhalation exposure may affect the liver, skin, and central nervous system in humans (e.g., cerebellar ataxia, dysarthria, weakness in limbs, and hyporeflexia).
	Health Risk	ID	ID	ID	
Formaldehyde	Mean	3.52	3.64	3.35	The major toxic effects caused by acute formaldehyde exposure via inhalation are eye, nose, and throat irritation and effects on the nasal cavity. Other effects seen from exposure to high levels of formaldehyde in humans are coughing, wheezing, chest pains, and bronchitis. Chronic exposure to formaldehyde by inhalation in humans has been associated with respiratory symptoms and eye, nose, and throat irritation. Animal studies have reported effects on the nasal respiratory epithelium and lesions in the respiratory system from chronic inhalation exposure to formaldehyde. Occupational studies have noted statistically significant associations between exposure to formaldehyde and increased incidence of lung and nasopharyngeal cancer. This evidence is considered "limited" rather than "sufficient" due to possible exposure to other agents that may have contributed to the excess cancers. EPA considers formaldehyde to be a probable human carcinogen (cancer-causing agent) and has ranked it in EPA's Group B1. In California, formaldehyde has been identified as a carcinogen.
	Health Risk	70	76	70	
Methylene Chloride	Mean	ID	48.2	12.3	Case studies of methylene chloride poisoning during paint-stripping operations have demonstrated that inhalation exposure to extremely high levels can be fatal to humans. Acute inhalation exposure to high levels of methylene chloride in humans has resulted in effects on the central nervous system, including decreased visual, auditory, and psychomotor functions, but these effects are reversible once exposure ceases. Methylene chloride also irritates the nose and throat at high concentrations. The major effects from chronic inhalation exposure to methylene chloride in humans are effects on the central nervous system, such as headaches, dizziness, nausea, and memory loss. In addition, chronic exposure can lead to bone marrow, hepatic, and renal toxicity. EPA considers methylene chloride to be a probable human carcinogen and has ranked it in EPA's Group B2. California considers methylene chloride to be carcinogenic.
	Health Risk	ID	477	122	
Perchloroethylene	Mean	ID	0.018	0.013	In California, perchloroethylene has been identified as a carcinogen. Perchloroethylene vapors are irritating to the eyes and respiratory tract. Following chronic exposure, workers have shown signs of liver toxicity, as well as kidney dysfunction and neurological disorders.
	Health Risk	ID	2	2	
Diesel PM	Mean	No Monitoring Data Available			In its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, railroad workers, and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provided strong evidence that long-term occupational exposure to diesel exhaust
	Health Risk				

Table 4.3-4: Toxic Air Contaminant Concentration Levels and Associated Health Effects (Riverside, California)

TAC	Concentration[A]/ Health Risk[B]	2015	2016	2017	Health Effects
					increases the risk of lung cancer. Exposure to diesel exhaust can have immediate health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. This research was based on studies prior to the advent of modern diesel engines with high efficiency emissions controls. Note: Since then the Health Effects Institute study clearly demonstrates that the application of new emissions control technology to diesel engines has virtually eliminated the health impacts of diesel exhaust.

Notes:
ID = Insufficient data
A = Concentrations for Hexavalent Chromium are expressed as µg/m^3, and concentrations for Diesel PM are expressed as µg/m^3. Concentrations for all other TACs are expressed as ppb.
B = Health Risk represents the number of excess cancer cases per million people based on a lifetime (70-year) exposure to the annual average concentration. Total Health Risk represents only those compounds listed in this table and only those with data for the year. There may be other significant compounds for which monitoring and/or health risk information are not available
Source: CARB, 2018 for the SCAQMD Riverside-Rubidoux air monitoring station.

Several occupational and ambient studies have documented the health effects due to exposure to diesel PM. The California Office of Environmental Health Hazards Assessment (OEHHA), in its role in assessing risk from environmental factors reviews such studies and makes recommendations on the way environmental risk should be evaluated through programs like the AB2588 Hot Spot Program. In its comprehensive assessment of diesel exhaust, OEHHA analyzed more than 30 studies of people who worked around diesel equipment, including truck drivers, 1950's era railroad workers, and equipment operators. The studies showed these workers were more likely to develop lung cancer than workers who were not exposed to diesel emissions. These studies provide strong evidence that long-term occupational exposure to diesel exhaust increases the risk of lung cancer. However, all of these studies were based on exposure to exhaust from traditional diesel engines and prior to the advent of highly efficient emissions controls like the diesel particulate filter. Based on these studies, CARB identified diesel exhaust a toxic air contaminant in 1998.

In 2014, the SCAQMD released the fourth iteration of the Multiple Air Toxics Exposure Study (MATES-IV). The MATES-IV is a follow up to the previous MATES studies and included an updated toxics air emission inventory, new air toxics air dispersion modeling, and enhanced air toxics monitoring. A key conclusion reached in the MATES-IV study was that the population weighted cancer risk in the Basin decreased by 57 percent from the MATES-III period in 2005 to the MATES-IV period in 2012 indicating that overall, cancer risks are declining in the Basin as a result of the implementation of emission controls principally on large diesel trucks. The MATES-IV study also concluded that diesel PM contributed 68 percent to the total cancer risk in the Basin with benzene and 1.3 Butadiene also making important contributions to cancer risk.

In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust has been a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems.

Diesel PM differs from other TACs in that it is not a single substance but a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled, internal combustion engines, the composition of the emissions varies, depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Unlike the other TACs, however, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. The CARB has made preliminary concentration estimates based on a diesel PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. Within the Basin, in addition to diesel PM, there are emissions of benzene, formaldehyde, acetaldehyde, naphthalene, ethylbenzene, acrolein, toluene, hexane, propylene, and xylene from a variety of sources located within the Basin that contribute to health risks.

In January 2015, a major new study evaluated the health impacts of "new technology diesel exhaust" (NTDE). Beginning in 2001, USEPA and CARB began issuing a series of regulations that require new diesel-powered vehicles and equipment to use the latest emissions control technology. This technology relies on two components. The first is a diesel particulate filter, which is capable of reducing particulate matter emissions by over 90 percent (required for new engines beginning in 2007). The second technology is selective catalytic reduction, which reduces emissions of nitrogen oxides by over 90 percent (required for new engines beginning in 2010). Diesel emissions from engines equipped with this technology is referred to as New Technology Diesel Exhaust (NTDE). As a result of the advances in emission control technology, USEPA, CARB, and other government and industry stakeholders commissioned a series of studies called the Advanced Collaborative Emissions Study (ACES). ACES has been guided by an ACES Steering Committee consisting of representatives of the Health Effects Institute (HEI) and the Coordinating Research Council (CRC: a nonprofit organization that directs engineering and environmental studies on the interaction between automotive or other mobility equipment and petroleum products), along with the U.S. Department of Energy, U.S. EPA, engine

manufacturers, the petroleum industry, CARB, emission control manufacturers, the National Resources Defense Council, and others. The HEI, funded in part by USEPA, was selected to oversee Phase 3 of ACES.

Phase 3 of ACES evaluated whether emissions from new technology diesel engines cause cancer or other health effects. Specifically, it evaluated the health impacts of a 2007-compliant engine equipped with a diesel particulate filter. HEI found chronic exposure to NTDE did not induce tumors or pre-cancerous changes in the lung and did not increase tumors that were considered to be related to NTDE in any other tissue in laboratory rats. The study also confirmed that the concentrations of particulate matter and toxic air pollutants emitted from NTDE are more than 90 percent lower than emissions from traditional older diesel engine. Rats are the most sensitive laboratory animal species for evaluation of older technology diesel engines (pre-model year 2007), because of their sensitivity to high concentrations of particles (present in older technology diesel engines), compared with other species (including humans).

The HEI study clearly demonstrates that the application of new emissions control technology to diesel engines have virtually eliminated the health impacts of diesel exhaust (McDonald et al, 2015).

Conservative Nature of Health Risk Assessments. Moreover, the current methodological protocols required by the SCAQMD and CARB when studying the health risk posed by diesel PM assume the following (CAPCOA, 2009): (1) 24-hour constant exposure; (2) 350 days a year; (3) for a continuous period lasting 30 years. These are overly conservative assumptions that are not replicated in reality. Most people are indoors for 18–20 hours a day (at their place of employment or home) and most people do not live in the same location for a 30-year period. In fact, less than 10 percent of the population has a continuous residency at the same location of greater than 30 years (American Community Survey, 2011). Thus, the health risk assessments prepared pursuant to the current protocols overestimate the risk of cancer associated with diesel PM exposure.

Alternate Views on Diesel PM Risk. Some researchers, such as Dr. James E. Enstrom (Enstrom, 2008), believe that the risk from diesel PM is exaggerated. Enstrom calls into question some of the basic research on the declaration of diesel exhaust as a toxic air contaminant. In particular, the article states the following:

> *There is substantial new epidemiologic evidence relevant to the health effects of diesel exhaust that was not considered when the 1998 toxic air contaminant declaration was made. For instance, the 2007 paper by Francine Laden et al. measured death rates during 1985–2000 among 54,000 members of the unionized U.S. trucking industry. … This cohort, which included 36,000 diesel truck drivers, had death rates from all causes and all cancer that were substantially below the rates among US males. Furthermore, unlike earlier evidence that was used in the TAC declaration, this cohort did not have a substantially elevated lung cancer death rate.*

Dr. Enstrom also indicates that the premature mortality calculation in the report, "Quantification of the Health Impacts and Economic Valuation of Air Pollution from Ports and Goods Movement in California," is exaggerated. Dr. Enstrom's analysis "found no relationship between $PM_{2.5}$ and mortality in elderly Californians during 1983–2002."

4.3.3 Methodology

The *Air Quality, Greenhouse Gas, and Health Risk Assessment Report* for this revised section of the FEIR (ESA Associates, 2019) evaluated the air quality impacts associated with the development of the World Logistics Center project including the following:

- Determined the short-term construction air quality and health risk impacts on both on-site and off-site sensitive receptors based on SCAQMD and OEHHA assessment methodologies and significance thresholds;

- Determined the long-term air quality and health risk impacts, including vehicular traffic, on both on-site and off-site sensitive uses based on SCAQMD and OEHHA assessment methodologies and significance thresholds; and
- Determined the required mitigation measures to reduce short-term and long-term on-site air quality and health risk impacts from all sources.

An Air Quality, Greenhouse Gas, and Health Risk Assessment Report was prepared by ESA Associates (ESA Associates, 2019) in November 2019, included as Appendix A.1 of this Draft Recirculated Revised Sections of the FEIR, which estimated the impacts associated with the interim and horizon opening years. The methodology used in the analysis is discussed below.

4.3.3.1 Construction

Construction-related emissions are expected from various activities associated with the construction of the project such as rough grading, infrastructure construction, asphalt paving, building construction, architectural coatings, and construction workers commuting. Construction emissions for construction worker vehicles traveling to and from the project site, in addition to vendor trips (construction materials delivered to the project site) and haul trips (dump trucks and concrete trucks) were also accounted for in the analysis. Localized air quality in the project area would be affected by both heavy-duty construction equipment usage on site as well as local traffic due to the equipment delivery and construction worker commuting. The anticipated construction equipment and construction schedule are identified in Appendix A.1. The SCAQMD CEQA methodology (SCAQMD, 1993) was used to analyze the criteria pollutant emissions from these activities.

A summary of the construction assumptions that has been revised since the 2018 Revised Sections of the FEIR is included below. For a detailed description of all construction assumptions, please refer to Appendix A.1.

- *On-road Construction Emissions.* The current version of CalEEMod uses mobile source emissions from EMFAC2014. Due to the recent approval of EMFAC2017 by the EPA, on-road construction emissions were calculated separate from CalEEMod using EMFAC2017 emission factors.
- *Construction Period.* Construction was assumed to occur over 15 years from the year 2020 to 2034. The assumed construction schedule has been adjusted to assume the completion of Phase 1 construction in December 2024 and the completion of Phase 2 construction in December 2034 to better align with the TIA's assumption that Phase 1 would be operational by the year 2025 and that the project would be operational by the horizon year.[6] Although buildout of the project would depend on market conditions, the project could be built out and operational as early as 2035. Therefore, to provide a conservative air quality analysis, construction was assumed to be completed over a 15-year period that provides for phase overlap and the use of less efficient construction equipment.
- *Mass Grading Duration.* Each planning area was assumed to be graded separately over a total of approximately 13 years to reflect a realistic grading plan.

4.3.3.2 Operation

Air quality in the project area would be affected by long-term air emissions from stationary sources and mobile sources related to the World Logistics Center project once it commences operations. The stationary source emissions would come from emergency generators while mobile source emissions would come from vehicular emissions from automobiles and trucks traveling to, from, and within the project site and from on-site forklifts and yard trucks.

[6] *The TIA analyzes full project buildout in 2040, which is the worst case for traffic analysis purposes as it accounts for greater regional growth in non-project traffic. However, for purposes of a conservative air quality analysis, it is assumed that full project operations would occur as early as 2035, resulting in the use of higher mobile emissions factors (dirtier engines).*

A key piece of information required to estimate the project's operational emissions deals with an estimate of the number of trips and types of vehicles (i.e., cars and trucks) generated by the project during a peak hour and on a daily basis. To determine mobile source emissions associated with the project, the trip generation rates were derived from the *Traffic Impact Analysis Report* (TIA) for the project prepared by WSP USA.

Working jointly with the National Association of Industrial and Office Properties (NAIOP), the SCAQMD conducted a trip generation study for high-cube warehouses, the predominant form of land use for the project, *High-Cube Warehouse Vehicle Trip Generation Analysis* (ITE, 2016). The study replaces the earlier, smaller studies that produced conflicting results and created uncertainty regarding the amount of traffic generated by the newer, more automated type of high-cube warehouse proposed for the project. The results of the study for high-cube warehouse trip generation has been incorporated into the 10th edition of the Institute of Traffic Engineers (ITE) *Trip Generation Manual.* The trip generation rates included in this study for high-cube warehouse uses and trip rates from the 10th edition of the ITE *Trip Generation Manual* have been used for other proposed land uses.

For purposes of the TIA and worst case traffic growth assumptions, project operations were analyzed based on two buildout years: 2025 Phase 1 buildout year and 2035 full buildout year. Forecasted trip generation and vehicle miles traveled (VMT) contained in the TIA were used to estimate the project's motor vehicle emissions for the Phase 1 and full buildout scenarios. The traffic model provided estimates of project traffic volumes segregated by vehicle class as passenger cars, light heavy duty trucks, medium heavy duty trucks, and heavy-heavy duty trucks. The TIA provides VMT attributable to the project based on the net effect the project has on regional travel as well as project VMT without consideration of a net effect. The net effect includes consideration that creation of a job center (the project) would redistribute existing regional travel and result in shorter employee trips. Freeway and non-freeway VMT and speed data, as provided by WSP, were utilized to determine the appropriate emission factors to apply to project trips from the EMFAC2017 model. In calculating the operational traffic emissions, the VMT per speed was based on daily speed data provided by WSP. Emissions factors vary by speed bin. Therefore, accounting for variations in speed attributable to slow downs occurring during peak hours provides a realistic representation of project mobile emissions.

Mobile emissions utilized EMFAC2017's projected vehicle fuel mix for Phase 1 buildout year 2025 and project buildout year 2035. Section 6.17, *Energy*, of this EIR addresses the potential penetration of electric trucks and potential use in association with the project. Although the State has set targets for zero-emission vehicles, it would be speculative to assume that the High Penetration scenario discussed in Section 6.17 would be practicable or feasible by 2025 or by 2035. The Low, Medium, and High Penetration scenarios discussed in Section 6.17 are possible; however, as a worst-case analysis, the air quality analysis included herein factors in potential emissions reductions provided by electric and natural gas-fueled trucks based on EMFAC2017 projections.

Emission factors for the year 2020 were used for the "worst-case" scenario. Interim year 2025 (Phase 1 buildout) of the project used emission factors from the year 2025, and horizon year 2035 (Phase 2 buildout) of the project used emission factors for the year 2035. For years 2021 through 2024 and years 2026 through 2034, emissions factors and the Project's net effect on VMT were interpolated and scaled using data from 2025 and 2035 in order to provide an estimate of emissions and potential overlap of construction and operational emissions. For the mitigated scenario, the emission factors were modified to reflect the mitigation measure that requires the use of model year 2010 or newer trucks for all heavy duty diesel trucks associated with the project. Note that emissions from the existing on-site residence and fugitive dust that would be removed were not included in this analysis as a worst-case scenario.

4.3.3.3 Localized Construction/Operation

SCAQMD has developed the Localized Significance Threshold (LST) methodology that can be used to determine whether or not a project may generate significant adverse localized air quality impacts that substantially affect sensitive receptors. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable Federal or State AAQS and

are developed based on the ambient concentrations of that pollutant for each source receptor area identified by the SCAQMD. SCAQMD's current guidelines, *Final Localized Significance Threshold Methodology* (SCAQMD, 2003) and subsequent additions, were adhered to in the assessment of local air quality impacts from the World Logistics Center project. The local emissions of concern from construction and operational activities as defined by the SCAQMD are NO_X, CO, PM_{10}, and $PM_{2.5}$ combustion emissions from construction equipment and fugitive PM_{10} dust from construction site preparation activities. A summary of assumptions for the localized assessment is included below. For detailed assumptions, refer to Appendix A.1.

- *Construction Schedule.* Construction was assumed to occur over 15 years from the year 2020 to 2034. Although buildout of the project would depend on market conditions, the project could be built out and operational as early as 2035. Therefore, to provide a conservative air quality analysis, construction was assumed to be completed over a 15-year period that provides for activity overlap and the use of older construction equipment.
- *Emission Source Configuration.* The analysis represented the off-road construction exhaust emission sources as a series of contiguous volume sources, which is consistent with the SCAQMD methodology for LST assessments.
- *Operational Truck Idling.* Each truck was assumed to idle for 5 minutes per day consistent with the California Air Resources Board's Air Toxic Control Measure that limits such idling to 5 minutes and requirements specified in the World Logistics Center Specific Plan. Although project mitigation limits idling to 3 minutes per day per truck, this reduction in emissions has not been accounted for to provide a worst-case analysis.

The localized significance threshold analysis evaluated four conditions:

- Project Build Out (2020): this condition assumes that Phase 1 and Phase 2 of the project are fully built out in 2020 as a worst-case scenario.
- 2022, the year when the Project emissions from both project construction and operation are at their highest combined levels for several pollutants; and when construction activities would occur near the existing residences west of the project boundary along Merwin Street;
- 2025, the earliest year Phase 1 is assumed to be fully operational. When the projected construction schedule would result in construction activities in the southern portion of the Project adjacent to Alessandro Boulevard and east of the existing residential areas along Merwin Street, and when all of Phase I operations would occur (approximately 57 percent of entire project floor space); and
- 2035 when Phase 1 and Phase 2 of the project are fully operational.

The Project Full Build Out 2020 scenario represents the existing plus project scenario assuming that the Project were to be built out and operational by 2020. This scenario does not include construction emissions as it is meant to show the operational impact the Project would have on the existing environment. This would be considered a worst case scenario since the project could not be physically built out in its entirety in a single year and does not reflect the fact that the project would be developed over a time period of 15 years depending on market demands for warehouse space. This assumption also does not account for the fact that emissions from mobile sources, prior to mitigation, particularly from heavy duty diesel trucks are expected to decline significantly over time as emissions control technologies continue to improve. This assessment also provided consistency with the TIA and noise reports which examines Project Build Out under existing conditions. The project impact results were added to the existing background concentrations and then compared to the localized threshold for the appropriate pollutant. Background concentration data was obtained from the SCAQMD's Rubidoux monitoring station for years 2016-2018, the most recent data available. Background concentrations of CO and NO_2 for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO_2 is the 3-year average of the 98^{th} percentile of the daily maximum 1-hour average. This analysis only considers the project's operational emissions and not construction emissions. The 2022, 2025,

and 2035 conditions represent the project development including the localized impacts during construction and operation over the time period of 2020 to 2035.

4.3.3.4 Health Risk Assessment

A Health Risk Assessment (HRA) is a guide that helps to determine whether current or future exposures to a chemical or substance in the environment could affect the health of a population. In general, risk depends on the following factors:

- How much of a chemical is present in an environmental medium (e.g., air);
- How much contact (exposure) a person has with the contaminated environmental medium; and
- The inherent toxicity of the chemical.

This HRA builds and expands upon the methodology described above in the localized air quality assessment by examining the regional effects of the project's potential health risk impacts. The HRA methodology applies a risk characterization model to the results from the air dispersion model to estimate potential health risks at each sensitive receptor location. However, unlike the localized assessment of the criteria pollutants (e.g., carbon monoxide, oxides of nitrogen, and particulate matter), which looks at impacts from exposure times of one hour to a year within a specific year, the HRA examines the impacts over an exposure time period from one hour to an extended exposure time period of many years.

Health Risk Impacts Assessed

The health risk assessment estimated the incremental health impacts attributable to the project's construction and operations for the following condition:

- Proposed Project Development condition which examines the effect of project-related construction and operational traffic emissions as if the project were built out in accordance with its proposed phased construction and operational buildout schedule commencing with the construction of Phase 1 in 2020 and the final full build out in 2035. This condition forms the basis for quantifying the incremental impacts from the project.

A multi-pollutant health risk assessment was conducted for the Proposed Project. The health risk assessment evaluated toxic emissions from a variety of sources. These included exhaust emissions of particulate matter (PM) and total organic gases (TOG) from diesel and gasoline combustion, as well as toxics associated with fugitive PM from tire wear and brake wear of mobile sources. Annual average emissions and impacts were calculated for each year starting from 2020 when construction of the Project would commence. Specifically, annual average concentrations of toxics were estimated from the construction emissions for each year of construction from 2020 to 2034 according to the construction schedule and equipment usage projected for each year of construction. Proposed Project Development examines project impacts resulting from the proposed construction and operation of the project from the commencement of construction in 2020 for a 30-year duration for sensitive/residential receptors, 25-year for worker receptors, and 9-year exposure time periods for school-site student receptors. Annual average emissions and impacts during operation were estimated for the Phase 1 build out year and the final full build out year, years for which detailed traffic information was available from the TIA. The annual average operational emissions were then scaled among operational years between 2021 and 2035 based on the Phase 1 build out year and final full build out year's emissions, using scaling factors that reflecting changes in EMFAC-based emission factors from 2025 or 2035 and the project occupancy schedule for each specific year. See Appendix A.1 for detail on the scaling factor development and how the in-between years' emissions were calculated.

The assessment of health impacts is a continuing evolution of science and regulation. Since December 2014, three major scientific and regulatory activities have come forward that will affect how such assessments are performed and what such impacts mean to society as described below.

On January 27, 2015, the HEI, a joint private-government partnership, released a major peer-reviewed scientific report entitled *Effects of Lifetime Exposure to Inhaled New-Technology Diesel Exhaust in Rats* (McDonald et al, 2015). This is the first study to conduct a comprehensive evaluation of lifetime inhalation exposure to emissions from heavy-duty 2007-compliant engines (referred to as "new technology diesel exhaust," or NTDE). The study evaluated the long-term effects of multiple concentrations of inhaled NTDE, which has greatly reduced particle emissions compared with "traditional-technology diesel exhaust" (TDE) in male and female rats on more than 100 different biologic endpoints, including tumor development, and compared the results with biologic effects seen in earlier studies in rats after exposure to TDE. Lifetime inhalation exposure of rats exposed to one of three levels of NTDE from a 2007-compliant engine, for 16 hours per day, 5 days a week, with use of a strenuous operating cycle that more accurately reflected the real-world operation of a modern engine than cycles used in previous studies, did not induce tumors or pre-cancerous changes in the lung and did not increase tumors that were considered to be related to NTDE. The importance of this study is that diesel PM emissions from new technology diesel engines does not cause any increase in the risk of lung cancer or other significant adverse health effects in study animals that, in fact are more sensitive to toxics exposures than humans. While this study focused on heavy duty truck emissions, the new clean diesel technology has the potential for impacting all sectors, including passenger cars, agriculture, construction, maritime and transportation. Previous studies directed at studying the effects of diesel PM on health were based on exposure studies that date 15 to 20 years ago when diesel emissions were significantly higher than the NTDE. It is also important to highlight that the U.S. Environmental Protection Agency (EPA), the California Air Resources Board, the U.S. Department of Energy (DOE) and the U.S. Federal Highway Administration are sponsors and/or reviewers of this study in conjunction with the manufacturers of emissions control equipment.

On March 6, 2015, the OEHHA adopted a new guidance for estimating health risks from toxic air contaminants that incorporated the importance of early-in-life sensitivities of young children to exposures to toxics air contaminants and recommends a lifetime exposure duration of 30-years. Within the context of this assessment, this new assessment guidance is referred to as the "Current OEHHA Guidance". The new guidance updates earlier guidance recommended by OEHHA and SCAQMD referred to in this assessment as the "Former OEHHA Guidance", which was used in the 2015 Draft EIR. The "Former OEHHA Guidance" is based on a lifetime exposure of 70 years and does not incorporate early-in-life age sensitivity factors. The importance of the "Current OEHHA Guidance" is that the guidance produces much more conservative estimates of cancer risks from toxic air contaminant exposures than the "Former OEHHA Guidance."

On December 22, 2017, the ARB released its update to the Emissions Factor Model, EMFAC2017, which is used to estimate emissions from motor vehicles in California. The EMFAC2017 model represents the ARB's current understanding of motor vehicle technologies and regulatory implementation of rules aimed at reducing air emissions from motor vehicles. Based on the results of the EMFAC2017 model, heavy duty trucks have a higher PM deterioration and idling emission rate than previously estimated using the previous version of the EMFAC model, EMFAC2014. Since heavy duty trucks constitute nearly all of the project's diesel PM emissions, the incorporation of the emission information from the EMFAC2017 model is important in estimating the amount of diesel PM and in assessing the project's health risk impacts resulting from these emissions

The HRA has been conducted to allow decision makers to see the cancer-related impacts of the World Logistics Center project with the assumption that new technology diesel exhaust cause cancer, contrary to what was found by the HEI study. The following information summarizes the main assumptions utilized in preparation of the HRA. For more detailed discussion of assumptions and methodology, refer to Appendix A.1.

Traffic Volumes. The HRA used the construction and operational emission values as described above in the air quality study. Note that with respect to the operational emissions, since the project may change the traffic distribution in the region, net trips and associated net emissions on each project-impacted roadway segment was calculated using the difference between the trip rates for the baseline year with-project scenario and without-project scenario. The TIA studied three with-project and without-

project scenarios, based on existing year, interim year (Phase 1 buildout), and horizon year (full project buildout); the HRA analysis is based on the existing year traffic scenario because it has the highest certainty with regard to pre-project conditions than the interim year and horizon year traffic scenarios (i.e., the pre-project traffic conditions for those future year traffic scenarios are speculative in nature). To be conservative, for segments that have net negative trips (i.e., where the project causes reduction in trip rates on some roadway segments due to traffic redistribution in the region), the HRA used a zero emission value instead of taking credit for the trip rate reductions.

Vehicle Speeds. In calculating the operational traffic emissions, the VMT per speed was based on daily speed data provided by the traffic consultant (WSP). Speed data accounts for variations in speed attributable to slow downs occurring during peak hours.

Organic Gas Emissions. The assessment of acute non-cancer hazards examined the impacts of the toxic components of the project's organic gas and PM emissions from construction equipment during project construction, and total organic gas and PM emissions from gasoline and diesel vehicles during project operation.

Calculated Cancer Population Burden. The health risk assessment included the computation of cancer population burden attributed to the project's diesel PM emissions.

Maximum Exposure Duration for Sensitive/Residential Receptors. The HRA used the SCAQMD recommended intake rate percentiles - RMP using the Derived Method, which applies to multi-pathway risk assessments in which two dominant exposure pathways use the high-end point-estimates of exposure. Furthermore, since cancer risk calculation is based on 30-year exposure duration, the HRA assumed exposure starts at the beginning of construction (Construction + Operation HRA). The revised HRA also analyzed the 30-year exposure scenario that assumed exposure starts at the beginning of full project operation (Operational HRA). The Operational HRA assumed that a receptor starts exposure at the beginning of the full project operational year of 2035 and exposure lasts for 30 years until 2064. The Operational HRA also conservatively used the 2035 emission rate for each of the 30 years of exposure.

Maximum Exposure Duration for Worker Receptors. The cancer risk impacts are presented in accordance with "Current OEHHA Guidance", which assumes an exposure duration of 25 years for worker receptors, which is based on labor statistics showing 95 percent of workers stay in the same job for 25 years or less.

School Receptors. The assessment of cancer risks at local school receptors was included based on "Current OEHHA Guidance".

The HRA methodology applied a risk characterization model to the results from an air dispersion model to estimate potential health risks at each sensitive receptor location. Because of the pervasive nature of diesel particulate matter (diesel PM) in contributing to estimated health risks in California, the focus of this assessment was on estimating the health risks from diesel PM. While the project activities may result in the emission of other TACs (e.g., Total Organic Gases (TOG) from diesel and gasoline-powered vehicles), diesel PM from the project was found to contribute approximately 98 percent of the total cancer risk from project operations (see the *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, Appendix A.1 of the Draft Recirculated Revised Sections of the FEIR). Reactive Organic Gases (ROG) and PM exhaust, brake wear and tire wear emissions from construction equipment and TOG and PM emissions from diesel and gasoline vehicles of project operation were, however, included in the assessment of acute non-cancer hazards.

The health risk calculation methodology in this HRA is consistent with *SCAQMD Health Risk Assessment Guidance* (SCAQMD, 2016) and the "Current OEHHA Guidance" set forth in the 2015 OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments*. The estimation of cancer risk involves the specification of several parameters including the concentration level of the toxic air contaminant, the rate of inhalation of the toxic, the exposure frequency (number of days per year), the exposure duration in years, the time period over which the

exposure takes place, what is termed a slope factor that represents an upper bound on the increased cancer risk from a lifetime exposure to a toxic by ingestion or inhalation and early-in-life age sensitivity factors. The values of these parameters depend on the type of receptor, i.e., sensitive/residential, worker, and student as discussed below.

Cancer Risk Exposure Assumptions. The principal focus of this HRA was on the potential health impacts to sensitive/residential receptors located within and surrounding the project site. Sensitive receptors include hospitals, schools, daycare facilities, elderly housing and convalescent facilities. Residences are also considered sensitive receptors. An important parameter necessary to estimate cancer risk is the duration of exposure of an individual to toxic air contaminants. An assessment of population mobility can assist in determining the length of time a residential receptor is exposed in a particular location. For example, the duration of exposure to a source of toxic air contaminants will be directly related to the period of time residents live near the source of the emissions.

Table 4.3-5 summarizes the primary exposure assumptions used in this HRA to calculate individual cancer risk by receptor type, which is based on the SCAQMD HRA Guidance and the "Current OEHHA Guidance."

Table 4.3-5: Exposure Assumptions for Cancer Risk

Type of Guidance	Receptor Type	Exposure Frequency		Exposure Duration (years)	Age Sensitivity Factors	Time at Home Factor (%)	Daily Breathing Rate (L/kg-day)
		Hours/ day	Days/ year				
Current OEHHA Guidance	Sensitive/Residential:						
	3rd Trimester	24	350	0.25	10	100	361
	0–2 years	24	350	2	10	100	1,090
	2–16 years	24	350	14	3	100	572
	Older than 16 years	24	350	13.75	1	73	261
	Student	8	180	9	3	NA	631
	Worker	8	250	25	1	NA	230

Time at home factor is 1 if there is a school receptor within the 1 in a million (or greater) cancer risk isopleth, which was the case for this project's unmitigated scenario for the Construction + Operation HRA.
(L/kg-day) = liters per kilogram body weight per day; NA = not applicable.
The daily breathing rates shown are RMP using the Derived Method for residential as recommended by the SCAQMD and the 95th percentile rate for other receptors as recommended by the OEHHA.
Source: OEHHA, 2015; SCAQMD, 2016.

The underlying factors used in the analysis exemplify the conservative nature of utilizing the exposure scenarios and the underlying assumptions:

- The residential cancer risk calculation assumed that each resident will be exposed for 24 hours a day for 350 days a year at the location of his or her home throughout the entire 30-year residential exposure period.
- The worker and student cancer risk calculations assumed that workers or students are exposed to diesel PM for 8 hours a day, next to, but outside of the buildings in which they work or study.
- The atmospheric dispersion model and traffic model that were used to estimate risks generally provide impact estimates that are over-estimated based on the use of conservative model assumptions.

Other Factors that Influence Health Risk Estimates: Conservative Trip Estimates. It should also be noted that the TIA used a conservative estimate of the number of truck trips after the project begins operation. The number of truck trips is important because diesel PM emissions are directly related to both the number of trucks and the vehicle miles traveled. As mentioned above, the TIA in the Revised Sections of the FEIR uses the traffic generation rate for high-cube warehouses from the 10th edition of the Institute of Traffic Engineers' (ITE) Trip Generation Manual which is based on the *High-Cube*

Warehouse Vehicle Trip Generation Analysis prepared jointly by SCAQMD and National Association of Industrial and Office Properties (NAOIP).

Cancer Burden. Whereas cancer risk represents the probability that an individual will develop cancer, cancer burden multiplies the cancer risk by the exposed population to estimate the number of individuals that would be expected to contract cancer from the project. The exposed population is defined as the number of persons within a facility's zone of impact, which is typically the area exposed to an incremental cancer risk of one in a million from the project. Consistent with this definition, cancer burden was calculated by first identifying all population census tracts[7] located within the project's zone of impact, multiplying the estimated incremental project cancer risk impact in the census tract by the population of the census tract and then summing all of products of population times estimated cancer risk in the zone of impact. Note that each census tract contributes to the cancer burden in proportion to its population and risk. For example, if a census tract has a relatively high estimated cancer risk, but no people living there, it will not contribute to the estimation of the cancer burden. In accordance with "Current OEHHA Guidance", the cancer burden was calculated assuming a 30-year exposure duration along with the appropriate exposure frequency, daily breathing rates, age sensitivity factors, and time at home factors appropriate to each age group (OEHHA, 2015). A cancer burden greater than 0.5 is considered a significant cancer burden.

Non-cancer Hazards. Separate from cancer risk impacts, exposures to TACs such as diesel PM can also cause chronic (long-term) and acute (short-term) related non-cancer illnesses such as reproductive effects, respiratory effects, eye sensitivity, immune effects, kidney effects, blood effects, central nervous system, birth defects, or other adverse environmental effects. Risk characterization for non-cancer health risks from TACs is expressed as a HI. The HI is a ratio of the predicted concentration of a project's emissions to a concentration considered acceptable to public health professionals, termed the Reference Exposure Level (REL). This is a separate and distinct analysis from the analysis conducted for cancer risk. A significant risk is defined by the SCAQMD as an HI of 1 or greater. For example, the California OEHHA has assigned a chronic non-cancer REL of 5 $\mu g/m^3$ for diesel PM (OEHHA, 2015). Diesel PM has effects on the respiratory system, which accounts for essentially all of its potential chronic non-cancer hazards.

Exposures to TACs can also have short-term or acute non-cancer effects, typically dealing with exposures over an hour or so. OEHHA has not defined a REL for diesel PM appropriate for estimating acute non-cancer hazards from diesel PM. Therefore, to estimate the potential acute non-cancer impacts from the project, it was necessary to examine the various individual chemical components (or chemical species) that comprise the emissions from both diesel vehicles and gasoline vehicles. For this purpose, use was made of emission source profiles that provide estimates of the various chemical components that comprise the exhaust from diesel and gasoline vehicles. From this information, an estimate was made of the maximum one-hour average concentration levels of the project's various chemical species from which an acute non-cancer HI can be determined.

Geographic Scope of the Health Risk Assessment. The HRA is characterized by two important differences from the localized significance threshold assessment for criteria pollutants. According to the SCAQMD localized significance threshold assessment methodology, the assessment of localized impacts addresses only those emissions that are generated "onsite", that is for the purposes of this project, emissions generated from within or along the boundaries of the Specific Plan. However, for the HRA, both the universe of the project's emission sources and air dispersion model receptors were expanded to assess the off-site impact of the project's emissions of toxics. Besides onsite emission sources and receptors, the HRA included a receptor grid that extends up to 5 kilometers (km) from the project boundary and the roadway network that extends 10 km from the project boundary (e.g.,

[7] A census tract is a geographic region defined for the purpose of taking a census. Usually these regions coincide with the limits of cities, towns, or other administrative areas. Each tract has a unique numeric code and averages about 4,000 inhabitants. The census tract centroid is the geographic center of the tract based on a weighted distribution of the population within the tract using the census blocks that comprise the tract. A census block is the smallest geographic unit used to tabulate population and each tract can be comprised of several blocks.

including 18 miles on SR-60. This study area reasonably captured the most extensive emissions from project-generated vehicles on the roadway network, since all trips to and from the project would travel on the roadway segments and freeway segments (SR-60) nearest the project site regardless of origin or destination. Since project activity is highest onsite, the project's emissions and associated health impact decreases with distance from the project site. Thus, the selected study area was capable of capturing the project's maximum impact. If the maximum risk from the study area is less than significant, project health risk impacts will be less than significant for receptors further away.

The generation of emissions from traffic traveling along the various arterial and freeway mainline roadway segments requires information on traffic volumes, length of segment, and emission factors. The emission factors, in turn, depend on vehicle type, speed, calendar year, and fuel type. Estimates of peak hour vehicle volumes and types (passenger cars, light heavy duty trucks, medium heavy duty trucks, and heavy-heavy duty trucks) were provided by the traffic consultant for each roadway segment analyzed. The TIA also provided daily vehicle volumes for freeway segments, but not for non-freeway segments. For use in the cancer risk and chronic non-cancer hazard calculations, the daily vehicle volumes for non-freeway segments were assumed to be 10 times that of the peak hour vehicle volumes. The physical length and width of each roadway segment were estimated using the segment location as provided by the traffic consultant and aerial photographs available from Google Earth. Vehicle speeds for each roadway segment and vehicle type were based on the speed groups provided by the traffic consultant.

The health risk analysis examined the following condition:

- Project Development condition which examined the effect of project-related construction and operational traffic diesel and gasoline emissions as if the project were built out in accordance with its proposed phased construction and operational buildout schedule commencing with the construction of Phase 1 in 2020 and the final full build out in 2035.[8] This condition forms the basis for quantifying the incremental impacts from the project.

Although diesel PM contributes the most to cancer risk, a multipollutant health risk assessment was performed. The analysis also included health risk impacts from the emissions of diesel reactive organic gases (ROG), gasoline PM, gasoline ROG exhaust, gasoline ROG evaporative sources, and PM from break wear and tire wear from all vehicles. The toxic compounds from each of these emission categories was determined from CARB speciation profiles.[9]

Annual average emissions and impacts were calculated for each year starting from 2020 based on the assumption that diesel exhaust and other TACs can cause cancer. Specifically, annual average concentrations were estimated from the construction emissions for each year of construction from 2020 to 2034 according to the construction schedule and equipment usage projected for each year of construction. Project Development examines project impacts resulting from the proposed construction and operation of the project from the commencement of construction in 2020 for a 30-year duration for sensitive/residential receptors, 25-year for worker receptors, and 9-year exposure time periods for school-site student receptors. Annual average emissions and impacts during operation were estimated for the Phase 1 build out year and the final full build out year, years for which detailed traffic information was available from the TIA. The annual average operational health risk impacts were then calculated using interpolated emission factors and net effect on VMT for years 2021 through 2024 and 2026 through 2034 based on data for years 2025 and 2035.

During years when both construction and operations occur simultaneously (2021 to 2034), the annual concentrations at the sensitive receptors from construction were added to the annual concentrations from operations to provide a total impact assessment of all TAC emissions from the project during each

[8] The year 2035 is the year the conservative construction schedule assumes full completion of project construction. However, detailed traffic volumes were provided by the project traffic consultant for the long-term planning year 2040. The use of a 2035 buildout year in the air quality analysis provides a worst-case analysis due to the use of higher vehicle emission factors.

[9] https://ww3.arb.ca.gov/ei/speciate/speciate.htm

year. The resulting total annual average concentrations calculated each year for the exposure time period (individual annual averages) multiplied by the requisite daily breathing rates, age sensitivity factors, and time-at-home factors for each year of exposure. The HRA assumed that a fetus in the 3rd trimester (within the mother's womb) commences its lifetime exposure with exposure starting in year 2020 (construction start year) for construction- only emissions, years 2021 through 2034 for construction + operations, and in year 2035 for full operations. The HRA is being provided to allow decision makers to see the cancer-related impacts of the World Logistics Center project in the assumption that new technology diesel exhaust cause cancer, contrary to what was found by the HEI study. The mitigation conditions require that all diesel trucks accessing the project during operation be model year 2010 or newer and that all on-site equipment be Tier 4.

4.3.3.5 Additional Information Regarding Health Effects of Air Quality Emissions

In response to the December 2018 decision by the California Supreme Court in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502 ("Friant Ranch"), this Draft Recirculated Revised Sections of the FEIR includes an analysis to estimate the potential health effects from criteria air pollutants emissions and their precursors. As explained in Section 4.3.6.1 and in Appendix A.2, these results involve a degree of uncertainty based on a combination of the uncertainty associated with the emissions quantification, the change in concentration resulting from the photochemical grid model (PGM) and the application of concentration-response (C-R) functions, as obtained from epidemiological studies, among other factors. Nonetheless, these results provide information sufficient to be included in this CEQA document and to be reviewed by the public and the decision-makers in their consideration of air quality.

Project emissions evaluated include NO_X, SO_2, CO, respirable (PM_{10}) and fine ($PM_{2.5}$) primary particulate matter (PM), and VOCs. NOx and VOCs [also known as reactive organic gases, or ROG, which are virtually the same as VOC with some slight differences][10] are not criteria air pollutants but, in the presence of sunlight, they form ozone and contribute to the formation of secondary $PM_{2.5}$ and thus are analyzed here. As a conservative measure, SO_2 and CO are evaluated due to their small contribution to the formation of secondary $PM_{2.5}$ and ozone. The health effects from ozone and $PM_{2.5}$ are examined for this Project because the USEPA has determined that these criteria pollutants would have the greatest effect on human health. The emissions of other criteria and precursor pollutants, including VOC, NOx, CO and SO_2, are analyzed in their contribution in the formation of ozone and secondary $PM_{2.5}$. USEPA's default health effect functions for PM use fine particulate matter ($PM_{2.5}$) as the causal PM agent, so the health effects of PM_{10} are represented using $PM_{2.5}$ as a surrogate.

The USEPA's air quality modeling guidelines (Appendix W[11]) and ozone and $PM_{2.5}$ modeling guidance[12] recommend using a PGM to estimate ozone and secondary $PM_{2.5}$ concentrations. The USEPA's modeling guidance does not recommend specific PGMs but provides procedures for determining an appropriate PGM on a case-by-case basis. Both the modeling guidelines and guidance note that the Comprehensive Air Quality Model with extensions (CAMx)[13] and the Community Multiscale Air Quality (CMAQ[14]) PGMs have been used extensively in the past and would be acceptable PGMs. As such, the USEPA has prepared a memorandum[15] documenting the suitability for using CAMx and CMAQ for ozone and secondary $PM_{2.5}$ modeling of single-sources or group of sources.

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[10] Reactive organic gas (ROG) emissions are quantified and modeled as VOCs in this assessment. ROG means total organic gases minus the California Air Resources Board's (ARB's) "exempt" compounds (e.g., methane, ethane, CFCs, etc.). ROG is similar, but not identical, to USEPA's term "VOC", which is based on USEPA's exempt list, which is slightly different from ARB's list.

[11] https://www3.epa.gov/ttn/scram/appendix_w/2016/AppendixW_2017.pdf.

[12] https://www3.epa.gov/ttn/scram/guidance/guide/O3-PM-RH-Modeling_Guidance-2018.pdf.

[13] http://www.camx.com/.

[14] https://www.epa.gov/cmaq.

[15] https://www3.epa.gov/ttn/scram/guidance/clarification/20170804-Photochemical_Grid_Model_Clarification_Memo.pdf.

To estimate the potential outcome of the Project's emissions on ambient air concentrations, the Project's unmitigated and mitigated emissions were added to the CAMx 4-km annual PGM modeling database.[16] For this analysis, both unmitigated and mitigated Project emissions were evaluated. In both cases, total emissions modeled reflect the maximum combined (operational + construction) emissions by pollutant. These maxima may occur in different years for different pollutants, though each pollutant's maximum year is conservatively analyzed collectively in a single year assessment. Full operational emissions (at Project buildout) were modeled for all pollutants, and the balance of emissions were allocated to construction sources, with the distribution of emissions types representative of the maximum construction years. This allows for analysis of the worst-case emissions scenario over a single construction or operational year. Full operational emissions (at Project buildout) are expected to have the greatest contribution to health effects due to the proximity of the mobile source emissions to dense population centers, and thus were modeled in full. Additional construction emissions were evaluated to conservatively represent a potential year where construction and operation may coincide, though in reality the situation of full operations plus construction is hypothetical, and conservative for the purposes of this analysis.

For use in PGMs, each Project emissions source must be spatially distributed across the modeling grid cells so that they can be incorporated into the gridded emission inventory. Operational emissions include area sources (architectural coatings, VOCs in consumer products, and landscaping equipment), emergency generators, off-road equipment, and emissions associated with motor vehicle use. Construction emissions include off-road equipment, paving, architectural coatings, fugitive dust, and emissions associated with hauling, vendor, and worker activity. Operational area sources and off-road equipment emissions were evenly distributed within the Project site. Emergency generator emissions were evenly distributed across all emergency generator point source locations. The operational mobile source category includes both passenger vehicles and trucks. The operational mobile sources are also spatially distributed in both the site's grid cells, as well as the grid cells for the local and regional roadways with Project travel. Non-road construction emissions (off-road equipment, paving, architectural coating, and fugitive dust) were allocated to specific plots within the Project area. On-road mobile construction emissions were spatially distributed to the Project site and nearby roadways. Annual emission estimates from the Project were spatially gridded, temporally allocated, and chemically speciated to be used for photochemical grid modeling using the Sparse Matrix Operator Kerner Emissions (SMOKE) emissions modelling system supported by the USEPA. The emissions inventories, spatial allocation, and SMOKE inputs and outputs are shown in Appendix A.2 of this Draft Recirculated RSFEIR.

The SCAQMD's Southern California 2016 Air Quality Management Plan (AQMP)[17] modeling database was used for this Project. The Southern California 4-km CAMx modeling database is based on a 2012 base meteorological year and includes future year emission scenarios. The 2031 future year projections were used for this analysis, as that is the nearest future year to full operational buildout with base emissions available as of the date of this report. The Project's emissions were tagged for treatment by the source apportionment tools in CAMx to obtain the incremental ozone and $PM_{2.5}$ concentration changes due to the Project's emissions. More details and inputs for the PGM modeling are included in Appendix A.2 of this Draft Recirculated RSFEIR.

Following completion of the CAMx source apportionment modeling, Ramboll used the USEPA's Benefits Mapping and Analysis Program (BenMAP)[18, 19] to estimate the potential health effects of the

[16] SCAQMD performed Weather Research and Forecasting (WRF) meteorological modeling for the 4-km domain and 2012 calendar year that has been processed by WRFCAMx to generate CAMx 2012 4-km meteorological inputs for the domain. The CMAQ 2012 emissions have been converted to the format used by CAMx using the CMAQ2CAMx processor.

[17] https://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp.

[18] https://www.epa.gov/benmap/how-benmap-ce-estimates-health-and-economic-effects-air-pollution.

[19] https://www.epa.gov/sites/production/files/2015-04/documents/benmap-ce_user_manual_march_2015.pdf.

Project's contribution to ozone and $PM_{2.5}$ concentration. BenMAP uses the concentration estimates produced by CAMx, along with population and health effect concentration-response (C-R) functions, to estimate various health effects of the concentration increases. BenMAP has a wide history of applications by the USEPA and others, including for local-scale analysis[20] as needed for assessing the health effects of a project's emissions. The USEPA default BenMAP health effects C-R functions that are typically used in national rulemaking, such as the health effects assessment[21] for the 2012 $PM_{2.5}$ National Ambient Air Quality Standard (NAAQS), were used in this assessment. The health effects that we used for $PM_{2.5}$ include mortality (all causes), hospital admissions (respiratory, asthma, cardiovascular), emergency room visits (asthma), and acute myocardial infarction (non-fatal). For ozone, the endpoints are mortality, emergency room visits (respiratory) and hospital admissions (respiratory). Details on the BenMAP inputs and outputs and definitions for the health effects are shown in Appendix A.2 of this Draft Recirculated RSFEIR**.**

4.3.4 Thresholds of Significance

Based on Appendix G of the *CEQA Guidelines*, air quality impacts would occur if the World Logistics Center project would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors); and/or
- Expose sensitive receptors to substantial pollutant concentrations.

In addition to the Federal and State AAQS, there are daily emissions thresholds for construction and operation of a project in the Basin. The Basin is administered by the SCAQMD, and guidelines and emissions thresholds established by the SCAQMD in its *CEQA Air Quality Handbook* (SCAQMD, 1993) and subsequent additions to the Handbook were used in this analysis. It should be noted that the emissions thresholds were established based on the attainment status of the air basin with regard to air quality standards for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety, these emissions thresholds are regarded as conservative and would overstate an individual project's contribution related to air quality and health risks.

4.3.4.1 Thresholds for Construction Emissions

The following CEQA significance thresholds for regional construction emissions have been established by the SCAQMD for the Basin:

- 75 pounds per day of VOC, also known as reactive organic compounds (ROC).
- 100 pounds per day of NO_X.
- 550 pounds per day of CO.
- 150 pounds per day of PM_{10}.
- 150 pounds per day of SO_X.
- 55 pounds per day of $PM_{2.5}$.

[20] https://www.epa.gov/benmap/benmap-ce-applications-articles-and-presentations#local.

[21] https://www3.epa.gov/ttn/naaqs/standards/pm/data/PM_RA_FINAL_June_2010.pdf.

Projects in the Basin with construction-related emissions that exceed any of the emission thresholds are considered to be significant under CEQA.

4.3.4.2 Thresholds for Operational Emissions

Projects with regional operation-related emissions that exceed any of the regional emission thresholds listed below are considered significant under the SCAQMD guidelines.

- 55 pounds per day of VOC, also known as ROC.
- 55 pounds per day of NO_X.
- 550 pounds per day of CO.
- 150 pounds per day of PM_{10}.
- 150 pounds per day of SO_X.
- 55 pounds per day of $PM_{2.5}$.

4.3.4.3 Air Pollutant Standards for CO with Localized Effects

The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below State and Federal CO standards (previously referenced Table 4.3-1). If ambient levels are below the standards, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or Federal standard, project emissions are considered significant if they increase one-hour CO concentrations by 1.0 ppm or more or eight-hour CO concentrations by 0.45 ppm or more. The Basin meets State and Federal attainment standards for CO; therefore, the project would have a significant CO impact if project emissions result in an exceedance of State or Federal one-hour or eight-hour standard. The following emission concentration standards for CO, based on the SCAQMD *CEQA Air Quality Handbook* (1993), apply to the project:

- California State one-hour CO standard of 20.0 ppm.
- California State eight-hour CO standard of 9.0 ppm.

4.3.4.4 Localized Significance Thresholds

The SCAQMD published its Final Localized Significance Threshold Methodology in June 2003 (SCAQMD, 2003), revised July 2008 and Final Methodology to Calculate Particulate Matter (PM) 2.5 and $PM_{2.5}$ Significance Thresholds (SCAQMD, 2006), recommending that all air quality analyses include a localized assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. LSTs represent the maximum emissions from a project site that are not expected to result in an exceedance of Federal or State AAQS. LSTs are based on the ambient concentrations of that pollutant within the Source Receptor Area (SRA) where a project is located and the distance to the nearest sensitive receptor. The project site is located in the northern portions of SRAs 24 (Moreno Valley) and 28 (San Jacinto).

In the case of CO and NO_2, if ambient levels are below the air standards for these pollutants, a project is considered to have a significant impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a State or Federal standard, then project emissions are considered significant if they increase ambient concentrations by a measurable amount. This would apply to PM_{10} and $PM_{2.5}$, both of which are nonattainment pollutants in the Basin. For these latter two pollutants, the significance criteria are the pollutant concentration thresholds presented in SCAQMD Rules 403 and 1301. The Rule 403 threshold of 10.4 $\mu g/m^3$ applies to construction emissions (and may apply to operational emissions at aggregate handling facilities). The Rule 1301 threshold of 2.5 $\mu g/m^3$ applies to non-aggregate handling operational activities.

Sensitive receptors include residences, schools, hospitals, and similar uses that are sensitive to adverse air quality. There are currently six occupied single-family homes and associated ranch/farm buildings in various locations on the World Logistics Center project site. These residences are existing on-site sensitive receptors. The nearest off-site existing sensitive receptors in the vicinity of the project site are the residences located along Bay Avenue, Merwin Street, and west of Redlands Boulevard, and scattered residences along Gilman Springs Road.

Following the SCAQMD LST methodology, for sites larger than 5 acres, air dispersion modeling needs to be conducted. Because the project site greatly exceeds 5 acres, the localized significance for project air pollutant emissions was determined by performing dispersion modeling to determine if the pollutant concentrations would exceed relevant significance thresholds established by the SCAQMD.

The following LSTs were applied to the construction and operation of the project:

- 0.18 ppm (State 1-hour); 0.100 ppm (Federal 1-hour); and 0.03 ppm (Annual) of NO_2 for construction or operations.
- 20 ppm (1-hour) and 9.0 ppm (8-hour) of CO for construction or operation.
- 10.4 µg/m^3 (24-hour) and 1 µg/m^3 of PM_{10} (Annual) for construction.
- 2.5 µg/m^3 (24-hour) and 1.0 ppm (Annual) of PM_{10} for operations.
- 10.4 µg/m^3 (24-hour) of $PM_{2.5}$ for construction.
- 2.5 µg/m^3 (24-hour) of $PM_{2.5}$ for operation.

Note that when construction and operational activities occur at the same time, the SCAQMD recommends application of the significance thresholds for operation apply in determining emission significance

4.3.4.5 Health Risk Significance Thresholds

For pollutants without defined significance standards or air contaminants not covered by the standard criteria cited above, the definition of substantial pollutant concentrations varies. For toxic air contaminants (TAC), “substantial” is taken to mean that the individual cancer risk exceeds a threshold considered to be a prudent risk management level.

The SCAQMD has defined several health risk significance thresholds that it recommends to Lead Agencies in assessing a project’s health risk impacts. The City of Moreno Valley has not adopted its own set of thresholds. Therefore, the following SCAQMD thresholds were adopted for the project.

- **Maximum Individual Cancer Risk (MICR)and Cancer Burden.** MICR is the estimated increase in lifetime probability of the maximally exposed individual contracting cancer as a result of exposure to TACs over the applicable exposure period. Cancer burden multiples the cancer risk by the exposed population to estimate the number of individuals that would be expected to contract cancer from the project.

  A significant impact would occur for:

  (A) An increased MICR greater than 10 in 1 million at any receptor location; or

  (B) A cancer burden greater than 0.5

- **Chronic Hazard Index (HI).** This is the ratio of the estimated long-term level of exposure to a TAC for a potential maximally exposed individual to its chronic reference exposure level. A reference exposure level is the exposure level below which an adverse health effect will not occur as determined by health professionals The chronic HI calculations include multi-pathway consideration, when applicable.

A significant impact would occur if the increase in total chronic HI for any target organ system due to exposure to total TAC emissions from the project exceeds 1.0 at any receptor location.

- **Acute Hazard Index (HI).** This is the ratio of the estimated maximum one-hour concentration of a TAC for a potential maximally exposed individual to its acute reference exposure level, the exposure level below which an adverse health effect will not occur as determined by health professionals (see Section 4.3.2.3).

  A significant impact would occur if the increase in total acute HI for any target organ system due to exposure to total TAC emissions from the project exceeds 1.0 at any receptor location.

4.3.5 Less than Significant Impacts

The following impact was determined to be less than significant (therefore, no mitigation would be required) or adherence to established regulations, standards, and policies would reduce potential impacts to a less than significant level.

4.3.5.2 Long-Term Microscale (CO Hot Spot) Emissions

Impact 4.3.5.2: *The World Logistics Center project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation for CO.*

Threshold	Would the proposed project violate any air quality standard or contribute substantially to an existing or projected air quality violation? For CO, the applicable thresholds are: • California State one-hour CO standard of 20.0 ppm; and • California State eight-hour CO standard of 9.0 ppm.

Vehicular trips associated with the development of the World Logistics Center project could contribute to congestion at intersections and along roadway segments in the project vicinity resulting in potential local CO “hot spot” impacts. The primary mobile source pollutant of local concern is CO, which is a direct function of vehicle travel speeds and idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, schoolchildren, etc.). High CO concentrations are typically associated with roadways or intersections operating at unacceptable levels of service or with very high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project’s effect on local CO levels.

Carbon monoxide (CO) “hot spot” thresholds ensure that emissions of CO associated with traffic impacts from a project in combination with CO emissions from existing and forecast regional traffic do not exceed State or Federal standards for CO at any traffic intersection affected by the project. Project concentrations may be considered significant if a CO hot spot intersection analysis determines that project-generated CO concentrations cause a localized violation of the State CO 1-hour standard of 20 ppm, State CO 8-hour standard of 9 ppm, Federal CO 1-hour standard of 35 ppm, or Federal CO 8-hour standard of 9 ppm.

A CO hot spot is a localized concentration of CO that is above the State or Federal 1-hour or 8-hour CO ambient air standards. Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. To provide a worst-case scenario, CO concentrations are estimated at project-impacted intersections where the concentrations would be the greatest.

This analysis follows guidelines recommended by the CO Protocol (University of California, Davis, 1997) and the SCAQMD. According to the CO Protocol, intersections with Level of Service (LOS) E or F require detailed analysis. In addition, intersections that operate under LOS D conditions in areas that experience meteorological conditions favorable to CO accumulation require a detailed analysis. The LOS for intersections is determined in the TIA (refer to Section 4.15 of this Revised FEIR, Traffic and Circulation). The SCAQMD recommends that a local CO hot spot analysis be conducted if the intersection meets one of the following criteria: (1) the intersection is at LOS D or worse and where the project increases the volume to capacity ratio by 2 percent, or (2) the project decreases LOS at an intersection from C to D. A decrease in LOS, i.e., from C to D, means that there is more traffic and more delay at the intersection.

For this project analysis, the intersections with the highest traffic volumes and the LOS E or F before mitigation were identified for 2025 using information from the table in the TIA "Intersection LOS under 2025 Plus Phase 1 Conditions." The intersections with the greatest LOS before mitigation were also identified for buildout using information from the table in the TIA "Intersection LOS under 2040 Plus Build-out Conditions."

The CO concentrations were estimated using the CALINE4 model using 2025 and 2035 emission factors. The emission factors are for "all" vehicle classes and are not adjusted for a project-specific fleet to provide a worst-case scenario. In addition, the emission factors do not take into account the project mitigation reductions from requiring that all diesel trucks are model year 2010 or newer.

Table 4.3-6 shows estimated CO concentrations at year 2025 plus project traffic conditions. The estimated CO concentrations at buildout are shown in Table 4.3-7. As shown in the tables, the estimated 1-hour and 8-hour average CO concentrations from project-generated and cumulative traffic plus the background concentrations are below the State and Federal standards. No CO hot spots are anticipated because of traffic-generated emissions by the project in combination with other anticipated development in the area. Therefore, the mobile emissions of CO from the project are not anticipated to contribute substantially to an existing or projected air quality violation of CO. Therefore, according to this criterion, air pollutant emissions during operation would result in a less than significant impact. No mitigation is required.

Table 4.3-6: Carbon Monoxide Concentrations at Intersections, 2025

Intersection	Peak Hour	CO Concentration (ppm)		Significant Impact?
		1 Hour	8 Hour	
Alessandro Boulevard and Chicago Avenue	PM	2.0	1.3	No
Alessandro Boulevard and Canyon Crest Drive	PM	1.6	1.1	No
Alessandro Boulevard and Mission Grove Parkway	PM	1.4	0.9	No
Arlington Avenue and Victoria Avenue	PM	1.1	0.7	No
Alessandro Boulevard and Sycamore Canyon Boulevard	AM	1.1	0.7	No

Notes:
- A significant impact would occur if the estimated CO concentration is over the 1-hour State standard of 20 ppm or the 8-hour State/Federal standard of 9 ppm.

ppm = parts per million
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Table 4.3-7: Carbon Monoxide Concentrations at Intersections, 2035

Intersection	Peak Hour	CO Concentration (ppm)		Significant Impact?
		1 Hour	8 Hour	
Alessandro Boulevard and Chicago Avenue	PM	1.9	1.3	No
Alessandro Boulevard and Canyon Crest Drive	PM	1.8	1.2	No
Alessandro Boulevard and Sycamore Canyon Boulevard	PM	1.6	1.1	No
Ramona Expressway and Sanderson Avenue	PM	2.2	1.5	No
Alessandro Boulevard and Mission Grove Parkway	PM	1.5	1.0	No

Notes:
- A significant impact would occur if the estimated CO concentration is over the 1-hour State standard of 20 ppm or the 8-hour State/Federal standard of 9 ppm.

ppm = parts per million
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

4.3.6 Significant Impacts

The following impacts were determined to be potentially significant. In each of the following issues, mitigation measures have been recommended to reduce the significance of the identified impacts.

4.3.6.1 Air Quality Plan Management Plan Consistency

Impact 4.3.6.1: *Implementation of the World Logistics Center project has the potential to conflict with implementation of the SCAQMD 2012 AQMP.*

Threshold	Would the proposed project conflict with or obstruct implementation of the applicable air quality plan?

According to the 1993 SCAQMD Handbook, there are two key indicators of consistency with the Air Quality Management Plan (AQMP):

1. Indicator: Whether the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
2. Indicator: A project would conflict with the AQMP if it would exceed the assumptions in the AQMP in 2012 or increments based on the year of project buildout and phase. The Handbook indicates that key assumptions to use in this analysis are population number and location and a regional housing needs assessment. The parcel-based land use and growth assumptions and inputs used in the Regional Transportation Model run by the Southern California Association of Governments that generated the mobile inventory used by the SCAQMD for AQMP are not available and assumed not to include the project; therefore, the SCAQMD's significance thresholds are used to determine if the project exceeds the assumptions in the AQMP.

Considering the recommended criteria in the SCAQMD's 1993 Handbook, this analysis utilizes the following criteria to address this potential impact:

- Project's contribution to air quality violations (SCAQMD's first indicator, 1 as listed above);
- Assumptions in AQMP (SCAQMD's second indicator, 2, as listed above); and
- Compliance with applicable emission control measures in the AQMPs.

Project's Contribution to Air Quality Violations and Assumptions in AQMP. According to the SCAQMD, the project is consistent with the AQMP if the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay

timely attainment of air quality standards or the interim emission reductions specified in the AQMP (SCAQMD, 1993, page 12-3). As shown in analyses in Impacts 4.3.6.2, 4.3.6.3, and 4.3.6.4, the project could violate an air quality standard and therefore could contribute substantially to an existing or projected air quality violation.

If a project's emissions exceed the SCAQMD regional thresholds for NO_X, VOC, PM_{10}, or $PM_{2.5}$, it follows that the emissions could cumulatively contribute to an exceedance of a pollutant for which the Basin is in nonattainment (ozone, PM_{10}, and $PM_{2.5}$) at a monitoring station in the Basin. The thresholds are criteria for determining environmental significance and are discussed in the SCAQMD's 1993 Handbook for Air Quality Analysis. An exceedance of a nonattainment pollutant at a monitoring station would not be consistent with the goals of the AQMP—to achieve attainment of pollutants. As discussed in the analyses below (Impact 4.3.6.2, Construction Emissions, and Impact 4.3.6.4, Long-Term Operational Emissions), the project would exceed the regional emission significance thresholds for VOC, NO_X, CO, PM_{10}, and/or $PM_{2.5}$ prior to the application of mitigation. This means that project emissions could combine with other sources and could result in an ozone, PM_{10}, or $PM_{2.5}$ exceedance at a nearby monitoring station. The Basin in which the project is located is in nonattainment for these pollutants; therefore, according to this criterion, the project would not be consistent with the AQMP. The regional emissions assume a zero baseline for existing emissions on the project site and therefore assumes that the AQMP had no emissions for the project site. The regional significance thresholds can be interpreted to mean that if project emissions exceed the thresholds, then the project would also not be consistent with the assumptions in the AQMP. Therefore, based on this criterion, the project could contribute to air quality violations and would not be consistent with the AQMP.

Compliance with Emission Control Measures. The second indicator of whether the project could conflict with or obstruct implementation of the AQMP is by assessing the project's compliance with the control measures in the AQMPs and the State Implementation Plan (SIP).

2012 AQMP. The project would comply with all applicable rules and regulations enacted as part of the AQMP. In addition, the AQMP relies upon the SCAG regional transportation strategy, which is in its adopted 2012–2035 RTP/SCS and 2011 FTIP. Included in the RTP/SCS are transportation control measures including active transportation (non-motorized transportation, e.g., biking and walking); transportation demand management; transportation system management; transit; passenger and high-speed rail; goods movement; aviation and airport ground access; highways; arterials; and operations and maintenance.

2016 AQMP. As stated previously, the SCAQMD recently approved on March 3, 2017 the Final 2016 AQMP. Currently, the 2016 AQMP is being reviewed by the U.S. EPA and CARB. Until the approval of the EPA and CARB, the current regional air quality plan is the Final 2012 AQMP adopted by the SCAQMD on December 7, 2012. Therefore, consistency analysis with the 2016 AQMP has not been included. Nonetheless, the project would comply with all applicable rules and regulations enacted as part of the 2016 AQMP, including transportation control measures from the 2016 RTP/SCS.

State Implementation Plans. Geographical areas in the State that exceed the Federal air quality standards are called nonattainment areas. The project area is in nonattainment for ozone, PM_{10}, and $PM_{2.5}$. SIPs show how each area will attain the Federal standards. To do this, the SIPs identify the amount of pollutant emissions that must be reduced in each area to meet the standard and the emission controls needed to reduce the necessary emissions. On September 27, 2007, the CARB adopted its State Strategy for the 2007 SIP. In 2009, the SIP was revised to account for emissions reductions from regulations adopted in 2007 and 2008 and clarifies CARB's legal commitment. Additional recent revisions to the SIP are as follows:

- In 2008, the EPA revised the lead[22] national ambient air quality standard by reducing it to 0.15 $\mu g/m^3$. On December 31, 2010, the Los Angeles County portion of the Basin was designated as nonattainment for the 2008 lead national standard as a result of exceedances measured near a

[22] Lead referred to here is a chemical element; a heavy metal.

large lead-acid battery recycling facility. The 2012 Lead SIP for Los Angeles County was prepared by the SCAQMD and addresses the recent revision to the lead national standard, and outlines the strategy and pollution control activities that demonstrate attainment of the lead national standard before December 31, 2015. The 2012 Lead SIP was approved May 4, 2012.

- A SIP revision for the federal nitrogen dioxide standard was prepared in 2012, to address the new 1-hour federal ambient air quality standard for nitrogen dioxide.
- The proposed California Infrastructure SIP revision was considered by the CARB on January 23, 2014. The proposed Infrastructure SIP revision is administrative in nature and covers the National Ambient Air Quality Standards (federal standards) for ozone (1997 and 2008), fine particulate matter ($PM_{2.5}$; 1997, 2006, and 2012), lead (2008), nitrogen dioxide (2010), and sulfur dioxide (2010). The proposed revision describes the infrastructure (authorities, resources, and programs) California has in place to implement, maintain, and enforce these federal standards. It does not contain any proposals for emission control measures.

The SIP takes into account CARB rules and regulations. The project will comply with applicable rules and regulations as identified in the AQMPs and SIPs and therefore, complies with this criterion.

Summary. Although the project would be consistent with the policies, rules, and regulations in the AQMPs and SIPs, the project must meet all the criteria listed above to be consistent with the AQMPs. The project could impede AQMP attainment because its construction and operation emissions exceed the SCAQMD regional significance thresholds, so the project is considered to be inconsistent with the AQMP.

Mitigation Measures. Applicable SCAQMD regulatory requirements are restated in the mitigation measures identified below in Section 4.3.6.2 and 4.3.6.3. These measures shall be incorporated in all project plans, specifications, and contract documents. **Mitigation Measures 4.3.6.2A, 4.3.6.2B, 4.3.6.2C, 4.3.6.2D, 4.3.6.3A, 4.3.6.3B, 4.3.6.3C, 4.3.6.3D,** and **4.3.6.4A** are required.

Level of Significance After Mitigation. Implementation of the World Logistics Center project would exceed applicable thresholds for all criteria pollutants, with the exception of SO_X, as noted below. Despite the implementation of mitigation measures, emissions associated with the project cannot be reduced below the applicable thresholds. Construction and operational emissions would be reduced to the extent feasible through implementation of mitigation measures listed above and described below. Construction emissions would be reduced through implementation of mitigation measures that require the use of Tier 4 construction equipment, reduced idling time, use of non-diesel equipment where feasible, low-VOC paints and cleaning solvents, and dust suppression measures. Operational emissions would be reduced through implementation of mitigation measures that require reduced vehicle idling, use of non-diesel on-site equipment, meeting or exceeding 2010 engine emission standards for all diesel trucks entering the site, electric vehicle charging stations, and prohibition of refrigerated warehouses. In the absence of further feasible mitigation to reduce the project's emission of criteria pollutants to below SCAQMD thresholds, potential air quality impacts resulting from exhaust from construction equipment will remain significant and unavoidable.

4.3.6.2 Regional Construction Emissions

Impact 4.3.6.2: *Construction of the World Logistics Center project has the potential to exceed applicable daily thresholds that may affect sensitive receptors.*

Threshold	Would the proposed project violate any AAQS or contribute to an existing or projected air quality violation; or expose sensitive receptors to pollutants? For construction operations, the applicable daily thresholds are: • 75 pounds per day of ROC/VOC; • 100 pounds per day of NO_X; • 550 pounds per day of CO; • 150 pounds per day of PM_{10}; • 150 pounds per day of SO_X; and • 55 pounds per day of $PM_{2.5}$.

Grading and other construction activities produce combustion emissions from various sources such as site grading, utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions during these construction activities will vary daily as construction activity levels change. The use of construction equipment on site would result in localized exhaust emissions. Activity during peak grading days typically generates a greater amount of air pollutants than other project construction activities.

While the actual details of the future construction schedule are not known, it is expected that project construction would occur in two phases with the construction of Phase 1 occurring over five years and the construction of Phase 2 occurring over ten years. Appendix A.1 of this Draft Recirculated Revised Sections of the FEIR includes details of the emission factors and other assumptions.

Table 4.3-8 identifies projected emissions resulting from grading and construction activities for the World Logistics Center project and shows the estimated maximum daily construction emissions over the course of project construction prior to the application of mitigation.

The construction emissions estimates summarized in Table 4.3-8 are based on the assumed construction scenario described in Appendix A.1, of this Draft Recirculated Revised Sections of the FEIR. Using emission factors from the CalEEMod model for off-road sources and EMFAC2017 emission factors for on-road sources, Table 4.3-8 indicates that construction emissions of criteria pollutants would exceed the SCAQMD daily emission thresholds for all criteria pollutants (VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$), with the exception of SO_X. This is a significant impact requiring mitigation.

Fugitive dust emissions are generally associated with land clearing and exposure of soils to the air and wind, and cut-and-fill grading operations. Dust generated during construction varies substantially by project, depending on the level of activity, the specific operations and equipment, local soils, and weather conditions at the time of construction. The World Logistics Center project will be required to comply with SCAQMD Rules 402 and 403 to control fugitive dust. There are a number of feasible control measures that can be reasonably implemented to significantly reduce PM_{10} emissions from construction.

As identified in Table 4.3-8, fugitive dust and exhaust emissions during the anticipated peak construction day for the World Logistics Center project would exceed SCAQMD daily construction thresholds. The percentage of dust and exhaust varies by year but for PM_{10} is an average of 85 percent dust and 15 percent exhaust. $PM_{2.5}$ has an average of 54 percent dust and 46 percent exhaust.

Table 4.3-8: Short-Term Regional Construction Emissions–Without Mitigation

	Maximum Daily Pollutant Emissions (lbs/day)									
Year	VOC	NO_X	CO	SO_2	PM_{10} dust	PM_{10} exhaust	PM_{10} Total	$PM_{2.5}$ dust	$PM_{2.5}$ exhaust	$PM_{2.5}$ Total
2020	319	989	701	2	127	42	168	27	38	66
2021	333	1124	832	2	126	47	172	26	43	69
2022	333	1103	865	2	154	45	199	37	41	78
2023	328	1010	858	2	170	41	211	40	37	77
2024	312	811	771	2	151	32	184	31	30	61
2025	285	529	576	1	124	20	144	27	19	46
2026	270	405	401	1	91	16	107	18	14	33
2027	267	380	376	1	40	15	55	10	14	24
2028	272	423	400	1	172	16	188	24	14	39
2029	268	390	378	1	114	15	129	18	14	32
2030	272	206	324	1	114	6	120	18	6	24
2031	263	163	292	1	108	5	113	15	5	20
2032	261	151	267	1	103	4	107	14	4	19
2033	251	110	226	1	81	3	84	11	3	14
2034	250	111	221	1	99	3	102	13	3	15
SCAQMD Threshold	**75**	**100**	**550**	**150**	**NA**	**NA**	**150**	**NA**	**NA**	**55**
Exceeds Threshold?	**Yes**	**Yes**	**Yes**	**No**	**NA**	**NA**	**Yes**	**NA**	**NA**	**Yes**

Notes:
- The emissions assume all construction activities (mass grading, fine grading, building, utilities, curbing, landscaping, painting, paving, and/or interchange) occur on the same day, depending on the year in which the activity occurs.
- Emissions assume compliance with SCAQMD Rule 403.

* PM totals may not add up due to rounding.

VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} and $PM_{2.5}$ = particulate matter; NA = not applicable as there is no separate threshold for dust/exhaust

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Concrete pouring would likely occur during nighttime hours due to limitations high temperatures pose for concrete work during the day. On-site equipment used during concrete pouring would involve daytime prep with actual concrete pouring occurring during the nighttime hours. On average, the total hours of operation for each piece of equipment during the concrete phase would be approximately 10 hours. Therefore, maximum daily emissions presented in Table 4.3-8 represent the average concrete pour day. However, under rare occurrences, extended concrete pour days may be required. Table 4.3-9 summarizes daily maximum emissions for each year of construction associated with 24-hour operation of on-site building concrete equipment. As shown in Table 4.3-9, maximum 24-hour concrete pour days would exceed SCAQMD thresholds for NO_X. However, all maximum daily emissions are less than those for the worst-case construction day as summarized in Table 4.3-8. Therefore, rare 24-hour concrete pour days would be within the estimated worst-case construction day assumptions. No further analysis of 24-hour concrete pour days is required.

Similar to extended concrete pouring days, other phases of construction such as utility installation and building construction may require an occasional extended construction day based on the task at hand and schedule goals. Occasional extended construction hours would occur for specific tasks within specific planning areas as needed (determined on a day-to-day basis) and would not occur site-wide throughout the 15-year construction period. Therefore, it is anticipated that estimated yearly maximum construction day emissions, as summarized in Table 4.3-8, represent the realistic worst-case regional

construction emissions for the 15-year construction duration. Therefore, no further analysis of potential extended construction days is required.

Table 4.3-9: Short-Term Regional 24-hour Concrete Pour Emissions–Without Mitigation

	Maximum Daily Pollutant Emissions (lbs/day)									
Year	VOC	NO_X	CO	SO_2	PM_{10} dust	PM_{10} exhaust	PM_{10} Total	$PM_{2.5}$ dust	$PM_{2.5}$ exhaust	$PM_{2.5}$ Total
2020	18	155	165	0	12	9	20	1	8	9
2021	17	144	164	0	12	8	19	1	7	8
2022	15	131	163	0	12	7	18	1	6	7
2023	15	123	163	0	12	6	17	1	6	7
2024	14	117	163	0	12	5	17	1	5	6
2025	13	110	163	0	12	4	16	1	4	5
2026	13	110	163	0	12	4	16	1	4	5
2027	13	110	163	0	12	4	16	1	4	5
2028	13	110	163	0	12	4	16	1	4	5
2029	13	110	163	0	12	4	16	1	4	5
2030	14	87	167	0	12	2	14	1	2	3
2031	14	87	167	0	12	2	14	1	2	3
2032	14	87	167	0	12	2	14	1	2	3
2033	14	87	167	0	12	2	14	1	2	3
2034	14	87	167	0	12	2	14	1	2	3
SCAQMD Threshold	**75**	**100**	**550**	**150**	**NA**	**NA**	**150**	**NA**	**NA**	**55**
Exceeds Threshold?	**No**	**No**	**No**	**No**	**NA**	**NA**	**No**	**NA**	**NA**	**No**

* PM totals may not add up due to rounding.
VOC = volatile organic compounds NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
NA = not applicable as there is no separate threshold for dust/exhaust
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

The World Logistics Center project is required to comply with regional rules that assist in reducing short-term air pollutant emissions. SCAQMD Rule 402 requires implementation of dust-suppression techniques to prevent fugitive dust from creating a nuisance off site. SCAQMD Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors. The applicable Rule 403 measures are as follows:

- All clearing, grading, earthmoving, or excavation activities shall cease when winds exceed 25 miles per hour per SCAQMD guidelines in order to limit fugitive dust emissions.
- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the project are watered at least three times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.

- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 meter (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicular Code Section 23114.
- The contractor shall ensure that traffic speeds on unpaved roads and project site areas are 15 miles per hour or less to reduce fugitive dust haul road emissions.

As previously discussed, SCAQMD Rule 1113 regulates the sale and application of architectural coatings. Rule 1113 is applicable to any person who applies or solicits the application of any architectural coating within the Basin. Rule 1113 sets limits on the amount of ROG or VOC emissions allowed for all types of architectural coatings. Compliance with Rule 1113 means that architectural coatings used during construction would have ROG or VOC emissions that comply with these limits.

Mitigation Measures. The following measures are recommended to reduce the level of emissions of criteria pollutants:

4.3.6.2A Construction equipment maintenance records (including the emission control tier of the equipment) shall be kept on site during construction and shall be available for inspection by the City of Moreno Valley.

a) Off-road diesel-powered construction equipment greater than 50 horsepower shall meet United States Environmental Protection Agency Tier 4 off-road emissions standards. A copy of each unit's certified tier specification shall be available for inspection by the City at the time of mobilization of each applicable unit of equipment.

b) During all construction activities, off-road diesel-powered equipment may be in the "on" position not more than 10 hours per day.

c) Construction equipment shall be properly maintained according to manufacturer specifications.

d) All diesel powered construction equipment, delivery vehicles, and delivery trucks shall be turned off when not in use. On-site idling shall be limited to three minutes in any one hour.

e) Electrical hook ups to the power grid shall be provided for electric construction tools including saws, drills and compressors, where feasible, to reduce the need for diesel-powered electric generators. Where feasible and available, electric tools shall be used.

f) The project shall demonstrate compliance with South Coast Air Quality Management District Rule 403 concerning fugitive dust and provide appropriate documentation to the City of Moreno Valley.

g) All construction contractors shall be provided information on the South Coast Air Quality Management District Surplus Off-road Opt-In "SOON" funds which provides funds to accelerate cleanup of off-road diesel vehicles.

h) Construction on-road haul trucks shall be model year 2010 or newer if diesel-fueled.

i) Information on ridesharing programs shall be made available to construction employees.

j) During construction, lunch options shall be provided onsite.

k) A publicly visible sign shall be posted with the telephone number and person to contact regarding dust complaints per AQMD Standards.

l) Off-site construction shall be limited to the hours between 6 a.m. to 8 p.m. on weekdays only. Construction during City holidays shall not be permitted.

4.3.6.2B Prior to issuance of any grading permits, a Construction Staging Plan shall be submitted to and approved by the City of Moreno Valley that describes in detail the location of equipment staging areas, stockpiling/storage areas, construction parking areas, safe detours around the project construction site, as well as provide temporary traffic control (e.g., flag person) during construction-related truck hauling activities. Construction trucks shall be rerouted away from sensitive receptor areas. Trucks shall use State Route 60 using World Logistics Center Parkway (formerly Theodore Street), Redlands Boulevard (north of Eucalyptus Avenue), and Gilman Springs Road. In addition to its traffic safety purpose, the Construction Staging Plan can minimize traffic congestion and delays that increase idling emissions. A copy of the approved Traffic Control Plan shall be retained on site in the construction trailer.

4.3.6.2C The following measures shall be applied during construction of the project to reduce volatile organic compounds (VOC):

a) Non-VOC containing paints, sealants, adhesives, solvents, asphalt primer, and architectural coatings (where used), or pre-fabricated architectural panels shall be used in the construction of the project to the maximum extent practicable. If such products are not commercially available, products with a VOC content of 100 grams per liter or lower for both interior and exterior surfaces shall be used.

b) Leftover paint shall be taken to a designated hazardous waste center.

c) Paint containers shall be closed when not in use.

d) Low VOC cleaning solvents shall be used to clean paint application equipment.

e) Paint and solvent-laden rags shall be kept in sealed containers.

4.3.6.2D No grading shall occur on days with an Air Quality Index forecast greater than 150 for particulates or ozone as forecasted for the project area (Source Receptor Area 24).

4.3.6.2E The project shall comply with the SCAQMD proposed Indirect Source Rule for any warehouses that are constructed after the rule goes into effect. This rule is expected to reduce NO_X and PM_{10} emissions during construction and operation. Emission reductions resulting from this rule were not included in the project analysis.

Level of Significance After Mitigation. Significant and unavoidable. As shown in Table 4.3-10, construction emissions are still significant after mitigation, with the exception of $PM_{2.5}$ and SO_2. The reduction in $PM_{2.5}$ emissions is by a reduction in exhaust from the application of Tier 4 off-road equipment. PM_{10} emissions are still significant because emissions in 2022, 2023, 2024, and 2028 exceed the threshold; however, emissions of PM_{10} during all other years of construction are less than significant. Although mitigation reduces emissions of all pollutants (with the exception of CO due to how CalEEMod calculates Tier 4 emissions) during construction, potential air quality impacts resulting from exhaust from construction equipment and fugitive dust will remain significant and unavoidable.

Table 4.3-10: Mitigated Short-Term Regional Construction Emissions

	Maximum Daily Pollutant Emissions (lbs/day)									
Year	VOC	NO_X	CO[1]	SO_2	PM_{10} dust	PM_{10} exhaust	PM_{10} Total[2]	$PM_{2.5}$ dust	$PM_{2.5}$ exhaust	$PM_{2.5}$ Total[2]
2020	160	148	789	2	127	4	130	27	4	31
2021	163	172	943	2	126	4	130	26	4	30
2022	166	191	995	2	154	5	159	37	5	42
2023	164	172	996	2	170	4	174	40	4	44
2024	162	165	939	2	151	4	155	31	4	35
2025	155	126	709	1	124	3	126	27	3	30
2026	149	87	493	1	91	2	93	18	2	20
2027	147	71	454	1	40	2	42	10	2	12
2028	151	103	476	1	172	2	174	24	2	26
2029	148	87	451	1	114	2	116	18	2	20
2030	148	82	430	1	114	2	116	18	2	20
2031	147	77	375	1	108	1	109	15	1	16
2032	145	72	348	1	103	1	104	14	1	16
2033	143	61	270	1	81	1	82	11	1	12
2034	143	64	263	1	99	1	100	13	1	14
SCAQMD Threshold	**75**	**100**	**550**	**150**	**NA**	**NA**	**150**	**NA**	**NA**	**55**
Exceeds Threshold?	**Yes**	**Yes**	**Yes**	**No**	**NA**	**NA**	**Yes**	**NA**	**NA**	**No**

Notes:

- Mitigation Measure 4.3.6.2A(a) was estimated by CalEEMod using its mitigation module by assuming Tier 4 off-road equipment for equipment greater than 50 horsepower.
- Mitigation Measure 4.3.6.2A(b) restricts equipment from operating more than 10 hours per day in the on position, which is estimated in CalEEMod in both the unmitigated and mitigated estimates.
- Mitigation Measures 4.3.6.2A(c) through (e), 4.3.6.2A(g) through (m), 4.3.6.2B, and 4.3.6.2D are not quantified.
- Mitigation Measure 4.3.6.2A(f) is assumed in the unmitigated and mitigated estimates (Rule 403).
- Mitigation Measure 4.3.6.2A(i) requires that construction haul trucks be 2010 model year or greater. Mitigated model years are reflected in EMFAC2017 emission factors.
- Mitigation Measure 4.3.6.2C reduces VOC emissions during painting and is calculated as demonstrated in the spreadsheets in Appendix A of the Air Quality, Greenhouse Gas, and Health Risk Assessment Report (Appendix A.1 of this Draft Recirculated RSFEIR).

[1] There is an error in the way CalEEMod estimates the effect of a higher tier (such as Tier 3 or 4) on mitigated CO; therefore, the mitigated CO values are greater than unmitigated values.

[2] PM totals may not add up due to rounding.

VOC = volatile organic compounds NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

4.3.6.3 Localized Construction and Operational Air Quality Impacts

Impact 4.3.6.3: *Construction and operation of the World Logistics Center project has the potential to exceed localized daily thresholds that may affect sensitive receptors.*

Threshold	Would the proposed project violate any AAQS or contribute to an existing or projected air quality violation; or expose sensitive receptors to pollutants? The applicable localized thresholds are: • 20 ppm (1 hour) and 9 ppm (8 hours) of CO during construction or operation; • 0.18 ppm (State 1 hour), 0.100 ppm (National 1 hour), and 0.030 ppm (Annual) of NO_X during construction or operation; • 10.4 µg/m^3 (24 hours) 1.0 µg/m^3 (Annual) of PM_{10} during construction; • 2.5 µg/m^3 (24 hours) and 1.0 µg/m^3 (Annual) of PM_{10}; during operation; and • 2.5 µg/m^3 (24 hours) of $PM_{2.5}$ during operation • During time periods when construction and operational activities occur at the same time, the SCAQMD recommends application of the significance thresholds for operations to assess the significance of the activities

The localized significance threshold analysis evaluated four conditions:

- Project Build Out (2020): this condition assumes that Phase 1 and Phase 2 of the project are fully built out in 2020 as a worst-case scenario.
- 2022, the year when the project emissions from both project construction and operation are at their highest combined levels for several pollutants; and when construction activities would occur near the existing residences west of the project boundary along Merwin Street;
- 2025, the earliest year Phase 1 is assumed to be fully operational. When the projected construction schedule would result in construction activities in the southern portion of the project adjacent to Alessandro Boulevard and east of the existing residential areas along Merwin Street, and when all of Phase I operations would occur (approximately 57 percent of entire project floor space); and
- 2035 when Phase 1 and Phase 2 of the project are fully operational.

Project Full Build Out under 2020 conditions represents hypothetical worst-case conditions in that the project physically could not be built-out in 2020 or, in fact, in any single year due to the size of the project. These conditions have been included in this assessment to correspond to the analysis scenarios examined in the project TIA. These conditions also do not account for the fact that vehicle emissions are expected to decline over time as vehicle emission control technologies improve. Thus, consideration of these conditions will significantly overestimate the project's potential air quality impacts. The 2022, 2025, and 2035 conditions represent the logical and realistic development of the project over a period of 15 years as represented by the project applicant. The LST analysis is presented for each condition below.

Pursuant to the SCAQMD's LST methodology, only emissions generated from emission sources located within and along the project boundaries are included in the LST assessment. These emission sources include vehicle travel on the roadway network within and along the borders of the project and emissions from support equipment including forklifts, yard/hostler trucks, and emergency standby electric generators.

<u>The Project Full Build Out (2020) LST Assessment</u>

The localized assessment results for the Project Phase 1 and Phase 2 Full Build Out (2020) condition are provided in Table 4.3-11 for receptors located within the project boundaries and in Table 4.3-12 for

receptors located outside the project's boundaries along with a comparison to the SCAQMD's localized significance thresholds. The significance thresholds for CO and nitrogen dioxide are derived from the measured ambient air quality data from the SCAQMD Riverside air monitoring station and serve as the measure of existing air quality.

As noted from Table 4.3-11, the project would exceed the SCAQMD's significance thresholds for the annual PM_{10} threshold for receptors located within the project's boundaries. As shown in Table 4.3-12, the significance thresholds would not be exceeded at any sensitive receptor located outside of the project boundaries.

Table 4.3-11: Localized Assessment of Project Phase 1 and Phase 2 Full Build Out (2020) Emissions Maximum Impacts Within the Project Boundaries (without mitigation)

Pollutant	Averaging Time, Units	Existing Background[1]	Air Concentration[2]		Standard/ Threshold	Total Impact Exceeds Threshold
			Project Local Increase	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.2	0.05	2.2	20.0	**No**
	8 hour, ppm	2.0	0.03	2.0	9.0	**No**
Nitrogen Dioxide	State 1 hour, ppm	0.073	0.019	0.092	0.180	**No**
	National 1 hour, ppm	0.058	0.018	0.076	0.100	**No**
	Annual, ppm	0.015	0.004	0.019	0.030	**No**
PM_{10}	24 hour, $\mu g/m^3$	NA	7.2	7.2	2.5	**Yes**
	Annual, $\mu g/m^3$	NA	4.0	4.0	1.0	**Yes**
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	2.0	2.0	2.5	**No**

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
[1] Background data for CO and NO_2 for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO2 is the 3 year average of the 98th percentile of the daily maximum 1-hour average.
[2] Highest impacts generally occur at the existing residences within the project boundaries.
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Table 4.3-12: Localized Assessment of Project Phase 1 and Phase 2 Full Build Out (2020) Emissions Maximum Impacts Outside the Project Boundaries (without mitigation)

Pollutant	Averaging Time, Units	Existing Background[1]	Air Concentration[2]		Standard/ Threshold	Total Impact Exceeds Threshold
			Project Local Increase	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.2	0.03	2.2	20.0	**No**
	8 hour, ppm	2.0	0.02	2.0	9.0	**No**
Nitrogen Dioxide	State 1 hour, ppm	0.073	0.015	0.088	0.180	**No**
	National 1 hour, ppm	0.058	0.015	0.073	0.100	**No**
	Annual, ppm	0.015	0.001	0.016	0.030	**No**
PM_{10}	24 hour, $\mu g/m^3$	NA	2.9	2.9	2.5	**No**
	Annual, $\mu g/m^3$	NA	1.8	1.8	1.0	**No**
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	0.8	0.8	2.5	**No**

Notes:
$\mu g/m^3$ = micrograms per cubic meter (a concentration unit); NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$

[1] Background data for CO and NO_2 for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO2 is the 3 year average of the 98th percentile of the daily maximum 1-hour average.

[2] Highest impacts generally occur at the existing residences along Gilman Springs Road to the east of the project.

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

It is important to note the Project Phase 1 and Phase 2 Full Build Out (2020) condition assumes that the project's emissions are at the levels that would occur in 2020. The majority of the project's operational emissions are from on-road mobile sources, more particularly, heavy-duty trucks that contribute a disproportionate amount of emissions compared to passenger vehicles. Emissions from on-road mobile sources are regulated at the State and Federal levels and, therefore, are outside of the control of local agencies such as the City and the SCAQMD. For example, the CARB is working closely with the USEPA, engine and vehicle manufacturers, and other interested parties to identify programs that will reduce emissions from heavy-duty diesel vehicles in California. Emission reductions arise from a combination of measures including the use of ultra-low sulfur diesel fuel, new emission standards for large diesel engines, restrictions on diesel engine idling, addition of post-combustion filter and catalyst equipment, and retrofits for business and government diesel truck fleets. The implementation of these emission reductions will also result in reductions of other pollutants such as NO_X, VOC, and CO. As these emission reduction programs are implemented and there is a turnover in the use of older vehicles with newer and cleaner vehicles, the project's operational emissions are expected to decline significantly in the future. Emission controls on mobile source vehicles already adopted by the CARB particularly dealing with NO_X and PM_{10} controls on heavy duty trucks will reduce truck emissions significantly over time. Thus, Project (2020) conditions represent highly conservative estimates, in terms of overestimating of the project's operational impacts.

Project Development Schedule LST Assessment

The final localized threshold assessment condition examined potential local project impacts considering the proposed construction and build out schedule of the project over a time period of 15 years from the commencement of construction in 2020 to the final build out and occupation in 2035. This condition examined three specific time periods:

- The project's onsite maximum daily and annual construction emissions were estimated using the CalEEMod land use emission model and the construction equipment inventory and activities provided by the applicant. The project's onsite operational emissions, principally from the project's mobile sources, were derived from detailed traffic volume data provided by the project's TIA that reflects a completely operational Phase 1. The TIA applied a comprehensive regional transportation model to develop daily and peak hour traffic volumes for 2025 and buildout from the project's mobile sources.

Peak hour and daily project traffic volumes were developed for each year from 2020 to buildout for roadway segments within and along the boundaries of the project using the following assumptions:

- Project operational traffic volumes were assumed to be zero in 2020, the year that project construction would commence.
- Traffic volumes for the years 2021 to 2024 (the completion year for Phase 1 operations) were interpolated from 2025 volumes provided in the TIA by applying the annual project occupancy schedule to the 2025 traffic volumes.
- Traffic volumes for the years 2026 to 2034 were interpolated from the provided traffic volumes at buildout by applying the annual project occupancy schedule.

Localized Impact Analysis, 2025. The localized impacts for the short-term construction and operational activities were analyzed using an air dispersion model (EPA AERMOD Model) to simulate the transport and dispersion of project-related emissions through the air. These impacts were then compared to the applicable SCAQMD localized concentration thresholds.

The estimated maximum localized air quality impacts from the construction and operation of the project at Phase 1 buildout are summarized in Table 4.3-13 for locations within the project's boundaries. These maximum impacts were found at the locations of the existing residences within the project boundaries. Table 4.3-14 summarizes the highest air quality impacts for sensitive receptors located outside of the project boundaries. These maximum impacts were found at the locations of the existing residences outside of the project boundary located west of the project boundary along Merwin Street. As noted from these two tables, project impacts would exceed the significance thresholds for PM_{10} for locations within and outside the project boundaries, thus represents a significant impact without mitigation.

Table 4.3-13: Localized Assessment – Construction and Operation, Year 2025 Maximum Impacts Within the Project Boundaries (without Mitigation)

Pollutant	Averaging Time, Units	Existing Background[1]	Air Concentration		Standard/ Threshold	Total Impact Exceeds Threshold?
			Project Local Increase	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.2	0.09	2.3	20.0	No
	8 hour, ppm	2.0	0.03	2.0	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.073	0.030	0.104	0.180	No
	National 1 hour, ppm	0.058	0.021	0.079	0.100	No
	Annual, ppm	0.015	0.002	0.017	0.030	No
PM_{10}	24 hour, µg/m^3	NA	5.7	5.7	2.5[2]	Yes
	Annual, µg/m^3	NA	2.6	2.6	1.0	Yes
$PM_{2.5}$	24 hour, µg/m^3	NA	1.5	1.5	2.5[2]	No

Notes:
µg/m^3 = micrograms per cubic meter (a concentration unit), ppm = parts per million (a concentration unit); NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$

[1] Background data for CO and NO_2 for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO2 is the 3 year average of the 98th percentile of the daily maximum 1-hour average.

[2] During periods when both construction and operation overlap the SCAQMD recommends the operational significance thresholds for PM_{10} and $PM_{2.5}$ as opposed to the construction thresholds which are 10.4 ug/m^3 for PM_{10} and $PM_{2.5}$. This provides a very conservative threshold for determining the significance of project impacts.

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report,* 2019.

Table 4.3-14: Localized Assessment – Construction and Operation, Year 2025 Maximum Impacts Outside the Project Boundaries (without Mitigation)

Pollutant	Averaging Time, Units	Existing Background[1]	Air Concentration		Standard/ Threshold	Total Impact Exceeds Threshold?
			Project Local Increase	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.2	0.11	2.3	20.0	No
	8 hour, ppm	2.0	0.03	2.0	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.073	0.037	0.110	0.180	No
	National 1 hour, ppm	0.058	0.024	0.082	0.100	No
	Annual, ppm	0.015	0.001	0.016	0.030	No
PM_{10}	24 hour, µg/m^3	NA	5.4	5.4	2.5[2]	Yes
	Annual, µg/m^3	NA	0.6	0.6	1.0	No
$PM_{2.5}$	24 hour, µg/m^3	NA	1.3	1.3	2.5[2]	No

Notes:
µg/m^3 = micrograms per cubic meter (a concentration unit), ppm = parts per million (a concentration unit); NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$

[1] Background data for CO and NO_2 for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO2 is the 3 year average of the 98th percentile of the daily maximum 1-hour average.

[2] During periods when both construction and operation overlap the SCAQMD recommends the operational significance thresholds for PM_{10} and $PM_{2.5}$ as opposed to the construction thresholds which are 10.4 ug/m^3 for PM_{10} and $PM_{2.5.}$ This provides a very conservative threshold for determining the significance of project impacts.

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Localized Air Quality Impact Analysis, 2022. The year 2022 was selected for the LST Analysis for two principal reasons: 1) the year 2022 corresponds to the year with the highest combined total onsite construction and operational emissions for NO_X and $PM_{2.5}$, the second highest onsite emissions for CO, and the fourth highest onsite emissions of PM_{10}; and 2) the location of the building construction in 2022 places the construction emissions nearest to the existing residences located west of the project boundary along Merwin Street.

The project's maximum combined impacts from construction and operations during 2022 are shown in Table 4.3-15 for the existing sensitive receptors located within the project boundaries along with the SCAQMD-recommended significance thresholds. Table 4.3-16 shows the maximum combined impacts for sensitive receptors located outside of the project boundaries. Maximum impacts outside of the project boundary were found within the residential areas located to the west of the project boundary. As shown in these tables, the project would exceed the SCAQMD's significance thresholds for PM_{10} at locations within the project boundary and outside of the project boundary and NO_X within the project boundary.

Table 4.3-15: Localized Assessment – Construction and Operation, Year 2022 Maximum Impacts Within the Project Boundaries (without Mitigation)

Pollutant	Averaging Time, Units	Existing Background[1]	Air Concentration[2]		Standard/ Threshold	Total Impact Exceeds Threshold?
			Project Local Increase	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.2	0.13	2.3	20.0	**No**
	8 hour, ppm	2.0	0.04	2.0	9.0	**No**
Nitrogen Dioxide	State 1 hour, ppm	0.073	0.056	0.129	0.180	**No**
	National 1 hour, ppm	0.058	0.048	0.106	0.100	**Yes**
	Annual, ppm	0.015	0.002	0.017	0.030	**No**
PM_{10}	24 hour, µg/m^3	NA	5.2	5.2	2.5[3]	**Yes**
	Annual, µg/m^3	NA	1.4	1.4	1.0	**Yes**
$PM_{2.5}$	24 hour, µg/m^3	NA	1.6	1.6	2.5[3]	**No**

µg/m^3 = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$

1 Background data for CO and $NO_2$for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO2 is the 3 year average of the 98th percentile of the daily maximum 1-hour average.

2 Highest impacts at any receptor located outside of the boundaries of the project generally occur in the residential areas to the west of the project.

3 During periods when both construction and operation overlap the SCAQMD recommends the operational significance thresholds for PM_{10} and $PM_{2.5}$ as opposed to the construction thresholds which are 10.4 ug/m^3 for PM_{10} and $PM_{2.5}$. This provides a very conservative threshold for determining the significance of project impacts.

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Table 4.3-16: Localized Assessment – Construction and Operation, Year 2022 Maximum Impacts Outside the Project Boundaries (without Mitigation)

Pollutant	Averaging Time, Units	Existing Background[1]	Air Concentration[2]		Standard/ Threshold	Total Impact Exceeds Threshold?
			Project Local Increase	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.2	0.11	2.3	20.0	**No**
	8 hour, ppm	2.0	0.03	2.0	9.0	**No**
Nitrogen Dioxide	State 1 hour, ppm	0.073	0.041	0.115	0.180	**No**
	National 1 hour, ppm	0.058	0.036	0.094	0.100	**No**
	Annual, ppm	0.015	0.001	0.016	0.030	**No**
PM_{10}	24 hour, µg/m^3	NA	4.0	4.0	2.5[3]	**Yes**
	Annual, µg/m^3	NA	0.8	0.8	1.0	**No**
$PM_{2.5}$	24 hour, µg/m^3	NA	1.3	1.3	2.5[3]	**No**

Notes:
µg/m^3 = micrograms per cubic meter (a concentration unit); NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$

1 Background data for CO and NO_2 for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO2 is the 3 year average of the 98th percentile of the daily maximum 1-hour average.

2 Highest impacts at any receptor located outside of the boundaries of the project generally occur in the residential areas to the west of the project.

3 During periods when both construction and operation overlap the SCAQMD recommends the operational significance thresholds for PM_{10} and $PM_{2.5}$ as opposed to the construction thresholds which are 10.4 ug/m^3 for PM_{10} and $PM_{2.5}$. This provides a very conservative threshold for determining the significance of project impacts.

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Localized Air Quality Impact Analysis, 2035. The year 2035 represents a long-term planning year when both phases of the project would be fully in operation. Operational emissions during 2035 were estimated based on the project's trip generation and project-related travel along the local roadway network within and along the project boundaries. Table 4.3-17 shows the maximum localized air quality impacts for 2035 relative to the background air quality levels at the existing sensitive receptors located within the project boundaries. Table 4.3-18 identifies the highest localized impacts for sensitive receptors located outside of the project boundaries. As shown in Table 4.3-17 and Table 4.3-18, the project would exceed PM_{10} LSTs for receptors within and outside the project boundary, and would, therefore, represent a significant impact without mitigation.

Summary. The localized significance analysis demonstrates that without mitigation, the project would exceed the localized significance thresholds for NO_X and PM_{10} for one or more of the LST assessment years (2022, 2025, or 2035) analyzed. Therefore, according to this criterion, the air pollutant emissions would result in a significant impact and could exceed or contribute to an exceedance of the national 1-hour NO_2 annual, as well as the 24-hour and annual PM_{10} ambient air quality standards.

Table 4.3-17: Localized Assessment – Project Operation Full Build Out, Year 2035 Maximum Impacts Within the Project Boundaries (without Mitigation)

Pollutant	Averaging Time, Units	Existing Background[1]	Air Concentration		Standard/ Threshold	Total Impact Exceeds Threshold?
			Project Local Increase	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.2	0.04	2.2	20	**No**
	8 hour, ppm	2.0	0.02	2.0	9.0	**No**
Nitrogen Dioxide	State 1 hour, ppm	0.073	0.018	0.091	0.180	**No**
	National 1 hour, ppm	0.058	0.016	0.074	0.100	**No**
	Annual, ppm	0.015	0.003	0.018	0.030	**No**
PM_{10}	24 hour, $\mu g/m^3$	NA	8.3	8.3	2.5	**Yes**
	Annual, $\mu g/m^3$	NA	4.6	4.6	1.0	**Yes**
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	2.1	2.1	2.5	**No**

Notes:
(1) Background data for CO and NO_2 for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO2 is the 3-year average of the 98th percentile of the daily maximum 1-hour average.
$\mu g/m^3$ = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Table 4.3-18: Localized Assessment – Project Operation, Year 2035 Maximum Impacts Outside of the Project Boundaries (without Mitigation)

Pollutant	Averaging Time, Units	Existing Background(1)	Air Concentration		Standard/ Threshold	Total Impact Exceeds Threshold?
			Project Local Increase	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.2	0.03	2.2	20	No
	8 hour, ppm	2.0	0.01	2.0	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.073	0.013	0.086	0.180	No
	National 1 hour, ppm	0.058	0.012	0.070	0.100	No
	Annual, ppm	0.015	0.001	0.016	0.030	No
PM_{10}	24 hour, $\mu g/m^3$	NA	2.50	2.50	2.5	Yes
	Annual, $\mu g/m^3$	NA	0.95	0.95	1.0	No
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	0.66	0.66	2.5	No

Notes:
$\mu g/m^3$ = micrograms per cubic meter (a concentration unit); NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
1 Background data for CO and NO_2 for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO_2 is the 3-year average of the 98th percentile of the daily maximum 1-hour average.
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Mitigation Measures. Mitigation measures identified previously under Impact 4.3.6.2 (**Mitigation Measures 4.3.6.2A**, **4.3.6.2B**, **4.3.6.2D** and **4.3.6.2E**) to reduce construction emissions of criteria pollutants are required. The project will also be required to comply with SCAQMD Rules 402 and 403. Additionally, the following mitigation measures are required to reduce emissions of criteria pollutants during project operations.

4.3.6.3A Prior to issuance of occupancy permits for each warehouse building within the WLCSP, the developer shall demonstrate to the City that vehicles can access the building using paved roads and parking lots.

4.3.6.3B The following shall be implemented as indicated:

Prior to Issuance of a Certificate of Occupancy

a) Signs shall be prominently displayed informing truck drivers about the California Air Resources Board diesel idling regulations, and the prohibition of parking in residential areas.

b) Signs shall be prominently displayed in all dock and delivery areas advising of the following: engines shall be turned off when not in use; trucks shall not idle for more than three consecutive minutes; telephone numbers of the building facilities manager and the California Air Resources Board to report air quality violations.

c) Signs shall be installed at each exit driveway providing directional information to the City's truck route. Text on the sign shall read "To Truck Route" with a directional arrow. Truck routes shall be clearly marked per the City Municipal Code.

On an Ongoing Basis

d) Tenants shall maintain records on fleet equipment and vehicle engine maintenance to ensure that equipment and vehicles are maintained pursuant to manufacturer's specifications. The records shall be maintained on site and be made available for inspection by the City.

e) Tenant's staff in charge of keeping vehicle records shall be trained/certified in diesel technologies, by attending California Air Resources Board approved courses (such as the free, one-day Course #512). Documentation of said training shall be maintained on-site and be available for inspection by the City.

f) Tenants shall be encouraged to become a SmartWay Partner.

g) Tenants shall be encouraged to utilize SmartWay 1.0 or greater carriers.

h) Tenants' fleets shall be in compliance with all current air quality regulations for on-road trucks including but not limited to California Air Resources Board's Heavy-Duty Greenhouse Gas Regulation and Truck and Bus Regulation.

i) Information shall be posted in a prominent location available to truck drivers regarding alternative fueling technologies and the availability of such fuels in the immediate area of the World Logistics Center.

j) Tenants shall be encouraged to apply for incentive funding (such as the Voucher Incentive Program [VIP], Carl Moyer, etc.) to upgrade their fleet.

k) All yard trucks (yard dogs/yard goats/yard jockeys/yard hostlers) shall be powered by electricity, natural gas, propane, or an equivalent non-diesel fuel. Any off-road engines in the yard trucks shall have emissions standards equal to Tier 4 Interim or greater. Any on-road engines in the yard trucks shall have emissions standards that meet or exceed 2010 engine emission standards specified in California Code of Regulations Title 13, Article 4.5, Chapter 1, Section 2025.

l) All diesel trucks entering logistics sites shall meet or exceed 2010 engine emission standards specified in California Code of Regulations Title 13, Article 4.5, Chapter 1,

Section 2025 or be powered by natural gas, electricity, or other diesel alternative. Facility operators shall maintain a log of all trucks entering the facility to document that the truck usage meets these emission standards. This log shall be available for inspection by City staff at any time.

m) All standby emergency generators shall be fueled by natural gas, propane, or any non-diesel fuel.

n) Truck and vehicle idling shall be limited to three (3) minutes.

4.3.6.3C Prior to the issuance of building permits for more than 25 million square feet of logistics warehousing within the Specific Plan area, a publically-accessible fueling station shall be operational within the Specific Plan area offering alternative fuels (natural gas, electricity, etc.) for purchase by the motoring public. Any fueling station shall be placed a minimum of 1000 feet from any off-site sensitive receptors or off-site zoned sensitive uses. This facility may be established in connection with the convenience store required in Mitigation Measure 4.3.6.3D.

4.3.6.3D Prior to the issuance of building permits for more than 25 million square feet of logistics warehousing within the Specific Plan area a site shall be operational within the Specific Plan area offering food and convenience items for purchase by the motoring public. This facility may be established in connection with the fueling station required in Mitigation Measure 4.3.6.3C.

4.3.6.3E Refrigerated warehouse space is prohibited unless it can be demonstrated that the environmental impacts resulting from the inclusion of refrigerated space and its associated facilities, including, but not limited to, refrigeration units in vehicles serving the logistics warehouse, do not exceed any environmental impact for the entire World Logistics Center identified in the Revised Sections of the FEIR. Such environmental analysis shall be provided with any warehouse plot plan proposing refrigerated space. Any such proposal shall include electrical hookups at dock doors to provide power for vehicles equipped with Transportation Refrigeration Units (TRUs).

4.3.6.3F The project shall comply with the SCAQMD proposed Indirect Source Rule for any warehouses that are constructed after the rule goes into effect. This rule is expected to reduce NO_X and PM_{10} emissions during construction and operation. Emission reductions resulting from this rule were not included in the project analysis.

Level of Significance After Mitigation. Significant and unavoidable. Table 4.3-19 compares the project impacts before and after mitigation for those assessment conditions and pollutants that indicated a significant impact before mitigation. After application of mitigation, the project would continue to exceed the localized significance thresholds at one or more of the existing residences located within and outside the project boundaries for PM_{10} (24-hour and/or annual).

Table 4.3-19: Comparison of Local Project Air Quality Impacts Before and After Mitigation

Assessment Condition	Location	Pollutant, Averaging Time, Units	Total Impact Before Mitigation[1]	Total Impact After Mitigation	Significance Threshold	Exceeds Threshold After Mitigation?
Project Development Schedule Year 2025	Inside Project Boundaries	PM_{10} 24-hour, µg/m^3	5.7	5.6	2.5	**Yes**
		PM_{10}, Annual, µg/m^3	2.6	2.6	1.0	**Yes**
Project Development Schedule Year 2025	Outside Project Boundaries	PM_{10} 24-hour, µg/m^3	5.4	5.2	2.5	**Yes**
Project Development Schedule Year 2022	Inside Project Boundaries	NO_X National 1 hour, ppm	0.106	0.068	0.100	**No**
		PM_{10} 24-hour, µg/m^3	5.2	5.2	2.5	**Yes**
		PM_{10} Annual, µg/m^3	1.4	1.4	1.0	**Yes**
	Outside Project Boundaries	PM_{10} 24-hour, µg/m^3	4.0	4.0	2.5	**Yes**
Project Development Schedule Year 2035 Build Out	Inside Project Boundaries	PM_{10} 24 hour, µg/m^3	8.3	8.3	2.5	**Yes**
		PM_{10} Annual, µg/m^3	4.6	4.6	1.0	**Yes**
	Outside Project Boundaries	PM_{10} 24 hour, µg/m^3	2.50	2.49	2.5	**No**

Notes:
[1] Total Impacts include the incremental impacts from the project plus the pollutant background; see Tables 4.3-13 to 4.3-22 for the total impacts for the various assessment conditions prior to the application of mitigation.
µg/m^3 = micrograms per cubic meter (a unit of concentration); ppm = parts per million (a unit of concentration)
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

4.3.6.4 Long-Term Operational Emissions

Impact 4.3.6.4: *Implementation of the World Logistics Center project may have the potential to exceed applicable daily thresholds for operational activities.*

Threshold	Would the proposed project violate any AAQS or contribute to an existing or projected air quality violation; or expose sensitive receptors to pollutants? For long-term operations, the applicable daily thresholds are: • 55 pounds of VOC; • 55 pounds of NO_X; • 550 pounds of CO; • 150 pounds of PM_{10}; • 55 pounds of $PM_{2.5}$; and • 150 pounds of SO_X.

Long-term air pollutant emission impacts that would result from the World Logistics Center project are those associated with stationary sources (generators, forklifts, etc.), area sources (landscaping and maintenance activities), and mobile sources (e.g., emissions from the use of motor vehicles by project-generated traffic). As discussed above in Section 4.3.3.2, the TIA provides VMT attributable to the project based on the net effect the project would have on regional travel as well as project VMT without consideration of a net effect. The emissions from the net effect on VMT, in conjunction with the proposed stationary and area sources, are shown in the tables below for determination of significance. For informational purposes only the *Air Quality, Greenhouse Gas, and Health Risk Assessment Report (*Appendix A.1) of this Draft Recirculated Revised Section of the FEIR includes operational mobile emissions without consideration of a net effect in regional traffic volumes.

Worst-Case Scenario. Projected emissions resulting from operational activities of the project under the worst-case scenario are identified in Table 4.3-20.

There may be minor emissions of VOC from the fueling station, depending on what type of fuel is used. However, details regarding the fueling station are currently unknown so the emission source is not estimated. This is a worst-case analysis because it assumes that the entire project would be built-out in 2020. The motor vehicle and truck emission factors are from 2020, which assumes a "dirtier" fleet than would be the case in later years. In addition, no reductions are taken for mitigation measures.

Table 4.3-20: Operational Regional Air Pollutant Emissions (Worst-Case Scenario)

	Emissions (pounds per day)					
Scenario Source	**VOC**	**NO_X**	**CO**	**SOx**	**PM_{10}**	**$PM_{2.5}$**
Buildout 2020 emission factors Mobile	161	3,500	1,377	14	260	131
Area	311	<1	4	0	<1	<1
Onsite equipment	9	245	89	0	2	2
Total	**481**	**3,745**	**1,470**	**14**	**263**	**134**
Significance Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Significant Impact?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

Notes:
VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} and $PM_{2.5}$ = particulate matter; <1 = less than one
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

As identified in Table 4.3-20, operational emissions for the project would exceed SCAQMD daily operational thresholds for all criteria pollutants with the exception of SO_X for the "worst-case" 2020 scenario.

Operational Regional Emissions. Table 4.3-21 shows the detailed operational emission sources generated both on site and off site for Phase 1 and buildout. The table shows particulate matter (PM_{10} and $PM_{2.5}$) divided into dust (roadway and tire and brake wear) and exhaust sources. As shown in the table, emissions of VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$ are significant after completion of Phase 1 and after full buildout.

Table 4.3-22 shows the operational emissions year by year using emission factors interpolated from 2025 and 2035 emission factors. The VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions would be over the SCAQMD's significance thresholds for most years. The emissions demonstrate that although the number of vehicles and trucks would increase year by year, the emissions do not increase dramatically because the per-vehicle emission factors decrease over time as cleaner vehicles enter the fleet over time.

Combined Construction and Operation. There would be overlapping of construction and operational emissions with project implementation. The maximum daily operational emissions were added to the maximum daily construction emissions and are shown in Table 4.3-23, which shows all pollutants for all years exceed the SCAQMD thresholds, with the exception of SO_X emissions.

As identified in the preceding tables, project-related air quality impacts for all criteria pollutants, with the exception of SO_X, would be significant and mitigation measures are required.

Table 4.3-21: Operational Regional Air Pollutant Emissions (Detail, Unmitigated)

Phase	Source	Emissions (pounds/day)									
		VOC	NO_X	CO	SO_2	PM_{10} Dust	PM_{10} Exh.	PM_{10} Total	$PM_{2.5}$ Dust	$PM_{2.5}$ Exh.	$PM_{2.5}$ Total
Phase 1	Mobile	24	849	277	5	129	13	141	40	7	47
	Area	203	0	3	0	0	0	0	0	0	0
	On-site Equipment	5	138	51	0	0	1	1	0	1	1
	Total	**232**	**988**	**331**	**5**	**129**	**14**	**143**	**40**	**9**	**48**
Buildout	Mobile	45	1,361	867	10	375	13	388	113	12	125
	Area	311	0	4	0	0	0	0	0	0	0
	On-site Equipment	9	245	89	0	0	2	2	0	2	2
	Total	**364**	**1,606**	**961**	**10**	**375**	**15**	**390**	**113**	**15**	**127**
Significance Threshold		**55**	**55**	**550**	**150**	**None**	**None**	**150**	**None**	**None**	**55**
Significant Impact?		**Yes**	**Yes**	**Yes**	**No**	**--**	**--**	**Yes**	**--**	**--**	**Yes**

Notes:

- On-site equipment emissions include emissions from yard trucks, forklifts, and stationary generators.

VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} and $PM_{2.5}$ = particulate matter; Exh. = exhaust; <1 = less than 1
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Table 4.3-22: Operational Regional Air Pollutant Emissions (Year by Year, pounds per day, unmitigated)

Year	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2020	0	0	0	0	0	0
2021	51	338	111	1	34	14
2022	97	608	200	2	67	27
2023	138	808	269	3	97	37
2024	174	941	315	4	125	45
2025	205	988	330	5	138	48
2026	221	1,033	417	6	169	57
2027	238	1,109	494	6	195	65
2028	255	1,184	570	7	220	73
2029	272	1,255	639	7	245	81
2030	289	1,323	705	8	271	89
2031	305	1,388	766	8	296	97
2032	321	1,451	825	9	321	105
2033	337	1,511	879	9	346	113
2034	353	1,568	930	9	371	121
2035	364	1,606	961	10	390	127
SCAQMD Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Significant?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

Notes:
- Emissions are from local vehicles, trucks, natural gas, emergency generators, forklifts, yard trucks, painting, and consumer products. There is no reduction from existing onsite emissions.
- Operational emissions are assumed to be zero in 2020 when project construction commences.
- PM_{10} and $PM_{2.5}$ emissions include exhaust and road dust.
- Landscaping emissions are negligible.

VOC = volatile organic compounds; NO_X = nitrogen oxides; SO_2 = sulfur dioxide; CO = carbon monoxide; PM_{10} and $PM_{2.5}$ = particulate matter
Source: Air Quality, Greenhouse Gas, and Health Risk Assessment Report, 2019.

Table 4.3-23: Combined Construction and Operational Regional Air Pollutant Emissions (Year by Year, pounds per day, unmitigated)

Year	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2020 (construction only)	319	989	701	2	168	66
2021	384	1,463	943	3	207	83
2022	429	1,710	1,066	4	266	105
2023	465	1,818	1,127	5	308	114
2024	486	1,751	1,086	6	309	106
2025	490	1,517	906	7	282	94
2026	491	1,438	817	7	276	90
2027	505	1,489	870	7	250	89
2028	528	1,607	970	8	408	112
2029	540	1,645	1,017	8	374	113
2030	560	1,529	1,029	9	391	114
2031	568	1,551	1,058	9	408	117
2032	582	1,602	1,092	9	428	124
2033	588	1,620	1,105	10	429	127
2034	603	1,679	1,150	10	473	137
2035 (operations only)	364	1,606	961	10	390	127
Max Daily Emissions	**603**	**1,818**	**1,150**	**10**	**473**	**137**
SCAQMD Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Significant?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

Notes:
- Year 2020 contains construction emissions only; buildout contains operational emissions only
- Reduction from existing onsite emissions are not included.

VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} and $PM_{2.5}$ = particulate matter
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Mitigation Measures. The mitigation measures previously identified under Impact 4.3.6.3 (**Mitigation Measures 4.3.6.3A** through **4.3.6.3E**) would reduce operational emissions of criteria pollutants associated with the project.

Additionally, the following mitigation measure is required:

4.3.6.4A The following measures shall be incorporated as conditions to any Plot Plan approval within the Specific Plan:

a) All tenants shall be required to participate in Riverside County's Rideshare Program.

b) Storage lockers shall be provided in each building for a minimum of three percent of the full-time equivalent employees based on a ratio of 0.50 employees per 1,000 square feet of building area. Lockers shall be located in proximity to required bicycle storage facilities.

c) Class II bike lanes shall be incorporated into the design for all project streets.

d) The project shall incorporate pedestrian pathways between on-site uses.

e) Site design and building placement shall provide pedestrian connections between internal and external facilities.

f) The project shall provide pedestrian connections to residential uses within 0.25 mile from the project site.

g) A minimum of two electric vehicle-charging stations for automobiles or light-duty trucks shall be provided at each building. In addition, parking facilities with 200 parking spaces or more shall be designed and constructed so that at least six percent of the total parking spaces are capable of supporting future electric vehicle supply equipment (EVSE) charging locations. Sizing of conduit and service capacity at the time of construction shall be sufficient to install Level 2 Electric Vehicle Supply Equipment (EVSE) or greater.

h) Each building shall provide indoor and/or outdoor - bicycle storage space consistent with the City Municipal Code and the California Green Building Standards Code. Each building shall provide a minimum of two shower and changing facilities for employees.

i) Each building shall provide preferred and designated parking for any combination of low-emitting, fuel-efficient, and carpool/vanpool vehicles equivalent to the number identified in California Green Building Standards Code Section 5.106.5.2 or the Moreno Valley Municipal Code whichever requires the higher number of carpool/vanpool stalls.

j) The following information shall be provided to tenants: onsite electric vehicle charging locations and instructions, bicycle parking, shower facilities, transit availability and the schedules, telecommunicating benefits, alternative work schedule benefits, and energy efficiency.

It is important to note that, in addition to the operational activity mitigation measures identified previously, future development would need to incorporate physical attributes and operational programs that will act to generally reduce operational-source pollutant emissions including GHG emissions. These project characteristics are identified in Section 4.7, *Climate Change and Greenhouse Gas Emissions*, and Section 4.17, *Energy,* of this Draft Recirculated Revised Sections of the FEIR.

On October 21, 2016, the Project's developers entered into a settlement agreement with the SCAQMD which requires the payment to the SCAQMD of an Air Quality Improvement Fee of 64 cents per square foot for each building as the Project is constructed. The settlement agreement states:

> *"[T]he payment of the Air Quality Improvement Fee will adequately mitigate heavy-duty truck related air quality impacts that may result from the construction and operation of the World Logistics Center as described in the EIR and that no additional charges will be imposed on the World Logistics Center to mitigate emissions, including NO_X, described in the EIR from heavy-duty trucks."*

Funds may be used by SCAQMD for any purpose to improve air quality in the South Coast Air Basin although the SCAQMD has indicated that the funds will be used "to develop mitigation efforts focused on reducing emissions in the areas affected by the warehouse project."[23] One possible use might be that individual or fleet truck owners servicing the Project could be offered a financial incentive to purchase a near-zero or zero-emission truck model, similar to the Carl Moyer Program. This type of program has been an effective tool for more than 19 years in speeding the transition of heavy-duty trucks and other equipment to cleaner models. In the 2017 Reporting Cycle for the Carl Moyer Program (Funding Years 8-19), $87,373,480 was funded for "On-Road" vehicles by the SCAQMD for a reduction of 6,265 tons of NO_X and ROG emissions, and a reduction of 145.3 tons of PM emissions, with an average cost effectiveness of $11,612. Using those costs and resulting reductions in emissions, the $26,000,000 Air Quality Improvement Fee could result in a reduction of 1,864 tons of NO_X and ROG emissions, and a PM reduction of 43 tons of PM emissions. Therefore, with the payment of the Air Quality Improvement Fee through the 2016 settlement, the Project's net contribution to regional air quality would be further reduced. Because the use of the funds will be determined by the SCAQMD's

[23] SCAQMD press released October, 21, 2016, announcing the settlement.

Governing Board and because it is not yet known how the Board will allocate the funds, no credit in emissions has been taken by the Project.

Level of Significance after Mitigation. Significant and unavoidable. Mitigated operational emissions for full buildout are shown in Table 4.3-24. Note that the emissions are based on conservative assumptions and does not subtract existing emissions that would cease to exist (i.e., assumes all emissions are net new). Additionally, mitigation requiring the use of natural gas and propane equipment lead to decreases in PM and NO_X, but may lead to increases in CO. As shown on Table 4.3-24, even with implementation of the mitigation measures, emissions are still significant. Despite implementation of mitigation measures, emissions of criteria pollutants would still exceed SCAQMD significance thresholds resulting in a significant and unavoidable operational air quality impact.

Table 4.3-24: Operational Regional Air Pollutant Emissions (Buildout Mitigated)

	Emissions (pounds per day)					
Source	**VOC**	**NO_X**	**CO[1]**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Vehicles: Local and trucks	45	1,341	867	10	387	125
Area	311	0	4	0	0	0
Onsite Equipment	8	91	107	0	0	0
Total Project Emissions	**363**	**1,432**	**978**	**10**	**388**	**125**
Significance Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Significant Impact?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

Notes:
- PM_{10} and $PM_{2.5}$ emissions include exhaust and road dust.
- Landscaping emissions are negligible.
- On-site equipment emissions include emissions from yard trucks, forklifts, and stationary generators.

VOC = volatile organic compounds NO_X = nitrogen oxides CO = carbon monoxide PM_{10} and $PM_{2.5}$ = particulate matter

[1] Mitigation requiring the use of natural gas and propane equipment lead to decreases in PM and NO_X, but may lead to increases in CO; therefore, the mitigated CO values are greater than unmitigated values.

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

During overlap of construction and operation, VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$ would continue to exceed SCAQMD significance thresholds after mitigation, as shown in Table 4.3-25. Therefore, impacts are significant and unavoidable.

Table 4.3-25: Combined Construction and Operational Regional Air Pollutant Emissions (Year by Year, pounds per day) – Mitigated

Year	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
2020 (construction only)	160	148	789	2	130	31
2021	207	369	1,032	3	160	40
2022	251	574	1,164	4	220	62
2023	290	730	1,236	5	264	74
2024	328	885	1,238	6	275	75
2025	359	982	1,049	7	263	77
2026	369	983	920	7	261	76
2027	384	1,036	959	7	235	76
2028	406	1,138	1,057	8	393	98
2029	420	1,187	1,103	8	360	100
2030	436	1,245	1,148	9	385	108
2031	451	1,301	1,156	9	403	112
2032	466	1,355	1,188	9	423	119
2033	479	1,401	1,165	10	426	123
2034	495	1,459	1,210	10	469	133
2035 (operations only)	363	1,432	978	10	388	125
Max Daily Emissions	**495**	**1,459**	**1238**	**10**	**469**	**133**
SCAQMD Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Significant?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

Notes:
- Year 2020 contains construction emissions only; buildout contains operational emissions only.
- Emissions do not include existing onsite emissions.

VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; PM_{10} and $PM_{2.5}$ = particulate matter
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

4.3.6.5 Impacts to Sensitive Receptors

Impact 4.3.6.5: *Implementation of the World Logistics Center project may have the potential to result in impacts to sensitive receptors.*

Threshold

Would the proposed project expose sensitive receptors to substantial pollutant concentrations?

For localized air quality impacts, the applicable thresholds are:

- 20 ppm (1 hour) and 9 ppm (8 hours) of CO during construction and operation;
- 0.18 ppm (State 1 hour), 0.100 ppm National 1 hour), and 0.030 ppm (Annual) of NO_X during construction and operation;
- 10.4 µg/m^3 (24-hours) and 1 µg/m^3 (Annual) of PM_{10} during construction
- 2.5 µg/m^3 (24 hours) and 1.0 µg/m^3 (Annual) of PM_{10} during operations; and
- 2.5 µg/m^3 (24 hours) of $PM_{2.5}$ during operations.

During time periods when construction and operational activities occur at the same time, the SCAQMD recommends application of the significance threshold for operations.

For health risk impacts, the applicable thresholds are:

- Maximum Individual Cancer Risk: An increased cancer risk greater than 10 in 1 million at any receptor location;
- Cancer burden: An increase in cancer burden of 0.5 or
- Non-cancer chronic hazard indices (HI): A cumulative increase for any target organ system exceeding 1.0 at any receptor location.

Acute and Chronic Health Risk Impacts. Acute and chronic health risk impact analyses examine the increased risk for non-cancer health outcomes associated with project-related air pollutant emissions. Since these are non-cancer health impacts, as described below, the impacts are analyzed separately from increased cancer risk associated with air pollution.

The construction and operation of the project would not emit any toxic chemicals in any significant quantity other than vehicle exhaust. While there may be other toxic substances in use on site, risk would be negligible due to intermittent use (i.e., chemicals from periodic maintenance), dispersion of chemicals throughout the project site, and compliance with State and Federal handling regulations.

Exposure to diesel exhaust can have immediate (acute) health effects, such as irritation of the eyes, nose, throat, and lungs, and can cause coughs, headaches, light headedness, and nausea. In studies with human volunteers, diesel exhaust particles made people with allergies more susceptible to the materials to which they are allergic, such as dust and pollen. Exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. However, according to the rulemaking on *Identifying Particulate Emissions from Diesel-Fueled Engines as a Toxic Air Contaminant* (CARB 1998), the available data from studies of humans exposed to diesel exhaust are not sufficient for deriving an acute non-cancer REL.

The analysis, however, does derive an estimate of acute non-cancer risks by examining the acute health effects of the various toxic components that comprise diesel and gasoline emissions. There is specific guidance for estimating the acute non-cancer hazards from these toxic components based on chemical profiles established by the CARB which was used in the analysis to determine the project's acute non-cancer hazards.

To determine the project's *chronic* non-cancer hazard impact, the highest annual emissions concentrations were determined covering the years 2020 (the commencement of project construction) to 2035 (the full build out of the project). In this regard, the highest annual average concentrations prior to mitigation determined through air dispersion modeling occurred at an existing residence located within the project boundaries. This concentration was due to the impacts of emissions from the off-road construction equipment and operation equipment. This level of impact results in a chronic non-cancer HI of 0.14. This HI is less than the SCAQMD's significance level of 1.0, and is, therefore, less than significant.

The estimation of the *acute* non-cancer HI requires the estimation of the maximum 1-hour impacts of TAC components in organic gases and PM emissions. For project construction, estimates of the maximum 1-hour ROG and PM exhaust emissions were derived from the project's peak daily construction equipment emissions; for project operation, estimates of the project's maximum 1-hour TOG and PM emissions were derived from the project's peak hour traffic data along the nearly 230 roadway segments contained within the study area and then speciated or broken down into the various TAC components by fuel type, gasoline and diesel, and emission type (i.e., exhaust, evaporative, brake wear and tire wear). The acute non-cancer HI was determined for a worst-case condition that assumed the project would be constructed between 2020 and 2034 and full operation starts in 2035. Based on this information, the maximum acute non-cancer HI found at any receptor within the model domain prior

to mitigation was 0.07 during any year of project construction and operation, which is less than the SCAQMD's non-cancer HI of 1.0, and, therefore, is less than significant without mitigation.

Therefore, the potential for short-term acute and chronic exposure from TAC emissions are considered to be less than significant and no mitigation is required.

Cancer Risks. As noted in Section 4.3.3, *Methodology*, the project health risk assessment examined the following condition for impacts to both sensitive/residential and worker receptors:

> *Project Development condition which evaluates the impacts of project-related construction and operational traffic diesel PM emissions as if the project were built out in accordance with its proposed phased construction and operational buildout schedule commencing with the construction of Phase 1 in 2020 and the full build out in 2035.*

This HRA is being provided to allow decision makers to see the cancer-related impacts of the World Logistics Center project in the assumption that new technology diesel exhaust causes cancer, contrary to what was found by the HEI study. The mitigation conditions require that all diesel-fueled haul trucks during construction be 2010 or newer, diesel trucks accessing the project during operation be model year 2010 or newer, and that all on-site equipment greater than 50 horsepower be Tier 4 (see MM 4.3.6.2A[h] and MM 4.3.6.2A[a], respectively).

To be conservative, the HRA relied on EMFAC2017 to determine the breakdown of vehicle types and fuel types and did not consider the potential reductions in TACs emissions and health risks from increased penetration of zero emission vehicles (ZEVs). The increased penetration of ZEVs is speculative, but likely given rapid technology advancement and more stringent legislation. For example, this HRA assumed that the 2035 heavy duty truck fleet would be made up of 89 percent diesel, 9 percent gasoline, 3 percent natural gas, and 0 percent electric. According to the WLC Transportation Energy Technical Report (ESA, 2019), a High EV Penetration scenario projects that the heavy duty truck fleet could consist of 30 percent electric by 2035. Therefore, accounting for the High EV Penetration scenario would result in a greatly reduced health risk impact than what has been calculated in this analysis.

Localized Risk

Cancer Risk for Sensitive/Residential Receptors. For reference, a risk level of 1 in a million implies a likelihood that up to one person, out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the specific concentration of TAC emissions over the duration of the exposure. This risk would be an excess cancer risk that is in addition to any cancer risk borne by a person not exposed to these air toxics (USEPA, 2017).

Table 4.3-26 presents the estimated cancer risks for the 30-year exposure scenario that starts from the beginning of project construction (Construction + Operation HRA), which uses updated construction and operational emissions values. The results are provided separately for project construction emissions, operational emissions, and the total project emissions prior to the application of emission mitigation. Table 4.3-27 shows the estimated cancer risk for the 30-year residential exposure scenario that starts from the beginning of project full operation in 2035 (Operational HRA), which used the 2035 emission levels to represent the emissions for 2035 to 2064.

On the basis of the results shown in Table 4.3-26, the project would exceed the SCAQMD's cancer risk significance threshold of an incremental increase of 10 in a million prior to the application of mitigation and would represent a significant impact. Table 4.3-27 shows that during full project operation, the estimated maximum cancer risk would exceed the 10 in a million threshold within and outside of the Project boundary and would represent a significant impact. Overall, without mitigation, the project is expected to have a significant impact mainly due to diesel PM emissions from construction and heavy-duty diesel truck activities.

Figures 4.4-3 and 4.3-4 show the incremental cancer risks for the project location. The figures show the results prior to the application of mitigation.

Estimates of Cancer Risk for School Site Receptors. Cancer risk estimates at school sites in the area were prepared assuming a 9-year exposure during construction and operation as well as operation at full buildout. Prior to the application of the mitigation, the maximum cancer risk is at Ridgecrest Elementary School for the construction + operational scenario and would be approximately 12.6 in a million. Similarly, the maximum cancer risk for the full operational scenario is 3.54 in one million is at Bear Valley Elementary School. Therefore, maximum impacts at schools are greater than the 10 in one million significance threshold prior to mitigation and are potentially significant without mitigation.

Estimates of Cancer Risk for Worker Receptors. Estimates of worker exposures were prepared based on the assumption of a 25-year exposure duration for 250 days per year and 8 hours per day as described in the methodology section above. Note that the OEHHA early-in-life age factors do not apply to worker receptors. The highest worker cancer risk estimates prior to the application of mitigation is approximately 10.9 in one million for the construction + operational scenario and 3.8 in one million for the full operational scenario, both at one onsite location. Therefore, cancer risk for worker receptors anywhere in the revised HRA's study area is greater than the 10 in one million significance threshold. Projected impacts are potentially significant without mitigation.

Estimates of Cancer Burden. The cancer burden calculation provides an estimate of the increased number of cancer cases as a result of exposures to TAC emissions. The total cancer burden is the product of the number of persons in a population area (such as a census tract) and the estimated individual risk from TACs in that population area and then summed over all of the population areas. The SCAQMD indicates that the burden calculation includes those population units having an incremental cancer risk of 1 in a million or greater.

Cancer risks were estimated at the geographical center (centroid) of census tracts that are within the study area of the HRA. For the 30-year exposure duration in accordance with "Current OEHHA Guidance", the cancer burden is estimated to be 0.64 out of a population of about 176,824 individuals that were estimated to have a cancer risk of 1 in a million or more prior to mitigation. The SCAQMD has established a threshold for cancer burden of 0.5. Therefore, the project would potentially exceed the SCAQMD's cancer burden significance threshold prior to the application of mitigation.

These analyses are based on the assumption that new technology diesel exhaust cause cancer, contrary to what was found by the HEI study and discussed in more detail below.

Table 4.3-26: Estimated Cancer Risks, 30-Year Exposure Duration for Sensitive/Residential Receptors Starting from Beginning of Project Construction (Construction and Operation HRA), Without Mitigation

Receptor Location	Incremental Increase in Cancer Risk During Project Construction (risk/million)	Incremental Increase in Cancer Risk During Project Operation (risk/million)	Total Incremental Increase in Cancer Risk[1] (risk/million)	SCAQMD Cancer Risk Significance Threshold (risk/million)	Exceeds Threshold?
Maximum risk anywhere in the modeling domain[2]	49.5	17.3	66.8	10	Yes
Maximum risk within the project boundaries[3]	49.5	17.3	66.8	10	Yes
Maximum risk at any area outside of the project boundaries[4]	46.46	8.76	55.22	10	Yes

Notes:
[1] Conservatively assumed all receptors in the studied domain are residential receptors and will have 30-year average exposures from 2020 to 2049 (includes diesel PM emissions from construction and operation); cancer risk estimates derived from the updated construction emission estimate, TIA, EMFAC2014 emission model, SCAQMD HRA guidance and "Current OEHHA Guidance" for estimating cancer risks.
[2] Location is at the existing residences within the boundaries of the project, located at the 13241 World Logistic Parkway (formerly Theodore Street).
[3] Location is at the existing residences within the boundaries of the project, located at the 13241 World Logistic Parkway (formerly Theodore Street).
[4] Location is adjacent to the southwestern boundary of the project.
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Table 4.3-27: Estimated Cancer Risks, 30-Year Exposure Duration for Sensitive/Residential Receptors Starting from Beginning of Project Full Operation in 2035, Without Mitigation

Receptor Location	Total Incremental Increase in Cancer Risk[1] (risk/million)	SCAQMD Cancer Risk Significance Threshold (risk/million)	Exceeds Threshold?
Maximum risk anywhere in the modeling domain[2]	34.0	10	Yes
Maximum risk within the project boundaries[3]	34.0	10	Yes
Maximum risk at any area outside of the project boundaries[4]	29.9	10	Yes
Maximum risk along SR 60 freeway[5]	34.0	10	No

Notes:

1 Conservatively assumed all receptors in the studied domain are residential receptors and will have 30-year average exposures from 2040 to 2069 (includes diesel PM emissions from full project operation); cancer risk estimates derived from the TIA, EMFAC2014 emission model, SCAQMD HRA guidance and "Current OEHHA Guidance" for estimating cancer risks.

2 Location is at the existing residence immediately to the north of the project boundary at 13241 World Logistics Center Parkway (formerly Theodore Avenue).

3 Location is at the existing residence located at 30220 Dracaea Avenue.

4 Location is to the northwest of the project boundary, on the west side of Redlands Boulevard and south of Eucalyptus Avenue.

5 Location is south of SR 60 freeway, same as the location in footnote (2).

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Regional Freeway Network Risk

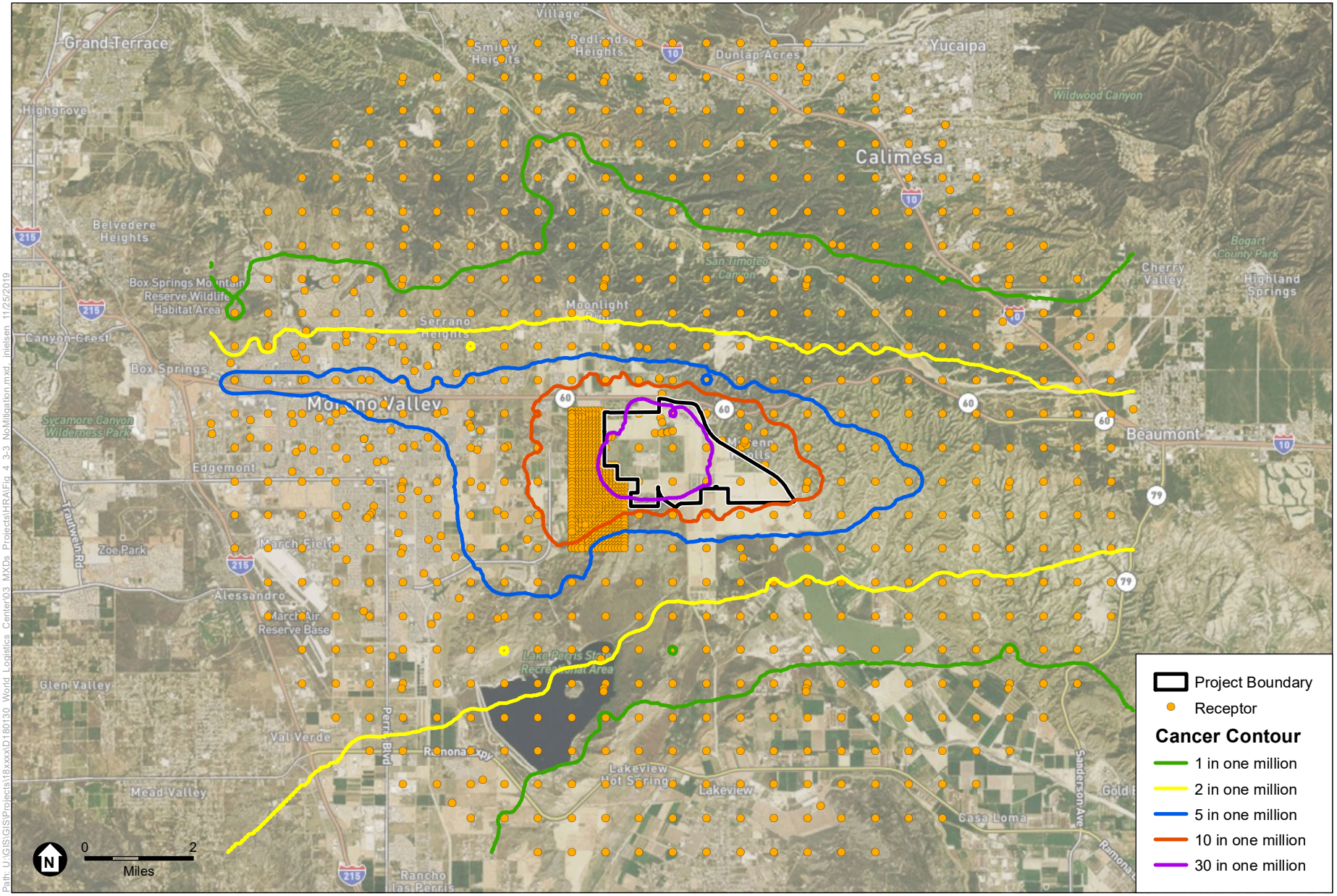
As mentioned in the methodology section, the HRA study area was focused on the most extensive emissions from project-related activities. Because project activity is highest on-site and surrounding the project boundary, the project's emissions and associated health impact decrease with an increase in distance from the project site. This is demonstrated by the cancer risk contours in Figures 4.3-3 and 4.3-4. The HRA study area includes approximately 18 miles of freeway segments along SR60 that extend from north of the project boundary 8.6 miles toward the west (toward Port of Long Beach) and 9 miles toward the east (toward Palm Springs), and the HRA receptor grids include receptors along the SR-60 freeway. Based on the results shown in Figure 4.3-3 for the construction plus operation scenario, without mitigation, a section surrounding the project boundary will potentially have an incremental cancer risk exceeding the SCAQMD 10 in one million threshold at an approximate distance of 2.5 miles away from the project boundary. Based on results shown in Figure 4.3-4 for 30 years of the full project operation, without mitigation, a similar section surrounding the project boundary out to an approximate distance of 2.5 miles will potentially have an incremental cancer risk exceeding 10 in one million. Some receptors near the SR-60 could also exceed the 10 in one million cancer risk threshold.

The project's mitigation conditions require that all construction equipment over 50 horsepower would be Tier 4, all diesel trucks accessing the project during operation be model year 2010 or newer, that all on-site equipment be Tier 4. Also, air filtration system meeting ASHRAE Standard 52.2 MERV-13 standards will be offered to the owners of the houses located at 13100 World Logistics Center Parkway (formerly Theodore Street) and 12400 World Logistics Center Parkway (formerly Theodore Street).

Because project-generated vehicle trips and associated impacts decrease with an increase in distance from the project site, the project impact along the regional freeway network outside the HRA's study area will be less than those presented in Figures 4.3-3 and 4.3-4. The project's impact to the regional freeway network will be the greatest during project full operation, as shown in Table 4.3-27 and Tables 4.3-29 and 4.3-30, the maximum cancer risk for receptors along the SR-60 freeway would be near the project boundary and 9.5 in one million with mitigation, which is less than the 10 in one million threshold with mitigation.

As shown in Figure 4.3-6, with mitigation, the incremental cancer risk along SR-60 may exceed the 10 in one million threshold promulgated by SCAQMD and be greater than significant for the 30 years of full operation. However, Figure 4.3-6 conservatively portrays each and every receptor as residents. This means that the more-conservative residential assumptions were also applied to worker receptors and may show extraneous exceedances of the 10 in one million threshold. The purpose of Figure 4.3-6 is to identify the 1 in one million isopleth in order to determine whether any schools fall within. The isopleth presented in Figure 4.3-6 does not ultimately apply for significance determination, which differentiates between receptor type. The maximum residential cancer risk for significance determination is presented, with mitigation, in Tables 4.3-29 and 4.3-30. As shown in Figure 4.3-5, with mitigation, the incremental cancer risk along SR-60 will be less than 10 in one million and less than significant for the 30 years of combined construction and operation.

Of note, results in Figure 4.3-3 are based on project construction overlapping with project operations (partial project operation since the project is not built out yet) while Figure 4.3-4 is based on full project operation. The difference between the two sets of results indicates that the incremental cancer risk in Figure 4.3-3 is mainly driven by the DPM emissions from onsite construction equipment whereas the incremental cancer risk in Figure 4.3-4 is primarily driven by the DPM emissions from freeway truck travel.

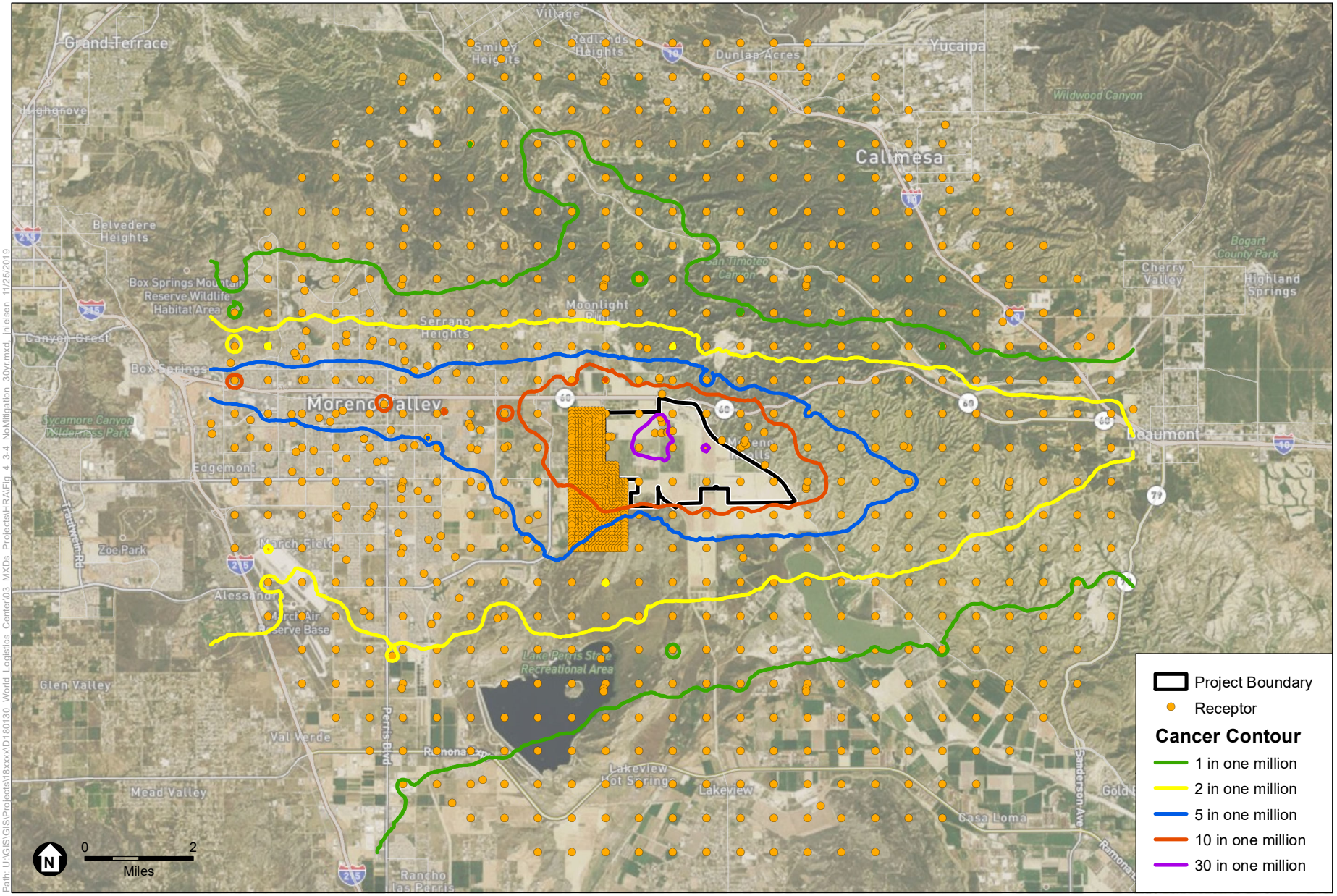


SOURCE: ESRI 2019; ESA 2019

World Logistics Center

Figure 4.3.3
Incremental Project Cancer Risk – No Mitigation
(Construction and Operation)

ESA



Path: U:\GIS\GIS\Projects\18xxxx\D180130 World Logistics Center\03 MXDs Projects\HRA\Fig 4 3-4 NoMitigation 30yr.mxd inielsen 11/25/2019

SOURCE: ESRI 2019; ESA 2019.

World Logistics Center

Figure 4.3-4
Incremental Project Cancer Risk – No Mitigation
(30 Years of Full Operation)

ESA

Mitigation Measures. The mitigation measures previously identified under other impact sections are required (**Mitigation Measures 4.1.6.1A, 4.3.6.2A**, **4.3.6.2B**, **4.3.6.2D, 4.3.6.3A, 4.3.6.3B, 4.3.6.3C, 4.3.6.3D,** and **4.3.6.3E**) to reduce construction and operational emissions of criteria pollutants would reduce the estimated cancer risks associated with the project. Additionally, the following mitigation measure is required to ensure that significant health risk does not occur at on-site residential receptor.

4.3.6.5A (a) The house at 30220 Dracaea Avenue shall be demolished prior to the issuance of the first grading permit for grading within the World Logistics Center.

(b) An air filtration system meeting ASHRSE Standard 52.2 MERV-13 standards shall be offered to the owners of the houses located at 13100 World Logistics Center Parkway (formerly Theodore Street) and 12400 World Logistics Center Parkway (formerly Theodore Street). The developer shall offer to install the air filtration system to the owners of the two properties within two months of the certification of the Final Revised FEIR. Prior to the issuance of the first grading permit within the World Logistics Center, documentation shall be provided to the City confirming that an offer to install the air filtration system has been extended to the owners of each of the two properties. The owners of the two properties shall be under no obligation to accept the offer. Each property owner shall have two years from the receipt of the offer to accept the offer. Upon acceptance of each offer, the developer shall work with each owner to ensure the air filtration system is properly installed within one year of acceptance.

Mitigation Measure 4.3.6.3B(I) would require that all diesel trucks that access the project site be model year 2010 or later and limits truck and vehicle idling to 3 minutes. **Mitigation Measure 4.3.6.2A(a)** would require that Tier 4 construction equipment be used on the project site. These mitigation measures would reduce the cancer risk from the project.

Mitigation Measure 4.3.6.3C may encourage alternative fueled vehicles and trucks on the project site. As discussed above, a High EV Penetration scenario assumes that up to 30 percent of the project's heavy duty trucks would be electric-powered; however, no reduction is taken. **Mitigation Measure 4.3.6.3D** may reduce vehicle miles traveled to food establishments; however, no direct reduction is taken. **Mitigation Measure 4.3.6.3E** requires that if transportation refrigeration units are to be used, electrical hookups would be required. In addition, refrigerated space is prohibited unless the impacts do not exceed any environmental impacts identified in this Revised FEIR. Therefore, it is assumed in the unmitigated and mitigated estimates that there would be no transportation refrigeration units. **Mitigation Measure 4.3.6.5A** requires that the Applicant install MERV 13 air filters at the residences located at 13100 Theodore Street and 12400 Theodore Street. The measure also requires that the residence located at 30220 Dracaea Avenue be demolished prior to the issuance of grading permits. The Applicant currently retains ownership of this property and can arrange for demolition.

Level of Significance after Mitigation for Sensitive Receptor Cancer Risk. Less than significant. Table 4.3-28 and Figure 4.3-5 show the cancer risks for the construction and operation HRA after application of mitigation. As noted, the cancer risks are substantially lower after mitigation, and the SCAQMD cancer risk significance threshold would not be exceeded at any of the onsite or offsite receptors within the study area. The large reduction in cancer risk after mitigation is attributable principally to the reduced diesel PM associated with the commitment to Tier 4 construction equipment. The impact of this mitigation is largely felt during the first 3 to 5 years of construction when the "Current OEHHA Guidance" assigns large age sensitivity factors to the first few years of the 30-year exposure duration. Table 4.3-29 and Figure 4.3-6 show the mitigated cancer risk from the 30-year full project buildout. The extent of the modeling domain is shown in Figure 4.3-5 and Figure 4.3-6.

Table 4.3-28: Estimated Cancer Risks, 30-Year Exposure Duration for Sensitive/Residential Receptors Starting from Beginning of Project Construction (Construction and Operation HRA), With Mitigation

Receptor Location	Incremental Increase in Cancer Risk During Project Construction (risk/million)	Incremental Increase in Cancer Risk During Project Operation (risk/million)	Total Incremental Increase in Cancer Risk[1] (risk/million)	SCAQMD Cancer Risk Significance Threshold (risk/million)	Exceeds Threshold?
Maximum risk anywhere in the modeling domain[2]	4.9	4.2	9.1	10	No
Existing residences within the project boundaries					
13241 World Logistics Center Pkwy	4.9	4.2	9.1	10	No
13100 World Logistics Center Pkwy	3.3	4.6	7.9	10	No
13200 World Logistics Center Pkwy	4.0	3.8	7.8	10	No
30220 Dracaea Ave	4.1	4.8	8.9	10	No
29080 Dracaea Ave	2.3	2.5	4.8	10	No
29140 Dracaea Ave	2.5	2.7	5.2	10	No
Maximum risk at any area outside of the project boundaries[3]	1.4	4.3	5.7	10	No

Notes:

* Pursuant to Mitigation Measure 4.3.6.5A, the Applicant shall install MERV-13 air filters at the residences located at 13100 World Logistics Center Parkway (formerly Theodore Avenue) and 12400 World Logistics Center Parkway (formerly Theodore Avenue).

1 Cancer risk calculation conservatively assumed all receptors modeled are residential receptors. 30-year average exposures from 2020 to 2049 (includes diesel PM emissions from construction and operation); cancer risk estimates derived from the EMFAC2014 emission model and "Current OEHHA Guidance" for estimating cancer risks.

2 Location is at existing residences within the boundaries of the project.

3 Location is adjacent to the midwestern boundary of the project.

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Table 4.3-29: Estimated Cancer Risks, 30-Year Exposure Duration for Sensitive/Residential Receptors Starting from Beginning of Project Full Operation in 2035, With Mitigation

Receptor Location	Total Incremental Increase in Cancer Risk[1] (risk/million)	SCAQMD Cancer Risk Significance Threshold (risk/million)	Exceeds Threshold?
Maximum risk anywhere in the modeling domain[2]	14.2	10	Yes
Maximum risk within the project boundaries[3]	10.7	10	Yes
Maximum risk at any area outside of the project boundaries[4]	9.5	10	No
Maximum risk along SR60 freeway outside of the project boundaries[5]	9.5	10	No

Notes:

1 Conservatively assumed all receptors in the studied domain are residential receptors and will have 30-year average exposures from 2040 to 2069 (includes diesel PM emissions from full project operation); cancer risk estimates derived from the TIA, EMFAC2014 emission model, SCAQMD HRA guidance and "Current OEHHA Guidance" for estimating cancer risks.

2 Location is at the existing residence immediately to the north of the project boundary and is owned by the project sponsor.

3 Location is at the existing residence located at 30220 Dracaea Avenue.

4 Location is to the northwest of the project boundary, on the west side of Redlands Boulevard and south of Eucalyptus Avenue.

5 Location is south of SR 60 freeway, same as the location in footnote (4), which to the northwest of the project boundary, on the west side of Redlands Boulevard and south of Eucalyptus Avenue.

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

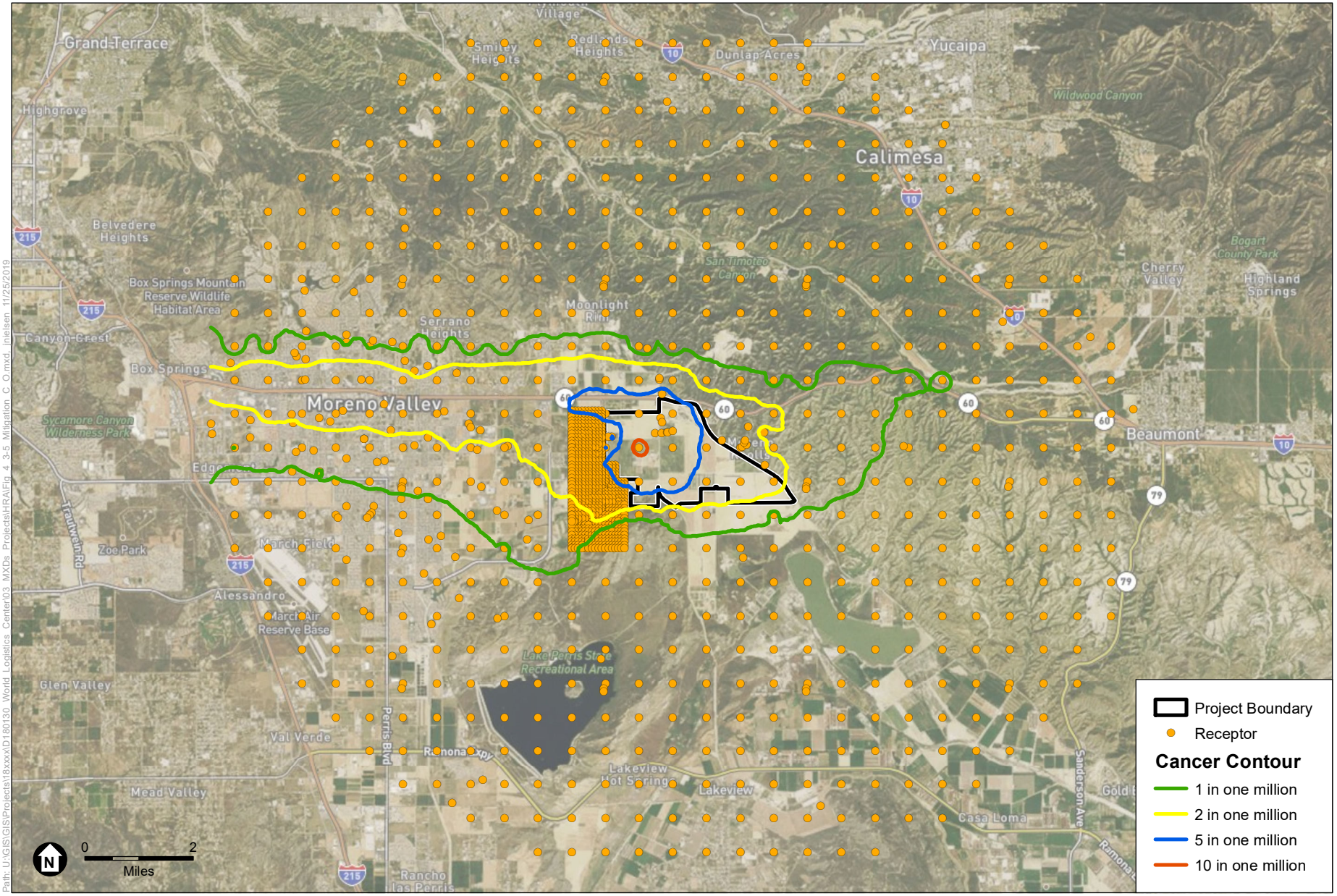
Table 4.3-30: Estimated Cancer Risks, 30-Year Exposure Duration for Sensitive/Residential Onsite Receptors Starting from Beginning of Project Full Operation in 2035, With Mitigation & Installation of MERV-13 Filters

Receptor Location	Total Incremental Increase in Cancer Risk[1] (risk/million)	SCAQMD Cancer Risk Significance Threshold (risk/million)	Exceeds Threshold?
12400 World Logistics Center Parkway	7.1	10	No
30220 Dracaea Avenue	5.35	10	No
13241 World Logistics Center Parkway	4.75	10	No

Notes:

1 DieselNet.com, 2002

Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.



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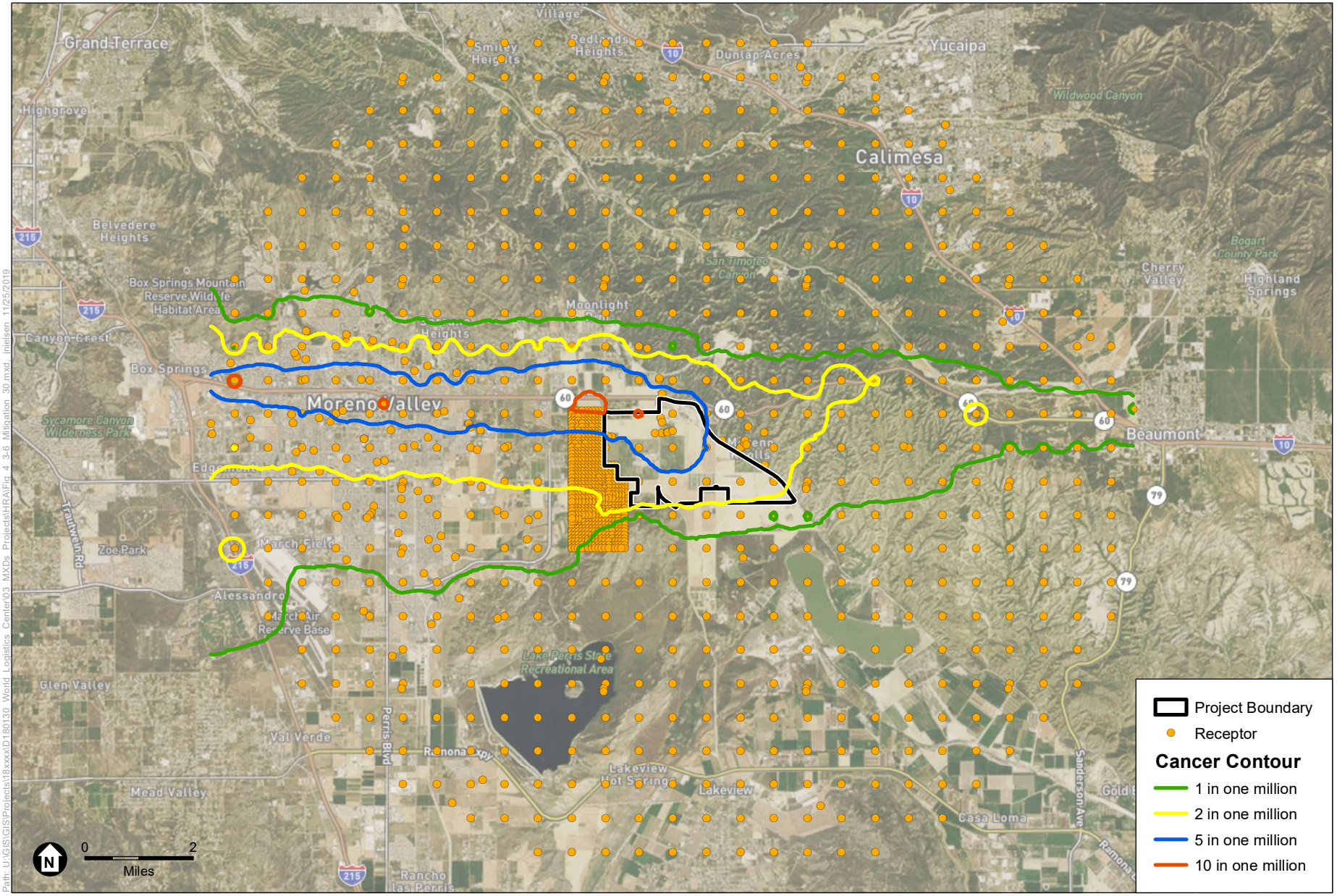
SOURCE: ESRI 2019; ESA, 2019.

World Logistics Center

Figure 4.3-5
Incremental Project Cancer Risk – with Mitigation
(Construction and Operation)

ESA



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SOURCE: ESRI 2019; ESA 2019.

World Logistics Center

Figure 4.3-6
Incremental Project Cancer Risk – with Mitigation
(30 Years of Full Operation)

ESA

Through mitigation requirements, new technology diesel engines are required for the WLC project. The mitigation conditions require that all diesel trucks accessing the project during operation be model year 2010 or newer and that all on-site equipment be Tier 4. The results of the HEI Study indicate that the project mitigation requiring the application of Model Year 2010 engines as well as the use of Tier 4-compliant off-road construction equipment are not expected to result in emissions that would be associated with the formation of cancer in exposed individuals. The HEI study clearly demonstrates that the application of new emissions control technology to diesel engines have virtually eliminated the health impacts of diesel exhaust.

Mitigation measures 4.3.6.2A(a) and 4.3.6.3B(I) require 2010-compliant trucks for operation and Tier 4 equipment for construction and require 2010-compliant trucks for operation, respectively, both of which rely on diesel particulate filters similar to those tested in the HEI study. These vehicles reduce emissions by 90 percent when compared to 2006 vehicles and by 99 percent when compared to uncontrolled diesel engines. Recent emissions testing by CARB revealed that these diesel engines are cleaner than originally estimated.

Beginning in 2001, USEPA and CARB began issuing a series of regulations that require new diesel-powered vehicles and equipment to use the latest emissions control technology. This technology relies on two components. The first is a diesel particulate filter, which is capable of reducing particulate matter emissions by over 90 percent (required for new engines beginning in 2007). The second technology is selective catalytic reduction, which reduces emissions of nitrogen oxides by over 90 percent (required for new engines beginning in 2010). Diesel emissions from equipment equipped with this technology is referred to as NTDE. As a result of the advances in emission control technology, USEPA, CARB, and other government and industry stakeholders commissioned a series of studies called the Advanced Collaborative Emissions Study (ACES). ACES has been guided by an ACES Steering Committee consisting of representatives of HEI and the Coordinating Research Council (CRC: a nonprofit organization that directs engineering and environmental studies on the interaction between automotive or other mobility equipment and petroleum products), along with the U.S. Department of Energy, U.S. EPA, engine manufacturers, the petroleum industry, CARB, emission control manufacturers, the National Resources Defense Council, and others. The HEI, funded in part by USEPA, was selected to oversee Phase 3 of ACES.

Phase 3 of ACES evaluated whether emissions from new technology diesel engines cause cancer or other health effects. Specifically, it evaluated the health impacts of a 2007-compliant engine equipped with a diesel particulate filter. HEI found that lifetime exposure to NTDE did not cause carcinogenic lung tumors. The study also confirmed that the concentrations of particulate matter and toxic air pollutants emitted from NTDE are more than 90 percent lower than emissions from traditional older diesel engine.

As a result of the very low emissions from NTDE and the research conducted by HEI, it is projected that the project would not result in a significant increase in cancer health risks from the project's diesel emissions. Therefore, the project would have a less than significant health risk impact.

Residential Receptors

As discussed above, the HRA analysis assumed DPM emissions from NTDE causes cancer (contrary to the HEI findings) and used a very conservative application of the "Current OEHHA Guidance" to the World Logistics Center project (which was provided for informational purposes). Although air quality significance thresholds have been established for outdoor environments, a significant portion of human exposure to air pollutants occurs indoors where people spend more than 90 percent of their time (USEPA, 2011). One approach to reduce exposure is the installation of high efficiency panel filters inside the HVAC system. Air filters and other air-cleaning devices are designed to remove pollutants from indoor air. Some are installed in the ductwork of a home's central heating, ventilating, and air-conditioning (HVAC) system to clean the air in the entire house. In studies of the effectiveness of air filtration systems in classrooms (SCAQMD, 2003) and by the EPA in residences (USEPA, 2010), the combination of an HVAC system with a high performance panel filter reduced indoor levels of fine particulate matter, $PM_{2.5}$ and smaller particles by 70 to 90 percent.

The use of a filtration system consisting of the application of filters with a rating of ASHRSE Standard 52.2 MERV-13, as required by Mitigation Measure 4.3.5.4.A, is sufficient to capture a significant portion of the diesel particulate matter. However, the filtration system would not remove the smallest of particles (less than approximately 0.01 to 0.2 micrometer (µm) in diameter). MERV-13 filters would, however, reduce particles in the range of 0.3 to 1 µm by up to 75 percent and particles larger than 1 µm by 90 percent (see Table 1 of the Addendum to CARB, 2013b). Based on measurement studies of the size distribution of the collected DPM, approximately 0.1 to 10 percent of the total DPM mass includes particles between 0.01 and 0.2 µm in diameter, particles between 0.3 and 1 µm in diameter comprise 70 percent of the total DPM mass, and particles above 1 µm comprise 5 to 20 percent of the total DPM mass (DieselNet.com, 2002).

Since the cancer risk from DPM is calculated from the mass of DPM emitted, the quantity of DPM reduced by the action of air filters would thus equate to a reduction in cancer risk. The application of MERV-13 air filter filtration system would result in a reduction of DPM exposures by approximately 70 percent, as calculated below.

DPM size:	0.01 to 0.2 µm	0.3 to 1 µm	Greater than 1 µm
Calculation:	10% mass x 0% reduction	70% mass x 75% reduction	20% mass x 90% reduction
Reduction:	0% reduction	52.5% reduction	18% reduction

Attributing an adjustment for time that windows might be open, residents would be outside, or for different compounds that result in the cancer risk would reduce the efficacy of the filters by about 20 percent, bringing the total cancer risk reduction from the filters to 50 percent.

The use of the filters would bring the OEHHA-calculated risk below the SCAQMD threshold eliminating any possible risk from the project on any onsite or offsite receptors within the study area. Health risk impacts are less than significant and no further mitigation is required.

School Site Receptors

With the application of the mitigation measures discussed above, the maximum cancer risk would be approximately 3.0 in one million at Bear Valley Elementary School for both the construction + operational scenario and the full operational scenario. Therefore, maximum impacts at schools are less than the 10 in one million significance threshold with the implementation of mitigation and are less than significant.

Worker Receptors

The highest worker cancer risk estimates after the application of mitigation is approximately 1.8 in one million for the construction + operational scenario and 1.6 in one million for the full operational scenario. Therefore, cancer risk for worker receptors anywhere in the revised HRA's study area is less than the 10 in one million significance threshold with the implementation of mitigation and are less than significant.

Cancer Burden

With the application of mitigation measures, the cancer burden is estimated to be 0.48 out of a population of about 142,397 individuals that were estimated to have a cancer risk of 1 in a million or more after mitigation. The is less than the SCAQMD threshold for cancer burden of 0.5. Therefore, the project would not exceed the SCAQMD's cancer burden significance threshold after the application of mitigation.

In summary, the implementation of all the recommended mitigation measures, including the requirement to use 2010 diesel engine emissions standards, Tier 4 construction equipment, and

installation of air filters at the identified on-site residence will reduce the OEHHA-calculated cancer risk to below 10 in one million at all sensitive receptors. Therefore, impacts would be less than significant.

Summary of Project-Related Air Quality Impacts

Based on the preceding analyses in Sections 4.3.5.1 through 4.3.6.5, the WLC project will have the following direct air quality impacts:

Table 4.3-31: Summary of Project-Related Air Quality Impacts

Impact	Air Quality Topic/Issue	Impact Conclusion
Project Impacts		
4.3.5.1	Odors (addressed in 2015 FEIR)	Less than Significant No Mitigation Required
4.3.5.2	Long-Term Micro-Scale CO Hotspot Emissions	Less than Significant No Mitigation Required
4.3.6.1	Air Quality Management Plan Consistency	Significant (inconsistent) and Unavoidable with Mitigation
4.3.6.2	Regional Construction Emissions	Significant and Unavoidable with Mitigation (VOC, NO_X, CO, and PM_{10}; regional health effects from ozone and particulate matter)
4.3.6.3	Localized Construction and Operation (LSTs)	Significant and Unavoidable with Mitigation (PM_{10}) (onsite and offsite)
4.3.6.4	Regional Long-Term Operational Emissions	Significant and Unavoidable with Mitigation (VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$; regional health effects from ozone, PM_{10}, and $PM_{2.5}$)
4.3.6.5	Sensitive Receptors (a) Localized PM_{10}	Significant and Unavoidable for PM_{10} with Mitigation (onsite and offsite)
	(b) Non-Cancer Acute and Chronic Health Risks	Less than Significant
	(c) Cancer Risks– Sensitive Receptors	Less than Significant with Mitigation
	(d) Cancer Burden	Less than Significant with Mitigation
	(e) Cancer Risks –Workers	Less than Significant with Mitigation
	(f) Cancer Risks – School Sites	Less than Significant with Mitigation

4.3.6.6 Summary of Health Effects of Air Quality Emissions

Overall, the estimated health effects from ozone and $PM_{2.5}$ are minimal in light of background incidences. **Tables 4.3-32 through 4.3-35** below show the annual percent of background health incidence for $PM_{2.5}$ and Ozone health effects associated with the Unmitigated and Mitigated Project, respectively. The "background health incidence" is the actual incidence of health effects (based on available data) as estimated in the local population in the absence of additional emissions from the Project.[1] When taken into context, the small increase in incidences and the very small percent of the number of background incidences indicate that these health effects are minimal in a developed, urban environment. There are no significance thresholds for health effects, thus this information is provided for background understanding regarding the air quality emissions.

[1] Background health statistics were obtained from data included in the BenMAP model, and the sources are referenced in the BenMAP manual (USEPA, 2018). For example, EPA obtained mortality rates from the Centers for Disease Control (CDC) WONDER database, and hospital admissions rates from the Healthcare Cost and Utilization Project (HCUP).

Unmitigated Project Health Effects

Table 4.3-32: BenMAP-Estimated Annual Mean $PM_{2.5}$ Health Effects of the Unmitigated Project Emissions Across the Southern California Model Domain[1]

Health Endpoint[2]	Annual Percent of Background Health Incidence (%)	Background Health Incidence (Annual)
Emergency Room Visits, Asthma [0-99]	0.0051%	130,805
Mortality, All Cause [30-99]	0.0047%	325,048
Hospital Admissions, Asthma [0-64]	0.0029%	17,730
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions) [65-99]	0.00063%	224,047
Hospital Admissions, All Respiratory [65-99]	0.0016%	193,354
Acute Myocardial Infarction, Nonfatal [18-24]	0.0020%	36
Acute Myocardial Infarction, Nonfatal [25-44]	0.0021%	1,904
Acute Myocardial Infarction, Nonfatal [45-54]	0.0020%	5,241
Acute Myocardial Infarction, Nonfatal [55-64]	0.0020%	9,226
Acute Myocardial Infarction, Nonfatal [65-99]	0.0019%	40,966

[1] Health effects are shown terms of incidences of each health endpoint and how it compares to the base values (2035 base year health effect incidences or "background health incidence"). Health effects and background health incidences are across the Southern California model domain.

[2] Affected age ranges are shown in square brackets.

Source: Ramboll, 2019

Potential $PM_{2.5}$-related health effects associated with unmitigated Project-related increases in ambient air concentrations include asthma-related emergency room visits (6.63 incidences per year), asthma-related hospital admissions (0.52 incidences per year), all cardiovascular-related hospital admissions (not including myocardial infarctions) (1.42 incidences per year), all respiratory-related hospital admissions (3.17 incidences per year), mortality (15.19 incidences per year), and nonfatal acute myocardial infarction (less than 0.78 incidences per year for all age groups).

Table 4.3-33: BenMAP-Estimated Annual Mean Ozone Health Effects of the Unmitigated Project Emissions Across the Southern California Model Domain[1]

Health Endpoint[2]	Annual Percent of Background Health Incidence (%)	Background Health Incidence (Annual)
Hospital Admissions, All Respiratory [65-99]	0.00075%	193,354
Mortality, Non-Accidental [0-99]	0.00033%	210,692
Emergency Room Visits, Asthma [0-17]	0.014%	50,722
Emergency Room Visits, Asthma [18-99]	0.010%	80,084

[1] Health effects are shown terms of incidences of each health endpoint and how it compares to the base values (2035 base year health effect incidences, or "background health incidence"). Health effects and background health incidences are across the Southern California model domain.

[2] Affected age ranges are shown in square brackets.

Source: Ramboll, 2019

Potential ozone-related health effects associated with unmitigated Project-related increases in ambient air concentrations include respiratory-related hospital admissions (1.46 incidences per year), mortality (0.69 incidences per year), and asthma-related emergency room visits for any age range (lower than 8.20 incidences per year for all age groups).

Mitigated Potential Health Effects

Table 4.3-34: BenMAP-Estimated Annual Mean $PM_{2.5}$ Health Effects of the Mitigated Project Emissions Across the Southern California Model Domain[1]

Health Endpoint[2]	Annual Percent of Background Health Incidence (%)	Background Health Incidence (Annual)
Emergency Room Visits, Asthma [0-99]	0.0047%	130,805
Mortality, All Cause [30-99]	0.0044%	325,048
Hospital Admissions, Asthma [0-64]	0.0028%	17,730
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions) [65-99]	0.00059%	224,047
Hospital Admissions, All Respiratory [65-99]	0.0015%	193,354
Acute Myocardial Infarction, Nonfatal [18-24]	0.0019%	36
Acute Myocardial Infarction, Nonfatal [25-44]	0.0020%	1,904
Acute Myocardial Infarction, Nonfatal [45-54]	0.0019%	5,241
Acute Myocardial Infarction, Nonfatal [55-64]	0.0019%	9,226
Acute Myocardial Infarction, Nonfatal [65-99]	0.0018%	40,966

[1] Health effects are shown terms of incidences of each health endpoint and how it compares to the base values (2035 base year health effect incidences or "background health incidence"). Health effects and background health incidences are across the Southern California model domain.

[2] Affected age ranges are shown in square brackets.

Source: Ramboll, 2019

Potential $PM_{2.5}$-related health effects associated with mitigated Project-related increases in ambient air concentrations include asthma-related emergency room visits (6.2 incidences per year), asthma-related hospital admissions (0.49 incidences per year), all cardiovascular-related hospital admissions (not including myocardial infarctions) (1.33 incidences per year), all respiratory-related hospital admissions (2.98 incidences per year), mortality (14.17 incidences per year), and nonfatal acute myocardial infarction (less than 0.724 incidences per year for all age groups).

Table 4.3-35: BenMAP-Estimated Annual Mean Ozone Health Effects of the Mitigated Project Emissions Across the Southern California Model Domain[1]

Health Endpoint[2]	Annual Percent of Background Health Incidence (%)	Background Health Incidence (Annual)
Hospital Admissions, All Respiratory [65-99]	0.00062%	193,354
Mortality, Non-Accidental [0-99]	0.00027%	210,692
Emergency Room Visits, Asthma [0-17]	0.011%	50,722
Emergency Room Visits, Asthma [18-99]	0.0085%	80,084

[1] Health effects are shown terms of incidences of each health endpoint and how it compares to the base values (2035 base year health effect incidences, or "background health incidence"). Health effects and background health incidences are across the Southern California model domain.

[2] Affected age ranges are shown in square brackets.

Source: Ramboll, 2019

Potential ozone-related health effects associated with mitigated Project-related increases in ambient air concentrations include respiratory-related hospital admissions (1.20 incidences per year), mortality (0.56 incidences per year), and asthma-related emergency room visits for any age range (lower than 6.84 incidences per year for all age groups).

Because the health effects from ozone and PM2.5 are minimal in light of background incidences, and health effects from other criteria pollutants would be even smaller, the health effects of those other criteria pollutants were not quantified.

Uncertainty. Analyses that evaluate the increases in concentrations resulting from individual sources, and the health effects of increases or decreases in pollutants as a result of regulation on a localized basis, are routinely done. This analysis does not tie the increase in concentration to a specific health effect in an individual; however, it does use scientific correlations of certain types of health effects from pollution to estimate increases in effects to the population at large.

Aside from the uncertainty as to the causal basis of the statistical associations in air pollution epidemiology studies of PM and mortality, some epidemiological studies have found no correlation between mortality and increased PM (Enstrom, 2005; 2017; Lipfert et al., 2000; Murray and Nelson, 2000; Greven et al., 2011; You et al.,2018; Zhou et al.,2015). Although there are a greater number of publications reporting a positive PM association for mortality compared to those reporting no association.

There is a degree of uncertainty in these results from a combination of the uncertainty in the emissions themselves, the increase in concentration resulting from the PGM and the uncertainty of the application of the C-R increase. All simulations of physical processes, whether ambient air concentrations, or health effects from air pollution, have a level of uncertainty associated with them, due to simplifying assumptions. The overall uncertainty is a combination of the uncertainty associated with each piece of the modeling study, in this case, the emissions quantification, the emissions model, the PGM, and BenMAP. While these results reflect a level of uncertainty, regulatory agencies, including the USEPA have judged that, even with the uncertainty in the results, the results provide sufficient information to the public to allow them to understand the potential health effects of increases or decreases in air pollution (USEPA 2012).

NOTE TO READERS: Section 4.7, below, of this Draft Recirculated Revised Sections of the FEIR replaces Section 4.7 of the Revised Sections of the FEIR, circulated in July 2018 ("RSFEIR"). The absence of reference to a portion of Section 4.7 means that the corresponding portion of Section 4.7 in the FEIR prepared in 2015 remains unchanged or has been deleted.

4.7 GREENHOUSE GAS EMISSIONS, CLIMATE CHANGE, AND SUSTAINABILITY

This section provides a discussion of global climate change, existing regulations pertaining to global climate change, and an analysis of greenhouse gas (GHG) emissions associated with the World Logistics Center project. This analysis examines the short-term construction and long-term operational impacts and evaluates the effectiveness of measures incorporated as part of the project design.

This section analyzes the World Logistics Center project's potential climate impacts based on the following technical studies:

Air Quality, Greenhouse Gas, and Health Risk Assessment Report World Logistics Center Specific Plan (Environmental Science Associates, dated November 2019) contained in Appendix A.1 of this Draft Recirculated Revised Sections of the FEIR.

World Logistics Center (WLC) Transportation Energy Technical Study (Environmental Science Associates and CALSTART, dated November 2019) contained in Appendix E.1 of this Draft Recirculated Revised Sections of the FEIR.

*World Logistics Center (WLC) Comparison of Renewable Energy Technologies R*eport *(WSP USA, Inc., dated* May 2018) contained in Appendix E.2 of the Revised Sections of the FEIR.

4.7.1 Existing Setting

4.7.1.1 Global Climate Change

Global climate change is the change in average meteorological conditions on the earth with respect to temperature, precipitation, and storms. The term "global climate change" is often used interchangeably with the term "global warming," but "global climate change" is preferred by some scientists and policy makers to "global warming" because it helps convey the notion that there are other changes in addition to rising temperatures.

Climate change refers to any significant change in measures of climate such as temperature, precipitation, or wind, lasting for decades or longer (U.S. Environmental Protection Agency [EPA], 2007). Climate change may result from:

- Natural factors, such as changes in the sun's intensity or slow changes in the Earth's orbit around the sun;
- Natural processes within the climate system (e.g., changes in ocean circulation); and/or
- Human activities that change the atmosphere's composition (e.g., through burning fossil fuels) and the land surface (e.g., deforestation, reforestation, urbanization, and desertification).

The primary observed effect of global climate change has been a rise in the average global tropospheric[1] temperature of 0.36 degrees Fahrenheit (°F) per decade, determined from meteorological measurements worldwide between 1990 and 2005. Climate change modeling shows that further warming could occur, which would induce additional changes in the global climate system during the current century. Changes to the global climate system, ecosystems, and the environment of California

[1] The troposphere is the zone of the atmosphere characterized by water vapor, weather, winds, and decreasing temperature with increasing altitude.

could include higher sea levels, drier or wetter weather, changes in ocean salinity, changes in wind patterns or more energetic aspects of extreme weather, including droughts, heavy precipitation, heat waves, extreme cold and increased intensity of tropical cyclones (hurricanes). Specific effects in California might include a decline in the Sierra Nevada snowpack, erosion of California's coastline, and seawater intrusion in the Delta.

Human activities, such as fossil fuel combustion and land use changes release carbon dioxide (CO_2) and other compounds, cumulatively termed greenhouse gases (GHGs). GHGs are effective in trapping infrared radiation that otherwise would have escaped the atmosphere, thereby warming the atmosphere, the oceans, and earth's surface (USEPA, 2007). Many scientists believe that "most of the warming observed over the last 50 years is attributable to human activities" (Intergovernmental Panel on Climate Change [IPCC], 2007d). The increased amounts of CO_2 and other GHGs are alleged to be the primary causes of the human-induced component of warming.

GHGs are present in the atmosphere naturally, released by natural sources, or formed from secondary reactions taking place in the atmosphere. They include CO_2, methane (CH_4), nitrous oxide (N_2O), and ozone (O_3). In the last 200 years, substantial quantities of GHGs have been released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere, enhancing the natural greenhouse effect, which is believed to be causing global climate change. While human-made GHGs include CO_2, CH_4, and N_2O, some (like chlorofluorocarbons [CFCs]) are completely new to the atmosphere.

GHGs vary considerably in terms of Global Warming Potential (GWP), which is a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The global warming potential is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO_2, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one-unit mass of the GHG to the ratio of heat trapped by one unit mass of CO_2 over a specified time period. GHG emissions are typically measured in terms of metric tons of "CO_2 equivalents" (mt CO_2e or $MTCO_2e$).

Methane is produced when organic matter decomposes in environments lacking sufficient oxygen. Natural sources include wetlands, termites, and oceans. Human-made sources include the mining and burning of fossil fuels; digestive processes in ruminant animals such as cattle; rice paddies; and the burying of waste in landfills. As for CO_2, the major removal process of atmospheric CH_4—chemical breakdown in the atmosphere—cannot keep pace with source emissions, and CH_4 concentrations in the atmosphere are increasing.

Worldwide emissions of GHGs in 2010 were approximately 47,351 million mt CO_2e (World Resources Institute [WRI], 2018). Emissions from the top five countries and the European Union accounted for approximately 57 percent of the total global GHG emissions, according to the most recently available data. The United States was the number two producer of GHG emissions, contributing 13 percent of the emissions. The primary GHG emitted by human activities in the United States was CO_2, representing approximately 82 percent of total GHG emissions. CO_2 from fossil fuel combustion, the largest source of GHG emissions, accounted for approximately 85 percent of the GHG emissions (WRI, 2018).

In 2016, the United States emitted approximately 5.3 billion mt CO_2e or approximately 16.5 tons per year (tpy) per person. Of the six major sectors nationwide (electric power industry, transportation, industry, agriculture, commercial, and residential), the electric power industry and transportation sectors combined account for approximately 72 percent of the GHG emissions; the majority of the electrical power industry and all of the transportation emissions are generated from direct fossil fuel combustion. Between 1990 and 2016, total United States GHG emissions rose approximately 2.8 percent (USEPA, 2018b).

World carbon dioxide emissions are expected to increase by 1.9 percent annually between 2001 and 2025 (USEIA, 2017). Much of the increase in these emissions is expected to occur in the developing world where emerging economies, such as China and India, fuel economic development with fossil energy. Developing countries' emissions are expected to grow above the world average at 2.7 percent annually between 2001 and 2025; and surpass emissions of industrialized countries near 2018.

The California Air Resources Board (CARB) is responsible for developing the California Greenhouse Gas Emission Inventory. This inventory estimates the amount of GHGs emitted into and removed from the atmosphere by human activities within the State of California and supports the Assembly Bill (AB) 32 Climate Change Program. The most recent inventory of GHG emissions in California estimated 440.4 million mt CO_2e in 2015 (CARB, 2017d). This is a 2.2 percent increase in GHG emissions from 1990. The top contributor of emissions in 2015 was transportation, which contributed 37 percent of the emissions. The second highest sector was industrial (21 percent), which includes sources from refineries, general fuel use, oil and gas extraction, and cement plants. According to CARB, California is on track to meet the 2020 GHG reduction target codified in California Health and Safety Code (HSC), Division 25.5, also known as The Global Warming Solutions Act of 2006 (AB 32) (CARB, 2016a).

4.7.1.2 Effects of Global Climate Change

Climate change is a change in the average weather of the earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use these data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The International Panel on Climate Change (IPCC) constructed several emission trajectories of greenhouse gases needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean surface temperature change for 2081-2100 relative to the period from 1986 to 2005, given six scenarios, could range from 0.3 degrees Celsius (°C) to 4.8 °C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios (IPCC, 2007c). The IPCC concluded that global climate change was largely the result of human activity, mainly the burning of fossil fuels. However, the scientific literature is not consistent regarding many of the aspects of global warming or climate change, including actual temperature changes during the 20th century, the accuracy of the IPCC report, and contributions of human versus non-human activities.

Effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme weather events, and degradation of air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems. Heat-related problems include heat rash and heat stroke. In addition, climate-sensitive diseases may increase, such as those spread by mosquitoes and other disease-carrying insects. Such diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture. Global warming may also contribute to air quality problems from increased frequency of smog and particulate air pollution.

Additionally, the following climate change effects, which are based on trends established by the IPCC, can be expected in California over the course of the next century:

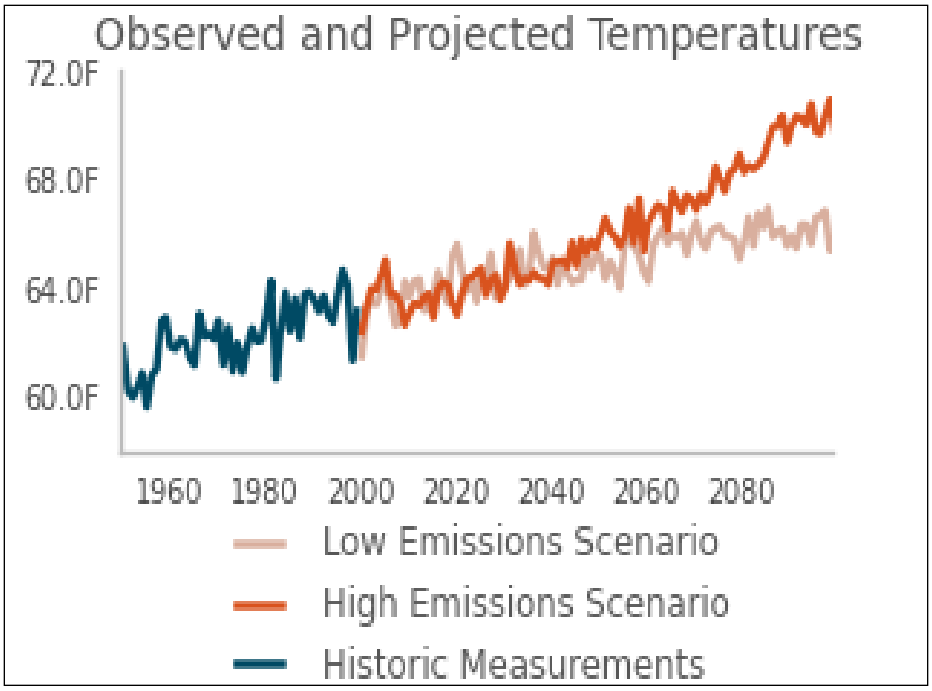
- A diminishing Sierra snowpack declining by 70 percent to 90 percent, threatening the State's water supply. If GHG emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier.
- A rise in sea levels resulting in the displacement of coastal businesses and residences. During the past century, sea levels along California's coast have risen about seven inches. If emissions

continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats. (Note: This condition would not affect the project area as it is a significant distance away from coastal areas.)

- An increase in temperature and extreme weather events. Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- Increased risk of large wildfires if rain increases as temperatures rise. Precipitation, winds, temperature, and vegetation influence wildfire risk; therefore, wildfire risk is not uniform throughout the state. Changes in current precipitation patterns could influence that risk. As an example, wildfires in the grasslands and chaparral ecosystems of *southern* California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant fuel available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more *northern* California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- Increasing temperatures from 8 to 10.4°F under the higher emission scenarios, leading to a 25 percent to 35 percent increase in the number of days ozone pollution levels are exceeded in most urban areas (see below).
- Increased vulnerability of forests due to forest fires, pest infestation, and increased temperatures.
- Reductions in the quality and quantity of certain agricultural products. The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- Exacerbation of air quality problems. If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- A decrease in the health and productivity of California's forests. Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.
- Increased electricity demand, particularly in the hot summer months.
- Increased ground-level ozone formation due to higher reaction rates of ozone precursors.

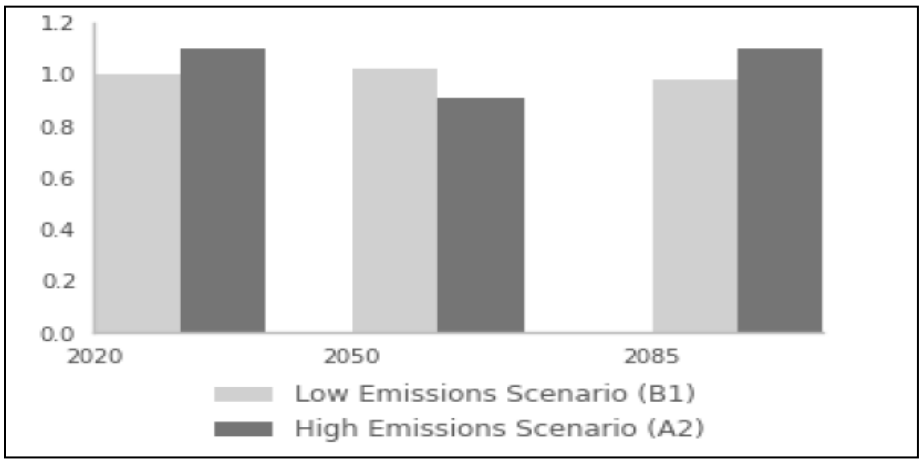
Consequences of Climate Change in Moreno Valley. The figure below displays a chart of measured historical and projected annual average temperatures in the Moreno Valley area. As shown in the figure, temperatures are expected to rise in the low and high GHG emissions scenarios.

Water for the project would be provided by the Eastern Municipal Water Department (EMWD). The EMWD 2015 Urban Water Management Plan considered the impact of climate change on water supplies as part of its long-term strategic planning. One of the outcomes of climate change could be more frequent limitations on imported supplies. To limit the impact of climate change, EMWD's long-term planning focuses on the development of reliable local resources and the implementation of water use efficiency. This includes the full utilization of recycled water and the recharge of local groundwater basins to increase supply reliability during periods of water shortage. EMWD is also focused on reducing demand for water supplies, especially outdoors. Increasing the use of local resource and reducing the need for imported water has the dual benefit of not only improving water quality reliability, but reducing the energy required to import water to EMWD's service area.



The figure below displays the fire risk in Moreno Valley relative to 2010 levels. The figure displays the projected increase in potential area burned given three different 30-year averaging periods ending in 2020, 2050, and 2085 and two different scenarios (A2, B1). The data are modeled solely on climate projections and do not take landscape and fuel sources into account (there is very little combustible material in the project area). The data modeled the ratio of additional fire risk for an area as compared to the expected burned area. The data are shown in the figure below and indicate that under the low-emissions scenario, the additional wildfire risk is about 1, which means that wildfire risk is expected to remain about the same. Under the high-emission scenario, additional risk is variable with a slight increase.

Wildfire Risk in Moreno Valley



4.7.2 Regulatory Setting

4.7.2.1 Federal Regulations/Standards

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's Highway Traffic and Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The vehicles had to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards were designed to cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO_2 per mile. According to the USEPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle (EPA 2012).

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of heavy-duty trucks and buses (also known as "Phase 1"). For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and up to a 15 percent reduction for diesel vehicles by 2018 model year (12% and 17% respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles (includes other vehicles like buses, refuse trucks, concrete mixers; everything except for combination tractors and heavy-duty pickups and vans), the agencies are proposing engine and vehicle standards starting in the 2014 model year, which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by the 2018 model year. Building on the success of the standards, the EPA and U.S. Department of Transportation jointly finalized additional standards (called "Phase 2") for medium- and heavy-duty vehicles through model year 2027 that will improve fuel efficiency and cut carbon pollution. The final standards are expected to lower CO_2 emissions by approximately 1.1 billion metric tons.

4.7.2.2 State Regulations/Standards

California Code of Regulations Title 24, Part 6. The California Energy Code (Title 24, Section 6) was created as part of the California Building Standards Code (Title 24 of the California Code of Regulations) by the California Building Standards Commission in 1978 to establish statewide building energy efficiency standards to reduce California's energy consumption. These standards include provisions applicable to all buildings, residential and nonresidential, which describe requirements for documentation and certificates that the building meets the standards. These provisions include mandatory requirements for efficiency and design of energy systems, including space conditioning (cooling and heating), water heating, and indoor and outdoor lighting systems and equipment, and appliances. California's Building Energy Efficiency Standards are updated on an approximately three-year cycle as technology and methods have evolved. The 2016 Standards, effective January 1, 2017, focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings, and include requirements that will enable both demand reductions during critical peak periods and future solar electric and thermal system installations. The

next code update (2019) is expected to focus on integrating solar photovoltaic (PV) and other renewables with energy storage, taking Title 24 another step closer toward the state's zero net energy (ZNE) goals as spelled out in the California Energy Efficiency Strategic Plan (CEC, 2011), calling for all new residential construction to be ZNE by 2020 and all new commercial construction to be ZNE by 2030.

California Code of Regulations Title 24, Part 11. The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development in 2008. CALGreen standards require new residential and commercial buildings to comply with mandatory measures under five topical areas: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code went into effect January 1, 2017.

Renewable Electricity Standards. There have been several renewable electricity senate bills in California. On September 12, 2002, Governor Gray Davis signed SB 1078 requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewables Portfolio Standard (RPS) target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the CARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020. The CARB approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23. Senate Bill X1-2 (2011) codifies the Renewable Electricity Standard into law.

Senate Bill 100. On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also creates new standards for the RPS, increasing required energy from renewable sources for both investor-owned utilities and publicly owned utilities from 50 percent to 60 percent by December 31, 2030. Incrementally, these energy providers must also have a renewable energy supply of 44 percent by December 31, 2024, and 52 percent by December 31, 2027. The updated RPS goals are considered achievable, since many California energy providers are already meeting or exceeding the RPS goals established by SB 350.

Senate Bill 350. The Clean Energy and Pollution Reduction Act of 2015 (Chapter 547, Statutes of 2015) was approved by Governor Brown on October 7, 2015. SB 350 (1) increases the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December 31, 2030; (2) requires the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; (3) provides for the evolution of the Independent System Operator (ISO) into a regional organization; and (4) requires the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the Legislature intends to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

Pavley Regulation, Advanced Clean Cars (ACC), and the California Mobile Source Strategy. Assembly Bill 1493 (2002) requires CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. The federal Clean Air Act ordinarily preempts state regulation of motor vehicle emission standards;

however, California is allowed to set its own standards with a federal waiver from the USEPA, granted in 2009. Known as the Pavley Clean Car Standards, AB 1493 regulated GHG emissions from new passenger vehicles (light duty automobiles and medium duty vehicles) from 2009 through 2016.

In January 2012, CARB approved the Advanced Clean Cars (ACC) program, a new emissions-control program for model years 2015 through 2025. The program includes components to reduce smog-forming pollution, reduce GHG emissions, promote clean cars, and provide the fuels for clean cars. The zero emissions vehicle (ZEV) program will act as the focused technology of the Advanced Clean Cars program by requiring manufacturers to produce increasing numbers of ZEVs and plug-in hybrid electric vehicles (PHEV) in the 2018 to 2025 model years (CARB, 2017f).

In May 2016, CARB released the updated Mobile Source Strategy that demonstrates how the State can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years, through a transition to zero-emission vehicles (ZEVs), cleaner transit systems and reduction of vehicle miles traveled. The Mobile Source Strategy calls for 1.5 million ZEVs (including plug-in hybrid electric, battery-electric, and hydrogen fuel cell vehicles) by 2025 and 4.2 million ZEVs by 2030. It also calls for more stringent GHG requirements for light-duty vehicles beyond 2025 as well as GHG reductions from medium-duty and heavy-duty vehicles and increased deployment of zero-emission trucks primarily for class 3 – 7 “last mile” delivery trucks in California. Statewide, the Mobile Source Strategy would result in a 45 percent reduction in GHG emissions, and a 50 percent reduction in the consumption of petroleum-based fuels (CARB, 2016c).

Executive Order B-16-2012 (Zero-Emission Vehicles). This executive order indicates that all State entities under the Governor’s control support and facilitate the rapid commercialization of zero-emission vehicles. The order contains a target similar to Executive Order S-3-05, but for the transportation sector instead of all sectors: that California target for 2050 a reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels. Executive order B-16-2012 also indicates that the CARB, the California Energy Commission, the Public Utilities Commission and other relevant agencies are ordered to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve the following:

- By 2015: The State’s major metropolitan areas able to accommodate zero-emission vehicles, each with infrastructure plans and streamlined permitting; the State’s manufacturing sector expend zero-emission vehicle and component manufacturing; an increase in the private sector’s investment in zero-emission vehicle infrastructure; and the State’s academic and research institutions contributing to zero-emission vehicle research, innovation and education.
- By 2020: The State’s zero-emission vehicle infrastructure ability to support up to one million vehicles; the costs of zero-emission vehicles competitive with conventional combustion vehicles; zero-emission vehicles accessible to mainstream consumers; widespread use of zero-emission vehicles for public transportation and freight transport; and a decrease in transportation sector GHG emissions as a result of the switch to zero-emission vehicles; electric vehicle charging integrated into the electricity grid.
- By 2025: over 1.5 million zero-emission vehicles on California roads; easy access to zero-emission vehicle infrastructure in California; the zero-emission vehicle industry strong and sustainable part of California’s economy; and California’s vehicles displace at least 1.5 billion gallons of petroleum fuels per year.

Sustainable Freight Action Plan. Executive Order B-32-15 directed the State to establish targets to improve freight efficiency, transition to zero emission technologies, and increase the competitiveness of California’s freight transport system. The targets are not mandates, but rather aspirational measures of progress towards sustainability for the State to meet and try to exceed. The targets include:

- System Efficiency Target: Improve freight system efficiency by 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030.
- Transition to Zero Emission Technology Target: Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.
- Increased Competitiveness and Economic Growth Targets: Establish a target or targets for increased State competitiveness and future economic growth within the freight and goods movement industry based on a suite of common-sense economic competitiveness and growth metrics and models developed by a working group comprised of economists, experts, and industry. These targets and tools will support flexibility, efficiency, investment, and best business practices through State policies and programs that create a positive environment for growing freight volumes and jobs, while working with industry to mitigate potential negative economic impacts. The targets and tools will also help evaluate the strategies proposed under the Action Plan to ensure consideration of the impacts of actions on economic growth and competitiveness throughout the development and implementation process.

California Transportation Plan 2040. The California Transportation Plan (CTP) 2040 provides a long-range policy framework to meet future mobility needs and reduce GHG emissions. The CTP defines goals, performance-based policies, and strategies to achieve maximum feasible emission reductions in order to attain a statewide reduction in GHG emissions.

The CTP 2040 recognizes that the Governor is committed to reduce by one-half current petroleum use in cars and trucks; increase from one-third to one-half the electricity derived from renewable sources; double the efficiency savings of existing buildings and make heating fuels cleaner; reduce the release of methane, black carbon, and other short-lived climate pollutants; and manage farm and rangelands, forests, and wetlands to store more carbon.

Transportation GHG reduction strategies within the CTP 2040 include demand management (including telecommuting/working at home, increased carpoolers, and increase car sharing), mode shift (including transit service improvements, high-speed rail, bus rapid transit, expanded bike and pedestrian facilities, carpool land occupancy requirements, and increased HOV lanes), travel cost (implement expanded pricing policies), and operational efficiency (incident/emergency management, Caltrans' Master Plan, ITS/TSM, and eco-driving).

Low Carbon Fuel Standard, Executive Order S-01-07. The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandated that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission (CEC), the CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. The CARB adopted the Low Carbon Fuel Standard on April 23, 2009. The Low Carbon Fuel Standard requires producers of petroleum based fuels to reduce the carbon intensity of their products, beginning with a quarter of a percent in 2011, ending in a 10 percent total reduction in 2020. Petroleum importers, refiners and wholesalers can either develop their own low carbon fuel products, or buy LCFS Credits from other companies that develop and sell low carbon alternative fuels, such as biofuels, electricity, natural gas or hydrogen. The Low Carbon Fuel Standard was challenged in the United States District Court in Fresno in 2011. The court's ruling issued on December 29, 2011, included a preliminary injunction against the CARB's implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012 pending final ruling on appeal, allowing the CARB to continue to implement and enforce the regulation and vacated the injunction on September 18, 2013, and remanded the case to the district court for further consideration. With the adoption of the 2017 Scoping Plan Update, the Low Carbon Fuel Standard has been increased to an 18 percent reduction in carbon intensity by 2030.

Senate Bill 1383. This bill creates goals for short-lived climate pollutant (SLCP) reductions in various industry sectors. The SLCPs included under this bill – including methane, fluorinated gases, and black carbon – are GHGs that are much more potent than carbon dioxide and can have detrimental effects on human health and climate change. SB 1383 requires the CARB to adopt a strategy to reduce methane by 40%, hydrofluorocarbon gases by 40%, and anthropogenic black carbon by 50% below 2013 levels by 2030. The methane emission reduction goals include a 75% reduction in the level of statewide disposal of organic waste from 2014 levels by 2025. **Executive Order S-3-05.** Executive Order S-3-05 was signed by Governor Schwarzenegger in 2005 proclaiming California is vulnerable to the impacts of climate change. It states that increased temperatures could reduce the Sierra Nevada's snowpack, worsen California's air quality problems, and potentially cause a rise in sea levels. The Executive Order establishes total GHG emission targets including emissions reductions to the 2000 level by 2010, and the 1990 level by 2020, and to 80 percent below the 1990 level by 2050. The 2050 reduction goal represents what scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be an aggressive, but achievable, mid-term target.

Assembly Bill 32 (AB 32). California's major initiative for reducing GHG emissions is outlined in AB 32, the "Global Warming Solutions Act," passed by the California State legislature on August 31, 2006. This effort aims at reducing GHG emissions to 1990 levels by 2020. The original 2020 GHG emissions limit was 427 million mt CO_2e. The current 2020 GHG emissions limit is 431 million mt CO_2e. AB 32 requires the CARB to prepare a Scoping Plan that outlines the main State strategies for meeting the 2020 deadline and to reduce GHGs that contribute to global climate change.

The Scoping Plan was approved by the CARB on December 11, 2008, and includes measures to address GHG emission reduction strategies related to energy efficiency, water use, and recycling and solid waste, among other measures (CARB, 2008b). The Scoping Plan includes a range of GHG reduction actions that may include direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market-based mechanisms such as a cap-and-trade system. The Scoping Plan, even after Board approval, remains a recommendation. The measures in the Scoping Plan will not be binding until after they are adopted through the normal rulemaking process. The CARB rule-making process includes preparation and release of each of the draft measures, public input through workshops and a public comment period, followed by a CARB hearing and rule adoption.

Pursuant to AB 32, the CARB and the Climate Action Team (CAT)[2] did the following:

- Adopted a list of discrete early action measures;
- Established a statewide GHG emissions cap for 2020 based on 1990 emissions and adopted mandatory reporting rules for significant sources of GHG;
- Indicated how emission reductions will be achieved from significant GHG sources via regulations, market mechanisms and other actions; and
- Adopted regulations to achieve the maximum technologically feasible and cost-effective reductions in GHG, including provisions for using both market mechanisms and alternative compliance mechanisms.

In June 2007, the CARB approved a list of 37 early action measures, including three discrete early action measures (Low Carbon Fuel Standard, Restrictions on High Global Warming Potential Refrigerants, and Landfill Methane Capture). Discrete early action measures are measures that were required to be adopted as regulations and made effective no later than January 1, 2010, the date established by Health and Safety Code (HSC) Section 38560.5. The CARB adopted additional early action measures in October 2007 (CARB, 2007a) that tripled the number of discrete early action measures. These measures relate to truck efficiency, port electrification, reduction of perfluorocarbons

[2] CAT is a consortium of representatives from State agencies who have been charged with coordinating and implementing GHG emission reduction programs that fall outside of CARB's jurisdiction.

from the semiconductor industry, reduction of propellants in consumer products, proper tire inflation, and sulfur hexafluoride (SF_6) reductions from the non-electricity sector. The combination of early action measures was estimated to reduce statewide GHG emissions by nearly 16 million mt CO_2e (CARB, 2007b).

AB 32 codifies Executive Order S-3-05's[3] year 2020 goal by requiring that statewide GHG emissions be reduced to 1990 levels by the year 2020.

The first AB 32 Scoping Plan, published in 2008, identified a future cap-and-trade program covering refineries, power plants, industrial facilities, and transportation fuels as a central element of California's overall strategy to reduce GHG emissions to 1990 levels. More information on the Scoping Plan and California's Cap and Trade program is provided below.

Amendments to California Global Warming Solutions Act of 2006: Emission Limit (Senate Bill 32): Signed into law on September 8, 2016, Senate Bill (SB) 32 (Amendments to California Global Warming Solutions Act of 2006: Emission Limit) amends HSC Division 25.5 and codifies the 2030 target in the recent Executive Order B-30-15 (40 percent below 1990 levels by 2030). The 2030 target is intended to ensure that California remains on track to achieve the goal set forth by Executive Order B-30-15 to reduce statewide GHG emissions by 2050 to 80 percent below 1990 levels. SB 32 states the intent of the legislature to continue to reduce GHGs for the protection of all areas of the state and especially the state's most disadvantaged communities, which are disproportionately impacted by the deleterious effects of climate change on public health (California Legislative Information Website 2017). SB 32 was passed with companion legislation AB 197, which provides additional direction for developing the Scoping Plan. In 2016, the California State Legislature adopted SB 32 and its companion bill AB 197, and both were signed by Governor Brown. SB 32 amends HSC Division 25.5 and establishes a new climate pollution reduction target of 40 percent below 1990 levels by 2030, while AB 197 includes provisions to ensure the benefits of state climate policies reach into disadvantaged communities.

California Cap and Trade Program. Authorized by the California Global Warming Solutions Act of 2006 (AB 32), the cap-and-trade program is a core strategy that California is using to meet its statewide GHG reduction targets for 2020 and 2030, and ultimately achieve an 80 percent reduction from 1990 levels by 2050. Pursuant to its authority under AB 32, CARB has designed and adopted a California Cap-and-Trade Program to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020 (CA, 2013a). Under the Cap-and-Trade program, an overall limit is established for GHG emissions from capped sectors (e.g., electricity generation, petroleum refining, cement production, fuel suppliers, and large industrial facilities that emit more than 25,000 metric tons CO2e per year) and declines over time, and facilities subject to the cap can trade permits to emit GHGs. The statewide cap for GHG emissions from the capped sectors commenced in 2013 and declines over time, achieving GHG emission reductions throughout the Program's duration (CA, 2013b). On July 17, 2017 the California legislature passed Assembly Bill 398, extending the Cap-and-Trade program through 2030.

The Cap-and-Trade Regulation provides a firm cap, ensuring that the 2020 and 2030 statewide emission limits will not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not direct GHG emissions reductions in any discrete location or by any particular source. Rather, GHG emissions reductions are assured on a State-wide basis.

Since 2015, fuels, such as gasoline, diesel, and natural gas, have been covered under the Cap-and-Trade Program. Fuel suppliers are required to reduce GHG emissions by supplying low carbon fuels or purchasing pollution permits, called "allowances," to cover the GHGs produced when the conventional petroleum-based fuel they supply is combusted.

[3] Executive Order S-3-05 establishes greenhouse gas emission reduction targets for California.

2008 Scoping Plan. The California State Legislature adopted AB 32 in 2006 which focuses on reducing greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) to 1990 levels by the year 2020. Pursuant to the requirements in AB 32, the CARB adopted the Climate Change Scoping Plan (Scoping Plan) in 2008, which outlines actions recommended to obtain that goal. The Scoping Plan calls for an "ambitious but achievable" reduction in California's greenhouse gas emissions, cutting approximately 30 percent from BAU emission levels projected for 2020, or about 10 percent from today's levels. On a per-capita basis, that means reducing annual emissions of 14 tons of carbon dioxide for every man, woman, and child in California down to about 10 tons per person by 2020.

The Scoping Plan (CARB, 2008b) contains the following 18 strategies to reduce the State's emissions:

1. *California Cap-and-Trade Program Linked to Western Climate Initiative.* Implement a broad-based California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.
2. *California Light-Duty Vehicle Greenhouse Gas Standards.* Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.
3. *Energy Efficiency.* Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.
4. *Renewable Portfolio Standard.* Achieve 33 percent renewable energy mix statewide. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.
5. *Low Carbon Fuel Standard.* Develop and adopt the Low Carbon Fuel Standard.
6. *Regional Transportation-Related Greenhouse Gas Targets.* Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.
7. *Vehicle Efficiency Measures.* Implement light-duty vehicle efficiency measures.
8. *Goods Movement.* Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.
9. *Million Solar Roofs Program.* Install 3,000 MW of solar-electric capacity under California's existing solar programs.
10. *Medium/Heavy-Duty Vehicles.* Adopt medium and heavy-duty vehicle efficiency measures.
11. *Industrial Emissions.* Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.
12. *High Speed Rail.* Support implementation of a high-speed rail system.
13. *Green Building Strategy.* Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.
14. *High Global Warming Potential Gases.* Adopt measures to reduce high global warming potential gases.
15. *Recycling and Waste.* Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.

16. *Sustainable Forests.* Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.
17. *Water.* Continue efficiency programs and use cleaner energy sources to move and treat water.
18. *Agriculture.* In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.

2014 Scoping Plan Update. This First Update to California's Climate Change Scoping Plan (2014 Scoping Plan Update) was developed by the CARB in collaboration with the Climate Action Team and reflects the input and expertise of a range of state and local government agencies. The Update reflects public input and recommendations from business, environmental, environmental justice, utilities and community-based organizations provided in response to the release of prior drafts of the Update, a Discussion Draft in October 2013, and a draft Proposed Update in February 2014.

This report highlights California's success to date in reducing its GHG emissions and lays the foundation for establishing a broad framework for continued emission reductions beyond 2020, on the path to 80 percent below 1990 levels by 2050. The First Update includes recommendations for establishing a mid-term emissions limit that aligns with the State's long-term goal of an emissions limit 80 percent below 1990 levels by 2050 and sector-specific discussions covering issues, technologies, needs, and ongoing State activities to significantly reduce emissions throughout California's economy through 2050. The focus areas include energy, transportation, agriculture, water, waste management, and natural and working lands (CARB, 2014a). With respect to the transportation sector, California has outlined several steps in the State's zero emission vehicle (ZEV) Action Plan to further support the market and accelerate its growth. Committed implementation of the actions described in the plan will help meet Governor Brown's 2012 Executive Order (EO) B-16-2012, which—in addition to establishing a more specific 2050 GHG target for the transportation sector of 80 percent from 1990 levels—called for 1.5 million ZEVs on California's roadways by 2025.

Achieving such an aggressive 2050 target will require innovation and unprecedented advancements in energy demand and supply (CARB, 2014a). Emissions from 2020 to 2050 will have to decline at more than twice the rate of that which is needed to reach the 2020 statewide emissions limit. In addition to our climate objectives, California also must meet federal clean air standards. Emissions of criteria air pollutants, including ozone precursors (primarily oxides of nitrogen, or NOX) and particulate matter, must be reduced by an estimated 90 percent by 2032 to comply with federal air quality standards. The scope and scale of emission reductions necessary to improve air quality is similar to that needed to meet long-term climate targets. Achieving both objectives will align programs and investments to leverage limited resources for maximum benefit.

2017 Scoping Plan Update. On December 14, 2017, CARB approved the final version of California's 2017 Climate Change Scoping Plan (2017 Scoping Plan Update), which outlines the proposed framework of action for achieving the 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels (CARB, 2017e). The 2017 Scoping Plan Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. Through a combination of data synthesis and modeling, CARB determined that the target Statewide 2030 emissions limit is 260 $MMTCO_2e$, and that further commitments will need to be made to achieve an additional reduction of 50 $MMTCO_2e$ beyond current policies and programs. The cornerstone of the 2017 Scoping Plan Update is an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal and ensure achievement of the 2050 limit set forth by E.O. B-30-15.

The 2017 Scoping Plan Update's strategy for meeting the 2030 GHG target incorporates the full range of legislative actions and state-developed plans that have relevance to the year 2030. These include:

- Extending the low carbon fuel standard (LCFS) beyond 2020 and increasing the carbon intensity reduction requirement to 18 percent by 2030;
- SB 350, which increase renewables portfolio standard (RPS) to 50 percent and requires a doubling of energy efficiency for existing buildings by 2030;
- The 2016 Mobile Source Strategy is estimated to reduce emissions from mobile sources including an 80 percent reduction in smog-forming emissions and a 45 percent reduction in diesel particulate matter from 2016 level in the South Coast Air Basin, a 45 percent reduction in GHG emissions, and a 50 percent reduction in the consumption of petroleum-based fuels;
- The Sustainable Freight Action Plan to improve freight efficiency and transition to zero emission freight handling technologies (described in more detail below);
- SB 1383, which requires a 50 percent reduction in anthropogenic black carbon and a 40 percent reduction in hydrofluorocarbon and methane emissions below 2013 levels by 2030; and
- Assembly Bill 398, which extends the state Cap-and-Trade Program through 2030.

With respect to project-level GHG reduction actions and thresholds for individual development projects, the 2017 Scoping Plan Update Indicates,

> *Beyond plan-level goals and actions, local governments can also support climate action when considering discretionary approvals and entitlements of individual projects through CEQA. Absent conformity with an adequate geographically-specific GHG reduction plan as described in the preceding section above, CARB recommends that projects incorporate design features and GHG reduction measures, to the degree feasible, to minimize GHG emissions. Achieving no net additional increase in GHG emissions, resulting in no contribution to GHG impacts, is an appropriate overall objective for new development (CARB, 2017e).*

4.7.2.3 Regional Regulations

Southern California Association of Governments (SCAG) Sustainable Communities Strategy (SCS) within Regional Transportation Plan (RTP) demonstrates the region's ability to attain and exceed the GHG emission reduction targets set by the CARB. The SCS outlines the plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The regional vision of the SCS maximizes current voluntary local efforts that support the goals of SB 375, as evidenced by several Compass Blueprint Demonstration Projects and various county transportation improvements. The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network, which emphasizes system preservation, active transportation, and transportation demand management measures.

The RTP/SCS exceeds its greenhouse gas emission-reduction targets set by the CARB by achieving an 8 percent reduction by 2020, an 18 percent reduction by 2035, and a 21 percent reduction by 2040 compared to the 2005 level on a per capita basis. Table 4.7-1 shows the assumptions regarding Moreno Valley that SCAG used in its 2016 analysis.

Table 4.7-1: SCAG Assumptions for Moreno Valley

Year	Population	Households	Employment
2012	197,600	51,800	31,400
2040	256,600	73,000	83,200

Source: Southern California Association of Governments 2016
(http://scagrtpscs.net/Documents/2016/final/f2016RTPSCS_DemographicsGrowthForecast.pdf)

The RTP also includes an appendix on Goods Movement, which describes a process to develop and deploy needed technologies for improving efficiency of goods movement, along with key action steps for public sector agencies to help move the region to that objective. The 2016 RTP/SCS reaffirms zero- and near zero-emission technologies as a priority, and establishes the regional path forward towards improving the goods movement system.

4.7.2.4 City of Moreno Valley Climate Action Strategy

The City of Moreno Valley approved the Energy Efficiency and Climate Action Strategy (Strategy) in October 2012. The Strategy identifies ways that the City can reduce energy and water consumption and greenhouse gas emissions as an organization (its employees and the operation of its facilities) and outlines the actions that the City can encourage and community members can employ to reduce their own energy and water consumption and greenhouse gas emissions. The Strategy contains the following policies to reduce greenhouse gas emissions in 2010 by 15 percent by 2020:

R2-T1 *Land Use Based Trips and VMT Reduction Policies.* Encourage the development of Transit Priority Projects along High Quality Transit Corridors identified in the SCAG Sustainable Communities Plan, to allow a reduction in vehicle miles traveled.

R2-T3 *Employment-Based Trip Reductions.* Require a Transportation Demand Management (TDM) program for new development to reduce automobile travel by encouraging ride-sharing, carpooling, and alternative modes of transportation.

R2-E1 *New Construction Residential Energy Efficiency Requirements.* Require energy efficient design for all new residential buildings to be 10 percent beyond the current Title 24 standards.

R2-E2 *New Construction Residential Renewable Energy.* Facilitate the use of renewable energy (such as solar [photovoltaic] panels or small wind turbines) for new residential developments. Alternative approach would be the purchase of renewable energy resources off site.

R2-E5 *New Construction Commercial Energy Efficiency Requirements.* Require energy efficient design for all new commercial buildings to be 10 percent beyond the current Title 24 standards.

R3-E1 *Energy Efficient Development, and Renewable Energy Deployment Facilitation and Streamlining.* Updating of codes and zoning requirements and guidelines to further implement green building practices. This could include incentives for energy-efficient projects.

R3-L2 *Heat Island Plan.* Develop measures that address “heat islands.” Potential measures include using strategically placed shade trees, using paving materials with a Solar Reflective Index of at least 29, an open grid pavement system, or covered parking.

R2-W1 *Water Use Reduction Initiative.* Consider adopting a per capita water use reduction goal which mandates the reduction of water use of 20 percent per capita with requirements applicable to new development and with cooperative support of the water agencies.

R3-W1 *Water Efficiency Training and Education.* Work with EMWD and local water companies to implement a public information and education program that promotes water conservation.

R2-S1 *City Diversion Program.* For solid waste, consider a target of increasing the waste diverted from the landfill to a total of 75 percent by 2020.

4.7.3 Methodology

Bearing in mind that CEQA does not require "perfection" but instead "adequacy, completeness, and a good faith effort at full disclosure," the analysis of project GHG emissions and climate change is based on methodologies and information available at the time the Revised Sections of the FEIR was prepared. Many uncertainties exist regarding the precise relationship between specific levels of GHG emissions and the ultimate impact on global climate. Significant uncertainties also exist regarding the reduction potential of mitigation strategies. Thus, while information is presented below to assist the public and the City's decision-makers in understanding the project's potential contribution to global climate change impacts, the information available to the City is not sufficiently detailed to allow a direct comparison between particular project characteristics and particular climate change impacts, nor between any particular proposed mitigation measure and any reduction in climate change impacts.

The recommended approach for GHG analysis included in the California Governor's Office of Planning and Research (OPR's) June 2008 release is to: (1) identify and quantify GHG emissions, (2) assess the significance of the impact on climate change, and (3) if significant, identify alternatives and/or mitigation measures to reduce the impact below a level of significance (Governor's Office of Planning and Research, 2008). Neither the CEQA statute nor Guidelines prescribe quantitative thresholds of significance or a particular methodology for performing an impact analysis; as with most environmental topics, significance criteria are left to the judgment and discretion of the lead agency.

The June 2008 OPR guidance provides some additional direction regarding planning documents as follows: "CEQA can be a more effective tool for GHG emissions analysis and mitigation if it is supported and supplemented by sound development policies and practices that will reduce GHG emissions on a broad planning scale and that can provide the basis for a programmatic approach to project-specific CEQA analysis and mitigation. For local government lead agencies, adoption of General Plan policies and certification of General Plan EIRs that analyze broad jurisdiction-wide impacts of GHG emissions can be part of an effective strategy for addressing cumulative impacts and for streamlining later project-specific CEQA reviews."

Pursuant to SB 97, the OPR must develop guidelines for analysis of the effects of GHG emissions. As part of this process, the OPR asked CARB technical staff to recommend statewide interim thresholds of significance for GHGs. The CARB released a preliminary draft staff proposal in October 2008 that included initial suggestions for significance criteria related to industrial, commercial, and residential projects. However, CARB's staff did not adopt or suggest any new statewide thresholds. The OPR finalized its revised *CEQA Guidelines* without reference to CARB's draft proposal.

In March 2010, *CEQA Guidelines* amendments were adopted and include the following direction regarding determination of significant impacts from GHG emissions (Section 15064.4):

(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 should make a good-faith effort, based on available information, 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) Use a model or methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use. The lead agency has discretion to select the model it considers most appropriate provided it supports its decision with substantial evidence. The

lead agency should explain the limitations of the particular model or methodology selected for use; or

(2) Rely on a qualitative analysis or performance based standards.

(b) A lead agency may consider the following when assessing 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. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that 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.

CEQA Guidelines Section 15064(b) provides that the "determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further, states that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting."

The updated analysis takes into account the following:

- *Operational Mobile Assumptions***.** Operational mobile GHG emissions were estimated using the same procedures for the air quality analysis (which includes using EMFAC2017), which is consistent with updated Traffic Impact Analysis. Please refer to Section 4.3.3.2 in the Air Quality Section of this Draft Recirculated Sections of the FEIR or the revised Air Quality, Greenhouse Gas, and Health Risk Assessment (2019) for a list of those changes.
- *Vehicle Fuel Assumptions:* Mobile emissions in this analysis utilizes EMFAC2017's projected vehicle fuel mix for Phase 1 buildout year 2025 and project buildout year 2035. Section 4.17, Energy, of this Recirculated Sections of the Revised Sections of the FEIR addresses the potential penetration of electric trucks and potential use in association with the project. Although the State has set targets for zero-emission vehicles, it would be speculative to assume that the High Penetration scenario discussed in Section 4.17 would be practicable or feasible by 2025 or by 2035. The Low and Medium Penetration scenarios discussed in Section 4.17 are possible; however, as a worst-case analysis, the greenhouse gas analysis included herein does not factor in any potential emissions reductions provided by electric or natural gas-fueled trucks. For informational purposes only, emissions associated with the Medium Penetration scenario has been taken into account to show further emissions reduction potential.

For a detailed discussion of GHG emissions source and methodology, refer to Appendix A.1 of this Recirculated Sections of the Revised Sections of the FEIR.

4.7.4 Thresholds of Significance

Based on Appendix G of the *CEQA Guidelines*, climate change/greenhouse gas emissions impacts would occur if the World Logistics Center project would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (i.e., exceeds the SCAQMD's 10,000 mt CO_2e emissions screening threshold of significance); and/or
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

Global climate change may result in significant adverse effects to the environment that will be experienced worldwide, with some specific effects observed in California. AB 32 requires statewide GHG emissions reductions to 1990 levels by 2020, and SB 32 requires statewide GHG emissions reductions to 40 percent below 1990 levels by 2030. Although these statewide reductions are now mandated by law, no generally applicable GHG emission threshold has yet been established.

State CEQA Guidelines Section 15064(b) provides that "…the determination of whether a project may have a significant effect on the environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data," and further, that an "ironclad definition of significant effect is not always possible because the significance of an activity may vary with the setting." The *State CEQA Guidelines* further indicate that even when thresholds are established, they may include "identifiable quantitative, qualitative or performance level of a particular environmental effect" (*State CEQA Guidelines*, Section 15064.7).

Some policymakers and regulators suggest that a zero emissions threshold would be appropriate when evaluating GHGs and their potential effect on climate change. Such a rule appears inconsistent with the State's approach to mitigation of climate change impacts. AB 32 and SB 32 do not prohibit all new GHG emissions; rather, they require a reduction in statewide emissions to a given level. Thus, AB 32 and SB 32 recognize that GHG emissions will continue to occur; increases will result from certain activities, but reductions must occur elsewhere.

Individual projects incrementally contribute toward the potential for global climate change (GCC) on a cumulative basis in concert with all other past, present, and probable future projects. While individual projects are unlikely to measurably affect GCC, each of these projects incrementally contributes toward the potential for GCC on a cumulative basis, in concert with all other past, present, and probable future projects. This analysis examines whether the project's emissions should be considered cumulatively significant.

In order to evaluate the significance of a proposed project's environmental impacts related to GHG emissions, it is necessary to identify quantitative or qualitative thresholds which, if exceeded, would constitute a finding of significance. As previously described, while project-related GHG emissions can be estimated the direct impact of such emissions on climate change and global warming cannot be determined on the basis of available science. There is no evidence at this time that the World Logistics Center project would directly affect GCC. The SCAQMD has adopted a quantitative GHG emission significance threshold to assess direct impacts from industrial projects where the SCAQMD is the lead agency. The SCAQMD and other air quality agencies agree that GHG and GCC should be assessed as a potentially significant cumulative impact rather than a project-specific impact.

The following is an excerpt from the SCAQMD (Draft Guidance Document – Interim CEQA Greenhouse Gas [GHG] Significance Threshold, October 2008):

> *"The overarching policy objective with regard to establishing a GHG significance threshold for the purposes of analyzing GHG impacts pursuant to CEQA is to establish a performance standard or target GHG reduction objective that will ultimate contribute to reducing GHG emissions to stabilize climate change. Full implementation of the Governor's Executive Order S-3-05 would reduce GHG emissions 80 percent below 1990 levels or 90 percent below current levels by 2050. It is anticipated that achieving the Executive Order's objective would contribute to worldwide efforts to cap GHG concentrations at 450 ppm, thus, stabilizing global climate.*

> *As described below, staff's recommended interim GHG significance threshold proposal uses a tiered approach to determining significance. Tier 3, which is expected to be the primary tier by which the AQMD will determine significance for projects where it is the lead agency, uses the Executive Order S-3-05 goal as the basis for deriving the screening level."*

This project utilizes Tier 3 of the SCAQMD's draft threshold and compares the project's greenhouse gas emissions to the SCAQMD's threshold for industrial projects, 10,000 mt CO_2e per year. Therefore, the threshold used for this project was based on the goal in Executive Order S-3-05. If the project's emissions are under the threshold, then the project would be in compliance with Executive Order S-3-05.

In September 2013, the SCAQMD adopted two Negative Declarations stating that GHG emissions subject to the ARB Cap-and-Trade Program (so called "capped" emissions) do not count against the 10,000 MT CO2e significance threshold the SCAQMD applies when acting as a lead agency. In addition, the San Joaquin Valley Air Pollution Control District (SJVAPCD) has recently taken this one issue a step further and adopted a policy: "CEQA Determinations of Significance for Projects Subject to ARB's GHG Cap-and-Trade Regulation." This policy applies when the SJVAPCD is the lead agency and when it is a responsible agency. In short, the SJVAPCD "has determined that GHG emissions increases that are covered under ARB's Cap-and-Trade regulation cannot constitute significant increases under CEQA…." The SJVAPCD classifies ARB's Cap-and-Trade Program as an approved GHG emission reduction plan or GHG mitigation program under CEQA Guidelines Section 15064(h)(3). Here are some other pertinent excerpts from that policy:

- "Consistent with CCR §15064(h)(3), the District finds that compliance with ARB's Cap-and-Trade regulation would avoid or substantially lessen the impact of project-specific GHG emissions on global climate change."
- "The District therefore concludes that GHG emissions increases subject to ARB's Cap-and-Trade regulation would have a less than significant individual and cumulative impact on global climate change."
- "[I]t is reasonable to conclude that implementation of the Cap-and-Trade program will and must fully mitigate project-specific GHG emissions for emissions that are covered by the Cap-and-Trade regulation."
- "[T]he District finds that, through compliance with the Cap-and-Trade regulation, project-specific GHG emissions that are covered by the regulation will be fully mitigated."

The policy acknowledges that "combustion of fossil fuels including transportation fuels used in California (on and off road including locomotives), not directly covered at large sources, are subject to Cap-and-Trade requirements, with compliance obligations starting in 2015." As such, the SJVAPCD concludes that GHG emissions associated with vehicle miles traveled (VMT) cannot constitute significant increases under CEQA. The consideration of only uncapped GHG emissions to determine the significance of those emissions under CEQA used by the SCAQMD and the SJVAPCD was validated in Association of Irritated Residents v. Kern County Board of Supervisors, 17 Cal. App. 5th 708 (2017). The EIR's GHG analysis properly relied on compliance with California's cap-and-trade program to conclude that GHG emissions would be less than significant.

Table 4.7-4 shows project emissions separated into capped and uncapped sectors, as defined by California's cap-and-trade program. California's cap-and-trade program is enforceable and meets the requirements of AB 32 and SB 32. The program began on January 1, 2012, placing GHG emissions limits on capped sectors (e.g., electricity generation, petroleum refining, cement production, and large industrial facilities that emit more than 25,000 MT CO2e per year), and enforcing compliance obligations beginning with 2013 emissions. Vehicle fuels were placed under the cap in 2015, and with the passage of AB 398, the program was extended through 2030. The Cap-and-Trade Program allocates emissions permits across covered entities in each sector.

This regulatory conclusion is therefore directly applicable to the WLC project because VMT is by far the largest source of project GHG emissions. The analysis considers both the inclusion and exclusion of capped emissions, notably with the inclusion of mitigation measure 4.7.6.1E-1 and 4.7.6.1E-2 in Section 4.7.6, below. The applicable mitigation measure taken relies on the outcome of Paulek v. Moreno Valley Community Services District, Case No. E071184, in the Fourth District Court of Appeal, Second Division.

4.7.5 Less than Significant Impacts

Due to the size of the project, all potential impacts related to greenhouse gas emissions are considered to be potentially significant.

4.7.6 Significant Impacts

4.7.6.1 Greenhouse Gas Emissions

Impact	Would the proposed project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Future development that could occur within the World Logistics Center project site could generate GHG emissions during both construction and operation activities. The following activities are associated with the World Logistics Center project and could directly or indirectly contribute to the generation of GHG emissions:

- **Removal of Vegetation (Land Use Change) and Sequestration:** Carbon sequestration is the process of capture and storage of carbon dioxide; trees, vegetation, and soil store carbon in their tissues and wood. The net removal of vegetation for construction from land use change results in a loss of the carbon sequestration in plants. However, planting additional vegetation (sequestration) would result in additional carbon sequestration and would lower the carbon footprint of the project.
- **Construction Activities:** During construction of the World Logistics Center project, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO_2, CH_4, and N_2O. Leaks from installation of refrigeration equipment for air conditioning may occur.
- **Gas, Electric, and Water Use:** Natural gas use results in the emissions of CH_4 (the major component of natural gas) and CO_2 from the combustion of natural gas. Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. Conveying water to the project and treating wastewater also uses electricity.
- **Solid Waste Disposal:** Solid waste generated by the World Logistics Center project could contribute to GHG emissions in a variety of ways. Landfilling and other methods of disposal use energy for transporting and managing the waste, and they produce additional GHGs to varying degrees. Landfilling, the most common waste management practice, results in the release of CH_4 from the anaerobic decomposition of organic materials. CH_4 is approximately 21 times more potent than CO_2. Landfill CH_4 can also be a source of energy. In addition, many materials in landfills do not decompose fully, and the carbon that remains is sequestered in the landfill and not released into the atmosphere.
- **Motor Vehicle Use:** Transportation associated with the World Logistics Center project would result in GHG emissions from the combustion of fossil fuels and the use of electricity in daily automobile and truck trips.
- **On-site Equipment:** During operation of the World Logistics Center project, there would be on-site equipment operating, including yard trucks, emergency generators, and forklifts.

Construction Emissions. The World Logistics Center project would emit GHGs mainly from direct sources such as combustion of fuels from worker vehicles and construction equipment, as shown in Table 4.7-2. The GHG emissions are from all phases of construction. The SCAQMD recommends that construction emissions be averaged over a 30-year period.

Table 4.7-2: Construction Greenhouse Gas Emissions (without mitigation)

Year	Annual Emissions (mt CO_2e)
2020	18,770
2021	22,198
2022	23,363
2023	23,511
2024	22,113
2025	16,408
2026	12,424
2027	11,692
2028	12,000
2029	11,452
2030	12,311
2031	10,610
2032	9,993
2033	7,451
2034	7,430
Total	**221,727**
Averaged over 30 years	**7,391**

mt CO_2e = metric tons of carbon dioxide equivalents.
Note: The SCAQMD recommends that construction emissions be averaged over a 30-year period.
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report,* 2019
Sources include onsite construction equipment, worker trips, haul trips, vendor trips, refrigerant installation for the air conditioning in the offices, construction waste, and water use. Values presented in the table may not equal the sum due to rounding.

Total Emissions, Worst-Case Scenario. Operational or long-term emissions occur over the life of the project. Included for informational purposes, operational emissions for a worst-case buildout condition are shown in Table 4.7-3. This is a worst-case analysis because it assumes that the entire project would be built-out in 2020. The emissions are presented by greenhouse gas (in tons per year), which was also converted to metric tons of carbon dioxide equivalents (mt CO_2e). The vehicle emissions in the table represent travel within the South Coast Air Basin. The emissions do not take into account mitigation measures to reduce emissions, such as the use of model year 2010 and later diesel trucks on the project site. As shown in the table, the project's uncapped emissions are over the SCAQMD's significance threshold of 10,000 mt CO_2e per year. Therefore, emissions are potentially significant.

The analysis presented in Table 4.7-3 also represents a worst-case analysis because the emission factors do not take into account implementation of California's Mobile Source Strategy and the full reductions expected from newer trucks and cars as a result of the Pavley regulations, the Low Carbon Fuel Standard, and California's Advanced Clean Car program. The emissions are estimated using emission factors from EMFAC2017, CARB's emission factor model, for the year 2020.

Table 4.7-3: Annual Project Operational GHG Emissions (Worst-Case 2020 Analysis at Buildout)

Source	Emissions (metric tons per year)					GHG Emissions (mt CO_2e)[1]
	Carbon Dioxide	Methane	Nitrous Oxide	HFCs	Black Carbon	
Capped Emissions						
Construction	7,382	0.00	0.00	0.00	0.01	7,391
Net Mobile	245,516	6.84	31.06	0.00	8.10	261,099
Yard trucks	7,172	0.00	0.00	0.00	0.00	7,172
Generator	242	0.01	0.00	0.00	0.03	267
Forklifts	250	0.00	0.00	0.00	0.01	257
Electricity [2]	34,147	-	-	-	-	34,147
Water	2,548	-	-	-	-	2,548
Natural gas [2]	4,483	2.15	24.49	-	0.00	4,689
Total Capped	**300,931**	**44.13**	**144.66**	**0.00**	**8.16**	**317,570**
Uncapped Emissions						
Construction Refrigerants and Waste	104	0.00	0.00	0.05	0.00	166
Waste	7,747	457.83	0.00	-	-	19,193
Refrigerants	0	0.00	0.00	1.71	0.00	2,572
Land use change	1,154	0.00	0.00	0.00	0.00	1,154
Sequestration	-111	0.00	0.00	0.00	0.00	-111
Total Uncapped	**8,894**	**457.83**	**0.00**	**1.77**	**0.00**	**22,974**
Threshold	--	--	--	--	--	10,000
Significant impact?	--	--	--	--	--	Yes

[1] mt CO_2e is calculated from the emissions (tons/year) by multiplying by the individual global warming potential (carbon dioxide – 1, methane – 21, nitrous oxide – 310, hydrofluorocarbons [HFC] – 1500, black carbon 760) and converted to metric tons by multiplying by 0.9072. <0.01 = less than 0.01.
[2] – Electricity and natural gas emissions estimates are based on minimum compliance with 2019 Title 24 building standards and compliance with RPS.
Source: *ESA, 2019*

Total Project Emissions. Table 4.7-4 shows the unmitigated capped and uncapped project emissions at buildout, including estimates of the project's mobile emissions estimates for future years based on EMFAC2017 emission factors for the actual year assessed, which take into account the Pavley regulations, the Low Carbon Fuel Standard, and California's Advanced Clean Car program. Emissions are shown by individual GHG (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, and black carbon) and totaled used the common unit of metric tons CO_2e based on the global warming potential of each gas. Emissions estimates for electricity and natural gas do not account for Project Design Features (described in Energy Section 4.17.5) that improve building energy efficiency and maximize the use of on-site renewable energy.

Table 4.7-4: Project GHG Emissions at Buildout (Unmitigated)

Source	Emissions (metric tons per year)					GHG Emissions (mt CO_2e)[1]
	Carbon Dioxide	Methane	Nitrous Oxide	HFCs	Black Carbon	
Capped Emissions						
Construction	7,382	0.00	0.00	0.00	0.02	7,391
Net Mobile	172,164	7.23	19.61	0.00	1.53	179,355
Yard trucks	7,172	0.00	0.00	0.00	0.00	7,172
Generator	242	0.01	0.00	0.00	0.03	267
Forklifts	250	0.00	0.00	0.00	0.01	257
Electricity [2]	34,147	-	-	-	-	34,147
Water	2,548	-	-	-	-	2,548
Natural gas [2]	4,483	2.15	24.49	-	0.00	4,689
Total Capped	**227,579**	**44.53**	**133.21**	**0.00**	**9.64**	**235,826**
Uncapped Emissions						
Construction Refrigerants and Waste	104	0.00	0.00	0.05	0.00	166
Waste	7,747	457.83	0.00	-	-	19,193
Refrigerants	0	0.00	0.00	1.71	0.00	2,572
Land use change	1,154	0.00	0.00	0.00	0.00	1,154
Sequestration	-111	0.00	0.00	0.00	0.00	-111
Total Uncapped	**8,894**	**457.83**	**0.00**	**1.77**	**0.00**	**22,974**
Threshold	--	--	--	--	--	10,000
Significant impact?	--	--	--	--	--	Yes

[1] mt CO_2e is calculated from the emissions (metric tons/year) by multiplying by the individual global warming potential (carbon dioxide – 1, methane – 21, nitrous oxide – 310, hydrofluorocarbons [HFC] – 1500, black carbon 760)
[2] – Electricity and natural gas emissions estimates are based on minimum compliance with 2019 Title 24 building standards and compliance with RPS.
Source: *ESA, 2019*

The total emissions estimate for the project, summarized in Table 4.7-5, include both construction and operations emissions, and do not account for Project Design Features (described in Energy Section 4.17.5) that improve building energy efficiency and maximize the use of on-site renewable energy; nor do they account for the project's mitigation measures. Table 4.7-5 shows a summary of project emissions (unmitigated) for each year between 2020 and 2064. The analysis assumes the gradual phasing in of structures until buildout (2035) and the gradual phasing out of structures as they reach their presumed lifetime of 30 years. Therefore, the lifetime of the Project extends until 2064 when the final structures are presumed to have reached their 30-year lifetime. As shown in the table, the annual uncapped emissions are over the SCAQMD's significance threshold of 10,000 mt CO_2e per year for a majority of the years presented. Therefore, emissions are potentially significant, and mitigation is required.

Table 4.7-5: Project GHG Emissions (Year by Year without Mitigation)

Source	GHG Unmitigated Emissions (mt CO_2e/year)														
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Capped Emissions															
Construction	18,770	22,198	23,363	23,511	22,113	16,408	12,424	11,692	12,000	11,452	12,311	10,610	9,993	7,451	7,430
Net Mobile	0	22,089	42,984	62,716	81,169	97,097	103,414	113,746	123,988	133,464	142,515	151,159	159,397	167,226	174,639
Yard trucks	0	813	1,625	2,438	3,250	4,053	4,371	4,689	5,016	5,334	5,652	5,970	6,288	6,606	6,924
Generator	0	30	61	91	121	151	163	175	187	199	211	222	234	246	258
Forklifts	0	29	58	87	117	145	157	168	180	191	203	214	226	237	248
Electricity	0	6,097	11,672	18,583	24,799	36,149	40,666	41,689	41,168	40,436	40,169	39,884	39,257	38,288	36,329
Water	0	133	267	445	623	953	1,283	1,458	1,562	1,667	1,817	1,986	2,156	2,326	2,437
Natural gas	0	0	545	1,089	1,634	2,723	3,080	3,259	3,438	3,617	3,795	3,974	4,153	4,331	4,510
Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capped	**18,770**	**51,390**	**80,574**	**108,959**	**133,825**	**157,680**	**165,558**	**176,875**	**187,539**	**196,360**	**206,672**	**214,020**	**221,703**	**226,711**	**232,775**
Uncapped Emissions															
Construction Refrigerants and Waste	209	209	209	209	206	102	141	144	141	141	141	141	141	141	118
Waste	0	2,175	4,349	6,524	8,698	10,847	11,698	12,549	13,423	14,274	15,125	15,976	16,827	17,678	18,529
Refrigerants	0	291	583	874	1,166	1,454	1,568	1,682	1,799	1,913	2,027	2,141	2,255	2,369	2,483
Land use change	0	131	262	392	523	652	704	755	807	858	910	961	1,012	1,063	1,114
Sequestration	0	-13	-25	-38	-50	-63	-68	-72	-77	-82	-87	-92	-97	-102	-107
Total Uncapped	**209**	**2,793**	**5,377**	**7,961**	**10,543**	**12,992**	**14,043**	**15,057**	**16,093**	**17,104**	**18,116**	**19,127**	**20,138**	**21,149**	**22,137**
Threshold	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Significant impact?	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source	GHG Unmitigated Emissions (mt CO_2e/year)														
	2035 (Buildout)	**2036**	**2037**	**2038**	**2039**	**2040**	**2041**	**2042**	**2043**	**2044**	**2045**	**2046**	**2047**	**2048**	**2049**
Capped Emissions															
Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Mobile	179,355	179,355	179,355	179,355	179,355	179,355	179,355	179,355	179,355	179,355	179,355	179,355	179,355	179,355	179,355
Yard trucks	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172
Generator	267	267	267	267	267	267	267	267	267	267	267	267	267	267	267
Forklifts	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257
Electricity	34,147	29,379	26,115	22,850	19,586	16,322	13,057	9,793	6,529	3,264	0	0	0	0	0
Water	2,548	2,580	2,580	2,580	2,580	2,580	2,580	2,580	2,580	2,580	0	0	0	0	0
Natural gas	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689	4,689
Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capped	**228,435**	**223,699**	**220,435**	**217,170**	**213,906**	**210,642**	**207,377**	**204,113**	**200,849**	**197,584**	**191,740**	**191,740**	**191,740**	**191,740**	**191,740**
Uncapped Emissions															
Construction Refrigerants and Waste	166	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waste	19,193	19,193	19,193	19,193	19,193	19,193	19,193	19,193	19,193	19,193	19,193	19,193	19,193	19,193	19,193
Refrigerants	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572
Land use change	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154
Sequestration	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111
Total Uncapped	**22,974**	**22,808**	**22,808**	**22,808**	**22,808**	**22,808**	**22,808**	**22,808**	**22,808**	**22,808**	**22,808**	**22,808**	**22,808**	**22,808**	**22,808**
Threshold	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Significant impact?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Source	GHG Unmitigated Emissions (mt CO_2e/year)															
	2050	**2051**	**2052**	**2053**	**2054**	**2055**	**2056**	**2057**	**2058**	**2059**	**2060**	**2061**	**2062**	**2063**	**2064**	**Total (2020-2064)**
Capped Emissions																
Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	221,727
Net Mobile	154,246	132,651	107,890	87,750	57,330	45,453	40,481	37,820	35,334	32,020	28,614	25,570	22,850	21,257	19,775	5,114,971
Yard trucks	6,168	5,304	4,314	3,509	2,293	1,818	1,619	1,512	1,413	1,280	1,144	1,022	914	850	791	204,561
Generator	230	198	161	131	85	68	60	56	53	48	43	38	34	32	29	7,620
Forklifts	221	190	155	126	82	65	58	54	51	46	41	37	33	30	28	7,340
Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	636,226
Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	44,876
Natural gas	4,032	3,468	2,820	2,294	1,499	1,188	1,058	989	924	837	748	668	597	556	517	132,674
Solar	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Capped	**164,897**	**141,811**	**115,340**	**93,810**	**61,289**	**48,592**	**43,277**	**40,432**	**37,774**	**34,231**	**30,590**	**27,336**	**24,428**	**22,725**	**21,141**	**6,369,995**
Uncapped Emissions																
Construction Refrigerants and Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,559
Waste	16,506	14,195	11,545	9,390	6,135	4,864	4,332	4,047	3,781	3,426	3,062	2,736	2,445	2,275	2,116	547,418
Refrigerants	2,212	1,902	1,547	1,258	822	652	580	542	507	459	410	367	328	305	284	73,356
Land use change	993	854	694	565	369	293	261	243	227	206	184	165	147	137	127	32,922
Sequestration	-95	-82	-67	-54	-35	-28	-25	-23	-22	-20	-18	-16	-14	-13	-12	-3,159
Total Uncapped	**19,615**	**16,869**	**13,720**	**11,159**	**7,291**	**5,780**	**5,148**	**4,809**	**4,493**	**4,072**	**3,639**	**3,252**	**2,906**	**2,703**	**2,515**	**653,096**
Threshold	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	**450,000**
Significant impact?	Yes	Yes	Yes	Yes	No	No	No	No	No	No	No	No	No	No	No	Yes

mt CO_2e = metric tons of carbon dioxide equivalents, which is calculated from the emissions (tons/year) by multiplying by the individual global warming potential (carbon dioxide – 1, methane – 21, nitrous oxide – 310, hydrofluorocarbons – 1500, black carbon 760) and converted to metric tons by multiplying by 0.9072.
1 - Electricity and natural gas emissions estimates account for PDFs that improve energy efficiency and eliminate the use of building natural gas; includes electricity use by on-site EV chargers.
2 - Estimated construction emissions are included prior to buildout.
3 – 2036 is the first full year that the Project would be built out. Years from buildout until 2049 are conservatively estimated to be equivalent to buildout year emissions and exclude construction emissions since construction activity would cease after buildout. Years post-2049 take into account the phasing out of structures as they reach their presumed 30-year lifetime.
4 – Electricity emissions decrease to zero in 2045 after RPS has reached 100% renewable electricity
Source: *ESA, 2019*

Project Design Features. The WLCSP incorporates site and building designs (Project Design Features) that emphasize conservation of water and energy, which in turn help reduce greenhouse gas emissions (WLCSP September 2014, Section 1.3.2, Green Building-Sustainable Development). The revised Project Design Features, as outlined in the *Comparison of Renewable Energy Technologies* report (WSP, 2018) and explained in detail in Energy Section 4.17.5, go substantially beyond that previous commitment with energy conservation measures (ECMs) that exceed minimal compliance with current (2016) Title 24 requirements by about 17 percent at Phase 1 and 16 percent at full buildout, and a commitment to maximize the use of onsite rooftop solar PV generation.

Mitigation Measures. The following mitigation measures would reduce the GHG emissions impact of the WLC project. Mitigation measures 4.7.6.1B, 4.7.6.1C, and 4.7.5.1D were previously included in the 2015 FEIR as Utilities Mitigation Measures 4.16.4.6.1A, 4.16.4.6.1B, and 4.16.4.6.1C to address building energy, but energy impacts have now been removed from the Utilities section and considered in the standalone Energy section of the Recirculated RSFEIR (Section 4.17).

4.7.6.1A The World Logistics Center project shall implement the following requirements to reduce solid waste and greenhouse gas emissions from construction and operation of project development:

a) Prior to January 1, 2020, divert a minimum of 50 percent of landfill waste generated by operation of the project. After January 1, 2020, development shall divert a minimum of 75 percent of landfill waste. In January of each calendar year after project approval the developer and/or Property Owners Association shall certify the percentage of landfill waste diverted on an annual basis.

b) Prior to January 1, 2020, recycle and/or salvage at least 50 percent of non-hazardous construction and demolition debris. After January 1, 2020, recycle and/or salvage at least 75 percent of non-hazardous construction and demolition debris. In January of each calendar year after project approval the developer and/or Property Owners Association shall certify the percentage of landfill waste diverted on an annual basis.

   Develop and implement a construction waste management plan that, at a minimum, identifies the materials to be diverted from disposal and whether the materials will be sorted on-site or co-mingled. Calculations can be done by weight or volume, but must be consistent throughout.

c) The applicant shall submit a Recyclables Collection and Loading Area Plan for construction related materials prior to issuance of a building permit with the Building Division and for operational aspects of the project prior to the issuance of the occupancy permit to the Public Works Department. The plan shall conform to the Riverside County Waste Management Department's Design Guidelines for Recyclable Collection and Loading Areas.

d) Prior to issuance of certificate of occupancy, the recyclables collection and loading area shall be constructed in compliance with the Recyclables Collection and Loading Area plan.

e) Prior to issuance of certificate of occupancy, documentation shall be provided to the City confirming that recycling is available for each building.

f) Within six months after occupancy of a building, the City shall confirm that all tenants have recycling procedures set in place to recycle all items that are recyclable, including but not limited to paper, cardboard, glass, plastics, and metals.

g) The property owner shall advise all tenants of the availability of community recycling and composting services.

h) Existing onsite street material shall be recycled for new project streets to the extent feasible.

4.7.6.1B (Previously Included as Utilities Mitigation Measure 4.16.4.6.1A for building energy). Each application for a building permit shall include energy calculations to demonstrate compliance with California Energy Efficiency Standards (Title 24, Part 6). Plans shall show the following:

- Energy-efficient roofing systems, such as "cool" roofs, that reduce roof temperatures significantly during the summer and therefore reduce the energy requirement for air conditioning.
- Cool pavement materials such as lighter-colored pavement materials, porous materials, or permeable or porous pavement, for all roadways and walkways not within the public right-of-way, to minimize the absorption of solar heat and subsequent transfer of heat to its surrounding environment.
- Energy-efficient appliances that achieve the 2016 California Appliance Energy Efficiency Standards (e.g. EnergyStar® Appliances) and use of sunlight-filtering window coatings or double-paned windows

4.7.6.1C (Previously Included as Utilities Mitigation Measure 4.16.4.6.1B building energy). Prior to the issuance of any building permits within the WLC site, each project developer shall submit energy calculations used to demonstrate compliance with the performance approach to the California Energy Efficiency Standards, for each new structure. Plans may include but are not necessarily limited to implementing the following as appropriate:

- High-efficiency air-conditioning with electronic management system (computer) control.
- Isolated High-efficiency air-conditioning zone control by floors/separable activity areas.
- Use of Energy Star ® exit lighting or exit signage.

4.7.6.1D (Previously Included as Utilities Mitigation Measure 4.16.4.6.1C building energy; now modified). Prior to the issuance of a building permit, new development shall demonstrate that each building has implemented the following:

- Install solar panels with a capacity equal to the peak daily demand for the ancillary office uses in each warehouse building or up to the limit allowed by MVU's restriction on distributed solar PV connecting to their grid, whichever is greater;
- Increase efficiency for buildings by implementing either 10 percent over the 2019 Title 24's energy saving requirements or the Title 24 requirements in place at the time the building permit is approved, whichever is more strict; and
- Require the equivalent of "Leadership in Energy and Environmental Design Certified" for the buildings constructed at the World Logistics Center based on Leadership in Energy and Environmental Design Certified standards in effect at the time of project approval.

This measure shall be implemented to the satisfaction of the Building and Safety and Planning Divisions.

Additionally, the following mitigation measures from other sections of the Revised Sections of the FEIR help reduce GHG emissions. The complete air quality and utilities mitigation measures can be found in the executive summary.

Air Quality Mitigation Measure 4.3.6.2A (construction fuel) would require that construction equipment greater than 50 horsepower be USEPA Tier 4 emissions compliant and limits on-site idling of all diesel-powered construction equipment, delivery vehicles, and delivery trucks to three minutes in any one hour.

AQ Mitigation Measure 4.3.6.3B (long haul trucks). Require the operation of model year 2010 diesel trucks or later.

AQ Mitigation Measure 4.3.6.4A: The following measures shall be incorporated as conditions to any Plot Plan approval within the Specific Plan:

- All tenants shall be required to participate in Riverside County's Rideshare Program.
- Storage lockers shall be provided in each building for a minimum of three percent of the full-time equivalent employees based on a ratio of 0.50 employees per 1,000 square feet of building area. Lockers shall be located in proximity to required bicycle storage facilities.
- Class II bike lanes shall be incorporated into the design for all project streets.
- The project shall incorporate pedestrian pathways between on-site uses.
- Site design and building placement shall provide pedestrian connections between internal and external facilities.
- The project shall provide pedestrian connections to residential uses within 0.25 mile from the project site.
- A minimum of two electric vehicle-charging stations for automobiles or light-duty trucks shall be provided at each building. In addition, parking facilities with 200 parking spaces or more shall be designed and constructed so that at least six percent of the total parking spaces are capable of supporting future electric vehicle supply equipment (EVSE) charging locations. Sizing of conduit and service capacity at the time of construction shall be sufficient to install Level 2 Electric Vehicle Supply Equipment (EVSE) or greater.
- Each building shall provide indoor and/or outdoor - bicycle storage space consistent with the City Municipal Code and the California Green Building Standards Code. Each building shall provide a minimum of two shower and changing facilities for employees.
- Each building shall provide preferred and designated parking for any combination of low-emitting, fuel-efficient, and carpool/vanpool vehicles equivalent to the number identified in California Green Building Standards Code Section 5.106.5.2 or the Moreno Valley Municipal Code whichever requires the higher number of carpool/vanpool stalls.
- The following information shall be provided to tenants: onsite electric vehicle charging locations and instructions, bicycle parking, shower facilities, transit availability and the schedules, telecommunicating benefits, alternative work schedule benefits, and energy efficiency.

Utilities Mitigation Measure 4.16.1.6.1A would reduce outdoor water usage which in turn reduces energy use associated with the conveyance of that water.

Utilities Mitigation Measure 4.16.1.6.1B would reduce interior water usage, including low flow fittings, fixtures and equipment.

Utilities Mitigation Measure 4.16.1.6.1C would allow reclaimed water to be used for irrigation.

Table 4.7-6 evaluates to what degree the mitigation measures (including the various PDFs of the project as described in Energy Section 4.17.5) will reduce potential GHG emissions.

Table 4.7-7 shows the project GHG emissions with implementation of Project Design Features and mitigation measures, at buildout only.

Table 4.7-8 shows the mitigated GHG emissions for each year from 2020 through construction and 30-years operation of all Project facilities. Total uncapped GHG emissions are below the threshold of significance for every year and are therefore less than significant after mitigation.

Level of Impact After Mitigation. Less than significant.

Table 4.7-6: Greenhouse Gas Emissions Reduction Analysis

Category	Operational Mitigation Measure or Project Design Feature[1]	Calculation Method and Reductions
Construction Fuel	**Mitigation Measure 4.3.6.2A** would require that construction equipment be Tier 4.	This reduction was estimated in CalEEMod. Tier 4 construction equipment would have fewer PM2.5 emissions, and therefore black carbon emissions.
Construction Waste	Regulation in the California Green Building Standards require that projects divert (reduce or recycle) at least 50 percent of waste.	This reduction was estimated using the U.S. EPA's Waste Reduction Model (WARM) version 13.
On-road Vehicles: Local	*Project Design Feature:* Local bus service to the area is provided by the Riverside Transit Agency. Local bus routes would typically be extended into the project area when adequate demand is generated from this employment center. Future bus routes could circulate on available looped routes with adequate right-of-way along the major arterial roadways of Redlands Boulevard, Theodore Street, and Alessandro Boulevard. Likewise, the industrial collector roadways provide access to locations nearest building front entrances. Due to building scale, bus stops may be spread out by grouped entrances or centralized gateway drive areas as compared to individual business entries.	The California Air Pollution Control Officer's Association (CAPCOA) report's reduction measure TRT-1 indicates a 5.2 percent reduction in commute vehicle miles traveled for low-density suburbs for inclusion of a commute trip reduction program. However, this reduction is not used in this analysis. In this Revised Sections of the FEIR, no reductions are taken for these measures in order to provide a conservative analysis.
	Mitigation Measure 4.3.6.4A: Class II bike lanes.	
	Mitigation Measure 4.3.6.4A: Participate in Riverside County's rideshare program	
	Mitigation Measure 4.3.6.4A: Lockers for employees.	
	Mitigation Measure 4.3.6.4A: Bicycle storage and changing rooms	
	Project Design Features: The project would have pedestrian circulation, sidewalks, and a multiuse trail.	
	Mitigation Measure 4.3.6.4A*:* Safe pedestrian connections	
	Mitigation Measure 4.3.6.4A: Parking for fuel-efficient vehicles	
On-road Vehicles: Long haul trucks	**Mitigation Measure 4.3.6.3B:** Require model year 2010 diesel trucks or later.	This was implemented by utilizing the emission factors for medium-heavy duty and heavy-heavy duty trucks from EMFAC2017 for year 2010 and after.
On-road Vehicles: all	*Pavley-I Regulation:* A clean-car standard to reduce greenhouse gas emissions from new passenger vehicles (light duty automobiles and medium duty vehicles) from 2009 through 2016. *Low Carbon Fuel Standard:* A fuel standard that requires a reduction of at least 10 percent in the carbon intensity of California's transportation fuels by 2020. *California Mobile Source Strategy:* This 2016 plan includes targets for zero emission vehicles (ZEVs) that exceed assumptions included in EMFAC2017. Project design includes supporting infrastructure to accommodate future EV populations consistent with targets in the Mobile Source Strategy.	EMFAC2017 provides emission factors for carbon dioxide that include these regulations. Therefore, both the unmitigated and mitigated emissions account for these regulations.

Table 4.7-6: Greenhouse Gas Emissions Reduction Analysis

Category	Operational Mitigation Measure or Project Design Feature[1]	Calculation Method and Reductions
Electricity and Natural Gas: Title 24	**Mitigation Measures 4.7.6.1B** and **4.7.6.1C** would reduce electricity related emissions. In addition, the project would be LEED certified for buildings and Mitigation Measure 4.7.6.1D would require buildings to exceed Title 24 (2019 version) by 10 percent or comply with the current version in place. Project design includes energy conservation measures that would enable the project to exceed 2019 Title 24 energy standards by lowering electrical demand with implementation of sustainability measures such as high efficiency appliances and skylights.	Reductions from exceeding the requirements of Title 24 (2019) were accounted for in calculations.
Electricity: Lighting	**Mitigation Measures 4.7.6.1C** (lighting efficiency) and **4.7.6.1D** (Title 24) would reduce electricity from lighting. Project design includes energy conservation measures that lower electrical demand with implementation of sustainability measures such as high efficiency lighting and motion sensors.	Reductions due to efficient lighting were accounted for in calculations.
Electricity: Solar	**Mitigation Measure 4.7.6.1D** requires that the project install solar panels. Project design includes on-site solar panel installation.	The estimated electricity generation from onsite solar is 24,083 MWh per year, which is 5.0 percent of the electricity demand at buildout. Therefore, 5.0 percent of the unmitigated electricity-related GHG emissions are reduced by solar generation.
Water	**Mitigation Measure 4.16.1.6.1A** would reduce outdoor water usage	CalEEMod mitigation for water-efficient irrigation systems (6.1% reduction, CalEEMod default)
	Mitigation Measure 4.16.1.6.1B would reduce interior water usage, including low flow fittings, fixtures and equipment.	CalEEMod mitigation for: - low-flow toilet (20% reduction in flow, CalEEMod default) - low flow bathroom faucet (32% reduction in flow, CalEEMod default) - low-flow kitchen faucet (18% reduction in flow, CalEEMod default) - low-flow shower (20% reduction in flow, CalEEMod default)
	Mitigation Measure 4.16.1.6.1C would allow reclaimed water to be used for irrigation.	No reductions are taken for the potential use of reclaimed water.
Waste	**Mitigation Measure 4.7.6.1A***:* Recycling and composting to divert construction and operational waste by at least 50 percent before 2020 and 75 percent thereafter.	The project would commit to reducing construction and operational waste by 50 percent prior to 2020 and 75 percent after; therefore, a 75 percent reduction is applied.
	Project Design Feature: Specific Plan (Section 5.1.6) requires that all development within the project provide enclosures or compactors for trash and recyclable materials.	

[1] Project design features are from the WLC Project Description and WLC Sustainable Energy Plan (WSP, 2018); mitigation measures are shown in Section 1.0, Table 1.B.
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report,* 2018

Table 4.7-7: GHG Reductions at Buildout (with Mitigation)

Source	GHG Emissions (mt CO_2e) at Buildout		
	Unmitigated	Reductions from Mitigation	With Reductions (Mitigated)
Capped Emissions			
Construction	7,391	0	7,391
Net Mobile	179,355	-557	178,798
Yard trucks	7,172	0	7,172
Generator	267	19	286
Forklifts	257	0	257
Electricity	34,147	-4,715	29,432
Water	2,548	-268	2,280
Natural gas	4,689	-4,689	0
Solar	0	-3,386	-3,386
Total Capped	**238,686**	**-13,596**	**222,230**
Uncapped Emissions			
Construction Refrigerants and Waste	166	-17	149
Waste	19,193	-14,395	4,798
Refrigerants	2,572	0	2,572
Land use change	1,154	0	1,154
Sequestration	-111	0	-111
Total Uncapped	**22,974**	**-14,412**	**8,562**
Threshold	**10,000**	**-**	**10,000**
Significant Impact?	**Yes**	**-**	**No**

Notes:
mt CO_2e = metric tons of carbon dioxide equivalents which is calculated from the emissions (tons/year) by multiplying by the individual global warming potential (carbon dioxide – 1, methane – 21, nitrous oxide – 310, hydrofluorocarbons – 1500, black carbon 760) and converted to metric tons by multiplying by 0.9072.
1 - Electricity and natural gas emissions estimates account for PDFs that improve energy efficiency and eliminate the use of building natural gas; includes electricity use by on-site EV chargers. Electricity-based emissions result in an increase due to the inclusion of EV charging stations and electric outlets for electrical property maintenance equipment.
2 - Construction would no longer occur at buildout; however, according to SCAQMD recommendations, construction emissions are included as amortized over 30 years.
Source: *ESA, 2019*

Table 4.7-8: Project GHG Emissions (Year by Year with Mitigation)

Source	GHG Mitigated Emissions (mt CO_2e/year)														
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Capped Emissions															
Construction	18,770	22,198	23,363	23,511	22,113	16,408	12,424	11,692	12,000	11,452	12,311	10,610	9,993	7,451	7,430
Net Mobile	0	20,982	41,248	60,829	79,602	96,308	102,643	112,971	123,218	132,710	141,787	150,466	158,748	166,632	174,108
Yard trucks	0	813	1,625	2,438	3,250	4,053	4,371	4,689	5,016	5,334	5,652	5,970	6,288	6,606	6,924
Generator	0	32	65	97	130	162	174	187	200	213	225	238	251	263	276
Forklifts	0	29	58	87	117	145	157	168	180	191	203	214	226	237	248
Electricity	0	5,487	10,505	16,725	22,319	32,535	36,088	36,779	36,207	35,461	35,096	34,716	34,056	33,116	31,366
Water	0	119	239	398	557	853	1,148	1,304	1,398	1,492	1,626	1,778	1,929	2,081	2,181
Natural gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solar	0	-179	-357	-595	-834	-1,276	-1,705	-1,931	-2,068	-2,204	-2,398	-2,618	-2,838	-3,059	-3,203
Total Capped	**18,770**	**49,483**	**76,746**	**103,490**	**127,254**	**149,188**	**155,300**	**165,860**	**176,151**	**184,649**	**194,501**	**201,374**	**208,653**	**213,328**	**219,330**
Uncapped Emissions															
Construction Refrigerants and Waste	192	192	192	192	190	85	124	127	124	124	124	124	124	124	101
Waste	0	544	1,087	1,631	2,175	2,712	2,924	3,137	3,356	3,569	3,781	3,994	4,207	4,419	4,632
Refrigerants	0	291	583	874	1,166	1,454	1,568	1,682	1,799	1,913	2,027	2,141	2,255	2,369	2,483
Land use change	0	131	262	392	523	652	704	755	807	858	910	961	1,012	1,063	1,114
Sequestration	0	-13	-25	-38	-50	-63	-68	-72	-77	-82	-87	-92	-97	-102	-107
Total Uncapped	**192**	**1,145**	**2,098**	**3,051**	**4,003**	**4,840**	**5,252**	**5,628**	**6,009**	**6,382**	**6,755**	**7,128**	**7,501**	**7,874**	**8,223**
Threshold	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Significant Impact?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Source	GHG Mitigated Emissions (mt CO_2e/year)														
	2035 (Buildout)	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049
Capped Emissions															
Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Net Mobile	178,798	178,798	178,798	178,798	178,798	178,798	178,798	178,798	178,798	178,798	178,798	178,798	178,798	178,798	178,798
Yard trucks	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172
Generator	286	286	267	267	267	267	267	267	267	267	267	267	267	267	267
Forklifts	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257
Electricity	29,432	26,712	23,744	20,776	17,808	14,840	11,872	8,904	5,936	2,968	0	0	0	0	0
Water	2,280	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	0	0	0	0	0
Natural gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solar	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386
Total Capped	**214,839**	**212,148**	**209,161**	**206,193**	**203,225**	**200,257**	**197,289**	**194,321**	**191,353**	**188,385**	**183,109**	**183,109**	**183,109**	**183,109**	**183,109**
Uncapped Emissions															
Construction Refrigerants and Waste	149	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waste	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798
Refrigerants	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572
Land use change	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154
Sequestration	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111
Total Uncapped	**8,563**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**
Threshold	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Significant Impact?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Source	GHG Mitigated Emissions (mt CO_2e/year)															
	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	Total (2020-2064)
Capped Emissions																
Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	221,727
Net Mobile	153,767	132,239	107,555	87,478	57,152	45,312	40,356	37,703	35,225	31,920	28,525	25,491	22,779	21,191	19,714	5,090,636
Yard trucks	6,168	5,304	4,314	3,509	2,293	1,818	1,619	1,512	1,413	1,280	1,144	1,022	914	850	791	204,561
Generator	230	198	161	131	85	68	60	56	53	48	43	38	34	32	29	7,821
Forklifts	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	6,122
Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	563,449
Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40,159
Natural gas	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Solar	-2,912	-2,505	-2,037	-1,657	-1,082	-858	-764	-714	-667	-605	-540	-483	-431	-401	-373	-92,091
Subtotal, capped	**157,252**	**135,237**	**109,993**	**89,461**	**58,448**	**46,339**	**41,270**	**38,557**	**36,023**	**32,644**	**29,172**	**26,068**	**23,295**	**21,671**	**20,161**	**6,042,384**
Uncapped Emissions																
Construction Refrigerants and Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,289
Waste	4,126	3,549	2,886	2,348	1,534	1,216	1,083	1,012	945	857	765	684	611	569	529	136,855
Refrigerants	2,212	1,902	1,547	1,258	822	652	580	542	507	459	410	367	328	305	284	73,356
Land use change	993	854	694	565	369	293	261	243	227	206	184	165	147	137	127	32,922
Sequestration	-95	-82	-67	-54	-35	-28	-25	-23	-22	-20	-18	-16	-14	-13	-12	-3,159
Subtotal, uncapped	**7,236**	**6,223**	**5,061**	**4,116**	**2,689**	**2,132**	**1,899**	**1,774**	**1,658**	**1,502**	**1,342**	**1,199**	**1,072**	**997**	**928**	**242,263**
Threshold	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	**450,000**
Significant Impact?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

mt CO_2e = metric tons of carbon dioxide equivalents, which is calculated from the emissions (tons/year) by multiplying by the individual global warming potential (carbon dioxide – 1, methane – 21, nitrous oxide – 310, hydrofluorocarbons – 1500, black carbon 760) and converted to metric tons by multiplying by 0.9072.

1 - Electricity and natural gas emissions estimates account for PDFs that improve energy efficiency and eliminate the use of building natural gas; includes electricity use by on-site EV chargers.

2 - Estimated construction emissions are included prior to buildout.

3 – 2036 is the first full year that the Project would be built out. Years from buildout until 2049 are conservatively estimated to be equivalent to buildout year emissions and exclude construction emissions since construction activity would cease after buildout. Years post-2049 take into account the phasing out of structures as they reach their presumed 30-year lifetime.

4 – Electricity emissions decrease to zero in 2045 after RPS has reached 100% renewable electricity

Source: *ESA, 2019*

Operational Emissions, Scoping Plan Scenario (Included for informational purposes only). The emissions presented under the Scoping Plan scenario (Table 4.7-10) assume successful implementation of the 2017 Scoping Plan Update, which included the Mobile Source Strategy in addition to the Pavley regulations, the Low Carbon Fuel Standard, and California's Advanced Clean Car program. The mobile emissions estimates for future years are based on emission factors that account for higher penetrations of electric vehicles (EVs) than assumed by EMFAC2017.

The Scoping Plan Scenario assumes that California's 2016 Mobile Source Strategy (MSS) would be implemented as a key strategy in the 2017 Scoping Plan Update for meeting the state's 2030 GHG target (presented in the Energy section as Vehicle Scenario B: Medium EV Penetration). The MSS has a target of 4.2 million zero emission vehicles (ZEVs) in operation statewide by 2030. As explained in the Energy Section, after 2025 the sales and penetration of ZEVs under the MSS start to exceed the numbers assumed by EMFAC2017. Table 4.7-9 shows that under the MSS approximately 5.2 percent of the passenger vehicle (LDA, LDT1, and LDT2) and light truck (MDV) fleet is expected to powered by electricity or other zero emission engines by 2025 in the South Coast AQMD region, compared to 2.5 percent of passenger vehicles and 1.6 percent of light trucks using EMFAC2017 assumptions. By 2035, 21 percent of passenger vehicles and 22.5 percent of light trucks are expected to be ZEVs in the South Coast AQMD region, compared to 4.7 percent of passenger vehicles and 3.9 percent of light trucks using EMFAC2017 assumptions.

Table 4.7-9: California and SCAQMD Electric Vehicle (EV) Penetration Estimates

		Passenger Vehicles			Light Trucks		
		Total	EVs	% EVs	Total	EVs	% EVs
South Coast Air Basin using EMFAC2017 Model	2020	9,125,366	103,722	1.1%	1,539,990	3,852	0.3%
	2025	10,034,980	252,889	2.5%	1,627,185	26,375	1.6%
	2030	10,907,401	417,413	3.8%	1,733,368	51,603	3.0%
	2035	11,642,018	546,208	4.7%	1,849,556	72,433	3.9%
South Coast Air Basin with Governor's order and MSS	2020	9,125,366	103,722	1.1%	1,539,990	3,852	0.3%
	2025	10,034,980	517,550	5.2%	1,627,185	83,921	5.2%
	2030	10,907,401	1,444,602	13.2%	1,733,368	229,571	13.2%
	2035	11,642,018	2,447,659	21.0%	1,849,556	416,980	22.5%

LDA, LDT1, and LDT2 = Passenger cars (EMFAC category)
MDV = Light Duty Trucks (EMFAC category)
Sources: CARB, 2017b - based on EMFAC2011 Categories, and EMFAC2017 Volume III - Technical Documentation

For informational purposes only, emissions associated with the Scoping Plan Scenario (the Medium EV Penetration scenario) are shown in Table 4.7-10.

Table 4.7-10: Project GHG Emissions (Year by Year with Mitigation and Medium EV Penetration) – Scoping Plan Scenario, For Informational Purposes Only

Source	GHG Mitigated Emissions (mt CO_2e/year)														
	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Capped Emissions															
Construction	18,770	22,198	23,363	23,511	22,113	16,408	12,424	11,692	12,000	11,452	12,311	10,610	9,993	7,451	7,430
Mobile	0	20,982	41,248	60,829	79,602	94,618	102,528	112,913	123,228	132,810	141,992	150,778	159,165	167,154	174,742
Yard trucks	0	813	1,625	2,438	3,250	4,053	4,371	4,689	5,016	5,334	5,652	5,970	6,288	6,606	6,924
Generator	0	32	65	97	130	162	174	187	200	213	225	238	251	263	276
Forklifts	0	29	58	87	117	145	157	168	180	191	203	214	226	237	248
Electricity	0	5,634	10,785	17,172	22,915	33,404	40,224	42,353	42,411	42,184	42,583	42,956	42,870	42,326	40,453
Water	0	119	239	398	557	853	1,148	1,304	1,398	1,492	1,626	1,778	1,929	2,081	2,181
Natural gas	0	0	0	0	0	0	0	0	0	1	1	1	1	1	1
Solar	0	-179	-357	-595	-834	-1,276	-1,705	-1,931	-2,068	-2,204	-2,398	-2,618	-2,838	-3,059	-3,203
Total Capped	**18,770**	**49,629**	**77,027**	**103,937**	**127,851**	**148,367**	**159,322**	**171,376**	**182,365**	**191,474**	**202,194**	**209,926**	**217,884**	**223,060**	**229,051**
Uncapped Emissions															
Construction Refrigerants and Waste	192	192	192	192	190	85	124	127	124	124	124	124	124	124	101
Waste	0	544	1,087	1,631	2,175	2,712	2,924	3,137	3,356	3,569	3,781	3,994	4,207	4,419	4,632
Refrigerants	0	291	583	874	1,166	1,454	1,568	1,682	1,799	1,913	2,027	2,141	2,255	2,369	2,483
Land use change	0	131	262	392	523	652	704	755	807	858	910	961	1,012	1,063	1,114
Sequestration	0	-13	-25	-38	-50	-63	-68	-72	-77	-82	-87	-92	-97	-102	-107
Total Uncapped	**192**	**1,145**	**2,098**	**3,051**	**4,003**	**4,840**	**5,252**	**5,628**	**6,009**	**6,382**	**6,755**	**7,128**	**7,501**	**7,874**	**8,223**
Threshold	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Significant Impact?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Source	GHG Mitigated Emissions (mt CO_2e/year)														
	2035 (Buildout)	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049
Capped Emissions															
Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mobile	172,356	172,356	172,356	172,356	172,356	172,356	172,356	172,356	172,356	172,356	172,356	172,356	172,356	172,356	172,356
Yard trucks	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172	7,172
Generator	286	286	286	286	286	286	286	286	286	286	286	286	286	286	286
Forklifts	257	257	257	257	257	257	257	257	257	257	257	257	257	257	257
Electricity	38,279	34,818	30,949	27,080	23,212	19,343	15,475	11,606	7,737	3,869	0	0	0	0	0
Water	2,280	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	2,308	0	0	0	0	0
Natural gas	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Solar	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386	-3,386
Total Capped	**217,245**	**213,812**	**209,943**	**206,075**	**202,206**	**198,337**	**194,469**	**190,600**	**186,731**	**182,863**	**176,686**	**176,686**	**176,686**	**176,686**	**176,686**
Uncapped Emissions															
Construction Refrigerants and Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Waste	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798	4,798
Refrigerants	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572	2,572
Land use change	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154	1,154
Sequestration	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111	-111
Total	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**	**8,414**
Threshold	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000
Significant Impact?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

Source	GHG Mitigated Emissions (mt CO_2e/year)															
	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	Total (2020-2064)
Capped Emissions																
Construction	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	221,727
Mobile	148,226	127,475	103,680	84,326	55,093	43,680	38,902	36,344	33,956	30,770	27,497	24,572	21,958	20,428	19,003	4,963,844
Yard trucks	6,168	5,304	4,314	3,509	2,293	1,818	1,619	1,512	1,413	1,280	1,144	1,022	914	850	791	204,561
Generator	246	211	172	140	91	72	65	60	56	51	46	41	36	34	32	8,152
Forklifts	221	190	155	126	82	65	58	54	51	46	41	37	33	30	28	7,340
Electricity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	680,637
Water	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40,159
Natural gas	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	20
Solar	-2,912	-2,505	-2,037	-1,657	-1,082	-858	-764	-714	-667	-605	-540	-483	-431	-401	-373	-92,091
Total Capped	**151,950**	**130,677**	**106,284**	**86,444**	**56,477**	**44,777**	**39,879**	**37,257**	**34,808**	**31,543**	**28,188**	**25,189**	**22,510**	**20,941**	**19,481**	**6,034,349**
Uncapped Emissions																
Construction Refrigerants and Waste	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2,140
Waste	4,126	3,549	2,886	2,348	1,534	1,216	1,083	1,012	945	857	765	684	611	569	529	136,855
Refrigerants	2,212	1,902	1,547	1,258	822	652	580	542	507	459	410	367	328	305	284	73,356
Land use change	993	854	694	565	369	293	261	243	227	206	184	165	147	137	127	32,922
Sequestration	-95	-82	-67	-54	-35	-28	-25	-23	-22	-20	-18	-16	-14	-13	-12	-3,159
Total Uncapped	**7,236**	**6,223**	**5,061**	**4,116**	**2,689**	**2,132**	**1,899**	**1,774**	**1,658**	**1,502**	**1,342**	**1,199**	**1,072**	**997**	**928**	**242,114**
Threshold	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	**450,000**
Significant Impact?	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No	No

mt CO_2e = metric tons of carbon dioxide equivalents, which is calculated from the emissions (tons/year) by multiplying by the individual global warming potential (carbon dioxide – 1, methane – 21, nitrous oxide – 310, hydrofluorocarbons – 1500, black carbon 760) and converted to metric tons by multiplying by 0.9072.
1 - Electricity and natural gas emissions estimates account for PDFs that improve energy efficiency and eliminate the use of building natural gas; includes electricity use by on-site EV chargers.
2 - Estimated construction emissions are included prior to buildout.
3 – 2035 is the first full year that the Project would be built out. Years from buildout until 2049 are conservatively estimated to be equivalent to buildout year emissions and exclude construction emissions since construction activity would cease after buildout. Years post-2049 take into account the phasing out of structures as they reach their presumed 30-year lifetime.
4 – Electricity emissions decrease to zero in 2045 after RPS has reached 100% renewable electricity
Source: *ESA, 2019*

4.7.6.2 Greenhouse Gas Plan, Policy, Regulation Consistency

Impact	Would the proposed project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

This impact assesses whether the project would conflict with any applicable plans, policies, or regulations, as discussed below.

Federal and State Reduction Strategies. Table 4.7-11 evaluates the consistency of the World Logistics Center project with the various Federal and State energy conservation strategies and other regulations related to GHG emissions.

Table 4.7-11: Project Compliance with Federal/State Greenhouse Gas Reduction Strategies

Strategy	Project Consistency
Mandatory Codes	
California Green Building Code. The Cal Green Code (Title 24, Part 11) prescribes a wide array of measures that would directly and indirectly result in reduction of GHG emissions from the Business as Usual Scenario (California Building Code). The mandatory measures that are applicable to nonresidential projects include site selection, energy efficiency, water efficiency, materials conservation and resource efficiency, and environmental quality measures.	**Consistent.** The project will be required to adhere to the non-residential mandatory measures as required by the Cal Green Code.
Energy Efficiency Measures	
Energy Efficiency. Maximize energy efficiency building and appliance standards, and pursue additional efficiency efforts including new technologies, and new policy and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California (including both investor-owned and publicly owned utilities).	**Consistent with Mitigation Incorporated.** The project will comply with current California Building Code (CBC) requirements for building construction. **Mitigation Measures 4.7.6.1B** and **4.7.6.1C** would increase energy efficiency. **Mitigation Measure 4.7.6.1D** would require that the project exceed Title 24 (2019 version) by 10 percent or comply with the current version. The WLC Project Design Features (explained in detail in Energy Section 4.17.5) go further by committing the project to energy conservation measures that will enable the project to exceed the more rigorous 2019 Title 24 requirements.
Renewables Portfolio Standard. Achieve a 50 percent renewable energy mix statewide by 2050. Qualifying renewable energy sources under the RPS include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.	**Not Applicable.** The project is not part of the State's power generation grid, but would install solar photovoltaic panels on project roofs pursuant to **Mitigation Measure 4.7.6.1D**. The solar PV would reduce the project's electricity related emissions by approximately 5.0 percent. In addition, Moreno Valley Electric Utility is subject to the Renewable Portfolio Standard.

Table 4.7-11: Project Compliance with Federal/State Greenhouse Gas Reduction Strategies

Strategy	Project Consistency
Water Conservation and Efficiency Measures	
Water Use Efficiency. Increasing the efficiency of water transport and reducing water use would reduce GHG emissions. The CalGreen Code, including the California Plumbing Code (Part 5), promotes water conservation. Title 20 and includes appliance and fixture efficiency standards that promote water conservation.	**Consistent with Mitigation Incorporated.** The project will be required to adhere to the non-residential mandatory measures as required by the Cal Green Code and the Specific Plan outlines a number of water conservation measures, and **Mitigation Measures 4.16.1.6.1A** through **4.16.1.6.1C** will help reduce potential water use even further.
Solid Waste Reduction Measures	
Increase Waste Diversion, Composting, and Commercial Recycling, and Move Toward Zero-Waste. AB 341 mandates commercial recycling and sets a goal that 75 percent of the state's solid waste generated be reduced, recycled, or composted by 2020. AB 1826 adds requirements regarding mandatory commercial organics recycling. SB 1383 requires methane emissions reduction from landfills and sets statewide disposal targets to reduce landfilling of organic waste by 50 percent from the 2014 level by 2020, and 75 percent from the 2014 level by 2025.	**Consistent with Mitigation Incorporated.** Data available from the California Integrated Waste Management Board (CIWMB) indicate that the City of Moreno Valley has not achieved the 50 percent diversion rate. The project will comply with **Mitigation Measure 4.7.6.1A** to help increase solid waste diversion, composting, and recycling. The measure would also require 50 percent diversion of construction waste prior to 2020 and 75 percent diversion starting in 2020.
Transportation and Motor Vehicle Measures	
Pavley Regulations and Vehicle Fuel Efficiency Standards. AB 1493 (Pavley) and the Advanced Clean Car (ACC) program require the State to develop and adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from passenger vehicles and light-duty trucks. Regulations were adopted by the CARB in September 2004 and expanded with the ACC program in 2012.	**Consistent.** The project does not involve the manufacture of vehicles or production of vehicle fuels. However, vehicles that are purchased and used within the project site would comply with any vehicle and fuel standards that the CARB adopts or has adopted. In addition, the project would require that all diesel trucks be 2010 or newer (**Mitigation Measure 4.3.6.3B**) and would be built to support the charging of future electric-powered vehicles anticipated by the Mobile Source Strategy. The Project design also includes supporting infrastructure to accommodate future EV populations consistent with targets in the Mobile Source Strategy.
Light-Duty Vehicle Efficiency Measures. Implement additional measures that could reduce light-duty vehicle GHG emissions. For example, measures to ensure that tires are properly inflated can both reduce GHG emissions and improve fuel efficiency.	
Heavy- and Medium-Duty Fuel and Engine Efficiency Measures. Regulations to require retrofits to improve the fuel efficiency of heavy-duty trucks that could include devices that reduce aerodynamic drag and rolling resistance. This measure could also include hybridization of and increased engine efficiency of vehicles.	
Mobile Source Strategy. This 2016 plan includes a target of 4.2 million zero emission vehicles (ZEVs) by 2030, and GHG reductions from medium-duty and heavy-duty vehicles, and transit. It also includes reductions in GHGs from medium-duty and heavy-duty vehicles via the Phase 2 Medium and Heavy-Duty GHG Standards.	

Table 4.7-11: Project Compliance with Federal/State Greenhouse Gas Reduction Strategies

Strategy	Project Consistency
Low Carbon Fuel Standard. The CARB identified this measure as a Discrete Early Action Measure in the 2008 Scoping Plan. As included in the Mobile Source Strategy, this measure would reduce the carbon intensity of California's transportation fuels by at least 18 percent by 2030.	
Sustainable Freight Action Plan. The 2016 plan directs the State to establish targets to improve freight efficiency, transition to zero emission technologies, and increase the competitiveness of California's freight transport system.	
Regional Transportation-Related GHG Targets. Develop regional GHG emissions reduction targets for passenger vehicles, as required by SB 375. Local governments will play a significant role in the regional planning process to reach passenger vehicle GHG emissions reduction targets. Local governments have the ability to directly influence both the siting and design of new residential and commercial developments in a way that reduces GHGs associated with vehicle travel.	**Not Applicable.** Specific regional emission targets for transportation emissions do not directly apply to the WLC project; regional GHG reduction target development is outside the scope of this project. The project will comply with any plans developed by the City of Moreno Valley.
Measures to Reduce High Global Warming Potential (GWP) Gases.	
Short-Lived Climate Pollutant Strategy. SB 1383 (2016) requires the CARB to approve and implement Short-Lived Climate Pollutant strategy to reduce high GWP GHGs to achieve a statewide reduction in methane by 40%, hydrofluorocarbon gases by 40%, and anthropogenic black carbon by 50% below 2013 levels by 2030.	**Not Applicable.** New products used or serviced on the WLC project site (after implementation of the reduction of GHG gases) would comply with future CARB rules and regulations, as would vehicles (with their refrigerants used in air conditioning systems) visiting the site.

AB = Assembly Bill CARB = California Air Resources Board
GHG = greenhouse gas
Source: based on analysis in the *Air Quality, Greenhouse Gas, and Health Risk Assessment Report,* 2018

With implementation of applicable strategies/measures, project design features, and mitigation measures, the project's contribution to cumulative GHG emissions would be reduced. In order to ensure that the World Logistics Center project complies with and would not conflict with or impede the implementation of reduction goals identified in AB 32 and SB 32, the Mitigation Measures and Project design Features listed in the above table shall be implemented.

The project will comply with existing State and Federal regulations regarding the energy efficiency of buildings, appliances, and lighting. The warehouse buildings will be built in compliance with the California Building Code to improve public health, safety, and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices. In addition, **Mitigation Measure 4.7.6.1D** requires that the project will exceed the Title 24 energy conservation standards (2019 version) by 10 percent or comply with the current version, while the WLC Project Design Features go even further by committing the project to energy conservation measures that will enable the project to exceed the more rigorous 2019 Title 24 requirements.

CARB Scoping Plan. AB 32 focuses on reducing GHG emissions to 1990 levels by the year 2020, while SB 32 has a target of 40 percent below 1990 levels by 2030. Pursuant to the requirements in AB 32, the CARB adopted the Climate Change Scoping Plan (Scoping Plan) in 2008, which

contains a variety of strategies to reduce the State's emissions. The First Update to the Scoping Plan was approved in 2014 and the Second Update was approved in 2017 following the passage of SB 32. The 2017 Scoping Plan Update incorporates all of the state's GHG reduction strategies included in Table 4.7-11. Table 4.7-12 considers the strategies in 2017 Scoping Plan Update that are not included in Table 4.7-11, indicating that all are either consistent with or not applicable to the project; therefore, the project does not conflict with the Scoping Plan.

Table 4.7-12: Analysis of Additional Measures in the 2017 Scoping Plan Update

Scoping Plan Reduction Measure	Consistency Analysis
16. **Carbon Sequestration in Natural and Working Lands**. Natural and working lands – including forests and agricultural lands – are a key sector in the State's climate change strategy. Storing carbon in trees, other vegetation, soils, and aquatic sediment is an effective way to remove carbon dioxide from the atmosphere. The 2017 Scoping Plan Update describes policies and programs that prioritize protection and enhancement of California's landscapes, and commits the State to finalizing a carbon sequestration and GHG emissions reduction goal for natural and working lands by September 2018	**Not Applicable.** No forested lands exist on site. As reported in the Agriculture and Forestry Resources section 4.2.1, approximately 2,200 acres of the 2,610-acre Specific Plan area is currently dry farmed, mainly with winter wheat. However, the state's Natural and Working Lands Climate Change Implementation Plan has not been adopted, and there is no protection currently in place to preserve the site for agriculture. Further, as described in the Agriculture and Forestry Resources section, the conversion of the existing agricultural lands to urban uses is supported by the City's General Plan policies, and the entire project site and adjacent lands have been designated for urban uses for nearly 20 years by the City. The Agriculture and Forestry Resources section concludes that project implementation will result in less than significant impacts to conversion of Farmland of Local Importance.

Source: CARB, 2017e

City General Plan Policies. The project must also be evaluated against the City's General Plan policies that relate to greenhouse gas emissions, as shown in Table 4.7-13. This analysis shows that the project is consistent with the applicable General Plan objectives and policies, or the particular objective or policy is not applicable to the proposed WLC project.

Table 4.7-13: Consistency with City General Plan Air Quality Policies

Objective or Policy	Project Consistency
Objective 6.6. Promote land use patterns that reduce daily automotive trips and reduce trip distance for work, shopping, school, and recreation.	**Consistent.** The project is providing employment opportunities to Moreno Valley and the surrounding area.
Policy 6.6.1. Provide sites for new neighborhood commercial facilities within close proximity to the residential areas they serve.	**Not Applicable.** The project does not propose the development of neighborhood commercial facilities or residential dwellings.
Policy 6.6.2. Provide multifamily residential development sites in close proximity to neighborhood commercial centers in order to encourage pedestrian instead of vehicular travel.	**Not Applicable.** The project is industrial and does not propose the development of residential uses.
Policy 6.6.3. Locate neighborhood parks in close proximity to the appropriate concentration of residents in order to encourage pedestrian and bicycle travel to local recreation areas.	**Not Applicable.** The project is industrial and does not propose the development of residential uses.

Table 4.7-13: Consistency with City General Plan Air Quality Policies

Objective or Policy	Project Consistency
Objective 6.7. Reduce mobile and stationary source air pollutant emissions.	**Consistent.** The project would be implementing feasible Mitigation Measures to reduce mobile and stationary emissions (**Mitigation Measures 4.3.6.3B, 4.3.6.3C, 4.3.6.3D,** and **4.3.6.4A**).
Policy 6.7.1. Cooperate with regional efforts to establish and implement regional air quality strategies and tactics.	**Not Applicable.** This measure is beyond the scope of the project; the City will continue to work with the SCAQMD in regional planning efforts.
Policy 6.7.2. Encourage the financing and construction of park-and-ride facilities.	**Not Applicable.** The project consists of industrial uses; a park and ride on the project would not be feasible.
Policy 6.7.3. Encourage express transit service from Moreno Valley to the greater metropolitan areas of Riverside, San Bernardino, Orange and Los Angeles Counties.	**Not Applicable.** No express mass transit facilities are designated on the project site or planned on the project site; therefore, this measure is beyond the scope of the project.
Policy 6.7.6. Require building construction to comply with the energy conservation requirements of Title 24 of the California Administrative Code.	**Consistent.** The project will comply with Title 24 requirements.

Policies 6.7.4 and 6.7.5 are discussed in the air quality EIR section, Section 4.3).
Source of objectives and policies: Moreno Valley General Plan (2006).

City Climate Action Strategy. Finally, Table 4.7-14 evaluates the consistency of the World Logistics Center project with the policies of the City's Climate Action Strategy approved in October 2012. As shown below, the project is consistent with the requirements of the Strategy for non-residential development with implementation of project design features and mitigation measures.

Table 4.7-14: Consistency with City Climate Action Strategy

Strategy Items	Project Consistency
R2-T1: Land Use Based Trips and VMT Reduction Policies. Encourage the development of Transit Priority Projects along High Quality Transit Corridors identified in the SCAG Sustainable Communities Plan, to allow a reduction in vehicle miles traveled.	**Not Applicable.** A Transit Priority Project is one that has at least 50 percent residential use based on area, at least 20 units per acre and is within a ½ mile of a major transit stop or High Quality Transit Corridor. A High Quality Transit Corridor is defined as one with 15-minute frequencies during peak commute hours. The project does not include a residential component and is not along a High Quality Transit Corridor nor are there any High Quality Transit Corridors or major transit stops in the vicinity of the project area. As a result, the strategy is not applicable.
R2-T3: Employment-Based Trip Reductions. Require a Transportation Demand Management (TDM) program for new development to reduce automobile travel by encouraging ride-sharing, carpooling, and alternative modes of transportation.	**Consistent** with implementation of **Mitigation Measure 4.3.6.4A.**
R2-E1: New Construction Residential Energy Efficiency Requirements. Require energy efficient design for all new residential buildings to be 10 percent beyond the current Title 24 standards.	**Not Applicable.** This measure applies to residential projects.

Table 4.7-14: Consistency with City Climate Action Strategy

Strategy Items	Project Consistency
R2-E2: New Construction Residential Renewable Energy. Facilitate the use of renewable energy (such as solar (photovoltaic) panels or small wind turbines) for new residential developments. Alternative approach would be the purchase of renewable energy resources offsite.	**Not Applicable.** This measure applies to residential projects.
R2-E5: New Construction Commercial Energy Efficiency Requirements. Require energy efficient design for all new commercial buildings to be 10% beyond the current Title 24 standards.	**Consistent** with **Mitigation Measure 4.7.6.1D.**
R3-E1: Energy Efficient Development, and Renewable Energy Deployment Facilitation and Streamlining. Updating of codes and zoning requirements and guidelines to further implement green building practices. This could include incentives for energy efficient projects.	**Not Applicable.** This refers to updating building and zoning codes and does not apply to this warehousing development plan.
R3-L2: Heat Island Plan. Develop measures that address "heat islands." Potential measures include using strategically placed shade trees, using paving materials with a Solar Reflective Index of at least 29, an open grid pavement system, or covered parking.	**Consistent.** The Specific Plan indicates that vehicle parking areas are to be landscaped to provide a shade canopy (50 percent coverage at maturity).
R2-W1: Water Use Reduction Initiative. Consider adopting a per capita water use reduction goal which mandates the reduction of water use of 20 percent per capita with requirements applicable to new development and with cooperative support of the water agencies.	**Consistent.** California Green Building Standards Code, Chapter 5, Division 5.3, Section 5.303.2 requires that indoor water use be reduced by 20 percent. Section 5.304.3 requires irrigation controllers and sensors. The Specific Plan also contains a variety of water conservation features. **Mitigation Measures 4.16.1.6.1A, B,** and **C** also provide water reduction measures.
R3-W1: Water Efficiency Training and Education. Work with EMWD and local water companies to implement a public information and education program that promotes water conservation.	**Consistent.** Tenants and owners within the WLC site will provide water conservation information from EMWD and other sources to workers on a regular basis.
R2-S1: City Diversion Program. For Solid Waste, consider a target of increasing the waste diverted from the landfill to a total of 75 percent by 2020.	**Consistent.** The project would incorporate standard City waste reduction features and **Mitigation Measure 4.7.6.1A** (has a target to reduce waste by 75 percent by 2020).
C11: Require that developer recycle existing street material for use as base for new streets.	**Consistent.** Project will implement **Mitigation Measure 4.7.6.1A** where feasible.

Executive Order S-3-05. As discussed in Section 4.7.4, the SCAQMD developed its thresholds based on consistency with California Executive Order S-3-05. As shown in Impact 4.7.6.1, the project's GHG emissions would ~~not~~ exceed the SCAQMD's industrial threshold. However, with mitigation implemented, the Project would be reduced to levels less than 10,000 $MTCO_2e$ and, therefore, the project would not conflict with Executive Order S-3-05. This impact is less than significant with mitigation.

Specific Plan Design Features. The WLCSP contains a sustainability section that emphasizes water and energy conservation throughout the project design, which in turn will help reduce GHG emissions (Section 1.3.2, Green Building-Sustainable Development). The revised WLC Project Design Features (described in detail in Energy Section 4.17.5) go beyond the WLSCP with energy conservation measures that exceed minimal compliance with current (2019) Title 24 requirements by about 17 percent at Phase 1 and 16 percent and full buildout.

Mitigation Measures. Implementation of previously referenced Mitigation Measures 4.3.6.3B, 4.3.6.4A, 4.3.6.3C, 4.3.6.3D, 4.7.6.1A, 4.16.1.6.1A, 4.16.1.6.1B, 4.16.1.6.1C, 4.16.4.6.1A, 4.16.4.6.1B, and 4.16.4.6.1C will help reduce project-related GHG emissions and therefore make it more consistent with GHG reduction plans, policies, and/or regulations.

As previously identified, implementation of the WLC project could result in the development of an approximately 40.6 million square foot high cube-logistics distribution logistics. The project includes a variety of physical attributes and operational programs that would help reduce operational-source pollutant emissions from worker commuting, including GHG emissions. Future development that would occur under the project would be consistent with greenhouse gas emission reduction strategies and policies, including the City's Climate Change Strategy. The project would implement the Mitigation Measures listed above to reduce its contribution to GHG emissions and to ensure it does not conflict with or impede implementation of reduction goals identified in AB 32, SB 32, Governor's Executive Order S-3-05, and other strategies to help reduce GHGs to the level proposed by the Governor. In addition, the project would also be subject to all applicable regulatory requirements, which would also reduce the GHG emissions of the project. Therefore, the project would not conflict with any applicable plan, program, policy, or regulation related to the reduction of GHG emissions. Impacts are considered less than significant.

Similar to the discussion of cumulative air quality impacts, the project may employ workers locally from the City. This has the benefit of improving the local jobs/housing balance leading to air quality benefits in terms of shorter trip lengths, which lead to lower emissions than if the workforce was derived from distant locations.

The State of California has adopted a number of policies, including AB 32, SB 32, Governor's Executive Order S-3-05, the Pavley vehicle standards, the Advanced Clean Car program, and the Mobile Source Strategy, which collectively provide the structure and commitment to address California's contribution to global climate change. Since the project is consistent with these policies, including being below the SCAQMD threshold for greenhouse gases that was structured in accordance with these State policies, the project is consistent with greenhouse gas plans, policies, and regulations and impacts are less than significant after mitigation.

Level of Impact After Mitigation. Less than significant.

Mitigation Measures. Implementation of previously referenced Mitigation Measures 4.3.6.3B, 4.3.6.4A, 4.3.6.3C, 4.3.6.3D, 4.7.6.1A, 4.16.1.6.1A, 4.16.1.6.1B, 4.16.1.6.1C, 4.16.4.6.1A, 4.16.4.6.1B, and 4.16.4.6.1C will help reduce project-related GHG emissions and therefore make it more consistent with GHG reduction plans, policies, and/or regulations.

As previously identified, implementation of the WLC project could result in the development of an approximately 40.6 million square foot high cube-logistics distribution logistics. The project includes a variety of physical attributes and operational programs that would help reduce operational-source pollutant emissions from worker commuting, including GHG emissions. Future development that would occur under the project would be consistent with greenhouse gas emission reduction strategies and policies, including the City's Climate Change Strategy. The project would implement the Mitigation Measures listed above to reduce its contribution to GHG emissions and to ensure it does not conflict with or impede implementation of reduction goals identified in AB 32, SB 32, Governor's Executive Order S-3-05, and other strategies to help reduce GHGs to the level proposed by the Governor. In addition, the project would also be subject to all applicable regulatory requirements, which would also reduce the GHG emissions of the project. Therefore, the project would not conflict with any applicable plan, program, policy, or regulation related to the reduction of GHG emissions. Impacts are considered less than significant.

Similar to the discussion of cumulative air quality impacts, the project may employ workers locally from the City. This has the benefit of improving the local jobs/housing balance leading to air quality benefits in terms of shorter trip lengths, which lead to lower emissions than if the workforce was derived from distant locations.

The State of California has adopted a number of policies, including AB 32, SB 32, Governor's Executive Order S-3-05, the Pavley vehicle standards, the Advanced Clean Car program, and the Mobile Source Strategy, which collectively provide the structure and commitment to address California's contribution to global climate change. Since the project is consistent with these policies, including being below the SCAQMD threshold for greenhouse gases that was structured in accordance with these State policies, the project is consistent with greenhouse gas plans, policies, and regulations and impacts are less than significant after mitigation.

Level of Impact After Mitigation. Less than significant.

NOTE TO READERS: Section 4.17, below, of this Draft Recirculated Sections of the FEIR replaces Section 4.17 of the Revised Sections of the FEIR, circulated in July 2018 ("RSFEIR"). Section 4.17 replaces the energy discussion in Section 4.16.4, *Energy Consumption,* of the FEIR prepared in 2015.

4.17 ENERGY

Pursuant to Appendix F of the CEQA Guidelines, this section discusses the energy requirements of the WLC project and addresses the court's ruling that *"the FEIR must provide a comparison of feasible, cost-effective renewable energy technologies in the Energy Impacts analysis."* This section discusses existing regulations pertaining to energy and provides an analysis of energy use associated with the project, with an emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. This analysis examines the short-term construction and long-term operational impacts and evaluates the effectiveness of Energy Conservation Measures (ECMs) incorporated as part of the project design. It also evaluates prospective renewable energy supply technologies, their feasibility within the project and an evaluation of which supply technology option provides the best renewable energy supply strategy.

The project will incorporate Project Design Features (PDFs) and ECMs that minimize energy consumption and are expected to deliver energy performance that exceeds the current minimum Title 24 requirements by approximately 17 percent at Phase 1 and 16 percent at full buildout. The project will be designed to eliminate the need for natural gas in building systems, positioning the WLC to become an all-electric development with the future potential to operate 100% on renewable electricity.

Pursuant to the World Logistics Center Specific Plan (WLCSP), WLC buildings will include rooftop solar photovoltaic (PV) systems sized, at minimum, to offset the power demands of office space contained in the building. In addition, the project will provide on-site rooftop solar generating capacity up to the maximum level currently permitted by Moreno Valley Electric Utility (MVU), which is currently defined as one-half the minimum electric demand a building experiences during daytime hours. As described herein, this would be more than sufficient to satisfy 100% of the office energy needs. In anticipation of increased electricity loads in the future that could result from a growing electric vehicle fleet, the project will provide solar ready roofs that could accommodate expanded rooftop solar installations in the future.

This section analyzes the project's potential energy impacts based on the following technical studies:

- *Air Quality, Greenhouse Gas, and Health Risk Assessment Report (Environmental Science Associates, dated November 2019) contained in Appendix A.1 of this Draft Recirculated Revised Sections of the FEIR.*
- W*orld Logistics Center (WLC) Transportation Energy Technical Study (*Environmental Science Associates and CALSTART, dated November 2019) contained in Appendix E.1 of this Draft Recirculated Revised Sections of the FEIR.
- *World Logistics Center (WLC) Comparison of Renewable Energy Technologies Report (WSP USA, Inc., dated* May 24, 2018) contained in Appendix E.2 of the Revised Sections of the FEIR.

4.17.1 Existing Setting

4.17.1.1 Existing Site Energy Use

The existing project Site is largely vacant with a few residences and scattered dry farming that generates minimal demand for electricity, natural gas, and transportation fuels. With implementation of the project, these uses would largely cease and be replaced. For the purposes of this analysis, a "zero demand" baseline was assumed; thus, the net change from baseline calculated for these analyses are conservative, representing a hypothetical "worst case."

4.17.1.2 Existing Electricity Supply and Transmission

Southern California Edison (SCE) currently has two existing 115 kilovolt (kV) overhead power transmission lines within the WLC site limits. One is located along Gilman Springs Road from the south to Eucalyptus Avenue, then east on Eucalyptus Avenue to World Logistics Center Parkway and then north on World Logistics Center Parkway across SR-60. The second 115 kV transmission line is located along Brodiaea Avenue from the west to Davis Road then southeast into the San Jacinto Wildlife Area. In the project area, SCE also maintains 12 kV overhead distribution lines along Redlands Boulevard, World Logistics Center Parkway, and Alessandro Boulevard just west of the project site.

The WLC project would be supplied electricity by Moreno Valley Electric Utility (MVEU). MVEU currently has an existing electrical substation west of the project area at the southwest corner of Moreno Beach Drive and Cottonwood Avenue. This substation currently has a capacity to distribute 28 megawatts (MW) of electricity based on two existing 28 MW units (i.e., if one unit goes off, the other unit still maintains capacity to handle the demand). Ultimate capacity of this substation is 84 MW based on four 28 MW units. The current peak load for this substation is 22 to 26 MW; therefore, there is an existing 2 to 6 MW surplus capacity available. MVEU has underground 12 kV distribution lines along Cottonwood Avenue from the west to Redlands Boulevard, then north along Redlands Boulevard to Fir Street (now Eucalyptus Avenue), and then east along Eucalyptus Avenue to World Logistics Center Parkway. The existing underground conduit underlying Eucalyptus Avenue currently serves the existing Skechers warehouse, office, and factory store. It should be noted that the MVEU indicated these assumptions are valid at this time, but could change if other development occurs before the project.

4.17.1.3 Existing Natural Gas Supply and Transmission

The WLC project would be supplied natural gas by the Southern California Gas Company (SCGC). SCGC currently maintain a 4-inch medium-pressure service line underlying Redlands Boulevard that runs from SR-60 on the north to Cactus Avenue on the south and then runs west along Cactus Avenue with a stub-out to the north at Merwin Street. SCGC has low-pressure facilities that serve the residential areas located west of Redlands Boulevard and southwest of Merwin Street and Bay Avenue.

Throughout the WLC site, there are existing high-pressure natural gas transmission mains ranging in diameters of 16 inches up to 36 inches. SCGC currently maintains two 30-inch diameter transmission pipelines traversing the project site that run in an east-west direction and are located north and south of Alessandro Boulevard. There are also three transmission pipelines (a 16-inch, 30-inch, and 36-inch diameters) that run in a north-south direction along Virginia Street, south of Alessandro Boulevard. The 36-inch diameter pipeline also runs east from Virginia Street parallel with the 30-inch pipeline that runs south of Alessandro Boulevard.

Within the WLC site, SCGC maintains a gas line blow-down facility and flow metering station at Alessandro Boulevard and Virginia Street. Further south on Virginia Street, the San Diego Gas and Electric Company (SDG&E) maintains a natural gas compression station, known as the Moreno Compressor Station, which supplies gas to San Diego via 16-inch, 30-inch, and 36-inch transmission pipelines that continue to the south. SCGC has a gas transmission regulator station located at the southeast corner of Gilman Springs Road and Laurene Lane east of the WLC project site.

Questar currently maintains a 16-inch gas transmission pipeline that underlies Alessandro Boulevard from Gilman Springs Road to World Logistics Center Parkway, where it heads south to the Maltby Avenue alignment and then heads west toward Redlands Boulevard.

4.17.1.4 Existing Regional Electricity Demand

The MVU is the primary utility provider for the residences and businesses of Moreno Valley and is the utility provider to the WLC project. Southern California Edison does provide electrical service to a portion of the City and has existing facilities running through the project. The annual electricity sale to

all customers in the MVU service area for the 2017-2018 fiscal year was approximately 188 million kilowatt hours (kWh).[1]

4.17.1.5 Existing Regional Natural Gas Demand

Southern California Gas Company (SoCalGas) is responsible for providing natural gas to 21.6 million consumers through 5.9 million meters in more than 500 communities throughout Central and Southern California and is regulated by the California Public Utilities Commission and other state agencies.[2] The annual natural gas sale to customers in 2017 was approximately 992 trillion British thermal units (Btu).[3] The consumption of natural gas by residences and businesses exclusively within Moreno Valley is not known.

4.17.1.4 Existing Regional Transportation Energy Demand

According to the California Energy Commission (CEC), transportation accounts for nearly 37 percent of California's total energy consumption.[4] Based on available fuel consumption data from the CEC, in 2016, Riverside County consumed a total of 1,052,000,000 gallons of gasoline for transportation.[5] California consumed a total of 275,000,000 gallons of diesel fuel for transportation.[6] Transportation fuels, primarily gasoline and diesel, are provided by local or regional suppliers and vendors.

According to the California Air Resources Board (CARB) on-road vehicle emissions factor (EMFAC2017) model, the average fuel economy for the fleet-wide mix of vehicles operating in the South Coast Air Basin region is approximately 24.6 miles per gallon for gasoline-fueled vehicles and approximately 9.7 miles per gallon for diesel-fueled vehicles. Gasoline-fueled vehicles account for approximately 95 percent of the total vehicles and diesel-fueled vehicles account for approximately 4 percent of the total vehicles.[7] Electric vehicles account for approximately 1 percent of the total vehicle registration in California.

4.17.2 Regulatory Setting

4.17.2.1 Federal

Energy Policy Act of 1992. The Energy Policy Act (EPAct) of 1992 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 governments and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives are also included in EPAct. Federal tax deductions will be allowed for businesses and

1 City of Moreno Valley, Moreno Valley Utility, 2018 Integrated Resource Plan, 2018 http://www.moval.org/mvu/pubs/MVU-IRP-Report-072018.pdfAccessed September 2019.
2 Southern California Gas Company, https://www.socalgas.com/about-us/company-profile Accessed April 2018.
3 California Gas and Electric Utilities, 2018 California Gas Report, (2018). Available at: https://www.socalgas.com/regulatory/documents/cgr/2018_California_Gas_Report.pdf Accessed September 2019. Converted from 958 billion cubic feet and a conversion factor of 1,035 Btu per cubic foot based on USEIA data (see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed, April 28, 2017. Available: https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPG0_VGTH_btucf_a.htm. Accessed September 2019).
4 California Energy Commission, 2015 Integrated Energy Policy Report, CEC-100-2015-001-CMF, 2016, page 153, http://www.energy.ca.gov/2015_energypolicy. Accessed April 2018.
5 California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2018. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.htmlAccessed September 2019.
6 California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2018. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.htmlAccessed September 2019. Diesel is adjusted to account for retail (52%) and non-retail (48%) diesel sales.
7 Based on the California Air Resources Board on-road vehicle emissions model, EMFAC2017 (Modeling input: South Coast Area Air Basin; LDA, LDT1, LDT2; Annual; 2020). The modeling input values are considered generally representative of project buildout conditions for the region and representative of the majority of vehicles associated with project-related vehicle miles traveled (VMT).

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 includes provisions 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 clean renewable energy and rural community electrification; and establishes a Federal purchase requirement for renewable energy.

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the Environmental Protection Agency (EPA) and the Department of Transportation's Highway Traffic and Safety Administration (NHTSA) announced a joint final rule establishing a national program that would reduce greenhouse gas emissions (GHG) emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program applied to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The vehicles had to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards were designed to cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012–2016). In August 2012, standards were adopted for model year 2017 through 2025 for passenger cars and light-duty trucks. By 2025, vehicles are required to achieve 54.5 mpg (if GHG reductions are achieved exclusively through fuel economy improvements) and 163 grams of CO2 per mile. According to the EPA, a model year 2025 vehicle would emit one-half of the GHG emissions from a model year 2010 vehicle.[8]

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce GHG emissions and improve fuel efficiency of heavy-duty trucks and buses. For combination tractors, the agencies proposed engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies proposed separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and up to a 15 percent reduction for diesel vehicles by 2018 model year (12% and 17% respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles (includes other vehicles like buses, refuse trucks, concrete mixers; everything except for combination tractors and heavy-duty pickups and vans), the agencies proposed engine and vehicle standards starting in the 2014 model year, which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by the 2018 model year. Building on the success of the standards, the EPA and U.S. Department of Transportation jointly finalized additional standards for medium- and heavy-duty vehicles through model year 2027 that will improve fuel efficiency and cut carbon pollution.

4.17.2.2 State

California Code of Regulations Title 24, Part 6. The California Energy Code (Title 24, Section 6) was created as part of the California Building Standards Code (Title 24 of the California Code of Regulations) by the California Building Standards Commission in 1978 to establish statewide building energy efficiency standards to reduce California's energy consumption. These standards include provisions applicable to all buildings, residential and nonresidential, which describe requirements for documentation and certificates that the building meets the standards. These provisions include

[8] United States Environmental Protection Agency, EPA and NHTSA Set Standards to Reduce Greenhouse Gases and Improve Fuel Economy for Model Years 2017-2025 Cars and Light Trucks, (August 2012). Available at: http://www.epa.gov/oms/climate/documents/420f12051.pdf. Accessed April 2018.

mandatory requirements for efficiency and design of energy systems, including space conditioning (cooling and heating), water heating, and indoor and outdoor lighting systems and equipment, and appliances. California's Building Energy Efficiency Standards are updated on an approximately three-year cycle as technology and methods have evolved. The 2016 Standards, effective January 1, 2017, focus on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings, and include requirements that will enable both demand reductions during critical peak periods and future solar electric and thermal system installations. The next code (2019) update takes effect on January 1, 2020 and focuses on integrating solar photovoltaic (PV) and other renewables with energy storage, taking Title 24 another step closer toward the state's zero net energy (ZNE) goals as spelled out in the California Energy Efficiency Strategic Plan (CEC, 2011), calling for all new residential construction to be ZNE by 2020 and all new commercial construction to be ZNE by 2030.

California Code of Regulations Title 24, Part 11. The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development in 2008. CALGreen standards require new residential and commercial buildings to comply with mandatory measures under five topical areas: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. CALGreen also provides voluntary tiers and measures that local governments may adopt which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code went into effect January 1, 2017.

2016 Title 24, Part 11 includes construction requirements for non-residential projects that are designed to facilitate installation of future electric vehicle supply equipment (EVSE) to support electric vehicle (EV) charging. Under section 5.106.5.3, construction plans and specifications for large (projects with more than 200 total parking spaces) must include raceways for future EVSE at a minimum of 6 percent of the total parking spaces.

Renewable Electricity Standards. There have been several renewable electricity senate bills in California. On September 12, 2002, Governor Gray Davis signed SB 1078 requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewables Portfolio Standard (RPS) target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the CARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020. The CARB approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23. Senate Bill X1-2 (2011) codifies the Renewable Electricity Standard into law.

Senate Bill 100

On September 10, 2018, Governor Brown signed SB 100, establishing that 100 percent of all electricity in California must be obtained from renewable and zero-carbon energy resources by December 31, 2045. SB 100 also creates new standards for the RPS, increasing required energy from renewable sources for both investor-owned utilities and publicly owned utilities from 50 percent to 60 percent by December 31, 2030. Incrementally, these energy providers must also have a renewable energy supply of 44 percent by December 31, 2024, and 52 percent by December 31, 2027. The updated RPS goals are considered achievable, since many California energy providers are already meeting or exceeding the RPS goals established by SB 350.

Senate Bill 350: The Clean Energy and Pollution Reduction Act of 2015 (Chapter 547, Statutes of 2015) was approved by Governor Brown on October 7, 2015. SB 350 (1) increases the standards of the California RPS program by requiring that the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources be increased to 50 percent by December

31, 2030; (2) requires the State Energy Resources Conservation and Development Commission to establish annual targets for statewide energy efficiency savings and demand reduction that will achieve a cumulative doubling of statewide energy efficiency savings in electricity and natural gas final end uses of retail customers by January 1, 2030; (3) provides for the evolution of the Independent System Operator (ISO) into a regional organization; and (4) requires the state to reimburse local agencies and school districts for certain costs mandated by the state through procedures established by statutory provisions. Among other objectives, the Legislature intends to double the energy efficiency savings in electricity and natural gas final end uses of retail customers through energy efficiency and conservation.

Pavley Regulation, Advanced Clean Cars (ACC), and the California Mobile Source Strategy. Assembly Bill 1493 (2002) requires CARB to set GHG emission standards for passenger vehicles, light duty trucks, and other vehicles whose primary use is non-commercial personal transportation manufactured in and after 2009. In setting these standards, CARB must consider cost effectiveness, technological feasibility, economic impacts, and provide maximum flexibility to manufacturers. The federal Clean Air Act ordinarily preempts state regulation of motor vehicle emission standards; however, California is allowed to set its own standards with a federal waiver from the EPA, granted in 2009. Known as the Pavley Clean Car Standards, AB 1493 regulated GHG emissions from new passenger vehicles (light duty automobiles and medium duty vehicles) from 2009 through 2016.

Because the Pavley standards (named for the bill's author, state Senator Fran Pavley) would impose stricter standards than those under the CAA, California applied to the US EPA for a waiver under the CAA. In 2008, the US EPA denied the application. In 2009, however, the US EPA granted the waiver. The waiver has been extended consistently since 2009; however, in 2018 the US EPA and NHTSA indicated their intent to revoke California's waiver, and prohibit future state emissions standards enacted under the CAA. As of April 2019, the waiver was still in place and the status of the federal government's revocation of the waiver was uncertain.

As discussed previously, the federal government adopted standards for model year 2012 through 2016 light-duty vehicles. In addition, the US EPA and US Department of Transportation (DOT) have adopted GHG emission standards for model year 2017 through 2025 vehicles. These standards are slightly different from the state's standards (described below in the Advanced Clean Cars Program), but the state of California has agreed not to contest them, in part due to the fact that while the national standard would achieve slightly less reductions in California, the national standard would achieve greater reductions nationally and is stringent enough to meet state GHG emission reduction goals.

In May 2016, CARB released the updated Mobile Source Strategy that demonstrates how the State can simultaneously meet air quality standards, achieve GHG emission reduction targets, decrease health risk from transportation emissions, and reduce petroleum consumption over the next fifteen years, through a transition to ZEVs, cleaner transit systems and reduction of vehicle miles traveled. The Mobile Source Strategy calls for 1.5 million ZEVs (including plug-in hybrid electric, battery-electric, and hydrogen fuel cell vehicles) by 2025 and 4.2 million ZEVs by 2030. It also calls for more stringent GHG requirements for light-duty vehicles beyond 2025 as well as GHG reductions from medium-duty and heavy-duty vehicles and increased deployment of zero-emission trucks primarily for class 3 – 7 "last mile" delivery trucks in California. Statewide, the Mobile Source Strategy would result in a 45 percent reduction in GHG emissions, and a 50 percent reduction in the consumption of petroleum-based fuels (CARB, 2016).

Transportation Electrification. Complementing the Mobile Source Strategy and the state's push toward zero carbon electricity, SB 350 orders the CPUC to direct the six investor-owned electric utilities in the state to file Applications for programs that "accelerate widespread transportation electrification." These programs are required to reduce dependence on petroleum, increase the adoption of zero-emission vehicles, help meet air quality standards, and reduce GHG emissions.

On January 11, 2018, the California Public Utilities Commission (CPUC) approved the first transportation electrification applications under SB 350 from the three large investor-owned utilities. The decision approves 15 projects with combined budgets of $42 million. In SCE territory, $16 million

was approved for projects that help expand residential and transit bus EV charging infrastructure, including in or adjacent to disadvantaged communities, as well as crane and heavy duty vehicle electrification at the Port of Long Beach. In Pacific Gas and Electric (PG&E) and San Diego Gas and Electric territories, projects are similar but also include electrification of delivery vehicles and commercial shuttle fleets, and demonstration projects for electrification of school buses and medium- or heavy-duty vehicles fleets (CPUC, 2018).

Executive Order B-16-2012 (Zero-Emission Vehicles). This executive order requires that all State entities under the Governor's control support and facilitate the rapid commercialization of zero-emission vehicles. The order contains a target similar to Executive Order S-3-05, but for the transportation sector instead of all sectors: that California target for 2050 a reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels. Executive order B-16-2012 also indicates that the CARB, the California Energy Commission, the Public Utilities Commission and other relevant agencies are ordered to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to establish benchmarks to help achieve the following:

- By 2015: The State's major metropolitan areas able to accommodate zero-emission vehicles, each with infrastructure plans and streamlined permitting; the State's manufacturing sector expend zero-emission vehicle and component manufacturing; an increase in the private sector's investment in zero-emission vehicle infrastructure; and the State's academic and research institutions contributing to zero-emission vehicle research, innovation and education.
- By 2020: The State's zero-emission vehicle infrastructure ability to support up to one million vehicles; the costs of zero-emission vehicles are competitive with conventional combustion vehicles; zero-emission vehicles are accessible to mainstream consumers; widespread use of zero-emission vehicles for public transportation and freight transport; and a decrease in transportation sector GHG emissions as a result of the switch to zero-emission vehicles; electric vehicle charging integrated into the electricity grid.
- By 2025: over 1.5 million zero-emission vehicles on California roads; easy access to zero-emission vehicle infrastructure in California; the zero-emission vehicle industry strong and sustainable part of California's economy; and California's vehicles displace at least 1.5 billion gallons of petroleum fuels per year.

Sustainable Freight Action Plan. Executive Order B-32-15 directed the State to establish targets to improve freight efficiency, transition to zero emission technologies, and increase the competitiveness of California's freight transport system. The targets are not mandates, but rather aspirational measures of progress towards sustainability for the State to meet and try to exceed. The targets include:

- System Efficiency Target: Improve freight system efficiency by 25 percent by increasing the value of goods and services produced from the freight sector, relative to the amount of carbon that it produces by 2030.
- Transition to Zero Emission Technology Target: Deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize near-zero emission freight vehicles and equipment powered by renewable energy by 2030.
- Increased Competitiveness and Economic Growth Targets: Establish a target or targets for increased State competitiveness and future economic growth within the freight and goods movement industry based on a suite of common-sense economic competitiveness and growth metrics and models developed by a working group comprised of economists, experts, and industry. These targets and tools will support flexibility, efficiency, investment, and best business practices through State policies and programs that create a positive environment for growing freight volumes and jobs, while working with industry to mitigate potential negative economic impacts. The targets and tools will also help evaluate the strategies proposed under the Action Plan to ensure consideration of the impacts of actions on economic growth and competitiveness throughout the development and implementation process.

California Transportation Plan 2040. The California Transportation Plan (CTP) 2040, issued by the California Department of Transportation (Caltrans) in June 2016, provides a long-range policy framework to meet future mobility needs and reduce GHG emissions.[9] The CTP defines goals, performance-based policies, and strategies to achieve maximum feasible emission reductions in order to attain a statewide reduction in GHG emissions.

The CTP 2040 recognizes that the Governor is committed to reduce by one-half current petroleum use in cars and trucks; increase from one-third to one-half the electricity derived from renewable sources; double the efficiency savings of existing buildings and make heating fuels cleaner; reduce the release of methane, black carbon, and other short-lived climate pollutants; and manage farm and rangelands, forests, and wetlands to store more carbon.

Transportation GHG reduction strategies within the CTP 2040 include demand management (including telecommuting/working at home, increased carpoolers, and increase car sharing), mode shift (including transit service improvements, high-speed rail, bus rapid transit, expanded bike and pedestrian facilities, carpool land occupancy requirements, and increased HOV lanes), travel cost (implement expanded pricing policies), and operational efficiency (incident/emergency management, Caltrans' Master Plan, ITS/TSM, and eco-driving).

Low Carbon Fuel Standard, Executive Order S-01-07. The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandated that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the CEC, the CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. The CARB adopted the Low Carbon Fuel Standard on April 23, 2009. The LCFS requires producers of petroleum based fuels to reduce the carbon intensity of their products, beginning with a quarter of a percent in 2011, ending in a 10 percent total reduction in 2020. Petroleum importers, refiners and wholesalers can either develop their own low carbon fuel products, or buy LCFS Credits from other companies that develop and sell low carbon alternative fuels, such as biofuels, electricity, natural gas or hydrogen. The LCFS was challenged in the United States District Court in Fresno in 2011. The court's ruling issued on December 29, 2011, included a preliminary injunction against the CARB's implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012 pending final ruling on appeal, allowing the CARB to continue to implement and enforce the regulation and vacated the injunction on September 18, 2013, and remanded the case to the district court for further consideration.

In September 2015, CARB approved the re-adoption of the LCFS, which became effective on January 1, 2016, to address procedural deficiencies in the way the original regulation was adopted. In April 2017, the LCFS was brought before the Court of Appeal challenging the analysis of potential nitrogen dioxide impacts from biodiesel fuels. The Court directed CARB to conduct an analysis of nitrogen dioxide impacts from biodiesel fuels and froze the carbon intensity targets for diesel and biodiesel fuel provisions at 2017 levels until CARB has completed this analysis. On March 6, 2018 CARB issued its *Draft Supplemental Disclosure Discussion of Oxides of Nitrogen Potentially Caused by the Low Carbon Fuel Standard Regulation*.[10] CARB posted modifications to the amendments on August 13, 2018, with a public comment period through August 30, 2018. Final approval of regulatory changes from CARB's analysis of nitrogen dioxide impacts from biodiesel fuels was made on January 4, 2019.[11] The 2017

[9] California Department of Transportation, *California Transportation Plan 2040*, June 2016, https://dot.ca.gov/-/media/dot-media/programs/transportation-planning/documents/finalctp2040-report-webready.pdf; Accessed October 2019.

[10] California Air Resources Board, Low Carbon Fuel Standard and Alternative Diesel Fuels Regulation 2018, https://www.arb.ca.gov/regact/2018/lcfs18/lcfs18.htm. Accessed October 2018.

[11] California Air Resources Board, Low Carbon Fuel Standard and Alternative Diesel Fuels Regulation 2019.

Climate Change Scoping Plan also calls for increasing the mandatory reduction in carbon intensity of transportation fuels from 10 percent to 18 percent by 2030.

2017 Scoping Plan Update. On December 14, 2017, CARB approved the final version of *California's 2017 Climate Change Scoping Plan* (2017 Scoping Plan Update), which outlines the proposed framework of action for achieving the 2030 GHG target of 40 percent reduction in GHG emissions relative to 1990 levels.[12] The 2017 Scoping Plan Update identifies key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. As of 2015, California's emissions totaled approximately 440 $MMTCO_2e$. The emissions breakdown is as follows: 37 percent from transportation, 21 percent from industrial sources, 11 percent from in-state electricity generation, 9 percent from commercial and residential, 8 percent from imported electricity generation, 8 percent from agriculture, 4 percent from high global warming potential gases, and 2 percent from recycling and waste. Through a combination of data synthesis and modeling, CARB determined that the target Statewide 2030 emissions limit is 260 $MMTCO_2e$, and that further commitments will need to be made to achieve an additional reduction of 50 MMTCO2e beyond current policies and programs. The cornerstone of the 2017 Scoping Plan Update is an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal and ensure achievement of the 2050 limit set forth by Executive Order B-30-15.

The 2017 Scoping Plan Update's strategy for meeting the 2030 GHG target incorporates the full range of legislative actions and state-developed plans that have relevance to the year 2030. These include:

- Extending the LCFS beyond 2020 and increasing the carbon intensity reduction requirement to 18 percent by 2030;
- Senate Bill 350, which increases the RPS to 50 percent and requires a doubling of energy efficiency for existing buildings by 2030;
- The 2016 Mobile Source Strategy targets for more ZEVs and much cleaner trucks and transit (described in more detail below);
- The Sustainable Freight Action Plan to improve freight efficiency and transition to zero emission freight handling technologies (described in more detail below);
- Senate Bill1383, which requires a 50 percent reduction in anthropogenic black carbon and a 40 percent reduction in hydrofluorocarbon and methane emissions below 2013 levels by 2030; and
- Assembly Bill 398, which extends the state Cap-and-Trade Program through 2030.

California's climate stabilization strategy relies on contributions from all sectors of the economy, which includes continued investment in renewable energy such as solar roofs, wind, and other types of distributed generation. In addition to being an integral factor in meeting GHG reduction goals, shifting to clean, local, and efficient use of energy also reinvests energy expenditures on local economies and reduces risks associated with exposure to volatile global and national oil and gas commodity prices (CARB, 2017).

California Cap and Trade Program. Authorized by the California Global Warming Solutions Act of 2006 (AB 32), the cap-and-trade program is a core strategy in the Scoping Plan for the state to meet its reduction targets for 2020 and 2030, and ultimately achieve an 80 percent reduction from 1990 levels by 2050. Pursuant to its authority under AB 32, CARB has designed and adopted a California Cap-and-Trade Program to reduce GHG emissions from major sources (deemed "covered entities") by setting a firm cap on statewide GHG emissions and employing market mechanisms to achieve AB 32's emission-reduction mandate of returning to 1990 levels of emissions by 2020.[13] Under the Cap-and-Trade program, an overall limit is established for GHG emissions from capped sectors (e.g., electricity

[12] CARB, *California's 2017 Climate Change Scoping Plan: The strategy for achieving California's 2030 greenhouse gas target*, November, 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf; Accessed April 2018.

[13] 17 CCR §§ 95800 to 96023.

generation, petroleum refining, cement production, and large industrial facilities that emit more than 25,000 metric tons CO_2e per year) and declines over time, and facilities subject to the cap can trade permits to emit GHGs. The statewide cap for GHG emissions from the capped sectors commenced in 2013 and declines over time, achieving GHG emission reductions throughout the Program's duration.[14] On July 17, 2017 the California legislature passed Assembly Bill 398, extending the Cap-and-Trade program through December 31, 2030.

The Cap-and-Trade Regulation provides a firm cap, ensuring that the 2020 and 2030 statewide emission limits will not be exceeded. An inherent feature of the Cap-and-Trade Program is that it does not direct GHG emissions reductions to occur in any discrete location or by any particular source. Rather, GHG emissions reductions are assured on a State-wide basis.

CARB Low NOx Regulation. CARB has identified that reductions of up to 90 percent are needed for heavy-duty trucks to meet NOx reduction targets. In 2013, California established an optional low-NOx standard to pave the way for a future mandatory standard. A more stringent low-NOx regulation is expected in the 2021/2023 timeframe. When implemented, this regulation will continue to drive the deployment of zero or near-zero emissions truck solutions. This development has been taken into consideration in estimating the number of zero emission trucks projected in this study.

CARB Advanced Clean Local Truck Rule. The goal with the Advanced Clean Local Truck Rule is to accelerate the early market adoption of zero emission trucks that are usually centrally fueled, have duty cycles with low average speed and stop-and-go operation. The rule focuses on urban, mostly vocational trucks, but includes heavy truck (class 7–8) urban goods movement as well. The proposed regulatory schedule begins with the 2023 vehicle model year with early action credits given for pre-2023 vehicle models. The regulation is currently available for public comment and will be considered at a meeting of the Board in December 2019.

The Clean Air Action Plan Update for Ports of Long Beach and Los Angeles. The ports of Long Beach and Los Angeles have set goals to drastically reduce air pollution over the next decades and move towards zero emissions solutions. It is anticipated that new fee structures will be implemented in 2021 that favors low-NOx engine and zero emission solutions.[15]

SCAG Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS). In April, 2016, the Southern California Association of Governments (SCAG) adopted the 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), which provides a vision for transportation throughout the region for the next 25 years.[16] It 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 CARB by achieving an 8 percent reduction by 2020, 18 percent reduction by 2035, and 21 percent reduction by 2040 compared to the 2005 level on a per capita basis.

The 2016 RTP/SCS includes $70.7 billion in goods movement strategies, and a Goods Movement Appendix that addresses the region's challenges in moving freight while reducing harmful emissions generated by trucks and other goods movement sources.

SCAG Comprehensive Regional Goods Movement Plan and Implementation Plan. This report from SCAG, issued in 2012, presents a long-range comprehensive plan for the goods movement system in Southern California. The Plan is designed to ensure that the region continues to play a vital role in the global supply chain while meeting regional economic goals, addressing critical mobility challenges,

[14] See generally 17 CCR §§ 95811, 95812.

[15] Port of Long Beach and Port of Los Angeles, *Clean Air Action Plan 2017*. http://www.cleanairactionplan.org/documents/final-2017-clean-air-action-plan-update.pdf/; November 2017.

[16] SCAG, *Final 2016 RTP/SCS*. April 2016. http://scagrtpscs.net/Pages/FINAL2016RTPSCS.aspx; Accessed October 2019.

preserving the environment, and contributing to community livability and quality of life goals. The Plan is the final product of the SCAG Comprehensive Regional Goods Movement Plan and Implementation Strategy, a four-year effort to collect data, conduct analyses, and engage with regional, statewide and national stakeholders covering various aspects of the region's goods movement system.[17]

CARB Heavy-Duty On-Road and Off-Road Vehicle Regulations. In 2004, the CARB adopted an Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter emissions (Title 13 California Code of Regulations [CCR] Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

In addition to limiting exhaust from idling trucks, CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel efficient engines.

4.17.2.5 City of Moreno Valley

City of Moreno Valley General Plan Policies. The City adopted its General Plan in 2006. The General Plan's Conservation Element contains policies directly related to energy efficiency and renewable energy listed below:

Objective 7.5 Encourage efficient use of energy resources

Policy 7.5.1 Encourage building, site design, and landscaping techniques that provide passive heating and cooling to reduce energy demand.

Policy 7.5.2 Encourage energy efficient modes of transportation and fixed facilities, including transit, bicycle, equestrian, and pedestrian transportation. Emphasize fuel efficiency in the acquisition and use of City-owned vehicles.

Policy 7.5.5 Encourage the use of solar power and other renewable energy systems.

City of Moreno Valley Climate Action Strategy. The City of Moreno Valley approved the Energy Efficiency and Climate Action Strategy (Strategy) in October 2012. The Strategy identifies ways that the City can reduce energy and water consumption and GHG emissions as an organization (its employees and the operation of its facilities) and outlines the actions that the City can encourage and community members can employ to reduce their own energy and water consumption and GHG emissions. The Strategy contains the following policies to reduce GHG emissions in 2010 by 15 percent by 2020:

R2-T1 *Land Use Based Trips and VMT Reduction Policies.* Encourage the development of Transit Priority Projects along High Quality Transit Corridors identified in the SCAG Sustainable Communities Plan, to allow a reduction in vehicle miles traveled.

[17] SCAG, *Comprehensive Regional Goods Movement Plan and Implementation Strategy*, December 2012. http://www.freightworks.org/DocumentLibrary/CRGMPIS_Summary_Report_Final.pdf; Accessed October 2019.

R2-T3 *Employment-Based Trip Reductions.* Require a Transportation Demand Management (TDM) program for new development to reduce automobile travel by encouraging ride-sharing, carpooling, and alternative modes of transportation.

R2-E1 *New Construction Residential Energy Efficiency Requirements.* Require energy efficient design for all new residential buildings to be 10 percent beyond the current Title 24 standards.

R2-E2 *New Construction Residential Renewable Energy.* Facilitate the use of renewable energy (such as solar [photovoltaic] panels or small wind turbines) for new residential developments. Alternative approach would be the purchase of renewable energy resources off site.

R2-E5 *New Construction Commercial Energy Efficiency Requirements.* Require energy efficient design for all new commercial buildings to be 10 percent beyond the current Title 24 standards.

R3-E1 *Energy Efficient Development, and Renewable Energy Deployment Facilitation and Streamlining.* Updating of codes and zoning requirements and guidelines to further implement green building practices. This could include incentives for energy-efficient projects.

R3-L2 *Heat Island Plan.* Develop measures that address "heat islands." Potential measures include using strategically placed shade trees, using paving materials with a Solar Reflective Index of at least 29, an open grid pavement system, or covered parking.

R2-W1 *Water Use Reduction Initiative.* Consider adopting a per capita water use reduction goal which mandates the reduction of water use of 20 percent per capita with requirements applicable to new development and with cooperative support of the water agencies.

R3-W1 *Water Efficiency Training and Education.* Work with EMWD and local water companies to implement a public information and education program that promotes water conservation.

R2-S1 *City Diversion Program.* For solid waste, consider a target of increasing the waste diverted from the landfill to a total of 75 percent by 2020.

Moreno Valley Utility 2018 Integrated Resource Plan (IRP). MVU provides electrical services to approximately 6,800 customers. MVU's main guidance document to plan for future growth and development is the 2018 IRP which forecasts a 20-year planning period from 2017 to the horizon year of 2037. The purpose of the IRP is to identify key considerations to meet future energy demand, increase local renewable energy projects, and plan for large-scale logistics and distribution centers that are increasingly prevalent in the region. As stated above, electricity sales for 2018 totaled 188 million kWh and the IRP forecasts growth in sales to be 231,555 million kWh by the horizon year of 2024.[18]

MVU previously offered a solar net energy metering program to their customers, but in MVU's latest Electric Rates Schedule for Net Energy Metering, adopted April 17, 2018, this schedule is closed to new applicants effective April 2018. Furthermore, per *Resolution No. 2017-20* the "maximum solar generating capacity that will be approved to be connected to each meter is up to 50% of the meter minimum daytime load." This limits the amount of on-site solar generation that can be installed at WLC buildings.

4.17.3 Methodology

The analysis addresses the project's potential impacts related to energy usage, including electricity, natural gas, and transportation fuel. Energy consumption during both construction and operation is

[18] City of Moreno Valley, Moreno Valley Utility, 2018 Integrated Resource Plan, 2018 http://www.moval.org/mvu/pubs/MVU-IRP-Report-072018.pdfAccessed September 2019.

assessed. The potential for on-site generation of renewable energy is also assessed. Specific analysis methodologies are discussed below. Calculations are provided in Appendix E.

4.17.3.1 Construction

Construction activities can vary substantially from day to day, depending on the specific type of construction activity and the number of workers and vendors traveling to the Site. This analysis considers these factors and provides the estimated maximum construction energy consumption for the purposes of evaluating the associated impacts on energy resources.

Energy use during construction is forecasted by assuming a conservative estimate of construction activities (i.e., maximum daily equipment usage levels). The energy usage required for project construction has been estimated based on the number and type of construction equipment that would be used during project construction, the extent that various equipment is utilized in terms of equipment operating hours or miles driven, and the estimated duration of construction activities. Energy for construction worker commuting trips has been estimated based on the predicted number of workers for the various phases of construction and the estimated VMT.

The heavy duty construction equipment would likely be diesel-fueled (with the exception of construction worker commute vehicles, which would primarily be gasoline-fueled). For the purposes of this assessment, it is conservatively assumed heavy-duty construction equipment and haul trucks would be diesel-fueled and construction equipment would be in operation for the entire construction day. This represents the maximum potential energy use during construction since some equipment could feasibly be electric or gasoline powered and be less energy intensive and since it is unlikely that equipment would be in operation for the entire construction day. The estimated fuel economy for heavy-duty construction equipment is based on fuel consumption factors from the CARB off-road vehicle (OFFROAD) emissions model, which is a state-approved model for estimating emissions from off-road heavy-duty equipment. The estimated fuel economy for haul trucks and worker commute vehicles is based on fuel consumption factors from the CARB EMFAC2017 emissions model, which is a state-approved model for estimating emissions for on-road vehicles and trucks. Both OFFROAD and the previous version of EMFAC (EMFAC2014) are incorporated into the California Emissions Estimator Model (CalEEMod), which is a state-approved emissions model used for the project's air quality and GHG emissions assessment. Mobile emission factors were updated using EMFAC2017 and calculated separate from CalEEMod. Therefore, this energy assessment is consistent with the modeling approach used for other environmental analyses in the EIR and consistent with general CEQA standards.

4.17.3.2 Operation

The WLC project would require energy in the form of electricity for the operation of buildings and infrastructure (heating, cooling, lighting, water demand and wastewater treatment, consumer electronics, and other energy needs) and gasoline, diesel, natural gas, and electricity (to charge plug-in EVs) for vehicles traveling to and from the project site. The project would also require energy from natural gas use for on-site forklifts and yard trucks associated with warehousing activities.

The project's estimated building and infrastructure energy consumption was calculated in the WLC *Comparison of Renewable Energy Technologies* report (See Appendix E.2 of this EIR) The energy usage required for project building and infrastructure operations is estimated based on the net change in energy demand from the new buildings and facilities compared to the existing uses (as described above, the existing energy usage is conservatively assumed to be zero). Project building and infrastructure operations will consume energy directly through electricity used to power equipment and appliances on-site, and indirectly, through the demand for water. On-site energy usage takes into account building energy standards pursuant to the 2019 Title 24 Building Standards Code and CALGreen Code, the sustainability measures in the WLCSP for which the effect can be quantified, and Mitigation Measures prescribed in the Draft Recirculated Sections of the FEIR. Refrigerated warehouse space is not an allowed use within the WLC site (see Mitigation Measure 4.3.6.3E in the Draft Recirculated Sections of the FEIR). Energy usage from water demand (e.g., electricity used to supply,

convey, treat, and distribute) is based on predicted annual water demand rates (which in turn are based on the size and type of future land uses) and state-wide averages regarding the amount of electricity needed to pump, treat, and transport each gallon of potable water and sewage.

Energy for transportation from increased activities to, from, and on the WLC site is estimated based on the predicted number of trips and the estimated VMT per trip. Trip types include employees commuting to and from home, vendors and deliveries associated with operation of the future uses, trucks bringing goods to and from the proposed warehousing facilities, and off-road mobile equipment needed for cargo/material handling (fork lifts, etc.). The estimated fuel economy for on-road vehicles is based on fuel consumption factors from the CARB EMFAC2017 emissions model. Therefore, this energy assessment is consistent with the modeling approach used for other environmental analyses in the Draft Recirculated Sections of the FEIR and consistent with general CEQA standards. However, additional analysis was required to quantify the increased electricity use and decreased fuel use associated with higher fleet penetration of electric vehicles (EVs) expected with implementation of California's 2016 Mobile Source Strategy, which is not incorporated into EMFAC2017 (for more information see next section on Technology Development).

CNG/LNG station fuel use was estimated based on assumptions outlined in the traffic study. The traffic study assumed all visits to the station were from trucks. The estimated number of CNG/LNG trucks visiting the station each day was multiplied by the typical tank size of a CNG/LNG truck and then calculated over the span of a year to result in annual fueling demand.

4.17.3.3 Renewable Energy

To supply the project with electricity, the *Comparison of Renewable Energy Technologies* report (see Appendix E.2 of this EIR) considered on-site and off-site options for integrating the use of renewable energy and optimizing onsite energy management. The report is aimed at addressing arguments and concerns raised in *Paulek, et al vs. City of Moreno Valley*, in which the petitioners argued that the analysis did not adequately consider feasible renewable energy technologies and therefore failed to provide an adequate energy conservation analysis.[19] A comprehensive list of prospective energy resources was evaluated, and a screening process was applied to winnow the options down to those that hold the greatest potential for being successfully implemented at WLC. Screening criteria causing certain energy supply options to be discarded involved safety considerations, regulatory barriers, air emissions concerns, cost-effectiveness, and technical impracticalities. The report also evaluated a wide array of renewable energy options that are currently available, feasible, and cost-effective for implementation at the Project Site, and determined the maximum feasible and allowable implementation of on-site renewables given the constraints set forth by MVU. Several on-site supply options were deemed infeasible for WLC, including the use of biomass energy, biogas/landfill gas, district energy system, microgrid, in-line hydroelectric turbines in water transmission pipelines, natural gas pressure recovery, and local wind generation. For more details regarding the Project's renewable energy considerations and recommendations refer to the *Comparison of Renewable Energy Technologies* report.

Onsite energy supply options considered feasible include ground-source heat pumps (GSHPs); combined cooling, heat, and power (CCHP); and solar photovoltaic (PV) with and without battery storage:

- GSHP is not recommended in the WLC location due to the cooling requirements within the building being much greater than the building heating needs as a result of year-round weather conditions at the WLC site. Such an imbalance would cause the geoexchange field (where excess heat removed from the building by the cooling process is transferred via piping into the ground) to grow increasingly warmer over time. This, in turn, would degrade GSHP performance in providing building space cooling.

[19] The Superior Court of California in the County of Riverside ruled that the analysis compressed the impacts and mitigation measures into a single issue (greenhouse gas emissions) and disregarded the requirements of CEQA. The Court ruled that the energy analysis must include a comparison of available, cost-effective renewable energy technologies.

- CCHP produces air emissions, resulting from the combustion of fossil fuels, that exacerbate the poor air quality of Moreno Valley and the entire South Coast Air Quality Basin. Furthermore, CCHP increases the project's GHG emissions since it produces more GHG emissions than California's increasingly green grid.
- On-site solar PV generation is scalable and is becoming more cost competitive as project size increases.

As described in Section 4.17.5 (Project Design Features), the *Comparison of Renewable Energy Technologies* report (WSP, 2018) found that onsite rooftop PV systems without energy storage were determined to be the project's best sustainable clean energy supply option. Pursuant to the WLCSP, the rooftop solar PV generating capacity for the project will be designed at minimum to offset the power demands of office space contained in the building. In addition, the project proponent is committed to requiring on-site rooftop solar generating capacity up to the maximum level currently permitted by MVU, which is defined as one-half the minimum electric demand a building experiences during daytime hours.

To determine the specific allowable PV capacity at the WLC site, the *Comparison of Renewable Energy Technologies* report analyzed the hourly electric loads using energy simulation software. Phase 1 building simulation produced a minimum daytime electric load of about 600 kW. The minimum daytime electric load at buildout was simulated to be about 1,600 kW. The offices in each typical WLC building would consume about 474,120 kWh/yr in Phase 1 and experience a peak electric demand of about 280 kW. At buildout, the offices in each building would consume about 417,230 kWh/yr and experience a peak demand of about 270 kW. At the maximum solar PV generating capacity allowed by MVU, Phase 1 buildings could provide up to 300 kW (one-half the 600 kW minimum daytime electric load) and Phase 2 buildings could provide up to 800 kW (one-half the 1,600 kW minimum daytime electric load). This would generate approximately 512,275 kWh/yr and 1,366,400 kWh/yr per building for Phase 1 and Phase 2, respectively, which is more than sufficient to power 100% of the office energy needs.

4.17.3.4 Technology Advancement

CEQA Guidelines Section 15144 states "Drafting an EIR or preparing a Negative Declaration necessarily involves some degree of forecasting. While foreseeing the unforeseeable is not possible, an agency must use its best efforts to find out and disclose all that it reasonably can." This essentially limits the requirement for forecasting to that which could be reasonably expected under the circumstances and is part of the effort to provide a general "rule of reason" for EIR contents. The following discussion, in conjunction with the regulatory drivers listed above, seeks to establish what is reasonably foreseeable with respect to technology advancements that may influence transportation energy use contemporaneous with development of the WLC project.

As spelled out in CPUC's California Energy Efficiency Strategic Plan, the state has ambitious goals for the development of zero net energy (ZNE) buildings (zero net energy consumption), including a goal for all new commercial construction to be ZNE by 2030.[20] Most zero-energy buildings rely on the electrical grid during times when local demand exceeds supply, and return the same amount of power or more at other times. Some ZNE buildings utilize on-site energy storage and are thus independent of the grid. ZNE buildings usually harvest some amount of energy on-site using technologies like solar and wind, while reducing the overall use of energy with highly efficient heating, ventilation, and air conditioning (HVAC) and lighting technologies.

The ZNE goal for commercial buildings is becoming more practical as the costs of alternative energy technologies decrease, grids become "smarter" and the costs of traditional fossil fuels increase. As pointed out by the California Public Utilities Commission (CPUC) in their draft *Commercial ZNE Action Plan* (CPUC, 2017), the current commercial ZNE market is extremely small, with approximately 190

[20] CPUC, *California Energy Efficiency Strategic Plan*. September 2008. https://www.cpuc.ca.gov/General.aspx?id=4125; Accessed October 2019.

currently verified or designed ZNE commercial buildings in California, but is positioned to grow.[21] As described in Section 4.17.5, *Project Design Features,* future updates to the Title 24 building standards are expected to require ZNE commercial buildings by the year 2030. By proactively embracing an all-electric building design and committing to solar-ready roof construction, WLC would be net-zero-ready and in a stronger position for compliance with future Title 24 updates.

Zero emission vehicle (ZEV) technology is developing rapidly for both light-duty and heavy-duty vehicles. ZEVs can be powered by grid electricity stored in a battery, by electricity produced onboard the vehicle through a fuel cell, or through electricity provided by sources outside the vehicle such as overhead catenary wires that are currently used for light rail and some transit buses. ZEVs achieve zero tailpipe emissions by utilizing electric drive to power the vehicle instead of fuel combustion, and achieve higher system efficiency compared to fossil fuel powered vehicles. Additionally, Low Carbon Fuels, such as biodiesel and natural gas, have achieved relatively high rates of market penetration in some specific commercial applications, such as fleet delivery trucks, public buses, and waste hauling.

Because the project is proposed to be developed over a long period of time, the assessment of future energy demand by fuel type may consider likely achievements related to the development and improvement of technologies to reduce or displace traditional fossil fuel energy consumption. The following scenarios were developed in the WLC Transportation Energy Technical Report (See Appendix E.1 of this EIR) based on varying degrees of electric vehicles projected to be in use at the time of the project's Phase 1 development in 2025 and full buildout in 2035 and their effects on overall project energy use. These scenarios form the basis for considering the project's potential impacts to energy consumption and generation in Section 4.17.7 Impacts Analysis:

Vehicle Scenario A: Low EV Penetration

Scenario A reflects the requirements of current state building code (Title 24, part 11), stipulating that 6 percent of parking spaces be constructed to accommodate the future installation of electric vehicle supply equipment (EVSE) for future electric vehicle charging. Scenario A assumes that EV charging stations will be installed at 6 percent of the parking spaces by the completion of Phase 1. This Scenario assumes no increase in the stringency of the requirement, as any change in the regulatory minimums would be purely speculative at this time. Scenario A also assumes that the code-compliant charging stations would be used only for charging passenger vehicles and light duty truck EVs, and there would be no charging of medium-duty or heavy-duty truck EVs. Table 4.17-1 indicates the number of EV charging stations needed for 2025 and 2035 based on these assumptions.

Table 4.17-1: EV Charging Station Requirements at WLC

	WLC Warehouse Buildings			WLC Parking Requirements		
Stage of Development	**Total Building Square Footage**	**Average Building Square Footage (approximate)**	**Number of Buildings**	**Average per Building**	**WLC Total**	**EV Charging Equipped (6%)**
Phase 1 – 2025	22,946,000	1,500,000	15.3	584	8,781	527
Full buildout – 2035	40,600,000	1,500,000	27.1	575	15,536	932

For determining the breakdown of vehicle types and fuels powering the fleet, Scenario A relies on EMFAC2017.[22] EMFAC 2017 forecasts approximately 619,000 passenger EVs (2.5 percent of total) and 59,000 light truck EVs (1.4 percent of total) statewide by 2025, and approximately 1.4 million passenger EVs (4.7 percent of total) and 172,000 light truck EVs (3.7 percent of total) statewide by 2035.[23] For the South Coast Air Basin, EMFAC2017 forecasts the same percentages of passenger EVs

[21] CPUC, *Zero Net Energy Action Plan*. 2017. https://www.cpuc.ca.gov/ZNE/; Accessed October 2019.

[22] The Emission FACtors (EMFAC) model is the standard method used in CEQA analysis to calculate emission rates from motor vehicles operating on highways, freeways and local roads in California.

[23] As interpreted by the project traffic modeling, passenger vehicles include all LDA, LDT1, and LDT2 category vehicles in EMFAC.

and 1.6 percent of light truck EV populations by 2025, and slightly higher percentages by 2035. Based on the percentages for the South Coast Air Basin, the number of passenger EVs estimated to access the Project area on any day under Scenario A were determined to be 300 for Phase 1 (2025) and 991 for full buildout in 2035.

Scenario A energy demand calculations assume that passenger EVs would have an average battery size of 100 kWh in the year 2025, equating to an average charge capacity of 80 kWh (80 percent). Passenger cars in 2035 would have an average battery size of 200 kWh, equating to an average charge capacity of 160 kWh (80 percent).

Scenario A assumes that half of the passenger EV population on site each day would charge their batteries to full capacity. If Level 2 AC chargers with a minimum charging rate of 19.2 kW (highest rate currently available) were provided, it would take approximately 4 hours to fully charge a vehicle with a 100 kWh battery. If the site was served by DC power blocks that spread the power delivery across multiple vehicles simultaneously in response to site energy management requirements, the charging time could be much faster. DC power blocks provide power at up to 500 kW, but it is reasonable to assume an average charging rate would be 100 kW, resulting in a charging time of approximately 48 minutes for a vehicle with a 100 kWh battery. At that rate, 932 charging stations at full buildout could charge thousands of vehicles per day, assuming vehicles move in and out of the EV charging parking spaces throughout the day.

Peak electricity loads for servicing the EVs were provided by WSP in their World Logistics Center *Comparison of Renewable Energy Technologies* report (WSP, 2018).[24]

Vehicle Scenario B: Medium EV Penetration (Scoping Plan Scenario)

This scenario reflects the same assumption regarding electric vehicle charging infrastructure as used in Scenario A (EV charging stations will be installed at 6 percent of parking spaces by the completion of Phase 1) but with higher electric vehicle populations consistent with the goals of California's 2017 Scoping Plan Update and 2016 Mobile Source Strategy, which are both designed to enable statewide attainment of the SB 32 GHG Target of 40 percent below 1990 levels by 2030. As with Scenario A, Scenario B includes passenger and light truck EVs, but no charging of medium-duty or heavy-duty truck EVs. The higher numbers of passenger and light truck EVs result in a higher vehicle charging load for the project.

The EV population estimates are aligned with Governor Brown's Executive Order calling for 1.5 million ZEVs by 2025, and the Mobile Source Strategy calling for 4.2 million ZEVs by 2030, which works out to approximately 5.2 percent of combined vehicles (passenger + light trucks) in 2025 and 13.2 percent in 2030. The EV population estimates (21 percent of passenger vehicles and 22.5 percent of light trucks) for 2035 are based on the conservative assumption that the EV population increase from 2025 to 2030 due to the Mobile Source Strategy is repeated over the five-year period from 2030 to 2035. There would be approximately 7.2 million ZEVs in operation statewide by 2035. Assuming the EV percentages would be the same for the proposed Project located in the South Coast Air Basin, the Project would be visited by 627 EVs per day by 2025 and 4,509 EVs by 2035.

Charging loads for the light truck category were determined using the daily mileage estimates and average kWh/mile consumption for each vehicle category, using data from the U.S. Department of Energy's Alternative Fuels Data Center.[25]

[24] As explained in the WSP report, peak EV charging rate was estimated by allocating the annual electricity consumption of EVs according to the building operating schedules. The resulting peak electric load imposed by EV charging is about 25% of the aggregate nameplate capacity of all charging stations. This result agrees quite well with industry expectations that charging blocks managed with automated 'smart' controls will reduce the coincident peak demand to 20-25% of the aggregate capacity of the individual charging stations.

[25] https://www.afdc.energy.gov/

Like Scenario A, Scenario B assumes that EVs in 2025 would have an average battery size of 100 kWh, and by 2035 they would have an average battery size of 200 kWh. Due to the higher EV populations the demand for fast charging will be higher, and it is reasonably assumed that DC power blocks, which manage power delivery across multiple vehicles simultaneously in response to site energy requirements, would be the appropriate chargers at the site to handle the increased loads. Like Scenario A, it is assumed that the average charging rate for DC power block chargers would be 100 kW. At that rate a 200 kWh battery (160 kWh capacity) would take approximately 96 minutes to charge. 932 charging stations at full buildout could charge thousands of vehicles per day, assuming vehicles move in and out of the EV charging parking spaces throughout the day.

Peak electricity loads for servicing the EVs were provided by WSP in their World Logistics Center *Comparison of Renewable Energy Technologies* report (WSP, 2018).

Vehicle Scenario C: High EV Penetration

Scenario C is the same as Scenario B with respect to passenger and light truck EVs, but includes estimates for medium duty and heavy duty EV trucks based on CALSTART's zero-emission transformation model that takes into account how nascent zero emission solutions, namely technologies from the transit bus segment, evolve and transition into other medium- and heavy-duty categories. As with the light duty truck estimates, the projections take into account funding programs, sales trends, technology development, and upcoming regulations. In addition, the estimates consider regulatory and commercialization studies completed by CALSTART, including potential regulations related to zero emission drayage trucks and access by zero emission trucks to city centers.

CALSTART's zero emission transformation model indicates that 10 percent of medium-duty and 20 percent of heavy-duty trucks servicing the South Coast Air Basin could feasibly be EVs by 2025; by 2035, the forecasts indicate that 20 percent of medium-duty and 30 percent of heavy-duty trucks could be EVs. Charging loads for the light truck category were determined using the daily mileage estimates and average kWh/mile consumption for each vehicle category, using data from the U.S. Department of Energy's Alternative Fuels Data Center.[26]

4.17.4 Thresholds of Significance

4.17.4.1 CEQA Guidelines Appendix F

CEQA Guidelines Appendix G does not provide specific thresholds for the evaluation of impacts related to energy resources. CEQA Guidelines Appendix F was prepared in response to the requirement in Public Resources Code Section 21100(b)(3), which states that and EIR shall include a detailed statement setting forth "[m]itigation measures proposed to minimize significant effects of the environment, including, but not limited to, measures to reduce the wasteful, inefficient, and unnecessary consumption of energy."

- A project would result in significant impacts with regard to energy use and consumption if it would cause wasteful, inefficient, and unnecessary consumption of energy. In accordance with Appendix F, the following criteria will be considered in determining whether this threshold of significance is met:
  1) The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed (Appendix F Section II C-1).
  2) The effects of the project on local and regional energy supplies and on requirements for additional capacity (Appendix F Section II C-2).

[26] https://www.afdc.energy.gov/

3) The effects of the project on peak and base period demands for electricity and other forms of energy (Appendix F Section II C-3).

4) The effects of the project on energy resources (Appendix F Section II C-5).

5) The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives (Appendix F Section II C-6).

- A project would result in significant impacts with regard to energy use and consumption if it would require the construction of new electrical and/or natural gas facilities or expansion of existing facilities, the construction of which would cause significant environmental effects.
- A project would result in significant impacts with regard to energy use and consumption if it would conflict with or obstruct a state or local plan for renewable energy or energy efficiency. In accordance with Appendix F, the following criteria will be considered in determining whether this threshold of significance is met:

  1) The degree to which the project complies with existing energy standards (Appendix F Section II C-4).

4.17.5 Project Design Features

The WLCSP incorporates Project Design Features (PDFs) including sustainable development standards that minimize energy consumption, conserve water, and use recycled or sustainable building materials, where feasible. The WLCSP provides developers with a specific framework for identifying and implementing a variety of practicable and measurable green building measures into the design, construction, operations, and maintenance of each development. Pursuant to the WLCSP, all new development within the project site will be required to meet the California Building Energy Standards in effect at the time construction commences or be 10% more stringent than 2008 standards, whichever results in lowest energy use. In addition, WLC buildings will be designed to be "solar ready" (i.e., structural upgrades to allow the installation of solar photovoltaic systems on the roof of each building), and the WLCSP includes a commitment that the energy requirements of all office space will be supplied with rooftop solar energy systems.

Building Energy

As outlined in the WLCSP Section 1.3.2, *Green Building – Sustainable Development*, the project will incorporate sustainable design features to save energy and reduce its environmental footprint, including but not limited to:

- Reduced water use for landscape irrigation,
- Street designs that harvest and channel runoff into landscape areas instead of storm drains,
- Accommodate the use of alternative means of transportation,
- Use recycled building materials to the extent feasible,
- Use local sources of building materials to the extent feasible,
- Support waste management reduction identified in AB 341.
- Minimize the use of impervious paved surfaces throughout the project,
- Incorporate on-site storm water capture and infiltration within landscape areas,
- Support alternative fuel use through the provision of an on-site alternative fueling site, and
- Provide for the use of roof-mounted solar systems or other alternative power systems.

The WLCSP specifies that all buildings of at least 500,000 square feet (representing more than 99 percent of total project square footage at buildout) shall be designed to meet or exceed the LEED Certified Building Standards and that buildings will be designed to accommodate renewable energy systems. The design of the WLC will pursue these goals by incorporating design features such as, but not limited to, the following:

Building Design and Construction Features:

- Construct "Solar ready" rooftops for buildings;
- Implement design and construction techniques will be employed to reduce the heat island effect, including the use of materials that have a low solar reflectance index such as white roofs and light-colored pavements;
- High performance glazing, overhangs, and landscaping to capture and control natural daylight;
- Use of atriums, skylights and internal courtyards to provide additional daylighting;
- Use of renewable materials and building materials with recycled content where feasible;
- Develop waste management plan and a comprehensive recycling and management program to divert at least 50 percent of waste from landfill, including storage and collection of recyclables, building and material reuse, and careful construction waste management;
- Incorporate the use of passive heating and cooling into the design or modification of the high-cube warehouse development (e.g., white building colors and roof insulation to minimize heat gain, and landscaping to help shade buildings);
- Install outdoor electric outlets to accommodate the use of electrical property maintenance equipment (Section 12.4 of the WLCSP);
- Install advanced irrigation systems, drought-tolerant plants, the use of mulch, recycled and other permissible alternative sources of water, and turfless plantings with decorative hardscape materials such as rock and other materials that do not require potable water sources.

Transportation Features:

- Accommodate alternate forms of transportation including, public transportation (bus), charging stations for electric cars, carpooling, and bicycles.
- Construct sidewalks and a multiuse trail for pedestrian circulation;
- Promote the riding of bicycles, through the provision of bike racks/storage, showers and changing rooms; and
- Design streets to accommodate bus service – Riverside Transit Agency (RTA) does not currently operate any routes in the immediate vicinity of the WLC. RTA will determine if and when bus service will be provided.

Solid Waste Diversion Features:

- Require that all development within the project provide enclosures or compactors for trash and recyclable materials per Specific Plan (Section 5.1.6).

In addition to the prescriptive Building Design and Construction Features, Transportation Features, and Solid Waste Diversion Features listed above, the Applicant commissioned the WLC *Comparison of Renewable Energy Technologies* report (WSP, 2018) to compare feasible, cost-effective renewable energy technologies that could be incorporated into the project design. The report evaluates additional project design options for the WLC that could improve energy performance and increase the use of renewable energy. The screening criteria used to evaluate feasibility include GHG emissions, resiliency, financial constraints, technical constraints, and regulatory constraints. Both on-site and off-site sources of renewable energy were considered.

As an overall strategy, the report recommends eliminating the need for natural gas in building systems and maximizing onsite renewable electricity generation to position the WLC to become an all-electric development that has the future potential to operate 100% on renewable electricity.[27]

The State's Energy Action Plan, first developed in 2003, established a "loading order" to address the state's energy needs. This loading order states that investments in energy efficiency and demand-side resources be considered first, followed by renewable resources and then clean conventional electricity supply.[28]

Recognizing that energy efficiency is the least-cost sustainable energy resource available, the *Comparison of Renewable Energy Technologies* report recommends implementing all feasible and cost-effective energy conservation measures (ECMs) before determining the feasibility and cost-effectiveness of renewable energy supply options. In addition to reducing energy demand associated with the project, improving the energy efficiency of the buildings will reduce the additional electrical distribution capacity that must be built to supply the project, and help minimize expansion of the electricity distribution infrastructure (e.g., substation and transformer) and the associated local distribution capital costs. To that end, the report identifies feasible and cost-effective ECMs that go beyond the PDFs in the WLCSP and can further reduce building energy consumption beyond the minimum requirements of the current (2019) Title 24 energy code, and help achieve or exceed LEED Certified Building Standards. The ECMs address internal loads, such as lighting and equipment, as well as the energy required to provide heating, cooling, and domestic hot water. Key ECMs in the recommended package that go beyond the PDFs in the WLCSP are variable refrigerant flow (VRF) heat pumps providing heating and cooling to the office spaces, direct evaporative cooling as the first cooling stage and VRF as the supplemental cooling stage for air-conditioned warehouse spaces, LED lighting throughout the offices and warehouses, and LED exterior and parking lot lighting. If fully implemented by the project, the ECMs in combination with the WLCSP PDFs are expected to deliver energy performance that exceeds the current minimum Title 24 requirements by approximately 17 percent at Phase 1 and 16 percent at full buildout:

Building Envelope:

- Optimal Vertical Fenestration Construction
- Optimal Skylight Construction
- Optimal Window to Wall Ratio
- Optimal Skylight to Roof Ratio

Exterior Loads:

- LED exterior lighting
- Daylight sensor based exterior lighting

Internal Equipment Loads:

- Automatic Receptacle Control
- Highest Efficiency Office Equipment
- Highest Efficiency Other Internal Loads

[27] The State of California is expected to require net-zero energy (ZNE) buildings in future updates to Title 24 building standards. By proactively embracing an all-electric building design and committing to solar-ready roof construction, WLC would be net-zero-ready and in a stronger position for compliance with future Title 24 updates.

[28] California Public Utilities Commission, Energy Action Plan, 2003. Available at: https://www.cpuc.ca.gov/eaps/. Accessed November 2019.

Lighting:

- Multi-Level Switching
- High Performance Lighting (LED)
- Use separate controls for lighting areas near windows
- Occupant sensors

Daylighting:

- High-on-wall continuous daylighting windows/clerestory windows
- Optimal Daylighting Control
- Dimming daylight controls

HVAC:

- Thermostat setback/setup
- Shut off outdoor air and exhaust air dampers during unoccupied periods
- Supply air temperature reset
- High Performance Fans
- Variable Speed Fans
- High efficiency pumps
- Variable Speed Pump motors
- Reduce service water consumption
- Efficient service water pumping
- Integrated and optimized air side economizer
- Direct Evaporative Cooling
- Variable refrigerant flow heat pump & cooling
- Dedicated Outside Air System Ventilation with Heat Recovery
- Demand controlled ventilation/CO2 controls

On-Site Renewable Energy

The WLC Specific Plan commits the WLC project to meeting the annual energy requirements of all office spaces with PV, thereby effectively achieving net-zero energy (NZE) office operations. The *Comparison of Renewable Energy Technologies* report estimates that the offices in each typical WLC building would consume about 474,120 kWh/yr in Phase 1 and experience a peak electric demand of about 280 kW. At buildout, the offices in each building would consume about 417,230 kWh/yr and experience a peak demand of about 270 kW. The report also found that the maximum allowed amount of PV capacity/building in Phase 1 (300 kW) will generate about 512,275 kWh/yr at the WLC location. The maximum allowed amount of PV capacity/building at buildout (800 kW) will generate about 1,366,400 kWh/yr. These maximum allowed PV capacities are sufficient in both Phase 1 and buildout to satisfy 100% of the office energy needs, thereby meeting the NZE objective for WLC office space.

A system that combines PV with battery storage of excess solar generation was considered, but the MVU solar sizing limitations and the estimated WLC project demands do not result in excess solar generation that could be used to charge a battery. In addition, MVU's Time-of-Use rate structure is not

compatible with the project's peak electrical usage (load curve) making the use of batteries to deliver any meaningful reduction an unviable option.

Considering the air emissions constraints, MVU rate structures, project electric load curves, and MVU PV sizing rules, rooftop PV systems without energy storage were determined to be the project's best sustainable clean energy supply option. The use of PV in each phase of the WLC project would cover both the peak electric load generated by the offices and the annual energy usage of the offices. Utilizing the maximum permitted amount of rooftop PV would enable the project office spaces to achieve effectively ZNE operations. Project Design Features include roofs with the structural integrity that can accommodate the possibility of future solar installation over the entire roof of each building. At a minimum, the project will install enough solar power in both phases to meet energy needs of the project's office spaces.

The *Comparison of Renewable Energy Technologies* report found that the use of on-site battery storage and vehicle-to-grid (V2G) technology[29] are not viable under current regulatory and economic conditions. MVU currently has no policies or rules that would allow WLC to use battery storage to increase usage of solar electricity. V2G technology is not yet commercialized, and MVU rules and rate structures would need to change to accommodate V2G technology and to incentivize EV owners to make their vehicle's batteries available while the vehicle is parked.

Off-Site Renewable Energy Procurement

While WLC tenants are expected to purchase electricity from MVU, there are multiple off-site renewable electricity procurement options available to them, if they are willing to incur the associated price premium. Understanding the risk profiles, market credibility, and regulatory implications of different renewable energy procurement options is paramount to making an informed decision. WSP evaluated the following options:

- Unbundled renewable energy certificates (RECs);
- Power purchase agreements (PPAs);
- Community choice aggregation (CCA);
- Green tariffs.

There is no one-size-fits-all recommendation for WLC tenant procurement of off-site renewable energy. Each tenant's circumstances are likely to be unique, so the best off-site procurement option for one tenant may very well not be the best option for another tenant.

To meet the Project Objectives and the City's Economic Development Objectives (see Section 1.3.1 of the WLC Specific Plan), WLC must establish and maintain a competitive position in the marketplace. The price premium associated with off-site renewable energy procurement would increase WLC tenant utility costs and thus run counter to the Project Objectives and the City's Economic Development Objectives. It would therefore be counterproductive to require WLC tenants to procure renewable energy from off-site sources. For these reasons, the concept of requiring a tenant to procure off-site renewable energy was not considered a viable sustainable supply option to impose on the project.

Transportation Energy

For transportation energy, the *Transportation Energy Technical Study* (ESA, 2018) was conducted to compare feasible, cost-effective options for integrating the use of renewable energy and improving the overall energy performance of transportation operations associated with the WLC project. The

[29] A V2G system uses the on-board battery packs of parked electric vehicles as distributed energy resources to store electricity for use during peak electricity demand periods. In the future, it is expected that smart controls on EV charging stations will enable each EV owner to decide whether or not to allow V2G charging and discharging of the EV's battery pack.

Transportation *Energy Technical Study* considered a wide range of fuel and vehicle options across all vehicle classes, and assessed feasibility based on applicability to the project, relative cost, commercial readiness, funding availability, policy and regulatory support, potential industry partners, and other factors.

The *Transportation Energy Technical Study* found that zero emission vehicle (ZEV) technology is steadily developing for both light-duty and heavy-duty vehicles, driven by both regulatory developments and market forces. ZEVs encompass a range of technologies including battery electric vehicles (BEVs), hybrid electric vehicles (HEVs), plug-in hybrid electric vehicles (PHEVs), and range extended electric vehicles (REEVs) that utilize a fuel cell as an additional energy source. As outlined in the *Transportation Energy Technical Study* and summarized in the Vehicle Scenarios above, commercialization of passenger vehicles is occurring rapidly. A significant population of passenger EVs is expected at the site by Phase 1 (2025) and that number will increase substantially by full buildout of the project (2035), representing a potential significant demand for on-site charging. The study also found that development of electric medium- or heavy-duty vehicles is still in the pilot or demonstration phase and it is not possible to predict when they will become commercially available.

Although it is speculative to state what the regional fleet mix will be as each phase of the project is completed, and the adoption of ZEVs by WLC employees and customers will be beyond the direct control of the WLC, all EV types should be anticipated in planning for the onsite charging infrastructure. To that end, the project will construct the WLC parking areas with cable raceways for installing future EV charging stations, which will enable WLC to more readily and cost effectively provide this service to future tenants if and when demand dictates.

4.17.6 Mitigation Measures

In addition to the PDFs regarding energy conservation and renewable energy, the Draft Recirculated Sections of the FEIR include the following mitigation measures for other environmental impacts that reduce potential impacts of the WLC project relative to energy use. The complete mitigation measures below can be found in the Executive Summary.

Air Quality Mitigation Measure 4.3.6.2A (construction fuel) would require that construction equipment greater than 50 horsepower be USEPA Tier 4 emissions compliant and limits on-site idling of all diesel-powered construction equipment, delivery vehicles, and delivery trucks to three minutes in any one hour.

AQ Mitigation Measure 4.3.6.3B (long haul trucks). Require model year 2010 medium-heavy duty and heavy-heavy duty trucks or later.

AQ Mitigation Measure 4.3.6.4A: Includes several measures related to bicycle and pedestrian facilities and infrastructure, electric vehicle infrastructure, and ridesharing as conditions to any Plot Plan approval within the WLC site.

Utilities Mitigation Measure 4.16.1.6.1A would reduce outdoor water usage which in turn reduces energy use associated with the conveyance of that water.

Utilities Mitigation Measure 4.16.1.6.1B would reduce interior water usage, including low flow fittings, fixtures and equipment.

Utilities Mitigation Measure 4.16.1.6.1C would allow reclaimed water to be used for irrigation.

Greenhouse Gas Mitigation Measure 4.7.6.1A (waste diversion). Recycling and composting availability and reduce operational waste by at least 50 percent before 2020 and 75 percent after.

Greenhouse Gas Mitigation Measure 4.7.6.1B (Previously Included as Utilities Mitigation Measure 4.16.4.6.1A for building energy). Each application for a building permit shall include energy calculations to demonstrate compliance with California Energy Efficiency Standards (Title 24, Part 6).

Greenhouse Gas Mitigation Measure 4.7.6.1C (Previously Included as Utilities Mitigation Measure 4.16.4.6.1B building energy). Prior to the issuance of any building permits within the WLC site, each project developer shall submit energy calculations used to demonstrate compliance with the performance approach to the California Energy Efficiency Standards, for each new structure.

Greenhouse Gas Mitigation Measure 4.7.6.1D (Previously Included as Utilities Mitigation Measure 4.16.4.6.1C building energy; now modified). Prior to the issuance of a building permit, new development shall demonstrate that each building has implemented the following:

- Install solar panels with a capacity equal to the peak daily demand for the ancillary office uses in each warehouse building or up to the limit allowed by MVU's restriction on distributed solar PV connecting to their grid, whichever is greater;
- Increase efficiency for buildings by implementing either 10 percent over the 2008 Title 24's energy saving requirements or the Title 24 requirements in place at the time the building permit is approved, whichever is more stringent; and
- Require the equivalent of "Leadership in Energy and Environmental Design Certified" for the buildings constructed at the World Logistics Center based on Leadership in Energy and Environmental Design Certified standards in effect at the time of project approval.

4.17.7 Less than Significant Impacts

4.17.7.1 Energy Consumption and Generation

Threshold	Would the proposed project result in energy use and consumption that would cause wasteful, inefficient, and unnecessary consumption of energy?

Construction

Electricity

Electrical power would be consumed to construct the project. Electricity would be supplied by MVU, with electrical service extended to specific construction sites from existing infrastructure throughout the WLC site area, as warranted. Specifically, construction offices and security lighting are expected to be powered by MVU-provided electricity. However, diesel powered generators are expected to be used to power tools in remote portions of the construction sites (diesel use discussed below). The City's noise ordinance generally restricts construction during nighttime hours (See Section 4.12.3, the City of Moreno Valley Noise Ordinance as well as Section 4.12, *Noise*, in the Revised Sections of the FEIR), which would minimize the need for nighttime lighting.

However, on-site construction activities are expected to occur outside of the allowed construction hours specified in the City of Moreno Valley Noise Ordinance. The operation of each piece of off-road equipment within the on-site construction areas (i.e., Plots 1 through 22) would not be constant throughout the day, as equipment would be turned off when not in use. Most of the time over a typical work day, the equipment would be operating at different locations within the various plots of the project site and would be largely intermittent. Should 24-hour concrete pouring occur, the project would use light carts powered by diesel to illuminate pouring areas. The light carts used for continuous pouring are included in the construction transportation energy analysis below.

The project would require electricity for water conveyance during ground-moving activities. The project site spans 2,600+ acres and would require a relatively large amount of water to cover the affected construction areas. Electrical consumption due to the conveyance of water used for dust control is presented in Table 4.17-2.

Table 4.17-2: WLC Project Construction Electricity Use

Source	Electricity (MWh per year)
Water Conveyance from Dust Control and Grading (annual average over 15- to 16-year construction period)[b]	1,496
2020 MVU Electricity Sales (MVU 2018)[a]	**201,787**
% of MVU Electricity Usage	**0.74%**

Notes:

[a] Moreno Valley Utility, *2018 Integrated Resource Plan* (2018). Available at: http://www.moval.org/mvu/pubs/MVU-IRP-Report-072018.pdf. Accessed September 2019.

[b] Derived from estimated construction water use in CalEEMod runs from 2015 FEIR.

Sources: ESA 2018; MVU 2016

Water use related to dust control is regulated under SCAQMD's Rules 402 and 403 and is required to limit fugitive particulate matter generated by construction activities. The project would be in compliance with Rules 402 and 403 and would require a relatively large amount of water to cover the entire acreage of the project site. The expected electricity consumption associated with water use equates to only 0.74 percent of MVU's forecasted sales for 2020 (expected starting year of construction).

The electrical demand would vary throughout the construction period based on the construction activities being conducted. Additionally, when not in use, electrical equipment would be powered off to avoid unnecessary energy consumption.

Although there is a temporary increase in electricity consumption at the site during construction, the electrical consumption would be within the supply and infrastructure capabilities of MVU (201,787 MWh projected energy for 2020).[30] The electricity demand at any given time would vary throughout the construction period based on the construction activities being performed, and would cease upon completion of construction. Electricity use from construction would be short-term, and limited to working hours, used for necessary construction-related activities and night construction activities would not require electricity, construction activities would not result in the wasteful, inefficient, and unnecessary consumption of electricity, and impacts would be less than significant.

Natural Gas

Natural gas is not expected to be consumed in any substantial quantities during construction of the WLC project. Therefore, related to the consumption of natural gas during construction, the project would have no impact.

Transportation Energy

The estimated fuel usage for off-road equipment is based on the number and type of equipment that would be used during construction activities, hour usage estimates, the total duration of construction activities, and hourly equipment fuel consumption factors from the OFFROAD2017 model. On-road equipment would include trucks to haul material to and from the project site, vendor trucks to deliver supplies necessary for project construction, and fuel used for construction worker commute trips. A summary of the annual fuel consumption during construction of the project is provided in Table 4.17-3. As shown in Table 4.17-3, on- and off-road vehicles would consume an estimated annual average of 1,553,812 gallons of diesel fuel and 54,103 gallons of gasoline for each year of project construction.

[30] Southern California Edison, 2018. 2018 Annual Report, p. 2. 2018.

Table 4.17-3: WLC Project Construction Fuel Usage

Source	Diesel Fuel (gallons per year)	Gasoline Fuel (gallons per year)
Heavy-Duty Construction Equipment	1,370,308	—
Haul Trucks	106,877	—
Vendor Trucks	76,627	—
Worker Trips	—	54,103
Annual Average (approximately up to a 15-16 year construction duration)	**1,553,812**	**54,103**
2018 Riverside County Fuel Sales (CEC 2019)	**275,000,000**[a]	**1,052,000,000**[b]
% of County Usage	**0.57%**	**0.0051%**

Notes:

[a] California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2018. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed September 2019. Diesel is adjusted to account for retail (52%) and non-retail (48%) diesel sales.

[b] California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2018. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed September 2019.. Diesel is adjusted to account for retail (52%) and non-retail (48%) diesel sales.

Source: ESA 2018; CEC 2016.

Compliance with the anti-idling regulation and the use of cleaner, more energy efficiency construction equipment would reduce the project's annual average diesel fuel usage. As discussed previously, construction of the project would utilize fuel efficient equipment consistent with state and federal regulations, and would comply with State measures to reduce the inefficient, wasteful, and unnecessary consumption of energy. While these regulations are intended to reduce construction emissions, compliance with them would also result in energy savings.

In addition, the project would implement a construction waste management plan to divert 50 percent of mixed construction and demolition debris to City certified construction and demolition waste processors, consistent with the AB 341. Implementation of the construction waste management plan will likely reduce truck trips to landfills and/or material recovery facilities and increase the amount recycling and reuse of materials.

Based on the available data, construction would utilize energy for necessary on-site activities and to transport construction materials and demolition debris to and from the project site. As discussed above, idling restrictions and the use of cleaner, energy-efficient equipment would result in less fuel combustion and energy consumption and thus result in the efficient use of the project's construction-related energy.

Construction of the WLC project would benefit from California's Pavley/ACC standards that are designed to result in more efficient use of transportation fuels, because they would affect the vehicles used by workers and any light duty trucks used by vendors or haulers. These vehicle efficiency standards are the most stringent in the nation and among the most stringent in the world. In addition, the project would reduce fuel use by requiring that construction equipment greater than 50 horsepower be USEPA Tier 4 emissions compliant and by limiting on-site idling of all diesel-powered construction equipment, delivery vehicles, and delivery trucks to three minutes in any one hour, as specified in Mitigation Measure 4.3.6.2A.

Based on the analysis above, construction would utilize energy only for necessary on-site activities, construction worker travel to and from the project site, and to transport construction materials and demolition debris to and from the project site. As discussed above, idling restrictions and the use of cleaner, energy-efficient equipment would result in less fuel combustion and energy consumption and thus minimize the WLC project construction-related energy use. Therefore, construction of the Proposed Project would not result in the wasteful, inefficient, and unnecessary consumption of energy, and the impact would be **less than significant**.

Operation

Electricity

The WLC project would increase demand for electricity due to consumption by buildings, water supply and conveyance, and EV charging. The project's operational electricity demand was estimated for Phase 1 and Full Buildout by considering a Baseline scenario (minimum Title 24 compliance) and three project scenarios based on the Electric Vehicle Scenarios presented earlier. The project scenarios (Low, Medium, and High EV Penetration) all incorporate the energy conservation PDFs. The following assumptions were incorporated into the scenarios:

- The Title 24 Baseline scenario is based on the project's annual energy use being in minimum compliance with Title 24, including the Title 24 Part 6 requirement for the building energy efficiency and the Part 11 requirement that 6 percent of employee and visitor parking spaces be constructed to accommodate electric vehicle supply equipment (EVSE) for future electric vehicle charging. The Baseline scenario assumes that EV charging stations will be installed at 6 percent of the parking spaces by the time the project becomes operational.
- The project incorporates the Energy Conservation Measures (ECMs) from the WLC *Comparison of Renewable Energy Technologies* report[31] that would enable the project to exceed Title 24 energy standards by approximately 17 percent at Phase 1 and 16 percent at full buildout. As with the Title 24 Baseline Scenario, the project also assumes that EV charging stations will be installed at 6 percent of the parking spaces by the time the project becomes operational.
- The project implements the commitment to install rooftop solar PV generation designed so as to produce an amount of electricity equal to the power needs for the projected ancillary office portion of the warehouse buildings or up to the limit allowed by MVU's restriction on distributed solar PV connecting to the grid, whichever is greater.

The project's estimated operational electricity demand is provided in Table 4.17-4 for the Title 24 Baseline Scenario and the three Electric Vehicle Scenarios.

As discussed above and shown on Table 4.17-4, the project implements commitments and strategies to lower electricity consumption needed for buildings (e.g. lighting, cooling, power equipment, and water conveyance). In 2025, electrical demand will be lowered with implementation of sustainability measures such as high efficiency lighting and appliances, skylights, and motion sensors, etc. As discussed above, the project would comply with and exceed the applicable provisions of Title 24 and the CALGreen Code in effect at the time of building permit issuance and buildings over 500,000 sf (representing more than 99 percent of total project square footage at buildout) will be LEED certified. Reliance on grid-supplied power is further offset by the generation of 12 MW of power through on-site rooftop solar PV. Thus, the Project + Low EV Penetration (Scenario A) uses approximately 14 percent less electricity than the baseline demand scenario. In 2035, the Project + Low EV Penetration Scenario would use approximately 16 percent less electricity than the 2035 Baseline Scenario.

Although the Project + Medium EV Penetration Scenario would require more power than the Project + Low EV Penetration Scenario, the net electrical demand on MVU would still be 11 percent less than the Baseline Scenario for 2025 due to the ECMs and on-site solar PV generation. For 2035, electricity use would be 12 percent more than the Baseline Scenario due to the much higher EV penetration rates for light duty passenger cars and medium duty vehicles consistent with the 2016 Mobile Source Strategy.

[31] Referred to as Energy Conservation Measures (ECMs) in the *Comparison of Renewable Energy Technologies* report.

Table 4.17-4: WLC Project Operational Electricity Usage

Source	Phase 1 – 2025 (MWh/yr)	Full Buildout – 2035 (MWh/yr)
MVU Electricity Forecast Sales (2024)[a,b,c]	231,555	338,063
Title 24 Baseline Scenario		
Building annual electricity[c]	194,287	330,649
EV charging annual electricity[d]	4,379	28,144
Total	**198,666**	**358,793**
% of MVU Forecast	**86%**	**106%**
Project + Low EV Penetration (Scenario A)		
Building annual electricity[c]	174,423	298,084
EV charging annual electricity[d]	4,379	28,144
Electricity Savings from Solar PV[e]	-7,686	-24,083
Total	**171,116**	**302,145**
Change from Baseline	**-27,550**	**-56,648**
% Change from Baseline	**-14%**	**-16%**
% of MVU Forecast	**74%**	**89%**
Project + Medium EV Penetration (Scenario B)		
Building annual electricity[c]	174,423	298,084
EV charging annual electricity[d]	9,157	127,132
Electricity Savings from Solar PV[e]	-7,686	-24,083
Total	**175,894**	**401,133**
Change from Baseline	**-22,772**	**42,340**
% Change from Baseline	**-11%**	**12%**
% of MVU Forecast	**76%**	**119%**
Project + High EV Penetration (Scenario C)		
Building annual electricity[c]	174,423	298,084
EV charging annual electricity[d]	95,089	356,321
Electricity Savings from Solar PV[e]	-7,686	-24,083
Total	**261,826**	**630,322**
Change from Baseline	**63,160**	**271,529**
% Change from Baseline	**32%**	**76%**
% of MVU Forecast	**113%**	**186%**

Notes:
Scenario A through C's building energy is different from the baseline due to Project Design Features that exceed Title 24 energy standards. The baseline scenario complies with but does not exceed standards.

[a] Moreno Valley Utility, 2018 Integrated Resource Plan, July 2018.

[b] Electricity sales forecasts only available up to 2037 in MVU's IRP.

[c] Source: Evans, 2018; electricity consumption numbers estimated by WSP, as communicated by email (subject: WSP draft inputs – Building electricity) from Evan Evans to Jeff Caton on June 29, 2018.

[d] Source: ESA and CALSTART, 2018

[e] Source: WSP, 2018..

In the Project + High EV Penetration Scenario, total electrical demand driven by populations of EV trucks would exceed total electrical demand in the Baseline Scenarios for 2025 and 2035; however, a substantial reduction in the use of liquid transportation fuels (diesel and gasoline) would also be expected (see discussion below). Replacing VMT powered by the combustion of diesel and gasoline fuels with EV-generated VMT, especially as electricity becomes less GHG-intensive under the State's RPS, has the added advantage, or co-benefit, of reducing the emission of harmful air pollutants such as particulate matter (PM) and oxide of nitrogen (NOx) associated with transportation.

The feasibility of using medium and heavy duty EVs for delivery of goods to or from the WLC is, to a great extent, dependent on the nature of the warehousing operations. For example, many warehouses implement the "drop and drag" procedure, where a truck will bring goods to the facility, and the trailer (or sea-going cargo container) will be disconnected and left on-site for the lengthy process of unloading. An empty trailer may be connected and the truck quickly departs to return to its point of origin. Conversely, an out-bound truck is usually scheduled to retrieve a delivery load only once the container/trailer is full. Thus, trucks are not on-site or idle for long enough times to obtain a meaningful battery charge. Medium-duty and heavy-duty zero emission trucks are in the very early stages of commercially market deployment and currently cost substantially more than conventionally fueled trucks, and current funding assistance programs do not fully offset that cost difference (ESA and CALSTART, 2018). Given that the future tenants of the WLC are not known and cannot be identified at this time, it would be speculative to assume the High EV Penetration Scenario would be practicable or feasible by 2025 or by 2035.

In regard to forecasting, such as done with EV penetration rates to generate the scenarios evaluated, the *Laurel Heights* Court commented that an agency is required to forecast only to the extent that an activity could be reasonably expected under the circumstances. The Court recognizes that an agency cannot be expected to predict the future course of governmental regulation or exactly what information scientific advances may ultimately reveal. *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal. 3d 376. Therefore, in light of the changes to market and regulatory drivers that would have to occur to make medium and heavy duty EVs widely implemented and feasible by 2025 or 2035 to the now unknown future tenants of the WLC, the potential for the electrical demand projected under the Project + High EV Penetration Scenario to materialize is highly speculative. CEQA Guidelines Section 15145 advise "*If, after thorough investigation, a Lead Agency finds that a particular impact is too speculative for evaluation, the agency should note its conclusion and terminate discussion of the impact*." Therefore, any effects to energy resources from achieving the Project + High EV Penetration Scenario would be highly speculative, and associated analyses are presented herein for informational purposes only.

MVU forecasts that its peak demand in 2025, would be approximately 231,555 MWh per year.[32] This is approximately 25 percent higher than the 185,000 MWh that MVU sold to all customers in its area for the 2015-2016 fiscal year. As shown in Table 4.17-4, the WLC project's estimated electrical consumption would account for between 74 and 113 percent of MVU's projected electricity projected sales depending on the EV penetration scenario for Phase 1 (2025). However, MVU's 2018 IRP anticipates growth in the region and specifically considers the electrical demand generated by energy-intensive account focused in the logistics industry. The IRP states that large energy-intensive projects like the WLC project are included in the projected growth. Therefore, it is reasonable to assume that MVU's existing and planned electricity supplies could support the project's electricity demand calculated for the Project + Low EV Penetration (Scenario A) and the Project + Medium EV Penetration (Scenario B) by 2025. Any determination of MVU's need for additional capacity beyond what is planned would be speculative and depend on the cumulative demand within MVU's service area.

As stated above, effects attributable to the Project + High EV Penetration Scenarios would be highly speculative, and could be as much as 113 percent of MVU's projected forecast sales in 2024. MVU has a considerable amount of time to procure energy resources in anticipation of the project's development, and has committed to taking the WLC project's needs into consideration in future IRP development.

Based on MVU's forecasts, the peak demand for their power grid in 2025 will be 83.4 MW.[33] The project's annual peak demand from buildings is expected to be 34.9 MW in 2025 and 58.2 MW in 2035, as shown in Table 4.17-5. For the Low and Medium EV Penetration Scenarios, the total peak demand including EV loads could be 35.6 MW and 36.5 MW for 2025, respectively. By the year 2035, the annual peak demand for the Low and Medium EV Penetration Scenarios could total 64.1 MW and 84.6 MW, respectively. However, as stated above, forecasting project peak demand and MVU's peak demand for

[32] Moreno Valley Utility, 2015 Integrated Resource Plan, March 2015.
[33] Moreno Valley Utility, 2018 Integrated Resource Plan, July 2018.

2035 is highly speculative and would depend on cumulative demand. The peak demand for 2035 is included for informational purposes.

Table 4.17-5: WLC Project Annual Peak Demand

	Peak Demand (MW)	
Source	**2025**	**2035**
Building Demand	34.9	58.2
Scenario A Low EV Penetration	0.7	5.9
Total	**35.6**	**64.1**
Building Demand	34.9	58.2
Scenario B Medium EV Penetration	1.6	26.4
Total	**36.5**	**84.6**
Building Demand	34.9	58.2
Scenario C High EV Penetration	19.5	74.4
Total	**54.4**	**132.6**

Source: WSP 2018 and ESA 2018

MVU's electrical generation is derived from a mix of non-renewable and renewable sources such as coal, natural gas, solar, geothermal, wind, and hydropower. MVU's 2018 Power Integrated Resources Plan identifies adequate resources to support future generation capacity, and a new 115 kV substation is proposed to be constructed within the WLC site. With regard to renewable energy sources, the project would use electricity provided by MVU, which MVU is required to meet the 2050 RPS. MVU's current source of renewable resources include wind, solar, and hydroelectric and account for 17 percent of MVU's overall energy mix for 2017 (the most current year data is available for).[34] The project itself is incorporating renewable energy sources with a minimum of 14.1 MW of rooftop solar at buildout to achieve a net-zero energy use for the estimated office demands. At full buildout WLC will feature the equivalent of twenty-seven 60,000 square-foot net-zero office buildings. To put this in context, the entire State of California has about 190 net-zero commercial buildings that are currently verified or designed as of 2017 (CPUC, 2017). This solar commitment would be within the solar PV limitations set by MVU.

In addition to the solar commitment the WLC project would implement energy performance improvement measures to exceed the current minimum Title 24 requirements after Phase 1 and full buildout. Although the project would result in moderate increases in annual electrical demand compared to MVU's current supply, for the low and medium EV penetration scenarios, MVU is committed to meeting the project's electricity demand through a future IRP update and planning process. Therefore, with the incorporation of these features, operation of the project would not result in the wasteful, inefficient, or unnecessary consumption of electricity, would not cause a need for additional capacity regionally or locally, and would not affect electricity resources to the extent that electricity demand can reasonably be projected and assessed.

Building Natural Gas

The WLC project could increase the demand for natural gas resources through the project's commitment to a CNG/LNG fueling station,[35] but the project's operational natural gas demand from buildings is expected to be zero, as shown in Table 4.17-6. The project would mostly comprise high-cube warehouses that do not require heating from natural gas. The spaces that do require heating are ancillary office spaces. Because all heating and cooling is provided via direct evaporative cooling and heat pumps, natural gas is not required. This allows the project to reduce on-site fossil fuel combustion that would normally be associated with service water and space heating. The Title 24 Baseline scenario

[34] California Energy Commission, Utility Annual Power Content Labels for 2017. http://www.energy.ca.gov/pcl/labels/. Accessed September 2019.

[35] For natural gas use from CNG/LNG fueling station, see discussion under Transportation Energy, below.

assumes compliance but not exceedance of energy standards and includes annual natural gas use equating to 51,274 MMBtu in 2025 and 84,771 MMBtu in 2035. As such, the project would result in a 100 percent decrease in consumption of natural gas from the Title 24 Baseline scenario for both Phase 1 and Full Buildout.

Table 4.17-6: WLC Project Operational Natural Gas Usage in Buildings

Source	Phase 1 – 2025 (MMBtu/yr)	Full Buildout – 2035 (MMBtu/yr)
SoCal Gas (2018)[a]	**991,659,375**	**873,793,575**
Title 24 Baseline Scenario:		
Building annual natural gas	51,274	84,771
% of SoCal Gas	0.005%	0.010%
All-Electric Project:		
Building annual natural gas	0	0
% of SoCal Gas	0%	0%

Notes:

[a] California Gas and Electric Utilities, 2018 California Gas Report (2018).). Available at: https://www.socalgas.com/regulatory/documents/cgr/2018_California_Gas_Report.pdf. Accessed September 2019. Converted from 958 billion cubic feet and a conversion factor of 1,035 Btu per cubic foot based on USEIA data (see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed,. Available: https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPG0_VGTH_btucf_a.htm. Accessed September 2019).

Source: WSP 2018

Transportation Energy

Like operational electricity discussed above, the transportation energy usage was estimated for three EV penetration scenarios and for two different phases of development (Phase 1 and Full Buildout). In the context of transportation fuels, the Project + Low EV Penetration scenario represents the "baseline" scenario, as it assumes EV penetrations consistent with the EMFAC2017 transportation model used in standard CEQA analysis. As explained in Section 4.17.3.3 *Technology Advancement*, the Medium EV Penetration and High EV Penetration Scenarios assume statewide attainment of the higher EV targets in the 2016 California Mobile Source Strategy or the 2017 Scoping Plan Update.

The WLC project's estimated operational transportation fuel demand is provided in Table 4.17-7. As discussed previously, the project would support statewide efforts to improve transportation energy efficiency and reduce fossil fuel consumption by private automobiles. The project would also include the installation of electric vehicle supply equipment (EVSE) pursuant to Title 24, part 6 of the CALGreen Code. According to the EMFAC2017 model, electric vehicles should account for approximately 2.5 percent of passenger vehicles[36] in 2025 and 4.7 percent by 2035 in the SoCAB region. The estimated potential fuel savings from the increased population of EVs is provided in Table 4.17-7.

As discussed under Section 4.17.3, *Methodology*, and presented in Table 4.17-7 above, the WLC project would provide the infrastructure for supporting a higher population of electric vehicles, in direct support of the state's targets of 1.5 million ZEVs by 2025 and 4.2 million ZEVs by 2035. The increase in EV populations will increase demand for electricity but reduce demand for fossil-based vehicle fuels.

Estimates for the number of EVs and the expected annual electricity demand associated with each of the three vehicle scenarios are presented below in Tables 4.17-8 through 4.17-10, based on the information summarized in Section 4.17.3, *Methodology.*

[36] As defined by the traffic modeling for the project, passenger vehicles include the EMFAC2017 vehicle categories of Light Duty Automobile (LDA) and Light Duty Truck (LDT1 and LDT2).

Table 4.17-7: WLC Project Operational Fuel Usage

Source	2025				2035			
	Gallons of Diesel Fuel per Year (gallons)[a]	Gallons of Gasoline Fuel per Year (gallons)[b]	Electricity Use per Year (MWh)	Natural Gas Use per Year (MMBtu)	Gallons of Diesel Fuel per Year (gallons)[a]	Gallons of Gasoline Fuel per Year (gallons)[b]	Electricity Use per Year (MWh)	Natural Gas Use per Year (MMBtu)
County of Riverside (Transportation Sector) 2018/MVU 2024[c]/SoCalGas[d]	**275,000,000**	**1,052,000,000**	**231,555**	**991,659,375**	**275,000,000**	**1,052,000,000**	**338,063**	**873,793,575**
Project + Low EV Penetration (Scenario A)								
Low EV Penetration	32,464	21,456	4,379	612	45,345	30,327	28,144	1,094
% of County	**0.012%**	**0.0020%**	**1.9%**	**0.0001%**	**0.016%**	**0.003%**	**8.3%**	**0.0001%**
Project + Medium EV Penetration (Scenario B)								
Medium EV Penetration	32,464	21,002	9,157	612	45,345	26,313	127,132	1,094
% of County	**0.0118%**	**0.0020%**	**3.95%**	**0.0001%**	**0.0165%**	**0.0025%**	**37.6%**	**0.0001%**
% change from Low EV	**0.00%**	**-2.12%**	**109.11%**	**0.00%**	**0.00%**	**-13.24%**	**351.72%**	**0.0%**
Project + High EV Penetration (Scenario C)								
High EV Penetration	25,562	20,747	95,089	612	30,796	25,584	356,321	1,094
% of County	**0.0093%**	**0.0020%**	**41.1%**	**0.0001%**	**0.0112%**	**0.0024%**	**105.4%**	**0.0001%**
% change from Low EV	**-21.26%**	**-3.31%**	**2,071.5%**	**0.00%**	**-32.09%**	**-15.64%**	**1,166.1%**	**0.0%**

Notes:

[a] California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2016. Available at: http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed April 2018. Diesel is adjusted to account for retail (52%) and non-retail (48%) diesel sales.

[b] California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2016. Available at: http://www.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed April 2018. Diesel is adjusted to account for retail (52%) and non-retail (48%) diesel sales.

[c] Moreno Valley Utility, 2015 Integrated Resource Plan, March 2015.

[d] California Gas and Electric Utilities, 2018 California Gas Report (2018). Available at: https://www.socalgas.com/regulatory/documents/cgr/2018_California_Gas_Report.pdf. Accessed September 2019. Converted from 958 billion cubic feet and a conversion factor of 1,035 Btu per cubic foot based on USEIA data (see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed. Available: https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPG0_VGTH_btucf_a.htm. Accessed September 2019).

Source: ESA, 2019.

Table 4.17-8: Scenario A: Low EV Penetration Charging Loads

	2025				2035			
Vehicle Type	**Popu-lation**	**Peak Rate (MW)**	**Average Daily (MWh)**	**Average Annual (MWh)**	**Popu-lation**	**Peak Rate (MW)**	**Average Daily (MWh)**	**Average Annual (MWh)**
Passenger Vehicles	288	0.7	11.5	4,206	937	5.7	74.9	27,351
Light Trucks (2 axles)	12	0.1	0.5	173	54	0.1	2.2	793
Medium Trucks (3 axles)	0	0	0	0	0	0	0	0
Large Trucks (4+ axles)	0	0	0	0	0	0	0	0
Total	**288**	**0.8**	**12.0**	**4,379**	**991**	**5.8**	**77.1**	**28,144**

Table 4.17-9: Scenario B: Medium EV Penetration Charging Loads

	2025				2035			
Vehicle Type	**Popu-lation**	**Peak Rate (MW)**	**Average Daily (MWh)**	**Average Annual (MWh)**	**Popu-lation**	**Peak Rate (MW)**	**Average Daily (MWh)**	**Average Annual (MWh)**
Passenger Vehicles	590	1.4	23.6	8,608	4,197	25.6	335.8	122,564
Light Trucks (2 axles)	38	0.2	1.5	549	312	0.8	12.5	4,568
Medium Trucks (3 axles)	0	0	0	0	0	0	0	0
Large Trucks (4+ axles)	0	0	0	0	0	0	0	0
Total	**627**	**1.6**	**25.1**	**9,157**	**4,509**	**26.4**	**348.3**	**127,132**

Table 4.17-10: Scenario C: High EV Penetration Charging Loads

	2025				2035			
Vehicle Type	**Popu-lation**	**Peak Rate (MW)**	**Average Daily (MWh)**	**Average Annual (MWh)**	**Popu-lation**	**Peak Rate (MW)**	**Average Daily (MWh)**	**Average Annual (MWh)**
Passenger Vehicles	590	1.4	23.6	8,608	4,197	25.6	569.5	122,564
Light Trucks (2 axles)	38	0.1	1.5	549	312	1.0	8.3	4,568
Medium Trucks (3 axles)	111	0.5	6.0	2,189	393	1.6	21.2	7,728
Large Trucks (4+ axles)	614	17.5	229.4	83,743	1,625	46.3	606.7	221,462
Total	**1,353**	**19.5**	**260.5**	**95,089**	**6,527**	**74.4**	**1,205.8**	356,321

The Project + Low EV Penetration scenario has the lowest population of EVs and only includes passenger vehicle EVs. The annual electricity use would be 1.9 percent of MVU's forecasted demand in 2025.

The Project + Medium EV Penetration scenario includes EV passenger vehicles and light trucks. The annual electricity use would be only slightly more than the Low EV Penetration scenario and would represent 4.0 percent of MVU's demand. As stated above, this scenario would increase electricity use, however, it would be displacing and reducing gasoline use by 2.1 percent.

The Project + High EV Penetration scenario analyzes the inclusion of an increased percentage of medium and heavy duty trucks that are EVs. Under this scenario, electricity demand would be 41 percent of MVU's total electricity demand and the EVs would displace a substantial number of fossil fuel burning vehicles.

As shown in Table 4.17-7, the Project + Medium EV Penetration scenario would reduce gasoline use by approximately 2.1 percent and increase electricity use by 109 percent in 2025 compared to the Low EV Penetration scenario. Diesel consumption would be about the same for the two scenarios. By 2035, gasoline use with the Medium EV Penetration scenario would be reduced by about 13 percent from the Low EV Penetration scenario and displaced with EVs that would increase electricity by 352 percent from the Low EV Penetration scenario.

The Project + High EV scenario would realize a greater amount of fuel savings (gasoline and diesel) due to the higher percentage of trucks assumed to be EVs. For 2025, diesel use would decrease by approximately 21 percent compared to the Low EV Penetration scenario and gasoline would decrease by approximately 3 percent. By 2035, diesel use would decrease by 32 percent and gasoline would decrease by 16 percent. Electricity demand would increase more than 20 times the Low EV Penetration scenario by 2025, and approximately 11 times by 2035. However, as stated earlier, forecasting demand for 2035 is highly speculative and numbers presented are strictly for informational purposes.

As described earlier, these increases in transportation-related electricity will be offset through implementation of energy conservation measures and installation of on-site rooftop solar PV, resulting in an approximate 16 percent improvement in energy efficiency as compared to the baseline scenario at full buildout. Although the project would result in moderate increases in annual electrical demand from EV charging compared to MVU's current supply (for the low and medium EV penetration scenarios), MVU is committed to meeting the project's electricity demand through a future IRP update and planning process. As mentioned above, MVU's IRP addresses the fact that the project would exceed the utility's current and forecasted demand. However, the IRP states that energy-intensive logistics projects are considered in the projected growth. Any determination on additional capacity would be speculative considering MVU is aware of the project and its effect on grid electricity. MVU has a considerable amount of time to procure energy resources in anticipation of the project's development.

As shown in Table 4.17-7, the Project + Low EV Penetration scenario would represent a small fraction of the county's overall diesel and gasoline fuel use for 2025, making up 0.012 and 0.0020 percent respectively. By 2035, those numbers increase to 0.016 percent for diesel and 0.003 percent for gasoline. Although the fuel does slightly increase, the Project's fuel use is still negligible when compared to overall county use.

The Project + Medium EV Penetration scenario would account for 0.012 percent of total County diesel use and 0.0020 percent of total County gasoline use in 2025. By 2035, those percentages increase to 0.017 percent for diesel and remain approximately 0.0025 percent for gasoline. This scenario slightly lowers fuel use when compared to the Project + Low EV Penetration because it assumes a greater percentage of car and light truck EVs (See Section 4.17.3.3, *Technology Advancement* for assumptions).

The Project + High EV Penetration scenario would represent 0.0093 percent of total County diesel use and 0.0020 percent of total County gasoline use in 2025. By 2035, those percentages increase to 0.011 percent for diesel and remain approximately 0.0020 percent for gasoline. The High EV Penetration scenario assumes light, medium, and heavy trucks would have a higher population of EVs that would reduce diesel fuel use by 6,902 gallons per year from the Low EV Penetration scenario for 2025 and by 14,550 gallons per year for 2035.

Given the evidence presented herein, the WLC project would result in the efficient use of operational transportation fuel consistent with State and City goals. The project would represent between 0.002 to 0.003 percent of the County gasoline use and between 0.009 to 0.017 percent of County diesel use. Diesel and gasoline fuel consumption from the project would be negligible in any of the presented scenarios, however as stated in the electricity analysis above, any effects to energy resources from achieving the Project + High EV Penetration Scenario would be highly speculative, and associated analyses are presented herein for informational purposes only.

Operation of the WLC project would benefit from California's Pavley/ACC standards that are designed to result in more efficient use of transportation fuels. These vehicle efficiency standards are the most stringent in the nation and among the most stringent in the world. As shown in Table 4.17-7 above, the project's operational activities under the Low EV Penetration Scenario (the most conservative scenario in terms of petroleum-based fuel consumption) would result in the consumption of approximately 0.017 percent of the County's diesel consumption and approximately 0.003 percent of the County's gasoline consumption, representing a very small fraction of the County's total fuel demand. Therefore, these activities would have a negligible effect on the transportation fuel supply. In conjunction with California's stringent vehicle efficiency standards, operation of the WLC project would not result in the wasteful, inefficient, or unnecessary consumption of transportation fuel.

Transportation Natural Gas

EMFAC2017 assumes that by 2025, natural gas-powered large trucks (HHDT and MHDT) would represent 2.2 percent of all large trucks in the SoCAB region. By 2035, the natural gas-powered large truck population slightly increases to 2.5 percent. The natural gas vehicle population at the Project would remain constant for each EV penetration scenario.

The WLC project (all scenarios) would also include regularly operating propane-powered yard trucks and CNG-powered forklifts that are typical of large warehouse facilities. Additionally, the project would include a CNG/LNG fueling station on-site that would be publically available for refueling. Table 4.17-11 shows the annual average natural gas use from operational vehicles and CNG/LNG vehicle refueling within the project.

Table 4.17-11: Natural Gas Use from Transportation

Source	Annual Fuel Use (MMBtu/yr)
State Natural Gas Consumption[a]	**2,184,708,015**
Large Trucks (4+ Axle)[b]	1,094
Yard Trucks[c]	14,543
Forklifts[c]	738
CNG/LNG Fueling Station[c]	805,148
Total Natural Gas Consumption (on- and off-road)	**821,523**
% of State	**0.037%**

Notes:

[a] All uses; from US Energy Information Administration, California Natural Gas Consumption by Year (2018). Available at: https://www.eia.gov/dnav/ng/ng_cons_sum_dcu_nus_a.htm Converted from 2,184,708,015 million cubic feet using a conversion factor of 1,035 Btu per cubic foot based on USEIA data (see: USEIA, Natural Gas, Heat Content of Natural Gas Consumed, April 28, 2017. Available: https://www.eia.gov/dnav/ng/ng_cons_heat_a_EPG0_VGTH_btucf_a.htm. Accessed July 2018).

[b] Large trucks refers to HHDT and MHDT EMFAC2017 vehicle class categories.

[c] See Appendix E for detailed calculations of natural gas vehicles and CNG/LNG fueling station.

As presented in Table 4.17-11, the natural gas use from operational vehicles and the CNG/LNG fueling station would represent approximately 0.037 percent of the statewide natural gas consumption. The analysis assumes a conservative estimate of 204 trucks completely refueling per day based on trip rates presented in the WLC project's traffic study.[37] The traffic study bases trip rates on ITE's code for a gas station with convenience store that has a relatively high trip rate. CNG fueling stations would likely have less daily visits than a traditional gas station, making the analysis even more conservative. The operational vehicles are also based on conservative assumptions of maximum operating hours of 7 hours for propane-powered yard trucks and 4 hours for CNG forklifts. Realistically, all of the yard trucks would not be operating simultaneously or continuously for 7 hours and forklifts would be used

[37] Traffic study states an average daily traffic of 408 trips. This accounts for roundtrips of trucks, so the number of trucks visiting to refuel would be half of the average daily traffic volume.

intermittently for the unloading and loading of warehousing goods. Furthermore, the analysis above represents additional natural gas use from vehicles and does not account for CNG/LNG trucks displacing diesel- or gasoline-powered vehicles. In actuality, the CNG/LNG trucks may displace fossil-fueled trucks on the project site. Even with the conservative assumptions for trip rates, volumes, non-displacement, and operating hours, and without considering the potential benefit of offsetting other vehicle fuels, the natural gas use from operational vehicles and the CNG/LNG fueling station represent a negligible percent of the State's total natural gas use.

According to SoCal Gas data, natural gas sales have been relatively stable over the past three years with a slight increase from 287 billion cubic feet in 2014 to 294 billion cubic feet in 2016. Southern California's natural gas supply is predominantly sourced from out of state with a small portion originating in California. Sources of natural gas are obtained from locations throughout the western United States as well as Canada.[38] According to the US Energy Information Administration (EIA), the United States has approximately 85 years of natural gas reserves based on consumption in 2015.[39] Statewide compliance with energy efficiency standards is expected to result in more efficient use of natural gas and therefore reduced consumption in future years. It is anticipated that SoCal Gas' existing and planned natural gas supplies would be sufficient to support the project's natural gas use and that the CNG/LNG fueling station would have a negligible effect on the natural gas supply.

Operation of the WLC project would benefit from California's Pavley/ACC standards that are designed to result in more efficient use of transportation fuels. These vehicle efficiency standards are the most stringent in the nation and among the most stringent in the world. Operation of the project would require very small amounts of natural gas to be consumed by vehicles at the site, and in conjunction with California's stringent vehicle efficiency standards, would not result in the wasteful, inefficient, and unnecessary consumption of natural gas.

4.17.7.2 Construction or Expansion of Electrical and Natural Gas Facilities

Threshold	Would the proposed project require the construction of new electrical and/or natural gas facilities or expansion of existing facilities, the construction of which would cause significant environmental effects?

Electricity

Through implementation of energy conservation measures the WLC project will exceed Title 24 energy standards by approximately 17 percent at Phase 1 and 16 percent at full buildout. The project would also incorporate renewable energy sources with a minimum of 14.1 MW of rooftop solar at buildout to achieve a net-zero energy use for the estimated office demands. Despite these improvements a number of SCE facilities would require relocation and expansion of MVU facilities would be needed in order to provide network backup (i.e., if the solar generation equipment were to fail) and accommodate the potential increase in electrical demand due to increased EV populations. Power poles, guy poles, and guy anchors for the existing overhead 115 kV line along World Logistic Center Parkway and Gilman Springs Road will need to be relocated at the time these roadways are widened. The portion of the existing 115 kV line along Eucalyptus Avenue may also need to be relocated into the new Eucalyptus Avenue alignment between World Logistic Center Parkway and Gilman Springs Road at the time the roadway is constructed. The existing 115 kV line along Brodiaea Avenue may be able to be protected in place except for a few hundred feet where the transmission line intersects with the new Merwin Street, which will need to be relocated to accommodate street and storm drain channel improvements.

The existing 12 kV overhead power distribution lines along Redlands Boulevard will need to be undergrounded when the roadway is developed to its ultimate width. The existing 12 kV overhead power feeder lines located along World Logistic Center Parkway and Alessandro Boulevard will need to be relocated and undergrounded as these roadway improvements take place during the development

[38] California Gas and Electric Utilities, 2016 California Gas Report. 2016.
[39] EIA. *Frequently asked Questions. https://www.eia.gov/tools/faqs/faq.php?id=58&t=8*. Accessed April 2018.

of the WLC project. The existing 12 kV overhead power feeder line running south along Virginia Street to the Moreno Compressor Station (planned as Open Space) will be protected in place. The existing overhead service lines from the World Logistic Center Parkway 12 kV line along Dracaea Avenue to the east and along Cottonwood Avenue to the west can be abandoned when existing on-site residences served by these facilities are abandoned. Per SCE requirements, SCE 12 kV undergrounded lines cannot be in a common trench with MVU facilities and require a separate underground facility with a minimum 6 feet from other utility lines.

Based on the *Technical Memorandum – Dry Utilities World Logistics Center, Moreno Valley, CA*, (Utility Specialists, October 24, 2013) prepared for the WLC project, construction of the first three logistics buildings that would occur during the initial phase of construction can be served by the existing MVU substation at Cottonwood Avenue and Moreno Beach Drive, as long as capacity is still available at that station. Subsequent buildings in Phase 1 of construction will require the expansion of this substation. The expansion that would occur to meet this demand would be the addition of two new 28 MW transformer units which can be accommodated within the existing substation property. New 12 kV underground feeder circuits, including trenching, conduit, electrical vaults, and conductors will need to be installed from the substation to the WLC project site. These improvements will occur along Cottonwood Avenue, along Moreno Beach Drive, and along Alessandro Boulevard, Brodiaea Avenue, and Cactus Avenue. These improvements are expected to take place concurrently with roadway construction.

To meet the WLC project's ultimate annual electricity demand, a new 115 kV substation will be constructed within the project limits at a central location near one of SCE's 115 kV transmission lines that will feed power to the substation. The *Dry Utilities* memo for the project indicates two potential locations; the first adjacent to the SCE transmission lines along Gilman Springs Road, and the other adjacent to the SCE transmission lines along Brodiaea Avenue. Impacts of constructing the new station at either of these on-site locations may be the same.

SCE will require approximately 2 acres for a switching station near the new 115 kV substation proposed by MVU to serve the WLC project. All MVU primary distribution conductors within the project will be installed within underground conduits and vaults within the public roadway rights-of-way or within easements as a joint trench with telephone, cable television, and natural gas. Since the installation or relocation of electrical facilities would take place concurrently with roadway construction and/or within dedicated easements, or protected in place, the construction of these facilities would not result in significant environmental effects. Connecting the site to existing utility lines is considered part of the project, the impact of which has been analyzed in the Revised Sections of the FEIR. Previously referenced Figure 3.16 depicts the proposed electrical facilities assuming 100 percent backup electrical service to the WLC site.

Natural Gas

Figure 3.17 in the Project Description depicts the existing natural gas pipelines at the site. An existing 3-inch medium pressure line traveling along World Logistics Center Parkway and Street F could supply the proposed CNG/LNG fuel station. Although there would be no anticipated use of natural gas by the buildings in the WLC project and thus no need for natural gas distribution infrastructure, SCGC has indicated that the existing 4-inch medium-pressure line underlying Redlands Boulevard and Cactus Avenue can be extended into and looped around the WLC project roadway alignments to serve the proposed development. New two-inch gas lines could also be installed to accommodate the WLC project's demand. Natural gas facilities could be installed in the public street rights-of-way and easements as a joint trench with telephone, cable TV and electrical services. The gas main in Eucalyptus Avenue would be on the south side of the street and in its own trench as it was not included in the common trench installed to serve the Sketchers building.

Relocation of natural gas transmission lines within the WLC site into public street rights-of-way and easements will be necessary to support site development and grading. These include 11,100 feet of the 30-inch gas pipeline in Cottonwood Avenue from Redlands Boulevard to World Logistics Center

Parkway and then southeast to Virginia Street and Alessandro Boulevard intersection; 1,900 feet of 30-inch gas line from Gilman Springs Road at Lisa Lane southwest to Alessandro Boulevard; 1,000 feet of 16-inch gas line owned by Questar from Gilman Springs Road southwest to Alessandro Boulevard and 4,000 feet of 16-inch gas line owned by Questar on the Maltby Avenue alignment from Merwin Street to World Logistics Center Parkway. The remaining transmission gas lines are anticipated to be protected in place within the proposed streets or easements between buildings. The regulator station located at the southeast corner of Gilman Springs Road and Laurene Lane east of the WLC project will need to be relocated as part of the widening of this road. The gas facility on Alessandro Boulevard and Virginia Street will remain in place as the project develops in this area. The SDG&E natural gas compression station on Virginia Street south of the project site, known as the Moreno Compressor Station, along with a smaller facility on Virginia Street at Boadicea Avenue will be protected in place. Since the installation or relocation of natural gas facilities would take place concurrently with roadway construction and or within dedicated easements, or protected in place, the construction of these facilities would not result in significant environmental effects.

4.17.7.3 Energy Standards, Policy, Regulation Consistency

Threshold	The Degree to which the Project Complies with Existing Energy Standards

This impact assesses whether the WLC project would conflict with any applicable standards, policies, or regulations, as discussed below.

The project would comply with applicable CARB regulations restricting the idling of heavy-duty diesel motor vehicles and governing the accelerated retrofitting, repowering, or replacement of heavy duty diesel on- and off-road equipment. As discussed in Section 4.7, *Greenhouse Gas Emissions*, CARB has adopted an Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other toxic air contaminants. The measure prohibits diesel-fueled commercial vehicles greater than 10,000 pounds from idling for more than five minutes at any given time. While intended to reduce construction emissions, compliance with the above anti-idling and emissions regulations would also result in energy savings from the use of more fuel-efficient engines. According to the CARB staff report that was prepared at the time the anti-idling Airborne Toxic Control Measure was being proposed for adoption in late 2004/early 2005, the regulation was estimated to reduce non-essential idling and associated emissions of diesel particulate matter and nitrogen oxide (NO_X) emissions by 64 and 78 percent respectively in analysis year 2009.[40] These reductions in emissions are directly attributable to overall reduced idling times and the resultant reduced fuel consumption. Mitigation Measure 4.3.6.2A includes a stricter provision that would limit idling to no more than three minutes in any one hour. Therefore, fuel savings have the potential to be even more than those estimated from the Airborne Toxic Control Measure.

CARB has also adopted emission standards for off-road diesel construction equipment of greater than 25 hp. The emissions standards are referred to as “tiers,” with Tier 4 being the most stringent (i.e., least polluting). The requirements are phased in, with full implementation for large and medium fleets by 2023 and for small fleets by 2028. The project would accelerate the use of cleaner construction equipment by using mobile off-road construction equipment greater than 50 horsepower (wheeled or tracked) that meets, at a minimum, the Tier 4 off-road emissions standards as specified in Mitigation Measure 4.3.6.2A. Field testing by construction equipment manufacturers has shown that higher tier equipment results in lower fuel consumption. For example, Tier 4 interim engines have shown a 5

[40] CARB, Staff Report: Initial Statement of Reasons for Proposed Rulemaking, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, Appendix F, July 2004, https://www.arb.ca.gov/regact/idling/idling.htm, Accessed April 2018.

percent reduced fuel consumption compared to a Tier 3 engine.[41] Similar reductions in fuel consumption have been shown for Tier 3 engines compared to a Tier 2 engine.[42]

The project would comply with and exceed (through its PDFs and mitigation measures) the applicable provisions of Title 24 and the CALGreen Code in affect at the time of building permit issuance and buildings over 500,000 square feet will be designed to be LEED certified. According to the CEC, buildings compliant with the Title 24 (2019) standards should use 5 percent less energy for lighting, heating, cooling, ventilation, and water heating than the prior Title 24 (2016) standards for non-residential uses.[43] As specified in the Project's Design Features, the project would include numerous energy and waste reduction features that would allow the project to comply with or exceed the Title 24 standards and achieve energy savings equal to or greater than what is required by state regulations.

With respect to operational transportation-related energy, the WLC project would support statewide efforts to improve transportation energy efficiency and reduce transportation fuel consumption with respect to private automobiles. In particular, the project would provide the infrastructure for supporting a higher population of electric vehicles, in direct support of the state's targets of 1.5 million ZEVs by 2025 and 4.2 million ZEVs by 2035. Thus, the project would comply with existing energy standards.

4.17.8 Significant Impacts

The project has no significant impacts related to energy use, consumption, resources, or standards.

[41] Businesswire, "Fuel Duel" Confirms 5 Percent Higher Fuel Efficiency for Cummins Tier 4, June 25, 2009, http://www.businesswire.com/news/home/20090625005468/en/%E2%80%9CFuel-Duel%E2%80%9D-Confirms-5-Percent-Higher-Fuel, Accessed April 2018.

[42] John Deere, Engine Performance, Fuel Efficiency, and Clean Air, Emissions Technology for Non-Road Applications, 2006, http://bellpower.com/uploads/product_brochures/15_Exp_EmissionsBrochure%20dswt14%5B1%5D.pdf, Accessed April 2018.

[43] CEC, Adoption Hearing, 2016 Building Energy Efficiency Standards, June 10, 2015, http://www.energy.ca.gov/title24/2016standards/rulemaking/documents/2015-06-10_hearing/2015-06-10_Adoption_Hearing_Presentation.pdf, Accessed April 2018.

NOTE TO READERS: Section 6.3, below, of this Draft Recirculated Revised Sections of the FEIR replaces Section 6.3 of the Revised Sections of the FEIR, circulated in July 2018 ("RSFEIR"). Section 6.3 replaces the cumulative analysis provided in Section 4.3 of the FEIR prepared in 2015.

6.3 Air Quality

Cumulative effects to air quality are described in this section. A summary of the project's potential impacts to air quality issues is provided in Section 6.3.1. The cumulative impact geographic areas for air quality issues are provided in Section 6.3.2. The potential cumulative impacts and the project's contribution to cumulative impacts to each of the air quality issues are discussed in Section 6.3.3. In addition, a brief summary of the significance of the project's contribution to cumulative impacts for each issue is also provided in Section 6.3.3 as well as applicable mitigation measures and significance determination after mitigation. Cumulative emissions calculations are included as Appendix A.3 of this Draft Recirculated RSFEIR.

The cumulative projects identified in Table 6.3-1 and their respective CEQA documents have been reviewed and evaluated in conjunction with the project to determine if they would contribute to a cumulatively considerable impact to air quality. These potentially cumulative impacts are documented in the following section.

6.3.1 Project Impact Findings

The project's effects to air quality are summarized in this section, and the impacts have been evaluated against the following thresholds that were developed based on the CEQA Guidelines Appendix G thresholds, as modified to address potential project impacts. After each threshold, a significance determination for the project impacts (see Section 4.3 of the Draft Recirculated RSFEIR) is provided as well as a reference to the specific section and impact number if the impact determination is significant.

Would the project:

- Conflict with or obstruct implementation of the applicable air quality plan? **Significant and Unavoidable with Mitigation, Section 4.3.6.1.**
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation? **Less than Significant, Section 4.3.5.2.**
- 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors); **Significant and Unavoidable with Mitigation, Section 4.3.6.**
- Expose sensitive receptors to substantial pollutant concentrations? **Significant and Unavoidable with Mitigation, Section 4.3.6.2; Significant and Unavoidable with Mitigation, Section 4.3.6.3; and Significant and Unavoidable with Mitigation, Section 4.3.6.4; Significant and Unavoidable with Mitigation, Section 4.3.6.5;**
- Create objectionable odors affecting a substantial number of people? **Less than Significant, Section 4.3.5.1.**

6.3.2 Geographic and Temporal Scope

6.3.2.1 Summary of Lists of Projects Approach

Ordinarily, the cumulative air quality thresholds of significance established by the South Coast Air Quality Management District (SCAQMD) are the same as those used to determine the significance of

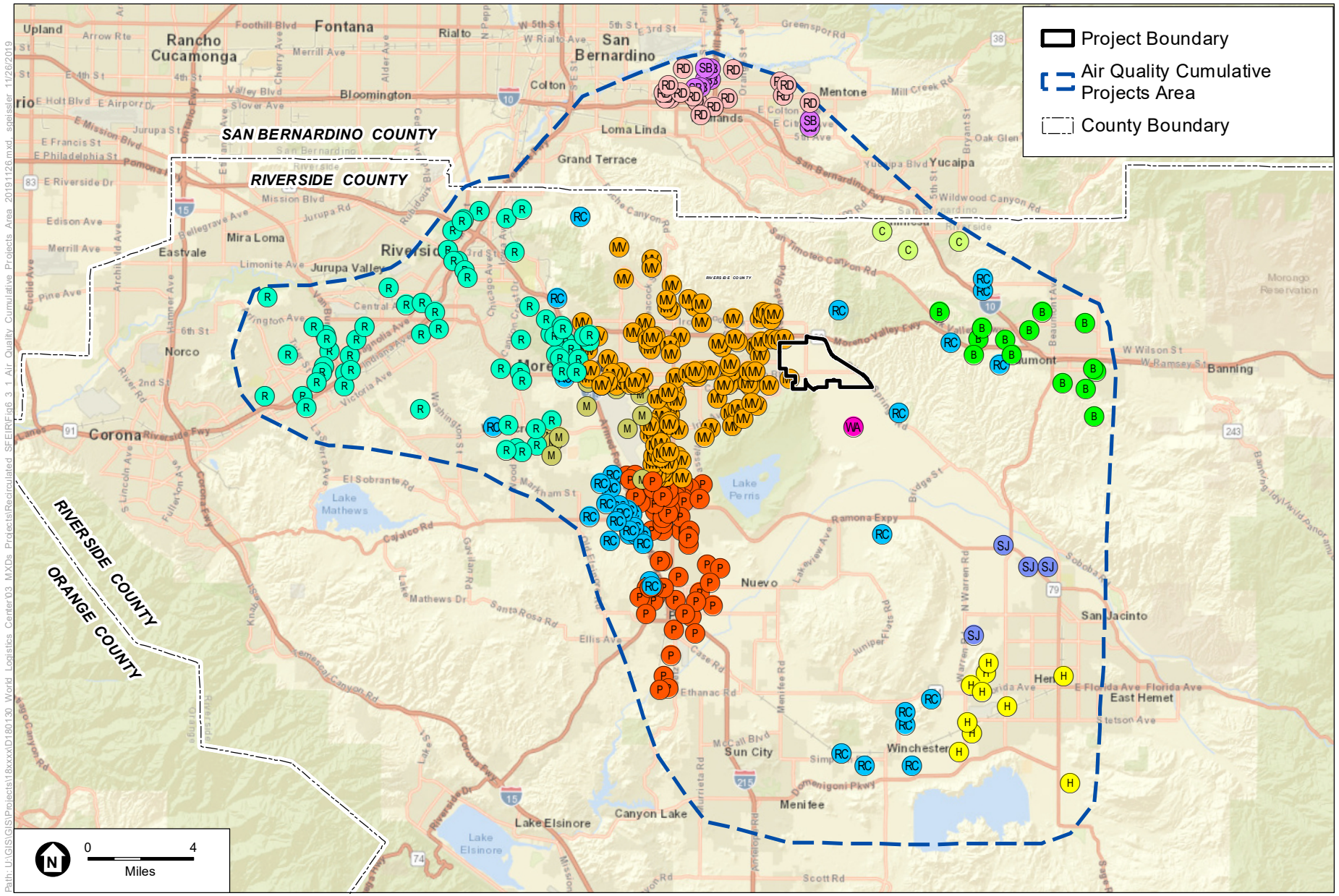
a project's air quality impacts, i.e., if a project's air quality impacts for a criteria pollutant are below the appropriate threshold, it is conclusively presumed that the project's cumulative impacts are not cumulatively considerable.[1] However, because of the court's ruling, which required the list of projects method to determine if a project's cumulative impacts were significant, the extent of the cumulative impacts analyzed in this Draft Recirculated RSFEIR was based on the limits set forth in the cumulative traffic analysis conducted by the project (refer to Section 6.15.2). The cumulative traffic analysis limited the geographic scope of refined cumulative traffic analyses to an area in which related projects could contribute 50 peak hour trips or more on surface streets in the same area as project impacts. As shown in Table 4.3-24, mobile sources contribute the vast majority of project-related emissions (approximately 92 to 99 percent) for pollutants such as CO, NOx, and PM, and approximately 40 percent for VOCs on a worst-case daily basis. Similarly, emissions from other proposed land uses identified in the vicinity of the Proposed Project (see Table 6.3-1) are expected to be dominated by mobile sources. This is consistent with SCAQMD's basin-wide inventories; for example, in the 2016 Air Quality Management Plan (AQMP), mobile sources contribute approximately 88 percent of basin-wide NOx emissions and approximately 58 percent of basin-wide VOCs.[2] Therefore, it is appropriate to also limit the geographic scope of the detailed cumulative air quality analyses to this "cumulative projects impact area" defined for traffic analyses, as those projects with the potential to contribute non-negligible peak hour trips (equal to or greater than 50) would represent the projects from which non-negligible emissions may contribute to a cumulative impact, that is a measurable change in the environment that results from the incremental impact of the proposed Project when added to other closely related past, present, and reasonably foreseeable probable future projects. According to the SCAQMD, "The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by standards of practicality and reasonableness, and should focus on the cumulative impact to which the identified other projects contribute."[3]

The cumulative project impact area includes the entire City of Moreno Valley and portions of the Cities of Riverside, Redlands, Beaumont, Perris, San Jacinto, Hemet and Calimesa, as well as portions of unincorporated Riverside and San Bernardino County, and the March Joint Powers Authority (JPA). A geographic map for these cumulative projects are shown on Figure 6.3-1. Approximately 359 projects have been identified in the vicinity of the Project and are listed in Table 6.3-1. Out of those 359 projects, approximately 173 environmental documents were available. All 173 were reviewed to identify quantitative emissions for construction and operation of the respective projects; however, not all environmental documents contained emissions for construction and operation. Emissions from all of the identified cumulative projects were calculated based on available information and methodologies.

1 South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution, White Paper, Appendix D, 1993, http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4. Accessed July 2017.

2 https://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/2016-air-quality-management-plan/final-2016-aqmp/chapter3.pdf?sfvrsn=4

3 South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution, White Paper, Appendix D, 1993, http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4. Page D-2. Accessed September 29, 2019.



SOURCE: ESRI; ESA; Highland Fairview 3/29/2018

World Logistics Center

Figure 6.3-1

Air Quality Cumulative Projects Area

ESA

Table 6.3-1 - Air Quality Cumulative Projects Summary

Project ID	Project Name	Land Use[1]	Size[2]
B-1	Fairway Canyon SCPGA Tract Nos. 31462, 36558, and 36783 (#29)	SF	3,300 DU
B-10	Tract No. 32850 (#39)	SF	95 DU
B-11	San Gorgonio Village, Phase 2 (#45)	RC	225 KSF
B-12	Beaumont Commercial Center	MF	279 DU
B-13	Four Seasons (#23) Tract Nos. 32260 and 33096	SF	1,890 DU
B-14	Potrero Creek Estates (#26)	SF	700 DU
B-2	Tournament Hills 3, TM 36307	MF	571 DU
B-3	Heartland	SF	922 DU
B-4	Hidden Canyon	LI	1,734 KSF
B-5	ProLogis/Rolling Hills Ranch	HI	2,565.68 KSF
B-6	Mountain Bridge Regional Commercial Planned Commu*	BP	1,853.25 KSF
B-7	Kirkwood Ranch (#14)	SF	403 DU
B-8	Noble Creek Vistas (#10)	SF	648 DU
B-9	Sundance (#17)	SF	4,450 DU
C-1	TTM 33931 Fiesta Oak Valley/Mesa Verde Estates	RC	200 KSF
C-2	Summerwind Ranch	BP	1,579 KSF
C-2	Summerwind Ranch	BP	1,000 KSF
C-3	JP Ranch	RC	72.7 KSF
H-1	TTM 36841	SF	588 DU
H-10	Downtown Hemet Specific Plan	**	**
H-2	Rancho Diamante	SF	440 DU
H-3	Tres Cerritos Specfic Plan	SF	931 DU
H-4	Sanderson Square	LI	734.98 KSF
H-4	Sanderson Square	LI	995.15 KSF
H-5	Mc Sweeny Farms SP	RC	20.90 KSF
H-6	Ramona Creek	RC	680.788 KSF
H-7	Peppertree Specific Plan	SR	358 KSF
H-8	Florida Promenade Residential SP	SF	145 DU
H-9	TTM 31807 / 31808	SR	599 KSF
M-1	Amstar/Kaliber Development PP22925	HI	409.312 KSF
M-10	Airport Master Plan	WH	559 KSF
M-11	PA 06-0014 (Pierce Hardy Limited Partnership)	RC	67 KSF
M-2	Meridian Business Park	LI	487.8 KSF
M-3	Meridian Business Park - Phase 3	WH	2,900 KSF
M-4	March Business Center - South Campus	RC	108.9 KSF
M-5	Meridian LNR	OG	232.76 KSF
M-6	Ben Clark Training Facility	BP	219.35 KSF
M-7	Meridian Business Park - Phase K4	WH	675.5 KSF
M-8	March LifeCare Campus Specific Plan	MO	2,930 KSF
M-9	TM 34748	SF	135 DU

MV-1	Auto Mall SP	RC	304.5 KSF
MV-10	TR30998 / Pacific Communities	SF	47 DU
MV-100	Scottish Village	MF	194 DU
MV-101	Restaurant	RC	9 KSF
MV-102	Moreno Valley Professional Center	OG	84 KSF
MV-103	Gateway Business Park	LI	184 KSF
MV-104	373K Industrial Facility	WH	373.03 KSF
MV-105	35369 Tason Myers Property	MF	12 DU
MV-106	35304 Jimmy Lee	MF	12 DU
MV-107	32711 Isaac Genah	SF	9 DU
MV-108	O'Reilly Automotive	RC	2.97 KSF
MV-109	Quail Ranch	SF	1,105 DU
MV-11	TR30411 / Pacific Communities	SF	24 DU
MV-110	TM 33417	MF	60 DU
MV-111	35769 Michael Chen	MF	16 DU
MV-112	PA09-0006 Jim Nydam	MF	15 DU
MV-113	Ironwood Residential	SF	144 DU
MV-114	Stoneridge Town Centre - Vacant Restaurant	RC	5.7 KSF
MV-115	Olivewood Plaza - Office Building	OG	0.02 KSF
MV-116	31621 Peter Sanchez	SF	25 DU
MV-117	MV-101	OG	52 KSF
MV-118	28860 Professor's Fun IV	SF	9 DU
MV-119	32126 Salvador Torres	SF	35 DU
MV-12	Moreno Medical Campus	MO	80 KSF
MV-120	Moreno Valley Shopping Center	RC	189.52 KSF
MV-121	Yum Donut Shop	RC	4.35 KSF
MV-122	Centerpointe Business Park	**	**
MV-123	Rancho Belago Plaza - Retail	RC	14 KSF
MV-124	Alessandro & Lasselle	RC	140 KSF
MV-125	32756 Jimmy Lee	MF	24 DU
MV-126	TTM 33222	SF	235 DU
MV-13	Cresta Bella	OG	30 KSF
MV-14	TR32548 / Gabel, Cook & Assoc	SF	107 DU
MV-15	TR32218 / Whitney	SF	63 DU
MV-16	TR32284 / 26th Corporation & Granite Capitol	SF	32 DU
MV-17	TR31590 / Winchester Associates	SF	96 DU
MV-18	Convenience Store / Fueling Station	RC	5.5 KSF
MV-19	Senior Assisted Living	SR	139 KSF
MV-2	TR35823 / Stowe Passco Devel.	SF	262 DU
MV-20	Moreno Marketplace	RC	93.79 KSF
MV-21	PEN16-0053 Medical Center	MO	80 KSF
MV-22	TR36882 (PA15-0010) SFR	SF	40 DU
MV-23	PEN16-0129/0130 MV Ranch Apartments	MF	417 DU

MV-24	TM 36436 (PA12-0005)	SF	159 DU
MV-25	TR32142	SF	81 DU
MV-26	TR 30268 (PA01-0072) Pacific Communities	SF	100 DU
MV-27	TR32917 / Empire land	MF	54 DU
MV-28	TR34329 / Granite Capitol	MF	90 DU
MV-29	TR36340	SF	275 DU
MV-3	ProLogis	WH	1,901 KSF
MV-30	PA03-0168 TR 31517	SF	83 DU
MV-31	PA15-0034 TR 36983	SF	53 DU
MV-32	TTM 31592 (P13-078) SFR	SF	115 DU
MV-33	TR32645 / Winchester Assoc	SF	54 DU
MV-34	TR34397/Winchester Assoc	SF	52 DU
MV-35	TR31771 / Sanchez	SF	25 DU
MV-36	TM 31618 (PA03-0106)	MF	56 DU
MV-37	Vogel /PA09-004	HI	1,616.13 KSF
MV-38	Vogel Properties	LI	434 KSF
MV-39	VIP Moreno Valley (SaresRegis/Vogel)	LI	1,600 KSF
MV-4	Westridge Commerce Center	LI	937.26 KSF
MV-40	PEN17-0036 Warehouse	WH	98.40 KSF
MV-41	First Nandina Logistics Center	WH	1,450 KSF
MV-42	Indian Street Commerce Center	WH	446.35 KSF
MV-43	Ivan Devries / PA06-0017	HI	555.67 KSF
MV-44	Modular Logistics Center (Kearny RE Co)	WH	1,109.38 KSF
MV-45	Iris Plaza	RC	87.12 KSF
MV-46	Harley Knox/Redlands Development	WH	382.28 KSF
MV-47	PA07-0129 TR 35606 SFR	SF	16 DU
MV-48	PA11-001 thru 007 March Business Center	BP	1484.50 KSF
MV-49	Indian Business Park	BP	1,560.05 KSF
MV-5	P06-158 / Gascon	RC	116.36 KSF
MV-50	San Michele Industrial Center	LI	354.81 KSF
MV-51	PA07-0165 thru 01667 First Industrial I & II	LI	769.32 KSF
MV-52	First Industrial III & IV	LI	878.96 KSF
MV-53	I-215 Logistics Center	WH	1,250 KSF
MV-54	Moreno Valley Logistics Center (Prologis)	WH	1,738 KSF
MV-55	MV Commerce Park II (Alere) - Built before 2012	**	**
MV-56	Tract Map 33810	SF	16 DU
MV-57	Tract Map 34151	SF	37 DU
MV-58	Tract Map 33024	SF	8 DU
MV-59	Tract Map 31442	SF	63 DU
MV-6	Highland Fairview Corporate Park	WH	750 KSF
MV-60	Tract Map 36401	SF	92 DU
MV-61	Walmart & Gas Station	RC	180 KSF
MV-62	Tract Map 22180	SF	543 DU

MV-63	PA14-0053 (TTM 36760) Legacy Park	SF	221 DU
MV-64	TR22180 / Young Homes	SF	87 DU
MV-65	TR33607 / TL Group	MF	52 DU
MV-66	TR34988 / Stratus Properties	MF	251 DU
MV-67	TR32515	SF	161 DU
MV-68	PA07-0035	HI	207.09 KSF
MV-69	PA07-0039 (Industrial Area SP)	HI	409.60 KSF
MV-7	TR33962 / Pacific Scene Homes	SF	31 DU
MV-70	TR32756 / CTK, Inc.	MF	241 DU
MV-71	TR34681 / Perris Pacific Co.	MF	49 DU
MV-72	35861 Frederick Homes	MF	24 DU
MV-73	TR36038 / Alessandro Village Plaza LLC	MF	96 DU
MV-74	TR34216 / Creative Design Assoc	SR	189 KSF
MV-75	Aqua Bella Specific Plan	SR	1,461 KSF
MV-76	Commercial Medical Plaza PA09-0033 thru 0039, and*	RC	311.63 KSF
MV-77	Minka Lighting	LI	533 KSF
MV-78	Overton Moore Properties PA08-0072	LI	520 KSF
MV-79	Shaw Development	WH	367 KSF
MV-8	TR32460 / Sussex Capital	SF	58 DU
MV-80	PA15-0032 MV Cactus Center	RC	44.3 KSF
MV-81	Ridge Property Trust PA07-0147 & PA 07-0157	WH	700 KSF
MV-82	Centerpointe Bus. Ctr	WH	500 KSF
MV-83	Centerpointe Business Park	LI	356 KSF
MV-84	PA16-0075 Brodiaea Business Center	LI	99.98 KSF
MV-85	Retail Center / Winco Foods	RC	140 KSF
MV-86	TR32505 / DR Horton	SF	71 DU
MV-87	TR31814 / Moreno Valley Investors	MF	60 DU
MV-88	TR33771 / Creative Design Assoc	MF	12 DU
MV-89	TR35663 / Kha	MF	12 DU
MV-9	TR32459 / Sussex Capital	SF	11 DU
MV-90	PEN16-0110 Commercial Pad H	RC	7.31 KSF
MV-91	TR31305 / Richmond American	SF	87 DU
MV-92	TR 33256	SF	99 DU
MV-93	PA14-0042 Edgemont Apartments	MF	112 DU
MV-94	PA15-0002 Box Springs Apartments	MF	266 DU
MV-95	Moreno Beach Market PLace/Lowes	RC	175 KSF
MV-96	31394 Pigeon Pass, Ltd.	SF	78 DU
MV-97	32005 Red Hill Village, LLC	SF	214 DU
MV-98	33388 SCH Development, LLC	SF	16 DU
MV-99	36038 Alessandro Village Plaza, LLC	MF	96 DU
P-1	TR32707	SF	137 DU
P-10	IDS	WH	1,700 KSF
P-11	Ridge II	HI	1,224.99 KSF

P-12	Starcrest P011-0005; 08-11-0006	LI	454.09 KSF
P-13	Ridge	**	**
P-14	Rados Distribution Center	WH	1,200 KSF
P-15	Duke Perris Logistics Center	WH	780.82 KSF
P-16	Perris Ridge Commerce Center I	WH	1,310 KSF
P-17	SRG Perris LC	WH	580 KSF
P-18	P07-07-0029	WH	1,547 KSF
P-19	P05-0192	WH	697.6 KSF
P-2	TR34716	WH	600 KSF
P-20	P05-0113	WH	871.5 KSF
P-21	P07-09-0018	WH	170 KSF
P-22	NICOL	WH	380 KSF
P-23	Westcoast Textiles	WH	180 KSF
P-24	Optimus Logistics Center 1	WH	1,464 KSF
P-25	Optimus Logistics Center 2	WH	1,038 KSF
P-26	Duke Warehouse	LI	811.62 KSF
P-27	Perris DC (Industrial Property Trust)	WH	864 KSF
P-28	Duke Warehouse	LI	670 KSF
P-29	P06-0411	**	**
P-3	P05-0477	WH	462.3 KSF
P-30	Avelina	SF	492 DU
P-31	Perris Family Apartments	MF	75 DU
P-32	Lewis Retail Center	RC	643 KSF
P-33	Harvest Landing Specific Plan	SF	1,860 DU
P-34	South Perris Industrial Phase 3	WH	3,166.86 KSF
P-35	Verano Apartments	MF	40 DU
P-36	South Perris Industrial Phase 2	WH	3,448.73 KSF
P-37	Cabrillo	SF	183 DU
P-38	Sequoia	SF	223 DU
P-39	South Perris Industrial Phase 1	WH	783.7 KSF
P-4	Bookend	LI	172 KSF
P-40	TR 32041	SF	122 DU
P-41	P 06-0228	LI	149.74 KSF
P-42	TR 31650	SF	61 DU
P-43	TR 31225	SF	57 DU
P-44	TR 33193	MF	94 DU
P-45	P 12-05-0013	MF	75 DU
P-46	P 06-0378	SR	429 KSF
P-47	Park West Specific Plan	SF	521 DU
P-48	TR 33338	SF	75 DU
P-49	TR 31240	SF	114 DU
P-5	Markham East	WH	460 KSF
P-50	P 11-09-0011	RC	80 KSF

P-51	TR 30973	SF	35 DU
P-52	TR 31226	SF	82 DU
P-53	TR 31659	SF	161 DU
P-54	TTM 32708	SF	238 DU
P-55	Perris Marketplace	RC	450 KSF
P-56	PM 34199 / TPM 34697	LI	9.85 KSF
P-57	P 04-0343	WH	41.65 KSF
P-58	Jordan Distribution	HI	378 KSF
P-59	TR 31407	SF	243 DU
P-6	Perris Circle Industrial Park	LI	600 KSF
P-60	Retail on Redlands	RC	4.5 KSF
P-61	TR32707	WH	350 KSF
P-7	Duke Warehouse	LI	1,189.9 KSF
P-8	First Perry Logistics Project	LI	241 KSF
P-9	Aiere	HI	642 KSF
R-1	Sycamore Canyon Business Park - Bldgs 1&2	BP	1,375.17 KSF
R-10	SR-91/ Van Buren Commercial	RC	23.57 KSF
R-11	Citrus Business Park Specific Plan	BP	340.66 KSF
R-12	Sycamore Canyon Business Park Specific Plan	RC	61.38 KSF
R-13	14601 Dauchy Av. - TM 36370	SF	3 DU
R-14	360 Alessandro Boulevard	RC	3.86 KSF
R-15	Mission Grove Specific Plan	SF	171.70 DU
R-16	Sycamore Canyon Specific Plan	SF	1.53 DU
R-17	5940-5980 Sycamore Canyon Boulevard	MF	275 DU
R-18	Hunter Business Park	LI	9,037.83 KSF
R-19	807 Blaine Street	MF	55 DU
R-2	Alessandro Business Center (Western Realco)	WH	582.77 KSF
R-20	474 Palmyrita Avenue	WH	1,461.45 KSF
R-21	1006 & 1008 Clark Street	SF	15 DU
R-22	3719 Strong Street	SF	9 DU
R-23	1710 Main Street (P12-0717)	RC	8.04KSF
R-24	Downtown Specific Plan	SF	5,000 DU
R-25	P14-0045 thru -0048	MF	208 DU
R-26	Marketplace Specific Plan	LI	943.51 KSF
R-27	2586 University Avenue	RC	3.62 KSF
R-28	2340 Fourteenth Street	SR	134 KSF
R-29	6570 Magnolia Avenue; 3739 & 3747 Central Avenue	RC	3.80 KSF
R-3	P07-1028, -0102; and P09-0416, -0418, -0419	LI	652.02 KSF
R-30	3545 Central Avenue	RC	208.57 KSF
R-31	P08- 0396 / P08-0397 Thru -0399 / TM 35620	MF	36 DU
R-32	Walmart Expansion	RC	22.27 KSF
R-33	5731, 5741, 5761 & 5797 Pickler Street	MF	30 DU
R-34	4247 Van Buren Boulevard	OG	12.17 KSF

R-35	3990 Reynolds Road	MF	102 DU
R-36	Magnolia Garden Condominiums	MF	62 DU
R-37	3705 Tyler Street	RC	6 KSF
R-38	Park Sierra Avenue	RC	3.5 KSF
R-39	Riverwalk Vista Specific Plan	SF	402 DU
R-4	Quail Run	MF	216 DU
R-40	P12- 0019 / P12-0156 / P12-0158	RC	2.4 KSF
R-41	4824 Jones Avenue	OG	23.12 KSF
R-42	Rancho La Sierra Specific Plan	SF	598 DU
R-43	P05-1528 \ P09-0087 \ TM 34509	SF	50 DU
R-44	6465 Sycamore Canyon Boulevard	RC	4 KSF
R-45	P06-0591	OG	37.94 KSF
R-46	Sycamore-Highlands Specific Plan	SF	35.84 DU
R-47	P06-0160 / P06-1281	WH	107.73 KSF
R-48	P06-1408	RC	75.3 KSF
R-49	Canyon Springs Specific Plan	SR	310 KSF
R-5	Canyon Springs Healthcare Campus	MO	500 KSF
R-50	Orangecrest Specific Plan	SF	3.83 DU
R-51	P10-0808 / P10-0708	RC	2.36 KSF
R-52	19811 Lurin Avenue	SF	32 DU
R-53	P06-1404 / Lurin Avenue / TM 33482	SF	29 DU
R-54	P06-1396 / Mariposa Avenue / TM 33481	SF	25 DU
R-55	P06-0900 / P08- 0269 / P08-0270 / TTM 32301	SF	20 DU
R-56	Office, Magnon & Panattoni	OG	131 KSF
R-57	SEC Sycamore Canyon Boulevard & Box Springs Road	LI	171.62 KSF
R-58	Canyon / Valley Springs Parkway	RC	2.75 KSF
R-59	Alessandro and Gorgonio	RC	4.05 KSF
R-6	2450 Market Street	MF	77 DU
R-60	Alessandro Bl.	BP	101.58 KSF
R-61	Gless Ranch	RC	425.45 KSF
R-62	6091 Victoria Avenue (P13-0432)	RC	1.83 KSF
R-63	8616 California Avenue (P08-0084; PM 35852)	MF	21 DU
R-64	P13-0389 / TM 36579	SF	5 DU
R-65	P13-0723; P13-0724; P13-0725; TM 36654	SF	62 DU
R-66	Azar Plaza	RC	6.15 KSF
R-7	2861 Mary Street	RC	56.10 KSF
R-8	5938-5944 Grand Avenue	SR	37 KSF
R-9	Magnolia Avenue Specific Plan	RC	8,777.62 KSF
RC-1	TR35530 / Quail Ranch Specific Plan	SF	1,251 DU
RC-10	Majestic Freeway Business Center	LI	6,200 KSF
RC-11	Alessandro Commerce Center	WH	814 KSF
RC-12	Cores Industrial Partners	LI	423.67 KSF

RC-13	Sunny-Cal Specific Plan (#40)	SF	497 DU
RC-14	University Highlands	MF	320 DU
RC-15	TTM 33410 Box Springs	SF	142 DU
RC-16	Sycamore Canyon Specific Plan	**	**
RC-17	PP 24608	RC	9.28 KSF
RC-18	TR 32406	SF	15 DU
RC-19	CUP 03599	RC	52.80 KSF
RC-2	Jack Rabbit Trail	SF	2,000 DU
RC-20	PP 25699	RC	2.8 KSF
RC-21	CUP 03527	WH	8 KSF
RC-22	TR 30592	SF	131 DU
RC-23	PP 25768	LI	52.45 KSF
RC-24	PP 21144	LI	190.80 KSF
RC-25	PP 16976	LI	85 KSF
RC-26	PM 32699	SF	2 DU
RC-27	Yocum Baldwin	LI	188.70 KSF
RC-28	CUP 03315	RC	5.6 KSF
RC-29	18580 Van Buren Boulevard	RC	8.14 KSF
RC-3	The Preserve / Legacy Highlands SP - Commercial and Residential	SF	3,412 DU
RC-30	Knox Logistics	WH	1,259.05 KSF
RC-31	PP 23342	LI	180.6 KSF
RC-32	TTM 31537	SF	726 DU
RC-33	TTM 34130	SF	384 DU
RC-34	Emerald Acres SP #381	SF	432 DU
RC-35	TR 34677,31100,32391,33448,31101,31009,32282	OG	80 KSF
RC-36	TR36478, TR36480, PP25219	SF	468 DU
RC-37	TR 36504	SF	562 DU
RC-38	San Gorgonio Crossings	WH	1,823.76 KSF
RC-39	Tract 33869	SF	39 DU
RC-4	Badlands Sanitary Landfill	**	**
RC-5	Villages of Lakeview - Commercial Development and Residential Development	SF	750 DU
RC-6	Rider Business Center (Core 5 Industrial Partners)	BP	600 KSF
RC-7	Nuevo Distribution Center	WH	1,586.65 KSF
RC-8	Trucking DC (Central Freight, LLC)	**	**
RC-9	Oleander Business Park PP20699	OG	34 KSF
RD-1	Tract 18988	SF	82 DU
RD-10	Park Ave Industrial Center	LI	145.26 KSF
RD-11	Marriott Springhill Suites	RC	55.47 KSF
RD-12	I-10 Redlands LC - B	WH	601.29 KSF
RD-13	Ashley Furniture	WH	1,013 KSF
RD-14	Redlands DC 772,000 SF	WH	772 KSF
RD-15	2220 Almond Ave	WH	423 KSF

RD-16	APL Logistics	WH	714.73 KSF
RD-2	Redlands Pioneer Tract	SF	55 DU
RD-3	Newland Homes Tract	SF	103 DU
RD-4	Redlands Pennsylvania Tract	SF	67 DU
RD-5	I-10 Redlands LC - A	WH	500.60 KSF
RD-6	Woodsprings Hotel	RC	48.22 KSF
RD-7	RV Storage Facility	RC	127.75 KSF
RD-8	Liberty Lane Apartments	MF	80 DU
RD-9	Hilton Home2 Suites	RC	43.80 KSF
SB-1	Redlands Gateway Logistics - B	WH	614.33 KSF
SB-2	Redlands Gateway Logistics - A	WH	313.47 KSF
SB-3	Prologis 12	WH	593.56 KSF
SB-4	Prologis 17	WH	777.62 KSF
SB-5	Prologis #13	WH	282 KSF
SB-6	Prologis #8	WH	542.98 KSF
SB-7	Sam Redlands Tract	SF	34 DU
SB-8	Jacinto Tract	SF	40 DU
SJ-1	Gateway Area Specific Plan	RC	1,678.24 KSF
SJ-2	TR 31886	SF	321 DU
SJ-3	TR 30598	SF	580 DU
SJ-4	TR 32955	SF	613 DU
SJWA-1	San Jacinto Wildlife Land Management Plan	**	**

1 BP Business Park
HI Heavy Industrial
LI Light Industrial
MF Multifamily Residential
MO Medical Office
OG General Office
RC Retail/Unspecified Commercial
SF Single Family Residential
SR Senior Residential
WH Warehouse-Logistics

2 DU Dwelling Units
KSF Thousand Square Feet

** Project information not available or planning level document with no direct development proposed.

6.3.2.1.1 Cumulative Operational Emissions

Operational emissions were accumulated from the environmental documents that were gathered for the cumulative analysis. For projects that did not have an environmental document with quantitative emissions available, emissions were modeled utilizing default emission rates and factors from California Emissions Estimator Model (CalEEMod) (version 2016.3.2) and the California Air Resources Board's (CARB) mobile source emissions inventory (EMFAC2017). Cumulative operational emissions include the following: off-site mobile emissions (EMFAC2017), paved on-road dust, area energy emissions from natural gas usage, area source emissions from consumer products usage, and landscaping emissions. Exhaust emissions from truck refrigeration units (TRUs) are also included for medium and heavy duty truck trips generated from retail/commercial, senior housing and warehousing land uses.

All cumulative project-level emissions were based on each land use and specific size for all projects for build out year 2035 on a consistent basis with the project buildout year 2035. This assures consistency in the calculations and the most current EMFAC2017 emission factors for each project.

Results of the cumulative operational emissions analysis are provided in Table 6.3-2.

Table 6.3-2: Cumulative Daily Operational Emissions (lbs/day)

Project ID	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
B-001	139.12	124.91	682.82	1.90	36.81	17.35
B-002	14.37	15.71	101.66	0.25	4.90	2.29
B-003	38.87	34.90	190.78	0.53	10.28	4.85
B-004	39.14	47.55	146.98	0.71	13.02	6.06
B-005	56.94	60.33	176.22	0.86	15.61	7.45
B-006	44.55	72.13	295.58	1.28	24.43	10.19
B-007	16.99	15.25	83.39	0.23	4.50	2.12
B-008	27.32	24.53	134.08	0.37	7.23	3.41
B-009	187.60	168.44	920.77	2.56	49.64	23.40
B-010	4.00	3.60	19.66	0.05	1.06	0.50
B-011	12.39	98.54	140.66	0.27	5.55	2.60
B-012	7.02	7.67	49.67	0.12	2.40	1.12
B-013	79.68	71.54	391.07	1.09	21.08	9.94
B-014	29.51	26.50	144.84	0.40	7.81	3.68
C-001	11.01	87.59	125.03	0.24	4.93	2.31
C-002	93.01	499.42	877.00	2.29	45.48	20.22
C-003	4.00	31.84	45.45	0.09	1.79	0.84
H-001	24.79	22.26	121.67	0.34	6.56	3.09
H-002	18.55	16.65	91.04	0.25	4.91	2.31
H-003	39.25	35.24	192.64	0.54	10.38	4.90
H-004	40.51	58.89	221.02	0.99	18.64	8.04
H-005	1.15	9.16	13.07	0.03	0.52	0.24
H-006	37.48	298.17	425.61	0.81	16.79	7.85
H-007	8.66	7.11	48.10	0.08	1.70	0.87
H-008	16.76	14.22	89.12	0.19	3.71	1.83
H-009	14.49	11.89	80.48	0.14	2.84	1.46
M-001	16.55	22.80	69.14	0.30	5.60	2.52
M-002	118.54	303.00	298.23	2.27	38.11	16.79
M-003	61.97	176.72	128.30	1.17	19.11	8.43
M-004	6.00	47.70	68.08	0.13	2.69	1.26
M-005	94.76	222.58	253.57	1.79	30.44	13.57
M-006	5.27	8.54	34.98	0.15	2.89	1.21
M-007	14.43	41.16	29.88	0.27	4.45	1.96
M-008	124.11	532.68	1,476.21	5.11	98.21	41.66

Table 6.3-2: Cumulative Daily Operational Emissions (lbs/day)

Project ID	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
M-009	5.69	5.11	27.93	0.08	1.51	0.71
M-010	11.95	34.06	24.73	0.23	3.68	1.63
M-011	3.69	29.34	41.89	0.08	1.65	0.77
MV-001	16.76	133.36	190.36	0.36	7.51	3.51
MV-002	16.48	15.86	92.67	0.24	4.78	2.24
MV-003	48.91	125.91	115.21	0.92	15.28	6.81
MV-004	21.16	25.70	79.45	0.38	7.04	3.27
MV-005	6.41	50.96	72.74	0.14	2.87	1.34
MV-006	16.03	45.70	33.18	0.30	4.94	2.18
MV-007	1.31	1.17	6.41	0.02	0.35	0.16
MV-008	2.45	2.20	12.00	0.03	0.65	0.31
MV-009	0.46	0.42	2.28	0.01	0.12	0.06
MV-010	1.98	1.78	9.73	0.03	0.52	0.25
MV-011	1.01	0.91	4.97	0.01	0.27	0.13
MV-012	2.45	7.07	29.64	0.12	2.26	0.94
MV-013	0.69	0.89	3.63	0.02	0.30	0.12
MV-014	4.51	4.05	22.14	0.06	1.19	0.56
MV-015	2.66	2.38	13.04	0.04	0.70	0.33
MV-016	1.35	1.21	6.62	0.02	0.36	0.17
MV-017	4.05	3.63	19.86	0.06	1.07	0.50
MV-018	0.30	2.41	3.44	0.01	0.14	0.06
MV-019	3.36	2.76	18.68	0.03	0.66	0.34
MV-020	5.16	41.08	58.63	0.11	2.31	1.08
MV-021	2.45	7.07	29.64	0.12	2.26	0.94
MV-022	1.69	1.51	8.28	0.02	0.45	0.21
MV-023	10.49	11.47	74.24	0.18	3.58	1.67
MV-024	6.70	6.02	32.90	0.09	1.77	0.84
MV-025	3.41	3.07	16.76	0.05	0.90	0.43
MV-026	4.22	3.79	20.69	0.06	1.12	0.53
MV-027	1.36	1.49	9.61	0.02	0.46	0.22
MV-028	2.26	2.48	16.02	0.04	0.77	0.36
MV-029	11.59	10.41	56.90	0.16	3.07	1.45
MV-030	3.50	3.14	17.17	0.05	0.93	0.44
MV-031	2.23	2.01	10.97	0.03	0.59	0.28
MV-032	4.85	4.35	23.80	0.07	1.28	0.60
MV-033	2.28	2.04	11.17	0.03	0.60	0.28
MV-034	2.19	1.97	10.76	0.03	0.58	0.27
MV-035	1.05	0.95	5.17	0.01	0.28	0.13
MV-036	1.41	1.54	9.97	0.02	0.48	0.22

Table 6.3-2: Cumulative Daily Operational Emissions (lbs/day)

Project ID	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
MV-037	35.87	38.00	111.00	0.54	9.83	4.69
MV-038	9.80	11.90	36.79	0.18	3.26	1.52
MV-039	36.12	43.88	135.62	0.65	12.01	5.59
MV-040	2.10	6.00	4.35	0.04	0.65	0.29
MV-041	30.99	88.36	64.15	0.59	9.56	4.22
MV-042	9.54	27.20	19.75	0.18	2.94	1.30
MV-043	12.33	13.07	38.17	0.19	3.38	1.61
MV-044	23.71	67.60	49.08	0.45	7.31	3.23
MV-045	4.80	38.16	54.46	0.10	2.15	1.00
MV-046	8.17	23.30	16.91	0.15	2.52	1.11
MV-047	0.67	0.61	3.31	0.01	0.18	0.08
MV-048	35.69	57.78	236.77	1.03	19.57	8.17
MV-049	37.50	60.72	248.81	1.08	20.57	8.58
MV-050	8.01	9.73	30.08	0.14	2.66	1.24
MV-051	17.37	21.10	65.21	0.31	5.78	2.69
MV-052	19.84	24.10	74.51	0.36	6.60	3.07
MV-053	26.71	76.17	55.30	0.50	8.24	3.63
MV-054	37.14	105.91	76.89	0.70	11.45	5.05
MV-056	0.67	0.61	3.31	0.01	0.18	0.08
MV-057	1.56	1.40	7.66	0.02	0.41	0.19
MV-058	0.34	0.30	1.66	0.00	0.09	0.04
MV-059	2.66	2.38	13.04	0.04	0.70	0.33
MV-060	3.88	3.48	19.04	0.05	1.03	0.48
MV-061	9.91	78.83	112.53	0.22	4.44	2.08
MV-062	22.89	20.55	112.36	0.31	6.06	2.86
MV-063	9.32	8.36	45.73	0.13	2.47	1.16
MV-064	3.67	3.29	18.00	0.05	0.97	0.46
MV-065	1.31	1.43	9.26	0.02	0.45	0.21
MV-066	6.32	6.90	44.69	0.11	2.16	1.01
MV-067	6.79	6.09	33.31	0.09	1.80	0.85
MV-068	4.60	4.87	14.22	0.07	1.26	0.60
MV-069	9.09	9.63	28.13	0.14	2.49	1.19
MV-070	6.06	6.63	42.91	0.10	2.07	0.97
MV-071	1.23	1.35	8.72	0.02	0.42	0.20
MV-072	0.60	0.66	4.27	0.01	0.21	0.10
MV-073	2.42	2.64	17.09	0.04	0.82	0.39
MV-074	4.57	3.75	25.39	0.04	0.90	0.46
MV-075	35.35	29.00	196.29	0.34	6.93	3.56
MV-076	17.16	136.49	194.82	0.37	7.69	3.59

Table 6.3-2: Cumulative Daily Operational Emissions (lbs/day)

Project ID	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
MV-077	12.03	14.62	45.18	0.22	4.00	1.86
MV-078	11.74	14.26	44.08	0.21	3.90	1.82
MV-079	7.84	22.36	16.24	0.15	2.42	1.07
MV-080	2.44	19.40	27.69	0.05	1.09	0.51
MV-081	14.96	42.66	30.97	0.28	4.61	2.04
MV-082	10.68	30.47	22.12	0.20	3.30	1.45
MV-083	8.04	9.76	30.18	0.15	2.67	1.24
MV-084	2.26	2.74	8.47	0.04	0.75	0.35
MV-085	7.71	61.32	87.52	0.17	3.45	1.61
MV-086	2.99	2.69	14.69	0.04	0.79	0.37
MV-087	1.51	1.65	10.68	0.03	0.52	0.24
MV-088	0.30	0.33	2.14	0.01	0.10	0.05
MV-089	0.30	0.33	2.14	0.01	0.10	0.05
MV-090	0.40	3.20	4.57	0.01	0.18	0.08
MV-091	3.67	3.29	18.00	0.05	0.97	0.46
MV-092	4.17	3.75	20.48	0.06	1.10	0.52
MV-093	2.82	3.08	19.94	0.05	0.96	0.45
MV-094	6.69	7.32	47.36	0.12	2.28	1.07
MV-095	9.63	76.64	109.40	0.21	4.32	2.02
MV-096	3.29	2.95	16.14	0.04	0.87	0.41
MV-097	9.02	8.10	44.28	0.12	2.39	1.13
MV-098	0.67	0.61	3.31	0.01	0.18	0.08
MV-099	2.42	2.64	17.09	0.04	0.82	0.39
MV-100	4.88	5.34	34.54	0.08	1.67	0.78
MV-101	0.50	3.94	5.63	0.01	0.22	0.10
MV-102	1.94	2.48	10.15	0.04	0.83	0.35
MV-103	4.15	5.05	15.60	0.08	1.38	0.64
MV-104	7.97	22.73	16.50	0.15	2.46	1.08
MV-105	0.30	0.33	2.14	0.01	0.10	0.05
MV-106	0.30	0.33	2.14	0.01	0.10	0.05
MV-107	0.38	0.34	1.86	0.01	0.10	0.05
MV-108	0.16	1.30	1.86	0.00	0.07	0.03
MV-109	46.58	41.82	228.64	0.64	12.33	5.81
MV-110	1.51	1.65	10.68	0.03	0.52	0.24
MV-111	0.40	0.44	2.85	0.01	0.14	0.06
MV-112	0.38	0.41	2.67	0.01	0.13	0.06
MV-113	6.07	5.45	29.80	0.08	1.61	0.76
MV-114	0.31	2.50	3.56	0.01	0.14	0.07
MV-115	0.00	0.00	0.00	0.00	0.00	0.00

Table 6.3-2: Cumulative Daily Operational Emissions (lbs/day)

Project ID	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
MV-116	1.05	0.95	5.17	0.01	0.28	0.13
MV-117	1.20	1.54	6.29	0.03	0.51	0.21
MV-118	0.38	0.34	1.86	0.01	0.10	0.05
MV-119	1.48	1.32	7.24	0.02	0.39	0.18
MV-120	10.43	83.00	118.48	0.23	4.67	2.19
MV-121	0.24	1.91	2.72	0.01	0.11	0.05
MV-123	0.77	6.13	8.75	0.02	0.35	0.16
MV-124	7.71	61.32	87.52	0.17	3.45	1.61
MV-125	0.60	0.66	4.27	0.01	0.21	0.10
MV-126	9.91	8.89	48.63	0.14	2.62	1.24
MV-127	7.27	20.72	15.04	0.14	2.24	0.99
MV-129	35.66	43.33	133.93	0.64	11.86	5.52
MV-130	4.74	13.52	9.82	0.09	1.46	0.65
MV-131	32.05	91.41	66.36	0.61	9.89	4.36
MV-132	23.51	67.03	48.67	0.44	7.25	3.20
P-001	5.78	5.19	28.35	0.08	1.53	0.72
P-002	12.82	36.56	26.54	0.24	3.95	1.74
P-003	9.88	28.17	20.45	0.19	3.05	1.34
P-004	3.88	4.72	14.58	0.07	1.29	0.60
P-005	9.83	28.03	20.35	0.19	3.03	1.34
P-006	13.54	16.45	50.86	0.24	4.50	2.10
P-007	26.86	32.63	100.86	0.49	8.93	4.16
P-008	5.44	6.61	20.43	0.10	1.81	0.84
P-009	14.25	15.10	44.09	0.21	3.91	1.86
P-010	36.33	103.60	75.21	0.69	11.20	4.94
P-011	27.19	28.80	84.14	0.41	7.45	3.56
P-012	10.25	12.45	38.49	0.19	3.41	1.59
P-014	25.64	73.13	53.09	0.48	7.91	3.49
P-015	16.69	47.58	34.54	0.32	5.15	2.27
P-016	27.99	79.83	57.96	0.53	8.63	3.81
P-017	12.39	35.34	25.66	0.23	3.82	1.69
P-018	33.06	94.27	68.44	0.62	10.20	4.50
P-019	14.91	42.51	30.86	0.28	4.60	2.03
P-020	18.62	53.11	38.56	0.35	5.74	2.53
P-021	3.63	10.36	7.52	0.07	1.12	0.49
P-022	8.12	23.16	16.81	0.15	2.50	1.10
P-023	3.85	10.97	7.96	0.07	1.19	0.52
P-024	31.28	89.21	64.77	0.59	9.65	4.26
P-025	22.18	63.25	45.92	0.42	6.84	3.02

Table 6.3-2: Cumulative Daily Operational Emissions (lbs/day)

Project ID	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
P-026	18.32	22.26	68.80	0.33	6.09	2.83
P-027	18.46	52.65	38.22	0.35	5.69	2.51
P-028	15.12	18.37	56.79	0.27	5.03	2.34
P-030	20.74	18.62	101.80	0.28	5.49	2.59
P-031	1.89	2.06	13.35	0.03	0.64	0.30
P-032	35.40	281.62	401.98	0.77	15.86	7.42
P-033	78.41	70.40	384.86	1.07	20.75	9.78
P-034	67.67	192.98	140.11	1.28	20.87	9.21
P-035	1.01	1.10	7.12	0.02	0.34	0.16
P-036	76.45	232.06	183.83	1.45	23.96	10.60
P-037	7.71	6.93	37.87	0.11	2.04	0.96
P-038	9.40	8.44	46.14	0.13	2.49	1.17
P-039	16.75	47.76	34.67	0.32	5.17	2.28
P-040	5.14	4.62	25.24	0.07	1.36	0.64
P-041	3.38	4.11	12.69	0.06	1.12	0.52
P-042	2.57	2.31	12.62	0.04	0.68	0.32
P-043	2.40	2.16	11.79	0.03	0.64	0.30
P-044	2.37	2.59	16.73	0.04	0.81	0.38
P-045	1.89	2.06	13.35	0.03	0.64	0.30
P-046	10.38	8.52	57.64	0.10	2.04	1.04
P-047	21.96	19.72	107.80	0.30	5.81	2.74
P-048	3.16	2.84	15.52	0.04	0.84	0.39
P-049	4.81	4.31	23.59	0.07	1.27	0.60
P-050	4.40	35.04	50.01	0.10	1.97	0.92
P-051	1.48	1.32	7.24	0.02	0.39	0.18
P-052	3.46	3.10	16.97	0.05	0.91	0.43
P-053	6.79	6.09	33.31	0.09	1.80	0.85
P-054	10.03	9.01	49.25	0.14	2.65	1.25
P-055	24.77	197.09	281.32	0.54	11.10	5.19
P-056	0.22	0.27	0.84	0.00	0.07	0.03
P-057	0.89	2.54	1.84	0.02	0.27	0.12
P-058	8.39	8.89	25.96	0.13	2.30	1.10
P-059	10.24	9.20	50.28	0.14	2.71	1.28
P-060	0.25	1.97	2.81	0.01	0.11	0.05
P-061	7.48	21.33	15.48	0.14	2.31	1.02
R-001	33.06	53.52	219.33	0.95	18.13	7.56
R-002	12.45	35.51	25.78	0.24	3.84	1.69
R-003	14.72	17.88	55.27	0.27	4.89	2.28
R-004	5.44	5.94	38.45	0.09	1.85	0.87

Table 6.3-2: Cumulative Daily Operational Emissions (lbs/day)

Project ID	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
R-005	15.31	44.19	185.24	0.74	14.13	5.88
R-006	1.94	2.12	13.71	0.03	0.66	0.31
R-007	3.09	24.57	35.07	0.07	1.38	0.65
R-008	0.90	0.73	4.97	0.01	0.18	0.09
R-009	483.24	3,844.34	5,487.47	10.50	216.49	101.24
R-010	1.30	10.32	14.73	0.03	0.58	0.27
R-011	8.19	13.26	54.33	0.24	4.49	1.87
R-012	3.38	26.88	38.37	0.07	1.51	0.71
R-013	0.13	0.11	0.62	0.00	0.03	0.02
R-014	0.21	1.69	2.41	0.00	0.10	0.04
R-015	7.24	6.50	35.53	0.10	1.92	0.90
R-016	0.06	0.06	0.32	0.00	0.02	0.01
R-017	6.92	7.56	48.96	0.12	2.36	1.10
R-018	204.00	247.84	766.09	3.69	67.84	31.56
R-019	1.38	1.51	9.79	0.02	0.47	0.22
R-020	31.23	89.06	64.66	0.59	9.63	4.25
R-021	0.63	0.57	3.10	0.01	0.17	0.08
R-022	0.38	0.34	1.86	0.01	0.10	0.05
R-023	0.44	3.52	5.03	0.01	0.20	0.09
R-024	210.79	189.25	1,034.58	2.88	55.77	26.29
R-025	5.23	5.72	37.03	0.09	1.79	0.84
R-026	46.06	169.90	321.69	0.98	19.01	8.64
R-027	0.20	1.58	2.26	0.00	0.09	0.04
R-028	3.24	2.66	18.00	0.03	0.64	0.33
R-029	0.21	1.66	2.37	0.00	0.09	0.04
R-030	11.48	91.35	130.39	0.25	5.14	2.41
R-031	0.91	0.99	6.41	0.02	0.31	0.14
R-032	1.23	9.75	13.92	0.03	0.55	0.26
R-033	0.75	0.83	5.34	0.01	0.26	0.12
R-034	0.28	0.36	1.47	0.01	0.12	0.05
R-035	2.57	2.81	18.16	0.04	0.88	0.41
R-036	1.56	1.71	11.04	0.03	0.53	0.25
R-037	0.33	2.63	3.75	0.01	0.15	0.07
R-038	0.19	1.53	2.19	0.00	0.09	0.04
R-039	16.95	15.22	83.18	0.23	4.48	2.11
R-040	0.13	1.05	1.50	0.00	0.06	0.03
R-041	0.53	0.68	2.80	0.01	0.23	0.10
R-042	25.21	22.63	123.74	0.34	6.67	3.14
R-043	2.11	1.89	10.35	0.03	0.56	0.26

Table 6.3-2: Cumulative Daily Operational Emissions (lbs/day)

Project ID	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
R-044	0.22	1.75	2.50	0.00	0.10	0.05
R-045	0.88	1.12	4.59	0.02	0.37	0.16
R-046	1.51	1.36	7.42	0.02	0.40	0.19
R-047	2.30	6.57	4.77	0.04	0.71	0.31
R-048	4.15	32.98	47.07	0.09	1.86	0.87
R-049	7.50	6.15	41.65	0.07	1.47	0.75
R-050	0.16	0.15	0.79	0.00	0.04	0.02
R-051	0.13	1.03	1.48	0.00	0.06	0.03
R-052	1.35	1.21	6.62	0.02	0.36	0.17
R-053	1.22	1.10	6.00	0.02	0.32	0.15
R-054	1.05	0.95	5.17	0.01	0.28	0.13
R-055	0.84	0.76	4.14	0.01	0.22	0.11
R-056	3.03	3.87	15.84	0.07	1.29	0.54
R-057	3.87	4.71	14.55	0.07	1.29	0.60
R-058	0.15	1.20	1.72	0.00	0.07	0.03
R-059	0.22	1.77	2.53	0.00	0.10	0.05
R-060	2.44	3.95	16.20	0.07	1.34	0.56
R-061	23.42	186.33	265.97	0.51	10.49	4.91
R-062	0.10	0.80	1.14	0.00	0.05	0.02
R-063	0.53	0.58	3.74	0.01	0.18	0.08
R-064	0.21	0.19	1.03	0.00	0.06	0.03
R-065	2.61	2.35	12.83	0.04	0.69	0.33
R-066	0.34	2.69	3.84	0.01	0.15	0.07
RC-001	52.74	47.35	258.85	0.72	13.95	6.58
RC-002	84.32	75.70	413.83	1.15	22.31	10.52
RC-003	143.84	129.15	706.00	1.96	38.06	17.94
RC-005	31.62	28.39	155.19	0.43	8.37	3.94
RC-006	14.42	23.35	95.70	0.41	7.91	3.30
RC-007	33.91	96.69	70.19	0.64	10.46	4.61
RC-009	26.81	28.58	84.66	0.41	7.47	3.54
RC-010	139.95	170.02	525.55	2.53	46.54	21.65
RC-011	17.39	49.60	36.01	0.33	5.36	2.37
RC-012	9.56	11.62	35.91	0.17	3.18	1.48
RC-013	20.95	18.81	102.84	0.29	5.54	2.61
RC-014	8.05	8.80	56.97	0.14	2.75	1.28
RC-015	5.99	5.37	29.38	0.08	1.58	0.75
RC-017	0.51	4.06	5.80	0.01	0.23	0.11
RC-018	0.63	0.57	3.10	0.01	0.17	0.08
RC-019	2.91	23.12	33.01	0.06	1.30	0.61

Table 6.3-2: Cumulative Daily Operational Emissions (lbs/day)

Project ID	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
RC-020	0.15	1.23	1.75	0.00	0.07	0.03
RC-021	0.17	0.49	0.35	0.00	0.05	0.02
RC-022	5.52	4.96	27.11	0.08	1.46	0.69
RC-023	1.18	1.44	4.45	0.02	0.39	0.18
RC-024	4.31	5.23	16.17	0.08	1.43	0.67
RC-025	1.92	2.33	7.21	0.03	0.64	0.30
RC-026	0.08	0.08	0.41	0.00	0.02	0.01
RC-027	4.26	5.17	16.00	0.08	1.42	0.66
RC-028	0.31	2.45	3.50	0.01	0.14	0.06
RC-029	0.45	3.57	5.09	0.01	0.20	0.09
RC-030	26.90	76.73	55.70	0.51	8.30	3.66
RC-031	4.08	4.95	15.31	0.07	1.36	0.63
RC-032	30.61	27.48	150.22	0.42	8.10	3.82
RC-033	16.19	14.53	79.46	0.22	4.28	2.02
RC-034	18.21	16.35	89.39	0.25	4.82	2.27
RC-035	121.40	110.21	602.02	1.68	32.62	15.33
RC-036	19.73	17.71	96.84	0.27	5.22	2.46
RC-037	23.69	21.27	116.29	0.32	6.27	2.96
RC-038	38.97	111.14	80.69	0.74	12.02	5.30
RC-039	1.64	1.48	8.07	0.02	0.44	0.21
RD-001	3.46	3.10	16.97	0.05	0.91	0.43
RD-002	2.32	2.08	11.38	0.03	0.61	0.29
RD-003	4.34	3.90	21.31	0.06	1.15	0.54
RD-004	2.82	2.54	13.86	0.04	0.75	0.35
RD-005	10.70	30.51	22.15	0.20	3.30	1.46
RD-006	2.65	21.12	30.15	0.06	1.19	0.56
RD-007	7.03	55.95	79.86	0.15	3.15	1.47
RD-008	2.01	2.20	14.24	0.03	0.69	0.32
RD-009	2.41	19.18	27.38	0.05	1.08	0.51
RD-010	3.28	3.98	12.31	0.06	1.09	0.51
RD-011	3.05	24.29	34.67	0.07	1.37	0.64
RD-012	12.85	36.64	26.60	0.24	3.96	1.75
RD-013	21.65	61.73	44.82	0.41	6.68	2.95
RD-014	16.50	47.04	34.15	0.31	5.09	2.24
RD-015	9.04	25.78	18.71	0.17	2.79	1.23
RD-016	15.27	43.56	31.62	0.29	4.71	2.08
SB-001	13.13	37.44	27.18	0.25	4.05	1.79
SB-002	6.70	19.10	13.87	0.13	2.07	0.91
SB-003	12.68	36.17	26.26	0.24	3.91	1.73

Table 6.3-2: Cumulative Daily Operational Emissions (lbs/day)

Project ID	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
SB-004	16.62	47.39	34.40	0.31	5.12	2.26
SB-005	6.03	17.18	12.48	0.11	1.86	0.82
SB-006	11.60	33.09	24.02	0.22	3.58	1.58
SB-007	1.43	1.29	7.04	0.02	0.38	0.18
SB-008	1.69	1.51	8.28	0.02	0.45	0.21
SJ-001	92.39	735.02	1,049.18	2.01	41.39	19.36
SJ-002	13.53	12.15	66.42	0.18	3.58	1.69
SJ-003	24.45	21.95	120.01	0.33	6.47	3.05
SJ-004	25.84	23.20	126.84	0.35	6.84	3.22
Total	5,915.42	15,683.32	31,942.02	107.61	2,015.08	921.24
Proposed Project	363	1,432	978	10	388	125

6.3.2.1.2 Cumulative Construction Emissions

Detailed research was conducted to identify as much information on the remaining projects that did not have environmental documents with construction and operational emissions available. However, complete project descriptions and detailed construction schedules were not available for every single project within the cumulative analysis limits. Therefore, with the information that was accumulated, modeling was conducted to estimate construction emissions generated from these cumulative projects. Due to the high number of projects that required modeling, project construction phase duration was based on CalEEMod default lengths and equipment based on site acreage. Construction work days was based on a 6-day work week. Default construction phase equipment levels out at a 200-acre project site. Therefore, all projects larger than 200 acres utilizes assumptions for a 200-acre site and a multiplier is used for the remaining acreage.

Offsite mobile source emissions related to construction are calculated using EMFAC2017 and include construction worker commuting (for all phases of construction), vendor trucks (during building construction phase) and haul trucks (during site prep and excavation phases for projects from 5-40 acres in construction area).

Trip rates are based on the ITE 10th Edition with the trip lengths for all other land uses based on CalEEMod defaults including primary trips, diverted trips, and pass-by trip lengths. Vehicle distribution between vehicle categories for these land uses are based on EMFAC2017 vehicle distribution for SCAQMD for 2020. The EMFAC vehicle categories are re-grouped into the same 4 groups used for logistics calculations (Passenger Cars, Light Trucks, Medium Trucks and Heavy Truck).

Out of the 359 cumulative projects that were evaluated, 67 were found to be completed with construction or currently undergoing construction as of November 2019 and have not been included in the analysis. Therefore, 289 potentially cumulative projects could undergo construction activities during the project's 15-year construction period. Results of the cumulative construction emissions analysis is provided in Table 6.3-3

Table 6.3-3: Cumulative Maximum Daily Construction Emissions (lbs/day)

Project ID	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
B-001	44.69	376.90	473.29	1.42	102.99	39.27
B-003	24.45	125.63	81.59	0.18	21.06	13.09

Table 6.3-3: Cumulative Maximum Daily Construction Emissions (lbs/day)

Project ID	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
B-004	292.73	62.82	57.85	0.17	11.53	6.55
B-006	312.85	62.82	60.42	0.18	12.22	6.55
B-007	20.93	62.82	40.79	0.08	10.53	6.55
B-008	17.31	125.63	81.59	0.16	21.06	13.09
B-009	73.24	546.63	794.59	2.46	181.44	58.73
B-010	30.79	73.66	43.56	0.11	10.53	6.54
B-011	104.50	42.48	22.27	0.05	20.47	12.01
B-013	26.80	251.27	215.45	0.60	42.12	26.18
B-014	18.67	125.63	81.59	0.16	21.06	13.09
C-001	103.21	42.48	22.27	0.05	10.53	6.54
C-002	319.38	62.82	71.93	0.23	15.36	6.55
C-003	67.60	26.80	16.20	0.04	4.54	2.64
H-001	30.44	62.82	40.79	0.08	10.53	6.55
H-002	22.83	62.82	40.79	0.08	10.53	6.55
H-003	24.69	125.63	81.59	0.18	21.06	13.09
H-004	292.08	62.82	57.77	0.17	11.51	6.55
H-005	38.99	9.21	8.05	0.01	0.92	0.66
H-006	315.70	62.82	40.79	0.08	10.53	6.54
H-007	30.23	62.82	40.79	0.08	10.53	6.55
H-008	20.38	62.82	40.79	0.08	10.53	6.55
M-001	333.75	106.20	51.85	0.21	11.65	6.54
M-003	359.18	66.98	83.09	0.27	18.36	6.55
M-004	101.14	26.80	16.81	0.04	4.54	2.64
M-005	184.81	89.12	114.68	0.39	26.92	8.65
M-006	101.90	42.48	22.27	0.05	20.47	12.01
M-007	313.29	73.66	43.56	0.11	10.53	6.54
M-008	300.51	125.63	94.68	0.32	21.51	13.09
M-009	27.88	62.82	40.79	0.08	10.53	6.55
M-010	259.30	68.24	42.18	0.10	10.53	6.54
M-011	62.32	21.38	16.09	0.03	4.05	2.46
MV-001	141.34	42.48	22.27	0.06	20.47	12.01
MV-002	39.47	62.82	40.79	0.08	10.53	6.55
MV-003	280.95	62.82	69.47	0.22	14.67	6.55
MV-005	108.06	26.80	16.98	0.04	4.54	2.64
MV-006	347.82	73.66	43.56	0.11	10.53	6.54
MV-007	17.70	42.48	22.27	0.05	20.47	12.01
MV-008	32.90	68.24	42.18	0.10	10.53	6.54
MV-009	7.12	42.48	22.27	0.04	10.53	6.54
MV-010	26.70	68.24	42.18	0.10	10.53	6.54

Table 6.3-3: Cumulative Maximum Daily Construction Emissions (lbs/day)

Project ID	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
MV-011	13.75	42.48	22.27	0.05	20.47	12.01
MV-013	55.83	9.32	8.06	0.01	0.92	0.66
MV-014	22.14	73.66	43.56	0.11	10.53	6.55
MV-015	35.69	73.66	43.56	0.11	10.53	6.54
MV-016	18.26	68.24	42.18	0.10	10.53	6.54
MV-017	31.11	73.66	43.56	0.11	10.53	6.54
MV-021	74.37	26.80	16.67	0.04	4.54	2.64
MV-023	74.90	73.66	43.56	0.11	10.53	6.54
MV-024	24.12	62.82	40.79	0.08	10.53	6.55
MV-025	26.27	73.66	43.56	0.11	10.53	6.54
MV-026	32.40	73.66	43.56	0.11	10.53	6.54
MV-027	19.03	42.48	22.27	0.04	10.53	6.54
MV-028	28.42	42.48	22.27	0.05	20.47	12.01
MV-029	28.42	62.82	40.79	0.08	10.53	6.55
MV-030	26.91	73.66	43.56	0.11	10.53	6.54
MV-031	30.08	68.24	42.18	0.10	10.53	6.54
MV-032	23.78	73.66	43.56	0.11	10.53	6.55
MV-033	30.64	68.24	42.18	0.10	10.53	6.54
MV-034	29.52	68.24	42.18	0.10	10.53	6.54
MV-035	14.32	42.48	22.27	0.05	20.47	12.01
MV-040	91.42	21.38	17.08	0.03	4.05	2.46
MV-041	384.38	62.82	51.66	0.15	10.53	6.54
MV-042	207.10	68.24	42.18	0.10	10.53	6.54
MV-044	294.12	73.66	43.95	0.12	10.53	6.54
MV-045	80.96	26.80	16.44	0.04	4.54	2.64
MV-047	9.25	42.48	22.27	0.05	20.47	12.01
MV-054	293.41	62.82	57.90	0.17	11.54	6.55
MV-056	9.25	42.48	22.27	0.05	20.47	12.01
MV-057	21.07	68.24	42.18	0.10	10.53	6.54
MV-059	35.69	73.66	43.56	0.11	10.53	6.54
MV-060	29.81	73.66	43.56	0.11	10.53	6.54
MV-061	92.91	42.48	22.27	0.05	10.53	6.54
MV-062	28.13	62.82	40.79	0.08	10.53	6.55
MV-063	33.43	62.82	40.79	0.08	10.53	6.55
MV-064	28.20	73.66	43.56	0.11	10.53	6.54
MV-065	18.33	42.48	22.27	0.04	10.53	6.54
MV-066	78.83	68.24	42.18	0.10	10.53	6.54
MV-067	24.42	62.82	40.79	0.08	10.53	6.55
MV-068	106.87	42.48	22.27	0.05	10.53	6.54

Table 6.3-3: Cumulative Maximum Daily Construction Emissions (lbs/day)

Project ID	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
MV-070	75.70	68.24	42.18	0.10	10.53	6.54
MV-071	17.29	42.48	22.27	0.04	10.53	6.54
MV-072	15.26	21.38	15.73	0.03	4.05	2.46
MV-073	30.30	42.48	22.27	0.05	20.47	12.01
MV-074	21.80	62.82	40.79	0.08	10.53	6.55
MV-075	22.55	125.63	136.89	0.35	28.53	13.09
MV-076	144.64	42.48	22.32	0.06	20.47	12.01
MV-077	247.25	73.66	43.56	0.11	10.53	6.54
MV-079	170.32	42.48	24.86	0.06	20.47	12.01
MV-080	41.29	21.38	15.72	0.03	4.05	2.46
MV-085	72.32	42.48	22.27	0.05	10.53	6.54
MV-087	21.11	42.48	22.27	0.04	10.53	6.54
MV-088	15.26	9.05	8.05	0.01	0.92	0.66
MV-089	15.26	9.05	8.05	0.01	0.92	0.66
MV-090	13.79	9.03	8.05	0.01	0.92	0.66
MV-091	28.20	73.66	43.56	0.11	10.53	6.54
MV-094	83.53	73.66	43.56	0.11	10.53	6.54
MV-095	90.34	42.48	22.27	0.05	10.53	6.54
MV-096	44.13	73.66	43.56	0.11	10.53	6.54
MV-097	32.38	62.82	40.79	0.08	10.53	6.55
MV-098	9.25	42.48	22.27	0.05	20.47	12.01
MV-099	30.30	42.48	22.27	0.05	20.47	12.01
MV-100	60.98	68.24	42.18	0.10	10.53	6.54
MV-101	16.92	9.03	8.05	0.01	0.92	0.66
MV-102	78.08	26.80	16.75	0.04	4.54	2.64
MV-103	94.99	42.48	22.27	0.05	10.53	6.54
MV-104	173.12	42.48	24.97	0.06	20.47	12.01
MV-105	15.26	9.05	8.05	0.01	0.92	0.66
MV-106	15.26	9.05	8.05	0.01	0.92	0.66
MV-107	10.37	21.38	15.09	0.03	4.05	2.46
MV-108	5.75	8.94	8.05	0.01	0.92	0.66
MV-109	29.21	125.63	81.59	0.20	21.06	13.09
MV-110	21.11	42.48	22.27	0.04	10.53	6.54
MV-111	10.26	21.38	15.45	0.03	4.05	2.46
MV-112	19.01	9.06	8.05	0.01	0.92	0.66
MV-113	29.72	62.82	40.79	0.08	10.53	6.55
MV-114	10.81	8.94	8.05	0.01	0.92	0.66
MV-115	0.90	8.94	8.05	0.01	0.92	0.66
MV-116	14.32	42.48	22.27	0.05	20.47	12.01

Table 6.3-3: Cumulative Maximum Daily Construction Emissions (lbs/day)

Project ID	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
MV-117	48.43	21.38	16.04	0.03	4.05	2.46
MV-118	10.37	21.38	15.09	0.03	4.05	2.46
MV-119	19.95	68.24	42.18	0.10	10.53	6.54
MV-120	97.82	42.48	22.27	0.05	10.53	6.54
MV-121	8.31	8.94	8.05	0.01	0.92	0.66
MV-123	26.18	9.12	8.05	0.01	0.92	0.66
MV-124	72.32	42.48	22.27	0.05	10.53	6.54
MV-125	15.26	21.38	15.73	0.03	4.05	2.46
MV-126	24.32	62.82	40.79	0.08	10.53	6.55
MV-127	157.82	42.48	24.23	0.05	20.47	12.01
MV-129	266.75	62.82	54.48	0.16	10.62	6.55
MV-130	103.06	42.48	22.27	0.05	20.47	12.01
MV-131	253.26	62.82	52.74	0.15	10.53	6.55
MV-132	291.63	73.66	43.76	0.12	10.53	6.54
P-004	88.81	42.48	22.27	0.05	10.53	6.54
P-005	213.42	68.24	42.18	0.10	10.53	6.54
P-006	278.31	73.66	43.56	0.11	10.53	6.54
P-007	315.44	62.82	45.72	0.13	10.53	6.54
P-008	111.93	42.48	22.27	0.05	20.47	12.01
P-009	297.77	73.66	43.56	0.11	10.53	6.54
P-012	210.69	68.24	42.18	0.10	10.53	6.54
P-014	318.13	73.66	45.91	0.13	10.53	6.54
P-022	176.35	42.48	25.12	0.06	20.47	12.01
P-023	92.93	42.48	22.27	0.05	10.53	6.54
P-024	388.08	62.82	51.96	0.15	10.53	6.54
P-025	481.27	73.66	43.56	0.12	10.53	6.54
P-026	376.38	73.66	43.56	0.11	10.53	6.54
P-028	310.75	73.66	43.56	0.11	10.53	6.54
P-030	25.50	62.82	40.79	0.08	10.53	6.55
P-031	26.33	42.48	22.27	0.05	10.53	6.54
P-032	298.19	62.82	40.79	0.08	10.53	6.54
P-033	33.66	188.45	159.91	0.44	31.59	19.64
P-034	392.21	71.06	88.92	0.29	19.94	6.63
P-035	25.27	21.38	16.24	0.03	4.05	2.46
P-036	295.79	76.13	95.90	0.32	21.83	7.18
P-039	363.44	73.66	43.56	0.11	10.53	6.54
P-040	25.21	73.66	43.56	0.11	10.53	6.55
P-041	77.34	42.48	22.27	0.05	10.53	6.54
P-042	34.59	68.24	42.18	0.10	10.53	6.54

Table 6.3-3: Cumulative Maximum Daily Construction Emissions (lbs/day)

Project ID	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
P-043	32.33	68.24	42.18	0.10	10.53	6.54
P-044	29.67	42.48	22.27	0.05	20.47	12.01
P-045	26.33	42.48	22.27	0.05	10.53	6.54
P-046	24.80	62.82	40.79	0.08	10.53	6.55
P-047	26.99	62.82	40.79	0.08	10.53	6.55
P-048	42.44	73.66	43.56	0.11	10.53	6.54
P-049	23.58	73.66	43.56	0.11	10.53	6.55
P-050	74.37	26.80	16.33	0.04	4.54	2.64
P-051	19.95	68.24	42.18	0.10	10.53	6.54
P-052	26.59	73.66	43.56	0.11	10.53	6.54
P-053	24.42	62.82	40.79	0.08	10.53	6.55
P-054	24.63	62.82	40.79	0.08	10.53	6.55
P-055	208.76	73.66	43.56	0.11	10.53	6.54
P-056	18.50	9.04	8.05	0.01	0.92	0.66
P-057	77.42	9.50	8.32	0.01	0.92	0.66
P-058	175.42	42.48	25.05	0.06	20.47	12.01
P-059	25.14	62.82	40.79	0.08	10.53	6.55
P-060	8.58	8.94	8.05	0.01	0.92	0.66
R-004	67.87	68.24	42.18	0.10	10.53	6.54
R-005	231.96	73.66	43.56	0.11	10.53	6.54
R-006	27.03	42.48	22.27	0.05	10.53	6.54
R-007	52.22	21.38	15.90	0.03	4.05	2.46
R-008	11.83	42.48	22.27	0.05	20.47	12.01
R-009	188.82	306.26	346.75	1.31	85.98	26.96
R-010	43.91	9.22	8.05	0.01	0.92	0.66
R-011	158.12	42.48	24.27	0.06	20.47	12.01
R-012	57.11	21.38	16.01	0.03	4.05	2.46
R-013	7.00	8.94	8.05	0.01	0.92	0.66
R-014	7.39	8.94	8.05	0.01	0.92	0.66
R-015	26.03	62.82	40.79	0.08	10.53	6.55
R-016	3.68	8.94	8.05	0.01	0.92	0.66
R-017	86.35	73.66	43.56	0.11	10.53	6.54
R-018	195.56	320.38	432.25	1.53	108.77	33.16
R-019	19.37	42.48	22.27	0.04	10.53	6.54
R-020	387.41	62.82	51.92	0.15	10.53	6.54
R-021	9.63	42.48	22.27	0.04	10.53	6.54
R-022	10.37	21.38	15.09	0.03	4.05	2.46
R-023	15.14	9.03	8.05	0.01	0.92	0.66
R-024	79.77	591.67	872.83	2.73	202.55	64.74

Table 6.3-3: Cumulative Maximum Daily Construction Emissions (lbs/day)

Project ID	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
R-025	65.37	68.24	42.18	0.10	10.53	6.54
R-026	268.27	62.82	53.47	0.16	10.53	6.55
R-027	6.95	8.94	8.05	0.01	0.92	0.66
R-028	24.21	73.66	43.56	0.11	10.53	6.54
R-029	7.28	8.94	8.05	0.01	0.92	0.66
R-030	107.62	42.48	22.27	0.05	10.53	6.54
R-031	22.77	21.38	16.09	0.03	4.05	2.46
R-032	41.51	9.22	8.05	0.01	0.92	0.66
R-033	19.02	21.38	15.92	0.03	4.05	2.46
R-034	22.79	9.04	8.05	0.01	0.92	0.66
R-035	32.18	42.48	22.27	0.05	20.47	12.01
R-036	21.81	42.48	22.27	0.04	10.53	6.54
R-037	11.36	8.94	8.05	0.01	0.92	0.66
R-038	6.73	8.94	8.05	0.01	0.92	0.66
R-039	20.88	62.82	40.79	0.08	10.53	6.55
R-040	4.69	8.94	8.05	0.01	0.92	0.66
R-041	43.09	9.22	8.05	0.01	0.92	0.66
R-042	30.95	62.82	40.79	0.08	10.53	6.55
R-043	28.39	68.24	42.18	0.10	10.53	6.54
R-044	7.66	8.94	8.05	0.01	0.92	0.66
R-045	70.54	9.49	8.23	0.01	0.92	0.66
R-046	20.42	68.24	42.18	0.10	10.53	6.54
R-047	100.07	21.38	17.27	0.03	4.05	2.46
R-048	70.01	26.80	16.26	0.04	4.54	2.64
R-049	26.21	62.82	40.79	0.08	10.53	6.55
R-050	4.56	21.38	15.01	0.03	4.05	2.46
R-051	4.62	8.94	8.05	0.01	0.92	0.66
R-052	18.26	68.24	42.18	0.10	10.53	6.54
R-053	16.57	42.48	22.27	0.05	20.47	12.01
R-054	14.32	42.48	22.27	0.05	20.47	12.01
R-055	11.50	42.48	22.27	0.05	20.47	12.01
R-056	67.70	42.48	22.27	0.05	10.53	6.54
R-057	88.61	42.48	22.27	0.05	10.53	6.54
R-058	5.33	8.94	8.05	0.01	0.92	0.66
R-059	7.75	8.94	8.05	0.01	0.92	0.66
R-060	94.37	26.80	17.12	0.04	4.54	2.64
R-061	197.38	42.48	24.31	0.06	20.47	12.01
R-062	3.64	8.94	8.05	0.01	0.92	0.66
R-063	13.39	21.38	15.65	0.03	4.05	2.46

Table 6.3-3: Cumulative Maximum Daily Construction Emissions (lbs/day)

Project ID	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
R-064	5.87	21.38	15.01	0.03	4.05	2.46
R-065	35.15	68.24	42.18	0.10	10.53	6.54
R-066	11.64	9.03	8.05	0.01	0.92	0.66
RC-001	22.86	188.45	127.47	0.33	31.59	19.64
RC-002	28.29	251.27	223.10	0.62	43.72	26.18
RC-003	45.70	376.90	485.41	1.46	106.26	39.27
RC-005	19.97	125.63	81.59	0.16	21.06	13.09
RC-006	278.31	62.82	40.79	0.08	10.53	6.54
RC-007	267.88	62.82	54.66	0.16	10.66	6.55
RC-009	319.91	62.82	46.13	0.13	10.53	6.54
RC-010	262.94	125.63	154.62	0.54	37.73	13.09
RC-011	377.48	73.66	43.56	0.11	10.53	6.54
RC-012	196.58	42.48	26.05	0.06	20.47	12.01
RC-013	25.76	62.82	40.79	0.08	10.53	6.55
RC-014	100.41	73.66	43.56	0.11	10.53	6.54
RC-015	29.31	62.82	40.79	0.08	10.53	6.55
RC-017	17.44	9.03	8.05	0.01	0.92	0.66
RC-018	9.63	42.48	22.27	0.04	10.53	6.54
RC-019	49.16	21.38	15.83	0.03	4.05	2.46
RC-020	5.43	8.94	8.05	0.01	0.92	0.66
RC-021	15.07	9.03	8.05	0.01	0.92	0.66
RC-022	27.06	62.82	40.79	0.08	10.53	6.55
RC-023	48.84	21.38	16.08	0.03	4.05	2.46
RC-024	98.49	42.48	22.27	0.05	10.53	6.54
RC-025	79.01	21.38	16.75	0.03	4.05	2.46
RC-026	4.75	8.94	8.05	0.01	0.92	0.66
RC-027	97.40	42.48	22.27	0.05	10.53	6.54
RC-028	10.62	8.94	8.05	0.01	0.92	0.66
RC-029	15.33	9.03	8.05	0.01	0.92	0.66
RC-030	333.77	73.66	47.21	0.13	10.53	6.54
RC-031	93.24	42.48	22.27	0.05	10.53	6.54
RC-032	19.35	125.63	81.59	0.16	21.06	13.09
RC-033	19.95	62.82	40.79	0.08	10.53	6.55
RC-034	22.42	62.82	40.79	0.08	10.53	6.55
RC-035	77.66	314.09	373.58	1.10	80.19	32.73
RC-036	24.27	62.82	40.79	0.08	10.53	6.55
RC-037	29.10	62.82	40.79	0.08	10.53	6.55
RC-038	307.88	62.82	59.75	0.18	12.04	6.55
RC-039	22.20	68.24	42.18	0.10	10.53	6.54

Table 6.3-3: Cumulative Maximum Daily Construction Emissions (lbs/day)

Project ID	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
RD-003	33.37	73.66	43.56	0.11	10.53	6.54
RD-004	37.94	73.66	43.56	0.11	10.53	6.54
RD-006	44.93	21.38	15.76	0.03	4.05	2.46
RD-007	118.61	26.80	17.13	0.04	4.54	2.64
RD-008	25.29	42.48	22.27	0.05	20.47	12.01
RD-009	40.83	21.38	15.72	0.03	4.05	2.46
RD-010	75.04	42.48	22.27	0.05	10.53	6.54
RD-011	51.63	21.38	15.90	0.03	4.05	2.46
SB-007	19.39	68.24	42.18	0.10	10.53	6.54
SB-008	22.76	68.24	42.18	0.10	10.53	6.54
SJ-001	283.22	62.82	49.56	0.15	10.53	6.55
SJ-002	16.72	62.82	40.79	0.08	10.53	6.55
SJ-003	30.03	62.82	40.79	0.08	10.53	6.55
SJ-004	31.72	62.82	40.79	0.08	10.53	6.55
Total	24,780.64	17,509.64	13,633.42	35.53	3,808.65	2,049.37
Proposed Project	164	191	993	2	174	44

6.3.2.1.3 Localized Operations and Construction

The localized significance threshold (LST) analysis includes three cumulative projects (MV-5, MV-6, and MV-126) that are located within 1,000 feet of the proposed Project boundary (see Figure 6.3-2) and is focused on two scenarios:

1. Construction year (2020) when all cumulative projects and the proposed Project are assumed to begin construction.
2. Full Build Out (2035) when all cumulative projects and the proposed Project are assumed to begin full operations.

It is assumed that the construction start year of 2020 is the worst-case overlap condition for cumulative projects and the proposed Project. The duration of construction for cumulative projects was estimated using CalEEMod default assumes based on site acreage. Based on site acreage, total construction duration for cumulative projects MV-5 and MV-6 are assumed to be approximately one year and MV-126 is assumed to be approximately 5.6 years. Because MV-5 and MV-6 are only anticipated to require one year of construction (2020), the first year of Project construction (2020) is when the assumed overlap would occur. Therefore, the cumulative LST analysis assumes a worst-case construction overlap year of 2020.

Pursuant to the SCAQMD's LST methodology, only emissions generated from emission sources located within and along the project boundaries are included in the LST assessment. These emission sources include vehicle travel on the roadway network within and along the borders of the project and emissions from support equipment including forklifts, yard/hostler trucks, and emergency standby electric generators.

The cumulative projects' emissions that were accumulated and calculated then served as input into the air dispersion model (AERMOD) to derive estimates of the projects' localized air quality impacts for each potential scenario.

6.3.2.1.4 Health Risk

Geographic Scope of the Cumulative Health Risk Assessment (HRA)

To assess the regional cumulative impact of the identified 359 projects in addition to that of the Project's, both the universe of the emission sources and air dispersion model receptors were greatly expanded in this cumulative HRA. The air dispersion models included 99 grid area sources (each grid cell is 5 km by 5 km) covering an area of 2,475 square kilometers (km^2) to represent the onsite and surface street emissions of all cumulative projects, and 63 freeway mainline segments for warehouse projects in the region that may overlap with the traffic routes of the Project. The modeled freeway segments extended from North Palm Springs to Long Beach in the east-west direction and from Rancho Cucamonga to Hemet/San Jacinto in the north-south direction, roughly an area of 3,500 square miles radiating from the cumulative project sites to the north, south, east, and west. The analysis covered major portions of the following freeways from North Palm Springs to the ports of Los Angeles and Long Beach: Interstate 10, State Route 60, State Route 91, Interstate 215, and Interstate 710.

The expanded geographic scope of the assessment also necessitated an expansion in the locations of the receptors where the cumulative projects' impacts were calculated. This expanded network included grid receptors that cover the entire study domain, locations of individual schools within 0.5 mile of the modeled freeway segments and those in the Moreno Valley School District, and over 2,300 census tract centroid locations.

Finally, it is recognized that because of the large geographical extent of the region covered in this cumulative HRA, meteorological conditions differ for different portions of the study region. The air dispersion modeling was separated into two separate pieces as follows. Those emission sources located east of SR-71 were assumed to be influenced by the meteorological conditions represented by the Riverside meteorological (MET) data. Those emission sources located west of SR-71 were assumed to be influenced by the meteorological conditions represented by the Fullerton MET data. The air dispersion modeling was done separately for the region east of SR-71 and for the region west of SR-71. The air pollutant concentrations at each receptor location were then comprised of the sum of the emission impacts from those sources located east of SR-71 and west of SR-71 as influenced by their respective meteorological conditions.

Dispersion Modeling

The cumulative HRA uses the same air dispersion modeling and health risk calculation methodologies used in the project-level HRA; however, the operational AERMOD model was updated to include emissions sources from the 359 cumulative projects and an expanded receptor grid that covers most of the South Coast Air Basin. Operational emissions sources were classified as freeway or non-freeway emissions. Non-freeway emissions included onsite and surface street emissions, and were modeled as large area sources with release heights of 2 meters for the operation scenario and 5 meters for the construction scenario. The freeway emissions for CA-60, I-215, CA-91, and I-710 were modeled as line volume sources with a release height of 2 meters. To minimize the number of AERMOD runs, unit emission rate was utilized in the dispersion modeling. The modeled freeway segments were divided into nine source groups for flexibility in assigning emission rates that represent the varying trip distribution patterns among those warehouse projects. Two AERMOD runs were conducted, one for emission sources that are east of SR-71, and the other one for freeway emission sources that are west of the SR-71. Pre-processed AERMOD-ready MET data were downloaded from the SCAQMD website, the former model run used the Riverside MET data and the last model run used the Fullerton MET data. Both model runs used the same expanded receptor grid, which includes 5,298 receptors covering areas from North Palm Springs to Long Beach in the east-west direction and from Rancho Cucamonga to Hemet/San Jacinto in the north-south direction, roughly an area of 3,500 square miles radiating from the project site to the north, south, east, and west.

Construction Emissions Inventory

As mentioned above, the environmental document research conducted for the project found that 67 projects are either completely constructed or currently undergoing construction. Therefore, the cumulative construction analysis was conducted for the 289 potentially cumulative projects that could undergo construction activities during the project's 15-year construction period. The analysis compiled a construction emissions inventory based on previously completed CEQA documents for each of the cumulative projects where such documents were available. In most cases, toxic air contaminant (TAC) emissions data were lacking but that of total PM10 and total organic gas (TOG) emissions were presented in available CEQA documents; therefore, maximum daily construction total PM10 and TOG emissions data was obtained, which was speciated using the speciation profile developed for the Project HRA presented in Section 4.3 of this Draft Recirculated RSFEIR. For projects where emissions data was unavailable in available CEQA documents, their emissions were estimated based on the land use type and building square footage instead, see details in the air quality section above for detail.

Operational Emissions Inventory

The analysis also compiled an inventory of operational TAC emissions based on previously completed CEQA documents for each of the cumulative projects and included the following two steps:

- Step 1: calculate total freeway and non-freeway diesel particulate matter (DPM) emissions. Because in most cases, operational emissions data were lacking, the operational emission inventory was compiled using a similar method as that of the construction emission inventory. Where a project's emissions were presented in available CEQA documents, maximum daily operational total emissions data was obtained and speciated to individual TAC species using the TAC speciation profile developed under the Project HRA; where a project's emissions data were unavailable in available CEQA documents, emissions were estimated based on building square footage and land use type.

  To be conservative, the operational emissions used 2020 emission factors, which considering the continuing advancement in clean combustion technologies and more stringent emission regulations, were expected to result in higher emission rates than if based on emission factors for the future years.

- Step 2: distribute the total freeway and non-freeway emissions to specific source groups. To model the TAC concentrations at specific receptor locations for use in risk calculations, the total TAC emissions need to be distributed to specific sources spatially to match the source groups in AERMOD setup. Due to a lack of readily available information to distribute each of the 359 projects' emissions spatially, this analysis evenly distributed all the non-freeway emissions (e.g., onsite construction and operational emissions, and mobiles source emissions on surface streets) among the 99 area sources for all non-warehouse land use. The analysis developed a ratio of freeway-to-non-freeway traffic based off of the Project HRA trip data. The analysis distributed the freeway emissions evenly across the modeled freeway segments based on segment length and non-freeway emissions to the corresponding area source. The daily TAC emissions in units of pounds per day (lbs/day) were converted to unit of grams per second (g/s) by assuming that all of the cumulative projects will have continuous operation schedules (8,760 hours per year) and construction schedule of 10 hours per day, from 7 am to 5pm. Detailed calculations can be found in Appendix A.3.

Risk Calculations

Two sets of 30-year cancer risk calculations were performed for the identified cumulative projects, one includes the cancer risks from exposure to construction plus operation (Cumulative Construction & Operation HRA), and the other includes 30-year exposure to the full operation of the 359 cumulative projects in addition to the Project (Cumulative Operation HRA). An average construction duration was determined for each of the 99 area sources, with the operation duration of each source equaling the 30 years minus the construction duration.

TAC concentrations at each receptor location were obtained by multiplying the actual TAC emissions in the developed emission inventory with the AERMOD-generated TAC dispersion coefficient (ground level TAC concentration generated using unitized emission rate), which were used to estimate the cancer risk and non-cancer HI at each receptor location, using the same calculation method as described in Section 4.3.6 for the project-level HRA. The following conservative assumptions were made for the cancer risk calculations:

- Cumulative Construction & Operation HRA assumed that a fetus in the 3rd trimester (within the mother's womb) commences its lifetime exposure at beginning of construction so that it is exposed to the full construction impact plus full operational impact;
- Cancer risk calculations for the operational exposure portion of the Cumulative Construction & Operation HRA and those for the 30-year exposure of the Operation HRA were conservatively used the same TAC emission rate that were calculated based on 2020 emission factors for all these years;
- All 5,298 receptors were modeled as residential receptors.

6.3.2.1.5 Cumulative Health Effects

Potential health effects from the cumulative project emissions are generally characterized using the Project level modeling results (discussed further in Section 4.3) and a comparison of overall emissions. Maximum daily operational and construction emissions were estimated for 349 projects in the region surrounding the Project. Maximum daily operational emissions for all cumulative projects are reflective of year 2035, consistent with the full buildout year for the Project. Construction emissions vary by project but occur within years 2020 through year 2035. To capture both potential operational and construction emissions from the cumulative projects in a single year, either maximum daily operational or construction emissions were used for each project, evaluated on a pollutant basis.

Emissions from cumulative projects would be subject to the similar meteorological and photochemical reaction conditions as the Project assessment. The application of an overall scaling factor based on emissions is likely conservative since the cumulative projects are unlikely to have the same distribution

of mobile emissions to the Los Angeles area as the Project. Details on estimated health effects from cumulative projects are shown in Appendix A.2.

6.3.3 Cumulative Impact Evaluation

According to the SCAQMD, "Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant."[4] A significant impact may occur if a project would exceed an applicable federal or state pollutant threshold.

6.3.3.1 Odors

Impact: *The project's contribution to cumulative objectionable odors would be less than cumulatively considerable.*

Threshold:	Would the project create objectionable odors affecting a substantial number of people?

Cumulative Impact Analysis

The SCAQMD recommends that odor impacts be addressed in a qualitative manner. Such an analysis shall determine whether the project would result in excessive nuisance odors, as defined under the California Code of Regulations and Section 41700 of the California Health and Safety Code, and thus would constitute a public nuisance related to air quality.

As stated previously in Section 4.3.5.1, diesel exhaust and volatile organic compounds (VOCs) would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors. Currently, there are six occupied single-family homes and associated ranch/farm buildings in various locations on the project site. The nearest off-site existing sensitive receptors in the vicinity of the project site are the residences located along Bay Avenue, Merwin Street, west of Redlands Boulevard, and scattered residences along Gilman Springs Road north of Alessandro Boulevard. Diesel exhaust would also be emitted during operation of the project from the trucks that would visit the project site. However, the concentrations would not be at a level to result in a negative odor response at nearby sensitive or worker receptors. In addition, modern emission control systems on diesel vehicles since 2007 virtually eliminate diesel's characteristic odor. Further, project mitigation requires that 2010 or newer diesel vehicles be used during construction.

During blow-down maintenance activities, natural gas odors will be present around the SDG&E Compressor Plant located south of the project site. When this portion of the Project is developed, these odors will occasionally be detectable from the industrial warehouse properties adjacent to the SDG&E facility. These odors will be infrequent and odorized natural gas will not be present in high concentrations. Therefore, potential odor impacts from on-site natural gas operations are considered to be less than significant and do not require mitigation.

Adherence to applicable provisions of these rules is standard for all development within the Basin. In addition, conditions for the design of waste storage areas on the proposed site would be established through the permit process to ensure enclosures are appropriately designed and maintained to prevent the proliferation of odors. Solid waste generated by the proposed on-site uses will be collected by a

[4] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution, White Paper, Appendix D, 1993, http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4. Page D-2. Accessed September 29, 2019.

contracted waste hauler, ensuring that any odors resulting from on-site uses would be adequately managed.

Of the 173 environmental documents that were evaluated, all found that the respective projects would not create objectionable odors that will affect a substantial number of people and many projects were found to have a less than significant impact or no impact at all. None of the projects were of the type described by the SCAQMD as being associated with substantial odors such as agricultural uses, wastewater treatment plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Furthermore, Project-specific impacts would be less than significant and would not exceed the AQMDs significance threshold for odors. [5] Therefore, impacts associated with this issue would be considered cumulatively less than significant and no mitigation is required.

Significance Level Before Mitigation: Less than significant.

Mitigation Measures: No mitigation measures are required.

Significance Level After Mitigation: Less than significant.

6.3.3.2 Long-term Microscale (CO Hot Spot) Emissions

Impact: *The project's contribution to cumulative impacts associated with the violation of any air quality standard would be less than cumulatively considerable.*

Threshold:	Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation? For CO, the applicable thresholds are: • California State one-hour CO standard of 20.0 ppm; and • California State eight-hour CO standard of 9.0 ppm.

Cumulative Impact Analysis

As identified in Section 4.3.5.2, no significant CO hot spot impacts would occur due to project operations. The SCAQMD anticipates that CO emissions in the future will decrease with advances in technology. As previously identified, background concentrations in future years are anticipated to continue to decrease as the concerted effort to improve regional air quality progresses. Therefore, ambient CO concentrations, from cumulative projects, in the future years would generally be lower than existing conditions.

For this project analysis, peak hour traffic volumes, at the intersections with the highest traffic volumes and LOS E or F before mitigation were identified and evaluated for each condition analyzed. In addition, the emission factors for "all" vehicle classes are not adjusted for a project-specific fleet to provide a worst-case scenario. In addition, the emission factors do not take into account the project mitigation reductions from requiring that all diesel trucks are model year 2010 or newer. The project evaluation found that no CO hot spot impacts would occur at intersections with the highest traffic volumes and ranged as LOS E or F.

Furthermore, out of the 173 environmental documents that were reviewed, all projects found that no hot spot impacts would occur with their respective projects. Similar to the project, intersections with the

[5] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution, White Paper, Appendix D, 1993, http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4. Accessed July 2017.

highest traffic volumes and worst LOS were identified and evaluated. No exceedance of significance thresholds was estimated. Furthermore, Project-specific impacts would be less than significant and would not exceed the AQMDs significance threshold for CO hot spot emissions. [6] Based on the analysis and SCAQMD methodology, it is reasonable to assume that a less than significant cumulative CO impact would occur.

Significance Level Before Mitigation: Less than significant.

Mitigation Measures: No mitigation measures are required.

Significance Level After Mitigation: Less than significant.

6.3.3.3 Air Quality Plan Management Plan Consistency

Impact: *The project's contribution to the cumulative conflict with implementation of the applicable air quality plan would be cumulatively considerable.*

Threshold:	Would the project conflict with or obstruct implementation of the applicable air quality plan?

Cumulative Impact Analysis

As previously stated in Section 4.3.6, according to the SCAQMD, the project is consistent with the AQMP if the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP (SCAQMD 1993, page 12-3).

As discussed previously in Section 4.3.6.2 Construction Emissions, construction activities associated with the project would exceed the SCAQMD daily emission thresholds for all criteria pollutants (VOC, NOx, CO, PM_{10}, and $PM_{2.5}$), with the exception of SO_X.

In addition, out of the 359 cumulative projects that were evaluated, 67 were found to be completed with construction or currently undergoing construction. Therefore, 289 potentially cumulative projects that could undergo construction activities during the project's 15-year construction period. However, even if none of these 289 cumulative projects undergo construction while the project is under construction, a cumulatively considerable impact will occur because projects that exceed the Project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable.[7] As previously stated the Project-specific construction emissions presented in Section 4.3.6.2 exceed the applicable SCAQMD significance thresholds for VOC, NOx, CO, PM_{10}, and $PM_{2.5}$; therefore, a cumulatively considerable impact will occur, despite any potential construction activity associated with another project.

The SCAB is classified as nonattainment for the Federal ambient air quality standards for ozone, PM_{10}, or $PM_{2.5}$; therefore, according to this criterion, the project would not be consistent with the AQMP. The regional emissions assume a zero baseline for existing emissions on the project site and therefore assumes that the AQMP had no emissions for the project site. The regional significance thresholds can be interpreted to mean that if project emissions exceed the thresholds, then the project would also not be consistent with the assumptions in the AQMP. The project does not meet this criterion. As previously identified in Section 4.3.6.4 Long-Term Operational Emissions, the long-term operation and combined

[6] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution, White Paper, Appendix D, 1993, http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4. Accessed July 2017.

[7] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution, White Paper, Appendix D, 1993, http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4. Accessed July 2017.

construction and operational emissions of the project would contribute to long-term regional air pollutants despite implementation of mitigation measures.

As shown in Table 6.3-2 operational emissions gathered from the environmental documents and modeling show that out of the 359 cumulative projects, 25 cumulative projects were identified as exceeding VOC significance thresholds and 59 projects were identified as exceeding NO_X thresholds. Table 6.3-3 provides the construction emissions gathered from the environmental documents and modeling. The results show that out of the 359 cumulative projects, 95 cumulative projects were identified as exceeding VOC significance thresholds and 22 projects were identified as exceeding NO_X thresholds. Those projects that were found to exceed the SCAQMD thresholds were primarily industrial land uses or larger single-family residential developments. The number of each project type is provided in Table 6.3-4. As shown, in Table 6.3-4, up to 43 multi-family residential projects have been proposed, in combination with 115 single-family residences and 10 heavy industrial projects.

The cumulative impacts of all 359 projects have been taken into consideration with the SCAQMD thresholds. However, a cumulatively considerable impact will occur because projects that exceed the Project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable.[8] As previously stated the Project-specific operation emissions presented in Section 4.3.6.4 exceed the applicable SCAQMD significance thresholds for VOC, NOx, CO, PM_{10}, and $PM_{2.5}$; therefore, a cumulatively considerable impact will occur, despite the potential operation of any of the identified cumulative projects.

Table 6.3-4: Air Quality Cumulative Operation Emissions

Type of Project	Number Identified within Cumulative Analysis Limits
Business Park	11
Heavy Industrial	10
Light Industrial	39
Medical	4
Office	13
Residential - Assisted Living	10
Single-Family Residential	115
Multi-Family Residential	43
Warehouse	64
Retail	65

Notes:
1) The total number of identified projects exceeds 359 due to the multi-use projects that were identified. These multi-use projects may include residential, retail, and office land uses within one project description.

Source: City of Moreno Valley, 2019

[8] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution, White Paper, Appendix D, 1993, http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4. Accessed July 2017.

Significance Level Before Mitigation: Construction of the cumulative projects along with the project would result in cumulatively considerable and potentially significant cumulative air impacts. Implementation of the project would contribute to significant long-term cumulative air quality impacts.

Mitigation Measures: As indicated in Section 4.3.6.1 Air Quality Management Plan Consistency, to facilitate monitoring and compliance, applicable SCAQMD regulatory requirements will be implemented. **Mitigation Measures 4.3.6.2A, 4.3.6.2B, 4.3.6.2C, 4.3.6.2D, 4.3.6.3A, 4.3.6.3B, 4.3.6.3C, 4.3.6.3D,** and **4.3.6.4A** are required and shall be incorporated in all project plans, specifications, and contract documents.

Significance Level After Mitigation: Significant and Unavoidable. As noted above, construction and operation of the cumulative projects along with the project would exceed applicable thresholds for all criteria pollutants, with the exception of SO_X. Despite the implementation of mitigation measures, emissions associated with the project cannot be reduced below the applicable thresholds. The project, in the absence of feasible mitigation to reduce the project's emission of criteria pollutants to below SCAQMD construction and operation thresholds, potential air quality impacts resulting from construction and operation will remain significant and unavoidable. Projects that exceed the Project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable.[9] Even with mitigation the Project-specific emissions in combination with any of the cumulative projects that have been identified, will result in a cumulative considerable impact.

6.3.3.4 Construction Emissions

Impact: *The project's contribution to the cumulative exceedance of applicable daily thresholds that may affect sensitive receptors would be cumulatively considerable.*

Threshold: Would the project violate any AAQS or contribute to an existing or projected air quality violation; or expose sensitive receptors to pollutants?

For construction operations, the applicable daily thresholds are:

- 75 pounds per day of ROC/VOC;
- 100 pounds per day of NOX;
- 550 pounds per day of CO;
- 150 pounds per day of PM10;
- 150 pounds per day of SOX; and
- 55 pounds per day of PM2.5.

Cumulative Impact Analysis

The construction analysis discussed in Section 4.3.6.2 Construction Emissions found that construction activities associated with the project would exceed the SCAQMD daily emission thresholds for all criteria pollutants (VOC, NOx, CO, PM_{10}, and $PM_{2.5}$), with the exception of SO_X. Fugitive dust and exhaust emissions during the anticipated peak construction day for the project would also exceed SCAQMD daily construction thresholds. The percentage of dust and exhaust varies by year but for PM_{10} is an average of 85 percent dust and 15 percent exhaust. $PM_{2.5}$ has an average of 54 percent

[9] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution, White Paper, Appendix D, 1993, http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4. Accessed July 2017.

dust and 46 percent exhaust. Accordingly, projects that exceed the Project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable.[10]

Out of the 359 cumulative projects that were evaluated, 67 were found to be completed with construction or currently undergoing construction as of November 2019. Therefore, 289 potentially cumulative projects could undergo construction activities during the project's 15-year construction period. Construction emissions gathered from the environmental documents and modeling show that out of the 289 cumulative projects, 95 cumulative projects were identified as exceeding VOC significance thresholds, 22 projects were identified as exceeding NO_X thresholds, and 2 projects would exceed CO, $PM_{2.5}$ and PM_{10} thresholds. However, even if none of the 289 potential cumulative projects undergo construction while the project is under construction, a cumulatively considerable impact will occur because projects that exceed the Project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable.[11] As previously stated the Project-specific construction emissions presented in Section 4.3.6.2 exceed the applicable SCAQMD significance thresholds for VOC, NOx, CO, PM_{10}, and $PM_{2.5}$; therefore, a cumulatively considerable impact will occur, despite any potential construction activity associated with another project.

Significance Level Before Mitigation: Construction of the cumulative projects along with the project would result in cumulatively considerable and potentially significant cumulative air impacts.

Mitigation Measures: As identified in Section 4.3.6.2, **Mitigation Measures 4.3.6.2A**, **4.3.6.2B**, **4.3.6.2C** and **4.3.6.2D** to reduce construction emissions of criteria pollutants are required. The project will also be required to comply with SCAQMD Rules 402 and 403.

Significance Level After Mitigation: Despite the implementation of mitigation measures, emissions associated with construction of the Project cannot be reduced below the applicable thresholds. In the absence of feasible mitigation to reduce the Project's emission of criteria pollutants to below SCAQMD thresholds, potential air quality impacts resulting from construction of the Project and potential construction of any of the identified cumulative projects will still be considered cumulatively significant and unavoidable.

[10] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution, White Paper, Appendix D, 1993, http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4. Accessed July 2017.

6.3.3.5 Localized Construction and Operational Air Quality Impacts

Impact: *The project's contribution to the cumulative exceedance of localized daily thresholds that may affect sensitive receptors would be cumulatively considerable.*

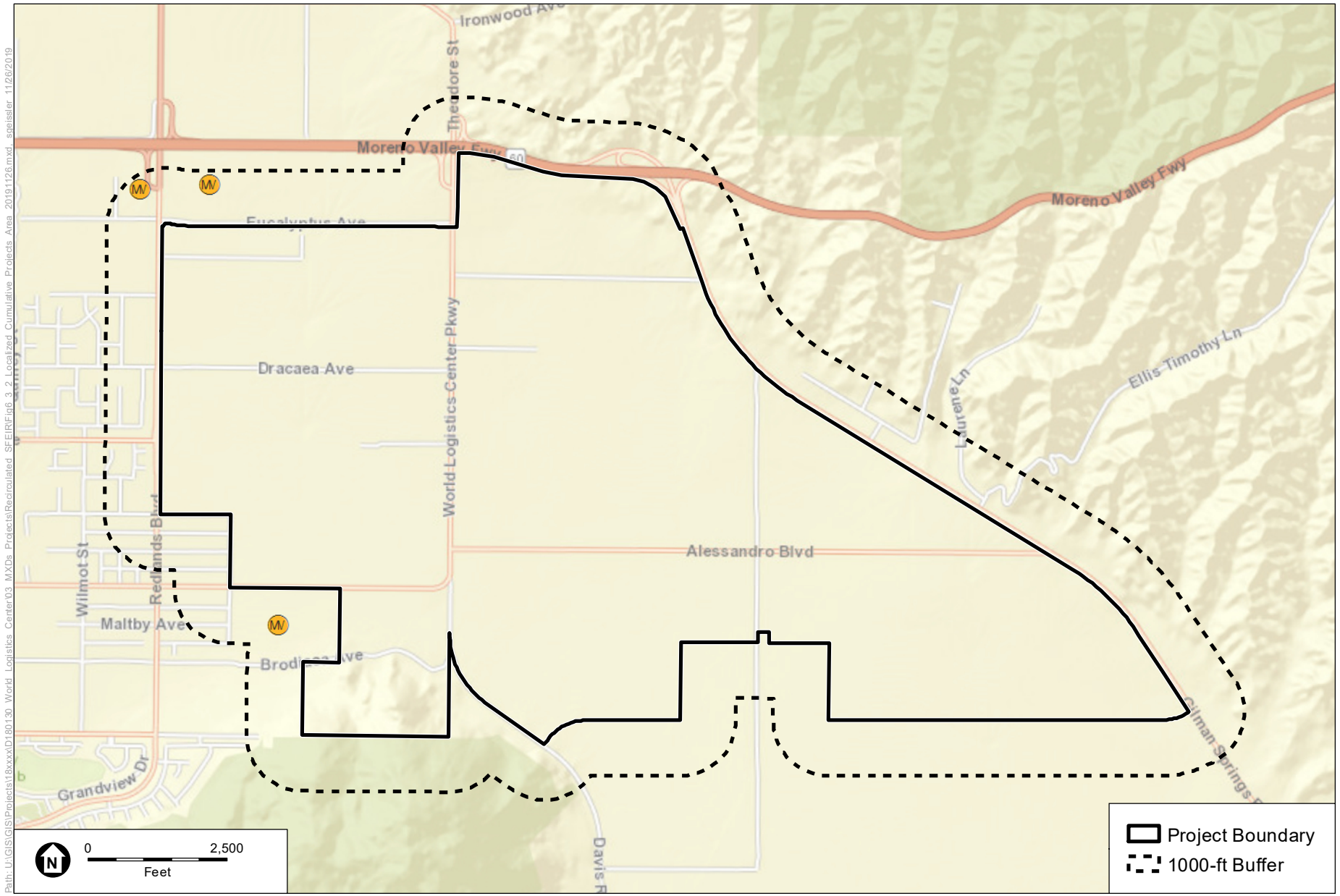
Threshold:	Would the project violate any AAQS or contribute to an existing or projected air quality violation; or expose sensitive receptors to pollutants? The applicable localized thresholds are: • 20 ppm (1 hour) and 9 ppm (8 hours) of CO during construction or operation; • 0.18 ppm (State 1 hour), 0.100 ppm (National 1 hour), and 0.030 ppm (Annual) of NOX during construction or operation; • 10.4 µg/m3 (24 hours) 1.0 µg/m3 (Annual) of PM10 during construction • 2.5 µg/m3 (24 hours) and 1.0 µg/m3 (Annual) of PM10; during operation and • 2.5 µg/m3 (24 hours) of PM2.5 during operation • During time periods when construction and operational activities occur at the same time, the SCAQMD recommends application of the significance thresholds for operations to assess the significance of the activities.

Cumulative Impact Analysis

The localized construction and operational analyses provided in Section 4.3.6.3, Localized Construction and Operational Air Quality Impacts, found that without mitigation, the Project would exceed the localized significance thresholds for PM_{10} for one or more of the LST assessment years (2022, 2025, or 2035) analyzed under this revised LST assessment. Therefore, according to this criterion, the air pollutant emissions would result in a significant impact and could exceed or contribute to an exceedance of the ambient air quality standards for PM_{10}. Accordingly, projects that exceed the Project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable.[12]

Out of the 359 cumulative projects that were identified, three cumulative projects (MV-5, MV-6, and MV-126) are located within 1,000 feet of the proposed Project boundary. As previously stated, the cumulative analysis focused on two cumulative scenarios: Construction start year (2020) and Full Build Out (2035).

[12] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution, White Paper, Appendix D, 1993, http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4. Accessed July 2017.



SOURCE: ESRI; ESA; Highland Fairview 3/29/2018

World Logistics Center

Figure 6.3-2

Localized Cumulative Projects Area

ESA

Construction Start Year (2020) LST Assessment

It was assumed that all cumulative projects would commence construction in January 2020, consistent with the Project. Off-road construction equipment emissions were estimated based on CalEEMod default factors based on construction site acreage. On-road trips were estimated based on project square footage and assumed hauling activity and emissions calculated utilizing EMFAC2017 emission factors. The cumulative localized assessment results for the Construction Start Year (2020) condition are provided in Table 6.3-5 for receptors located within the project boundaries and in Table 6.3-6 for receptors located outside the project's boundaries along with a comparison to the SCAQMD's localized significance thresholds. The significance thresholds for CO and nitrogen dioxide are derived from the measured ambient air quality data from the SCAQMD Riverside air monitoring station and serve as the measure of existing air quality.[13]

As noted from Table 6.3-5, the project in addition to cumulative projects would exceed the SCAQMD's localized significance thresholds for the national 1-hour NO_2 and annual PM10 threshold at a receptor located within the project boundaries. As shown in Table 6.3-6, the project in addition to cumulative projects would exceed the SCAQMD's localized significance thresholds for the national 1-hour NO_2 threshold at a receptor located outside the project boundaries.

Full Buildout (2035) LST Assessment

The cumulative on-site emissions for the Project were estimated from the traffic-generated by the various project vehicles as provided by the TIA. Vehicle emissions were assumed to be representative of the calendar year 2020 vehicle fleet. Also included were emissions from various support equipment including forklifts, yard trucks, and standby emergency generators. Onsite emissions from the cumulative projects include landscaping equipment, consumer products, and on-site energy usage (natural gas) based on total square footage. Mobile emissions from the cumulative projects were estimated using ITE 10th Edition trip rates per 1,000 square feet and EMFAC2017 emission factors. The cumulative localized assessment results for the Project Full Build Out (2035) condition are provided in Table 6.3-7 for receptors located within the project boundaries and in Table 6.3-8 for receptors located outside the project's boundaries along with a comparison to the SCAQMD's localized significance thresholds. The significance thresholds for CO and nitrogen dioxide are derived from the measured ambient air quality data from the SCAQMD Riverside air monitoring station and serve as the measure of existing air quality.

As noted from Table 6.3-7, the project would exceed the SCAQMD's significance thresholds for the 24-hour PM_{10} and annual PM_{10} thresholds for receptors located within the project's boundaries. As shown in Table 6.3-8, the project would exceed the SCAQMD's significance thresholds for the 24-hour PM_{10}, annual $PM_{10,}$ and 24-hour $PM_{2.5}$ threshold for receptors located outside the project's boundaries.

[13] In keeping with the SCAQMD recommendations, background data for CO and NO_2 for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO2 is the 3 year average of the 98th percentile of the daily maximum 1-hour average. Historical data for years 2016, 2017, and 2018 were obtained from SCAQMD's Riverside-Rubidoux air monitoring station.

Table 6.3-5: Cumulative Localized Assessment of Construction Start year (2020) Emissions Maximum Impacts Within the Project Boundaries (without mitigation)

Pollutant	Averaging Time, Units	Existing Background[1]	Air Concentration[2]		Standard/ Threshold	Total Impact Exceeds Threshold
			Project Local Increase	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.2	0.16	2.4	20.0	No
	8 hour, ppm	2.0	0.03	2.0	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.073	0.093	0.166	0.180	No
	National 1 hour, ppm	0.058	0.062	0.120	0.100	Yes
	Annual, ppm	0.015	0.002	0.017	0.030	No
PM_{10}	24 hour, $\mu g/m^3$	NA	8.5	8.5	10.4	No
	Annual, $\mu g/m^3$	NA	2.6	2.6	1.0	Yes
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	2.4	2.4	10.4	No

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
[1] Background data for CO and $NO_2$for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO2 is the 3-year average of the 98th percentile of the daily maximum 1-hour average.
[2] Highest impacts generally occur at the existing residences within the project boundaries.
Source: *ESA, 2019*

Table 6.3-6: Cumulative Localized Assessment of Construction Start Year (2020) Emissions Maximum Impacts Outside of the Project Boundaries (without mitigation)

Pollutant	Averaging Time, Units	Existing Background[1]	Air Concentration[2]		Standard/ Threshold	Total Impact Exceeds Threshold
			Project Local Increase	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.2	0.13	2.3	20.0	No
	8 hour, ppm	2.0	0.03	2.0	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.073	0.077	0.150	0.180	No
	National 1 hour, ppm	0.058	0.065	0.123	0.100	Yes
	Annual, ppm	0.015	0.001	0.016	0.030	No
PM_{10}	24 hour, $\mu g/m^3$	NA	4.8	4.8	10.4	No
	Annual, $\mu g/m^3$	NA	0.5	0.5	1.0	No
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	2.2	2.2	10.4	No

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
[1] Background data for CO and NO_2 for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO2 is the 3-year average of the 98th percentile of the daily maximum 1-hour average.
[2] Highest impacts at any receptor located outside of the boundaries of the project generally occur in the residential areas to the west of the project
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Table 6.3-7: Cumulative Localized Assessment of Full Build Out (2035) Emissions Maximum Impacts Within the Project Boundaries (without mitigation)

Pollutant	Averaging Time, Units	Existing Background[1]	Air Concentration[2]		Standard/ Threshold	Total Impact Exceeds Threshold
			Project Local Increase	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.2	0.07	2.3	20.0	No
	8 hour, ppm	2.0	0.03	2.0	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.073	0.018	0.091	0.180	No
	National 1 hour, ppm	0.058	0.016	0.074	0.100	No
	Annual, ppm	0.015	0.003	0.018	0.030	No
PM_{10}	24 hour, $\mu g/m^3$	NA	9.3	9.3	2.5	Yes
	Annual, $\mu g/m^3$	NA	4.7	4.7	1.0	Yes
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	2.4	2.4	2.5	No

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
[1] Background data for CO and NO_2 for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO2 is the 3-year average of the 98th percentile of the daily maximum 1-hour average.
[2] Highest impacts at any receptor located outside of the boundaries of the project generally occur in the residential areas to the west of the project
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Table 6.3-8: Cumulative Localized Assessment of Full Build Out (2035) Emissions Maximum Impacts Outside the Project Boundaries (without mitigation)

Pollutant	Averaging Time, Units	Existing Background[1]	Air Concentration[2]		Standard/ Threshold	Total Impact Exceeds Threshold
			Project Local Increase	Total (Background + Project)		
Carbon Monoxide	1 hour, ppm	2.2	0.11	2.3	20.0	No
	8 hour, ppm	2.0	0.06	2.1	9.0	No
Nitrogen Dioxide	State 1 hour, ppm	0.073	0.019	0.092	0.180	No
	National 1 hour, ppm	0.058	0.017	0.075	0.100	No
	Annual, ppm	0.015	0.002	0.017	0.030	No
PM_{10}	24 hour, $\mu g/m^3$	NA	9.3	9.3	2.5	Yes
	Annual, $\mu g/m^3$	NA	3.0	3.0	1.0	Yes
$PM_{2.5}$	24 hour, $\mu g/m^3$	NA	2.6	2.6	2.5	Yes

$\mu g/m^3$ = micrograms per cubic meter (a concentration unit)
NA = Not Applicable, the SCAQMD threshold methodology does not require a background for PM_{10} or $PM_{2.5}$
[1] Background data for CO and NO_2 for State standards were derived as the highest air quality measured data over the most recent 3 years of meteorological data 2016-2018. Background concentrations for the National 1-hour NO2 is the 3-year average of the 98th percentile of the daily maximum 1-hour average.
[2] Highest impacts at any receptor located outside of the boundaries of the project generally occur in the residential areas to the west of the project
Source: *Air Quality, Greenhouse Gas, and Health Risk Assessment Report*, 2019.

Summary. The cumulative localized significance analysis demonstrates that without mitigation, the cumulative projects would exceed the localized significance thresholds for national 1-hour NO_2, annual PM_{10}, 24-hour PM_{10}, and 24-hour $PM_{2.5}$ for one or more of the LST assessment years (2020 or 2035) analyzed. Therefore, according to this criterion, the air pollutant emissions would result in a significant impact and could exceed or contribute to an exceedance of the national 1-hour NO_2, annual PM_{10}, 24-hour PM_{10}, and 24-hour $PM_{2.5}$ ambient air quality standards. Despite the results of the environmental document review, due to the findings of the project's localized threshold analysis the air pollutant emissions from the project would result in a significant cumulative impact and could exceed or contribute to an exceedance of the ambient air quality standards for NO_2, PM_{10}, and $PM_{2.5}$.

Significance Level Before Mitigation: Potentially Significant. Construction and operation of the cumulative projects along with the Project would result in cumulatively considerable significant localized impacts.

Mitigation Measures: As identified in Section 4.3.6.2, **Mitigation Measures 4.3.6.2A**, **4.3.6.2B**, **4.3.6.2C** and **4.3.6.2D** to reduce construction emissions of criteria pollutants are required. The project will also be required to comply with SCAQMD Rules 402 and 403. Additionally, **Mitigation Measures 4.3.6.3A**, **4.3.6.3B**, **4.3.6.3C, 4.3.6.3D** and **4.3.6.3E** are required to reduce emissions of criteria pollutants during project operations.

Significance Level After Mitigation: Significant and unavoidable. After application of mitigation, the Project, along with cumulative projects MV-5, MV-6, and MV-126 would continue to exceed the localized significance thresholds at one or more of the existing residences located within the project boundaries for the national 1-hour NO_2 and PM_{10} (24-hour and annual) all assessment conditions. In addition, the project would continue to exceed the localized significance thresholds at offsite receptors for NO_2 (national 1-hour), PM_{10} (24-hour and annual), and $PM_{2.5}$ (24-hour). Projects that exceed the

Project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable.[14]

6.3.3.6 Long-Term Operational Emissions

Impact: *The project's contribution to the exceedance of cumulative operational thresholds would be cumulatively considerable.*

Threshold: Would the project violate any AAQS or contribute to an existing or projected air quality violation; or expose sensitive receptors to pollutants?

For long-term operations, the applicable daily thresholds are:

- 55 pounds of VOC;
- 55 pounds of NOX;
- 550 pounds of CO;
- 150 pounds of PM10;
- 55 pounds of PM2.5; and
- 150 pounds of SOX.

Cumulative Impact Analysis

Long-term air pollutant emission impacts that would result from the project are those associated with stationary sources and mobile sources involving any project-related change (e.g., emissions from the use of motor vehicles by Project-generated traffic). Cumulative long-term impacts would take into consideration both the Project related emissions and those generated by the 359 cumulative projects that have been identified.

As identified in Section 4.3.6.4 Long-Term Operation Emissions, operational emissions for the project would exceed SCAQMD daily operational thresholds for all criteria pollutants with the exception of SOX for the "worst-case" 2020 scenario. Furthermore, emissions of VOC, NOx, CO, PM10, and PM2.5 are significant after full buildout.

As shown, in Table 6.3.2 operational emissions gathered from the environmental documents and modeling show that out of the 359 cumulative projects, 25 cumulative projects were identified as exceeding VOC significance thresholds, 59 projects were identified as exceeding NOX thresholds, and 16 projects were identified as exceeding CO thresholds. None of the 359 projects would exceed the PM2.5 and PM10 significance thresholds. However, because the project-specific emissions exceed the SCAQMD significance thresholds, this Project is considered by the SCAQMD to be cumulatively considerable, despite the potential operation of any of the identified cumulative projects.

Significance Level Before Mitigation: Potentially Significant. Operation of the cumulative projects along with the Project would result in potentially significant cumulative long term air quality impacts.

Mitigation Measures: Section 4.3.6.3 Localized Construction and Operational Air Quality Impacts identified **Mitigation Measures 4.3.6.3A** through **4.3.6.3E** that would reduce operational emissions of criteria pollutants associated with the project. Additionally, **Mitigation Measure 4.3.6.4A**, was provided

[14] South Coast Air Quality Management District, Potential Control Strategies to Address Cumulative Impacts from Air Pollution, White Paper, Appendix D, 1993, http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4. Accessed July 2017.

in Section 4.3.6.4 Long-Term Operational Emissions and is required to further reduce operational emissions.

Significance Level After Mitigation: Significant and unavoidable. Even with mitigation, operational emissions generated by the Project are still significant. Mitigated operational Project emissions of criteria pollutants in combination with the 359 cumulative projects will still exceed SCAQMD significance thresholds resulting in a significant and unavoidable cumulative operational air quality impact.

6.3.3.7 Impacts to Sensitive Receptors

Impact: *The project's contribution to the cumulative exposure of substantial pollutant concentrations on sensitive receptors would be cumulatively considerable.*

Threshold: Would the project expose sensitive receptors to substantial pollutant concentrations?

For localized air quality impacts, the applicable thresholds are:

- 20 ppm (1 hour) and 9 ppm (8 hours) of CO during construction and operation;
- 0.18 ppm (State 1 hour), 0.100 ppm National 1 hour), and 0.030 ppm (Annual) of NOX during construction and operation;
- 10.4 µg/m3 (24-hours) and 1 µg/m3 (Annual) of PM10 during construction
- 2.5 µg/m3 (24 hours) and 1.0 µg/m3 (Annual) of PM10 during operations; and
- 2.5 µg/m3 (24 hours) of PM2.5 during operations.
- During time periods when construction and operational activities occur at the same time, the SCAQMD recommends application of the significance threshold for operations.

For health risk impacts, the applicable thresholds are:

- Maximum Individual Cancer Risk: An increased cancer risk greater than 10 in 1 million at any receptor location;
- Cancer burden: An increase in cancer burden of 0.5 or
- Non-cancer hazard indices (HI): A cumulative increase for any target organ system exceeding 3.0 at any receptor location.

Cumulative Impact Analysis

The SCAQMD uses the same significance thresholds for project specific and cumulative health risk impacts. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0.

Because the cumulative HRA included emissions from both the Project and the 359 cumulative projects, the cancer risks and CHIs calculated are the cumulative health risk values that will be compared to the selected cumulative HRA threshold.

Cancer Risk for Sensitive/Residential Receptors. Thirty-year exposure to cumulative construction and operations results in a cancer risk of 139.8 in one million at the maximum exposed receptor and thirty year cumulative operations would result in a cancer risk of 171.5 in one million at the maximum exposed receptor. These impacts at the maximum exposed project receptor are above the cumulative cancer threshold of 10 in a million with and without mitigation. Therefore, the the construction and operation of

cumulative projects in addition to the Project (with mitigation incorporated) is expected to have a significant and unavoidable cumulative impact.

Non-Cancer Hazard Index (HI). The non-cancer HI value at each of the modeled receptor locations are less than SCAQMD cumulative threshold of 3.0. Therefore, the project is expected to have a less than significant cumulative impact.

Estimates of Cancer Burden. Cumulative cancer risks were estimated at the geographical center (centroid) of census tracts that are within the study area of the cumulative HRA. For the 70-year exposure duration with the inclusion of the Current OEHHA Guidance without consideration of the results of the HEI ACERS Study, the cancer burden is estimated to be 72.2 for construction and operations and 90.3 for full operations, out of a population of about 10.8 million individuals that were conservatively estimated to have a cancer risk of 1 in a million or more for the 359 cumulative projects. This is compared to the Project cancer burden impact, estimated at approximately 0.47. The SCAQMD has established a threshold for cancer burden of 0.5. Because the SCAQMD's cancer burden significance threshold is exceeded with and without mitigation for the 359 cumulative projects, the cumulative cancer burden impact is expected to be significant and unavoidable.

Significance Level Before Mitigation: Potentially significant. Operation of the cumulative projects along with the Project would result in potentially significant cumulative health risk impacts.

Mitigation Measures: The mitigation measures previously identified in Section 4.3 are required (**Mitigation Measures 4.1.6.1A, 4.3.6.2A**, **4.3.6.2B**, **4.3.6.2D, 4.3.6.3A, 4.3.6.3B, 4.3.6.3C, 4.3.6.3D,** and **4.3.6.3E**) to reduce construction and operational emissions of criteria pollutants would reduce the estimated cancer risks associated with the project. Additionally, **Mitigation Measure 4.3.6.5A** is required to ensure that significant health risk does not occur at on-site residential receptors.

Significance Level After Mitigation: Significant and unavoidable. Project cancer risks are reduced after implementation of mitigation. However, the SCAQMD cancer risk and cancer burden significance threshold would be exceeded at sensitive receptor locations within the cumulative HRA study area. Therefore, the cancer risk impact to sensitive receptors and cancer burden to general population will be cumulatively significant and unavoidable. As discussed in Section 4.3, the Project impacts would be reduced to less-than-significant levels after implementation of mitigation. However, because the Project would result in an increase in cancer risk of 9.1 under construction + operations and 7.1 30-year operations, the Project contribution would be cumulatively considerable.

6.3.3.8 Cumulative Health Effects

Tables 6.3-9 and 6.3-10 below show the estimated annual percent of background health incidence for PM2.5 and Ozone health effects associated with cumulative projects (including the unmitigated Project). When taken into context, the small percent of the number of background incidences indicate that these health effects are minimal in a developed, urban environment.

Table 6.3-9: Estimated Annual $PM_{2.5}$ Health Effects of Cumulative Project Emissions

Health Endpoint[2]	Annual Percent of Background Health Incidence (%)	Background Health Incidence (Annual)
Emergency Room Visits, Asthma [0-99]	0.16%	130,805
Mortality, All Cause [30-99]	0.14%	325,048
Hospital Admissions, Asthma [0-64]	0.09%	17,730
Hospital Admissions, All Cardiovascular (less Myocardial Infarctions) [65-99]	0.02%	224,047
Hospital Admissions, All Respiratory [65-99]	0.05%	193,354
Acute Myocardial Infarction, Nonfatal [18-24]	0.06%	36
Acute Myocardial Infarction, Nonfatal [25-44]	0.07%	1,904
Acute Myocardial Infarction, Nonfatal [45-54]	0.06%	5,241
Acute Myocardial Infarction, Nonfatal [55-64]	0.06%	9,226
Acute Myocardial Infarction, Nonfatal [65-99]	0.06%	40,966

[1] Estimated health effects are compared to the base (2035 base year health effect incidences) values across the Southern California model domain.

[2] Affected age ranges are shown in square brackets.

Source: Ramboll, 2019

Potential $PM_{2.5}$-related health effects associated with increases in ambient air concentrations estimated from cumulative Projects (including the unmitigated Project) include asthma-related emergency room visits (204 incidences per year), asthma-related hospital admissions (16 incidences per year), all cardiovascular-related hospital admissions (not including myocardial infarctions) (44 incidences per year), all respiratory-related hospital admissions (98 incidences per year), mortality (467 incidences per year), and nonfatal acute myocardial infarction (less than 24 incidences per year for all age groups).

Table 6.3-10: Estimated Annual Ozone Health Effects of Cumulative Project Emissions

Health Endpoint[2]	Annual Percent of Background Health Incidence (%)	Background Health Incidence (Annual)
Hospital Admissions, All Respiratory [65-99]	0.02%	193,354
Mortality, Non-Accidental [0-99]	0.01%	210,692
Emergency Room Visits, Asthma [0-17]	0.31%	50,722
Emergency Room Visits, Asthma [18-99]	0.23%	80,084

[1] Estimated health effects are compared to the base (2035 base year health effect incidences) values across the Southern California model domain.

[2] Affected age ranges are shown in square brackets.

Source: Ramboll, 2019

Potential ozone-related health effects associated with increases in ambient air concentrations estimated from cumulative Projects (including the unmitigated Project) include respiratory-related hospital admissions (33 incidences per year), mortality (16 incidences per year), and asthma-related emergency room visits for any age range (lower than 188 incidences per year for all age groups).

Uncertainty. Analyses that evaluate the increases in concentrations resulting from individual sources, and the health effects of increases or decreases in pollutants as a result of regulation on a localized basis, are routinely done. This analysis does not tie the increase in concentration to a specific health effect in an individual; however, it does use scientific correlations of certain types of health effects from pollution to estimate increases in effects to the population at large.

Aside from the uncertainty as to the causal basis of the statistical associations in air pollution epidemiology studies of PM and mortality, some epidemiological studies have found no correlation between mortality and increased PM (Enstrom, 2005; 2017; Lipfert et al., 2000; Murray and Nelson, 2000; Greven et al., 2011; You et al.,2018; Zhou et al.,2015). Although there are a greater number of

publications reporting a positive PM association for mortality compared to those reporting no association.

There is a degree of uncertainty in these results from a combination of the uncertainty in the emissions themselves, the increase in concentration resulting from the PGM and the uncertainty of the application of the C-R increase. All simulations of physical processes, whether ambient air concentrations, or health effects from air pollution, have a level of uncertainty associated with them, due to simplifying assumptions. The overall uncertainty is a combination of the uncertainty associated with each piece of the modeling study, in this case, the emissions quantification, the emissions model, the PGM, and BenMAP. While these results reflect a level of uncertainty, regulatory agencies, including the USEPA have judged that, even with the uncertainty in the results, the results provide sufficient information to the public to allow them to understand the potential health effects of increases or decreases in air pollution (USEPA 2012).

NOTE TO READERS: Section 6.7, below, of this Draft Recirculated Revised Sections of the FEIR replaces Section 6.7 of the Revised Sections of the FEIR, circulated in July 2018 ("RSFEIR"). Section 6.7 replaces the cumulative analysis provided in Section 4.7 of the FEIR prepared in 2015.

6.7 Greenhouse Gas Emissions, Climate Change and Sustainability

Cumulative effects to greenhouse gas (GHG) emissions, climate change and sustainability are described in this section. A summary of the project's potential impacts related to GHG emissions and consistency with plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs is provided in Section 6.7.1. The cumulative impact geographic area for GHG emissions, climate change, and sustainability issues is provided in Section 6.7.2. The potential cumulative impacts and the project's contribution to cumulative impacts related to GHG emissions and consistency with plans, policies, and regulations adopted for the purpose of reducing the emissions of GHGs are discussed in Section 6.7.3. In addition, a brief summary of the impact significance of the project's contribution to cumulative impacts for each issue is also provided in Section 6.7.3 as well as applicable mitigation measures and significance determination after mitigation. Cumulative emissions calculations are included as Appendix A.3 of this Draft Recirculated RSFEIR.

The land use assumptions for the identified cumulative projects were taken from either the project-specific information contained in the associated cumulative project CEQA documents, the City of Moreno Valley General Plan, and/or the SCAG Regional Transportation Plan / Sustainable Communities Strategy (RTP/SCS) 2040 regional population and employment forecasts for all areas outside of the City of Moreno Valley. Where project-specific information was available for the cumulative projects, it was incorporated into the cumulative impact analysis. Where project-specific information was not available, the underlying General Plan or SCAG RTP/SCS land use designations were used. Where project-specific and planned cumulative project land uses were inconsistent, the more intense land use was utilized. Within Moreno Valley, the cumulative analysis assumed build-out of the City's General Plan except for locations where other past, present, and reasonably foreseeable projects were identified, in which case those were used instead. Because it is unlikely that the city will fully build out by 2035, the cumulative impact analysis assumes worse case cumulative development than is likely to occur and is therefore conservative in the sense that it would over-state cumulative impacts.

The cumulative projects identified in Table 6.7-1 and their respective CEQA documents have been reviewed and evaluated in conjunction with the project to determine if they would contribute to a cumulatively considerable impact to greenhouse gas emissions, climate change and sustainability. These potentially cumulative impacts are documented in the following section.

6.7.1 Project Impact Findings

The project's effects on greenhouse gas emissions, climate change, and sustainability are summarized in this section, and the impacts have been evaluated against the following thresholds that were developed based on the CEQA Guidelines Appendix G thresholds, as modified to address potential project impacts. After each threshold, a significance determination for the project impacts is provided as well as a reference to the specific section and impact number if the impact determination is significant.

Could the project:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment (i.e., exceeds the SCAQMD's 10,000 mt CO_2e emissions screening threshold of significance); **Less than Significant with Mitigation, Section 4.7.6.1.**
- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. **Less than Significant with Mitigation, Section 4.7.6.2.**

As shown, there are no project-specific significant and unavoidable impacts to greenhouse gas emissions identified in Section 4.7 of this Draft Recirculated RSFEIR.

6.7.2 Geographic and Temporal Scope

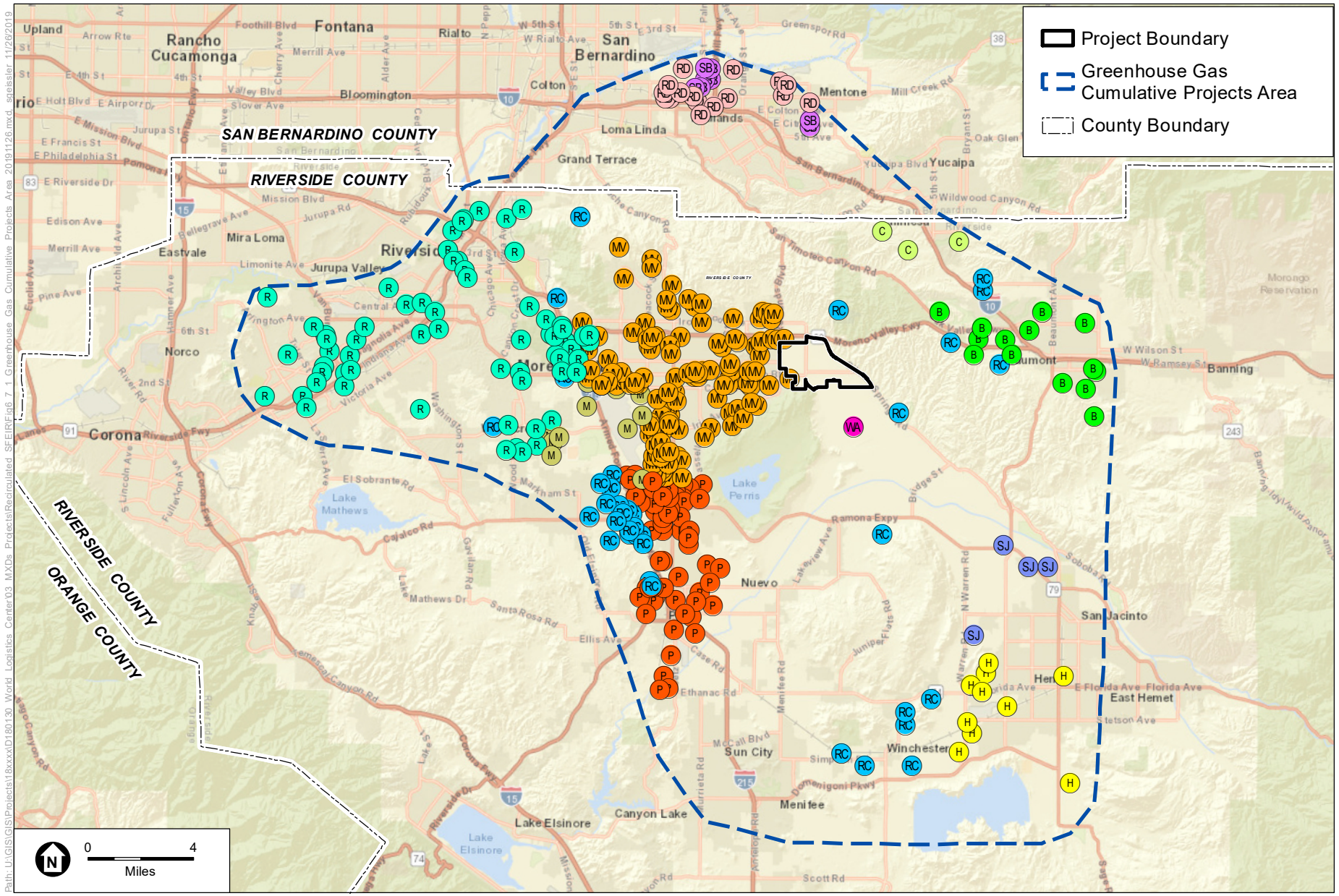
CEQA requires that lead agencies consider the cumulative impacts of GHG emissions from even relatively small (on a global basis) increases in GHG emissions. Small contributions to this cumulative impact (from which significant effects are occurring and are expected to worsen over time) may be potentially considerable and therefore significant. In the case of global climate change, the proximity of the project to other GHG emission generating activities is not directly relevant to the determination of a cumulative impact because climate change is a global condition. GHG emission impacts are, by their very nature cumulative, as both the California Natural Resources Agency and CAPCOA have recognized. In addition, the California Supreme Court agrees that GHG emissions are global.

For purposes of this analysis, the cumulative impact geographic area for GHG emissions is based on the limits set forth in the cumulative traffic analysis conducted by the project. This area includes the entire City of Moreno Valley and portions of the Cities of Riverside, Redlands, Beaumont, Perris, San Jacinto, Hemet and Calimesa, as well as portions of unincorporated Riverside and San Bernardino County, and the March JPA. The primary sources of GHG emissions from this project would be related to energy consumption in buildings and related uses (lighting for streets and parking lots, etc.) and in the transport of goods by future tenants. Regulations applicable to the GHG-intensity of power and petroleum production in California are promulgated at the state level. Regulations, policies, and plans to reduce GHGs potentially applicable to the project are adopted by the State of California, regional governmental agencies (such as SCAG and SCAQMD), and local governments, in support of State laws AB32 and SB32.

As part of the GHG cumulative analysis a review of available environmental documents for projects within the Project vicinity was conducted. Approximately 359 projects have been identified in the vicinity of the Project and are listed in Table 6.7-1. Out of those 359 projects, approximately 173 environmental documents were available. All 173 were reviewed to identify quantitative emissions for construction and operation of the respective projects; however, not all environmental documents contained emissions for construction and operation. Emissions from all of the identified cumulative projects were calculated based on available information and methodologies.

Detailed research was conducted to identify as much information on the remaining projects that did not have environmental documents with construction and operational emissions available. However, complete project descriptions, detailed construction schedules, and any operational efficiencies were not available for every single project within the cumulative analysis limits. Therefore, with the information that was accumulated, modeling was conducted, utilizing CalEEMod and EMFAC2017 default factors, to estimate construction and operational emissions generated from these cumulative projects. The same methodologies used to calculate air quality emissions were also used to calculate GHG emissions, see Section 6.3.2.

The projects located within the cumulative GHG emissions, climate change and sustainability impact area are shown in Figure 6.7-1 and listed in Table 6.7-1.



SOURCE: ESRI; ESA; Highland Fairview 3/29/2018

World Logistics Center

Figure 6.7-1

Greenhouse Gas Cumulative Projects Area

ESA

Table 6.7-1: Greenhouse Gas Emissions, Climate Change and Sustainability Cumulative Projects Summary

Project ID	Project Name	Land Use[1]	Size[2]
B-1	Fairway Canyon SCPGA Tract Nos. 31462, 36558, and 36783 (#29)	SF	3,300 DU
B-10	Tract No. 32850 (#39)	SF	95 DU
B-11	San Gorgonio Village, Phase 2 (#45)	RC	225 KSF
B-12	Beaumont Commercial Center	MF	279 DU
B-13	Four Seasons (#23) Tract Nos. 32260 and 33096	SF	1,890 DU
B-14	Potrero Creek Estates (#26)	SF	700 DU
B-2	Tournament Hills 3, TM 36307	MF	571 DU
B-3	Heartland	SF	922 DU
B-4	Hidden Canyon	LI	1,734 KSF
B-5	ProLogis/Rolling Hills Ranch	HI	2,565.68 KSF
B-6	Mountain Bridge Regional Commercial Planned Commu*	BP	1,853.25 KSF
B-7	Kirkwood Ranch (#14)	SF	403 DU
B-8	Noble Creek Vistas (#10)	SF	648 DU
B-9	Sundance (#17)	SF	4,450 DU
C-1	TTM 33931 Fiesta Oak Valley/Mesa Verde Estates	RC	200 KSF
C-2	Summerwind Ranch	BP	1,579 KSF
C-2	Summerwind Ranch	BP	1,000 KSF
C-3	JP Ranch	RC	72.7 KSF
H-1	TTM 36841	SF	588 DU
H-10	Downtown Hemet Specific Plan	**	**
H-2	Rancho Diamante	SF	440 DU
H-3	Tres Cerritos Specfic Plan	SF	931 DU
H-4	Sanderson Square	LI	734.98 KSF
H-4	Sanderson Square	LI	995.15 KSF
H-5	Mc Sweeny Farms SP	RC	20.90 KSF
H-6	Ramona Creek	RC	680.788 KSF
H-7	Peppertree Specific Plan	SR	358 KSF
H-8	Florida Promenade Residential SP	SF	145 DU
H-9	TTM 31807 / 31808	SR	599 KSF
M-1	Amstar/Kaliber Development PP22925	HI	409.312 KSF
M-10	Airport Master Plan	WH	559 KSF
M-11	PA 06-0014 (Pierce Hardy Limited Partnership)	RC	67 KSF
M-2	Meridian Business Park	LI	487.8 KSF
M-3	Meridian Business Park - Phase 3	WH	2,900 KSF
M-4	March Business Center - South Campus	RC	108.9 KSF
M-5	Meridian LNR	OG	232.76 KSF
M-6	Ben Clark Training Facility	BP	219.35 KSF
M-7	Meridian Business Park - Phase K4	WH	675.5 KSF
M-8	March LifeCare Campus Specific Plan	MO	2,930 KSF
M-9	TM 34748	SF	135 DU

Project ID	Project Name	Land Use[1]	Size[2]
MV-1	Auto Mall SP	RC	304.5 KSF
MV-10	TR30998 / Pacific Communities	SF	47 DU
MV-100	Scottish Village	MF	194 DU
MV-101	Restaurant	RC	9 KSF
MV-102	Moreno Valley Professional Center	OG	84 KSF
MV-103	Gateway Business Park	LI	184 KSF
MV-104	373K Industrial Facility	WH	373.03 KSF
MV-105	35369 Tason Myers Property	MF	12 DU
MV-106	35304 Jimmy Lee	MF	12 DU
MV-107	32711 Isaac Genah	SF	9 DU
MV-108	O'Reilly Automotive	RC	2.97 KSF
MV-109	Quail Ranch	SF	1,105 DU
MV-11	TR30411 / Pacific Communities	SF	24 DU
MV-110	TM 33417	MF	60 DU
MV-111	35769 Michael Chen	MF	16 DU
MV-112	PA09-0006 Jim Nydam	MF	15 DU
MV-113	Ironwood Residential	SF	144 DU
MV-114	Stoneridge Town Centre - Vacant Restaurant	RC	5.7 KSF
MV-115	Olivewood Plaza - Office Building	OG	0.02 KSF
MV-116	31621 Peter Sanchez	SF	25 DU
MV-117	MV-101	OG	52 KSF
MV-118	28860 Professor's Fun IV	SF	9 DU
MV-119	32126 Salvador Torres	SF	35 DU
MV-12	Moreno Medical Campus	MO	80 KSF
MV-120	Moreno Valley Shopping Center	RC	189.52 KSF
MV-121	Yum Donut Shop	RC	4.35 KSF
MV-122	Centerpointe Business Park	**	**
MV-123	Rancho Belago Plaza - Retail	RC	14 KSF
MV-124	Alessandro & Lasselle	RC	140 KSF
MV-125	32756 Jimmy Lee	MF	24 DU
MV-126	TTM 33222	SF	235 DU
MV-13	Cresta Bella	OG	30 KSF
MV-14	TR32548 / Gabel, Cook & Assoc	SF	107 DU
MV-15	TR32218 / Whitney	SF	63 DU
MV-16	TR32284 / 26th Corporation & Granite Capitol	SF	32 DU
MV-17	TR31590 / Winchester Associates	SF	96 DU
MV-18	Convenience Store / Fueling Station	RC	5.5 KSF
MV-19	Senior Assisted Living	SR	139 KSF
MV-2	TR35823 / Stowe Passco Devel.	SF	262 DU
MV-20	Moreno Marketplace	RC	93.79 KSF
MV-21	PEN16-0053 Medical Center	MO	80 KSF
MV-22	TR36882 (PA15-0010) SFR	SF	40 DU

Project ID	Project Name	Land Use[1]	Size[2]
MV-23	PEN16-0129/0130 MV Ranch Apartments	MF	417 DU
MV-24	TM 36436 (PA12-0005)	SF	159 DU
MV-25	TR32142	SF	81 DU
MV-26	TR 30268 (PA01-0072) Pacific Communities	SF	100 DU
MV-27	TR32917 / Empire land	MF	54 DU
MV-28	TR34329 / Granite Capitol	MF	90 DU
MV-29	TR36340	SF	275 DU
MV-3	ProLogis	WH	1,901 KSF
MV-30	PA03-0168 TR 31517	SF	83 DU
MV-31	PA15-0034 TR 36983	SF	53 DU
MV-32	TTM 31592 (P13-078) SFR	SF	115 DU
MV-33	TR32645 / Winchester Assoc	SF	54 DU
MV-34	TR34397/Winchester Assoc	SF	52 DU
MV-35	TR31771 / Sanchez	SF	25 DU
MV-36	TM 31618 (PA03-0106)	MF	56 DU
MV-37	Vogel /PA09-004	HI	1,616.13 KSF
MV-38	Vogel Properties	LI	434 KSF
MV-39	VIP Moreno Valley (SaresRegis/Vogel)	LI	1,600 KSF
MV-4	Westridge Commerce Center	LI	937.26 KSF
MV-40	PEN17-0036 Warehouse	WH	98.40 KSF
MV-41	First Nandina Logistics Center	WH	1,450 KSF
MV-42	Indian Street Commerce Center	WH	446.35 KSF
MV-43	Ivan Devries / PA06-0017	HI	555.67 KSF
MV-44	Modular Logistics Center (Kearny RE Co)	WH	1,109.38 KSF
MV-45	Iris Plaza	RC	87.12 KSF
MV-46	Harley Knox/Redlands Development	WH	382.28 KSF
MV-47	PA07-0129 TR 35606 SFR	SF	16 DU
MV-48	PA11-001 thru 007 March Business Center	BP	1484.50 KSF
MV-49	Indian Business Park	BP	1,560.05 KSF
MV-5	P06-158 / Gascon	RC	116.36 KSF
MV-50	San Michele Industrial Center	LI	354.81 KSF
MV-51	PA07-0165 thru 01667 First Industrial I & II	LI	769.32 KSF
MV-52	First Industrial III & IV	LI	878.96 KSF
MV-53	I-215 Logistics Center	WH	1,250 KSF
MV-54	Moreno Valley Logistics Center (Prologis)	WH	1,738 KSF
MV-55	MV Commerce Park II (Alere) - Built before 2012	**	**
MV-56	Tract Map 33810	SF	16 DU
MV-57	Tract Map 34151	SF	37 DU
MV-58	Tract Map 33024	SF	8 DU
MV-59	Tract Map 31442	SF	63 DU
MV-6	Highland Fairview Corporate Park	WH	750 KSF
MV-60	Tract Map 36401	SF	92 DU

Project ID	Project Name	Land Use[1]	Size[2]
MV-61	Walmart & Gas Station	RC	180 KSF
MV-62	Tract Map 22180	SF	543 DU
MV-63	PA14-0053 (TTM 36760) Legacy Park	SF	221 DU
MV-64	TR22180 / Young Homes	SF	87 DU
MV-65	TR33607 / TL Group	MF	52 DU
MV-66	TR34988 / Stratus Properties	MF	251 DU
MV-67	TR32515	SF	161 DU
MV-68	PA07-0035	HI	207.09 KSF
MV-69	PA07-0039 (Industrial Area SP)	HI	409.60 KSF
MV-7	TR33962 / Pacific Scene Homes	SF	31 DU
MV-70	TR32756 / CTK, Inc.	MF	241 DU
MV-71	TR34681 / Perris Pacific Co.	MF	49 DU
MV-72	35861 Frederick Homes	MF	24 DU
MV-73	TR36038 / Alessandro Village Plaza LLC	MF	96 DU
MV-74	TR34216 / Creative Design Assoc	SR	189 KSF
MV-75	Aqua Bella Specific Plan	SR	1,461 KSF
MV-76	Commercial Medical Plaza PA09-0033 thru 0039, and*	RC	311.63 KSF
MV-77	Minka Lighting	LI	533 KSF
MV-78	Overton Moore Properties PA08-0072	LI	520 KSF
MV-79	Shaw Development	WH	367 KSF
MV-8	TR32460 / Sussex Capital	SF	58 DU
MV-80	PA15-0032 MV Cactus Center	RC	44.3 KSF
MV-81	Ridge Property Trust PA07-0147 & PA 07-0157	WH	700 KSF
MV-82	Centerpointe Bus. Ctr	WH	500 KSF
MV-83	Centerpointe Business Park	LI	356 KSF
MV-84	PA16-0075 Brodiaea Business Center	LI	99.98 KSF
MV-85	Retail Center / Winco Foods	RC	140 KSF
MV-86	TR32505 / DR Horton	SF	71 DU
MV-87	TR31814 / Moreno Valley Investors	MF	60 DU
MV-88	TR33771 / Creative Design Assoc	MF	12 DU
MV-89	TR35663 / Kha	MF	12 DU
MV-9	TR32459 / Sussex Capital	SF	11 DU
MV-90	PEN16-0110 Commercial Pad H	RC	7.31 KSF
MV-91	TR31305 / Richmond American	SF	87 DU
MV-92	TR 33256	SF	99 DU
MV-93	PA14-0042 Edgemont Apartments	MF	112 DU
MV-94	PA15-0002 Box Springs Apartments	MF	266 DU
MV-95	Moreno Beach Market PLace/Lowes	RC	175 KSF
MV-96	31394 Pigeon Pass, Ltd.	SF	78 DU
MV-97	32005 Red Hill Village, LLC	SF	214 DU
MV-98	33388 SCH Development, LLC	SF	16 DU
MV-99	36038 Alessandro Village Plaza, LLC	MF	96 DU

Project ID	Project Name	Land Use[1]	Size[2]
P-1	TR32707	SF	137 DU
P-10	IDS	WH	1,700 KSF
P-11	Ridge II	HI	1,224.99 KSF
P-12	Starcrest P011-0005; 08-11-0006	LI	454.09 KSF
P-13	Ridge	**	**
P-14	Rados Distribution Center	WH	1,200 KSF
P-15	Duke Perris Logistics Center	WH	780.82 KSF
P-16	Perris Ridge Commerce Center I	WH	1,310 KSF
P-17	SRG Perris LC	WH	580 KSF
P-18	P07-07-0029	WH	1,547 KSF
P-19	P05-0192	WH	697.6 KSF
P-2	TR34716	WH	600 KSF
P-20	P05-0113	WH	871.5 KSF
P-21	P07-09-0018	WH	170 KSF
P-22	NICOL	WH	380 KSF
P-23	Westcoast Textiles	WH	180 KSF
P-24	Optimus Logistics Center 1	WH	1,464 KSF
P-25	Optimus Logistics Center 2	WH	1,038 KSF
P-26	Duke Warehouse	LI	811.62 KSF
P-27	Perris DC (Industrial Property Trust)	WH	864 KSF
P-28	Duke Warehouse	LI	670 KSF
P-29	P06-0411	**	**
P-3	P05-0477	WH	462.3 KSF
P-30	Avelina	SF	492 DU
P-31	Perris Family Apartments	MF	75 DU
P-32	Lewis Retail Center	RC	643 KSF
P-33	Harvest Landing Specific Plan	SF	1,860 DU
P-34	South Perris Industrial Phase 3	WH	3,166.86 KSF
P-35	Verano Apartments	MF	40 DU
P-36	South Perris Industrial Phase 2	WH	3,448.73 KSF
P-37	Cabrillo	SF	183 DU
P-38	Sequoia	SF	223 DU
P-39	South Perris Industrial Phase 1	WH	783.7 KSF
P-4	Bookend	LI	172 KSF
P-40	TR 32041	SF	122 DU
P-41	P 06-0228	LI	149.74 KSF
P-42	TR 31650	SF	61 DU
P-43	TR 31225	SF	57 DU
P-44	TR 33193	MF	94 DU
P-45	P 12-05-0013	MF	75 DU
P-46	P 06-0378	SR	429 KSF
P-47	Park West Specific Plan	SF	521 DU

Project ID	Project Name	Land Use[1]	Size[2]
P-48	TR 33338	SF	75 DU
P-49	TR 31240	SF	114 DU
P-5	Markham East	WH	460 KSF
P-50	P 11-09-0011	RC	80 KSF
P-51	TR 30973	SF	35 DU
P-52	TR 31226	SF	82 DU
P-53	TR 31659	SF	161 DU
P-54	TTM 32708	SF	238 DU
P-55	Perris Marketplace	RC	450 KSF
P-56	PM 34199 / TPM 34697	LI	9.85 KSF
P-57	P 04-0343	WH	41.65 KSF
P-58	Jordan Distribution	HI	378 KSF
P-59	TR 31407	SF	243 DU
P-6	Perris Circle Industrial Park	LI	600 KSF
P-60	Retail on Redlands	RC	4.5 KSF
P-61	TR32707	WH	350 KSF
P-7	Duke Warehouse	LI	1,189.9 KSF
P-8	First Perry Logistics Project	LI	241 KSF
P-9	Aiere	HI	642 KSF
R-1	Sycamore Canyon Business Park - Bldgs 1&2	BP	1,375.17 KSF
R-10	SR-91/ Van Buren Commercial	RC	23.57 KSF
R-11	Citrus Business Park Specific Plan	BP	340.66 KSF
R-12	Sycamore Canyon Business Park Specific Plan	RC	61.38 KSF
R-13	14601 Dauchy Av. - TM 36370	SF	3 DU
R-14	360 Alessandro Boulevard	RC	3.86 KSF
R-15	Mission Grove Specific Plan	SF	171.70 DU
R-16	Sycamore Canyon Specific Plan	SF	1.53 DU
R-17	5940-5980 Sycamore Canyon Boulevard	MF	275 DU
R-18	Hunter Business Park	LI	9,037.83 KSF
R-19	807 Blaine Street	MF	55 DU
R-2	Alessandro Business Center (Western Realco)	WH	582.77 KSF
R-20	474 Palmyrita Avenue	WH	1,461.45 KSF
R-21	1006 & 1008 Clark Street	SF	15 DU
R-22	3719 Strong Street	SF	9 DU
R-23	1710 Main Street (P12-0717)	RC	8.04KSF
R-24	Downtown Specific Plan	SF	5,000 DU
R-25	P14-0045 thru -0048	MF	208 DU
R-26	Marketplace Specific Plan	LI	943.51 KSF
R-27	2586 University Avenue	RC	3.62 KSF
R-28	2340 Fourteenth Street	SR	134 KSF
R-29	6570 Magnolia Avenue; 3739 & 3747 Central Avenue	RC	3.80 KSF
R-3	P07-1028, -0102; and P09-0416, -0418, -0419	LI	652.02 KSF

Project ID	Project Name	Land Use[1]	Size[2]
R-30	3545 Central Avenue	RC	208.57 KSF
R-31	P08- 0396 / P08-0397 Thru -0399 / TM 35620	MF	36 DU
R-32	Walmart Expansion	RC	22.27 KSF
R-33	5731, 5741, 5761 & 5797 Pickler Street	MF	30 DU
R-34	4247 Van Buren Boulevard	OG	12.17 KSF
R-35	3990 Reynolds Road	MF	102 DU
R-36	Magnolia Garden Condominiums	MF	62 DU
R-37	3705 Tyler Street	RC	6 KSF
R-38	Park Sierra Avenue	RC	3.5 KSF
R-39	Riverwalk Vista Specific Plan	SF	402 DU
R-4	Quail Run	MF	216 DU
R-40	P12- 0019 / P12-0156 / P12-0158	RC	2.4 KSF
R-41	4824 Jones Avenue	OG	23.12 KSF
R-42	Rancho La Sierra Specific Plan	SF	598 DU
R-43	P05-1528 \ P09-0087 \ TM 34509	SF	50 DU
R-44	6465 Sycamore Canyon Boulevard	RC	4 KSF
R-45	P06-0591	OG	37.94 KSF
R-46	Sycamore-Highlands Specific Plan	SF	35.84 DU
R-47	P06-0160 / P06-1281	WH	107.73 KSF
R-48	P06-1408	RC	75.3 KSF
R-49	Canyon Springs Specific Plan	SR	310 KSF
R-5	Canyon Springs Healthcare Campus	MO	500 KSF
R-50	Orangecrest Specific Plan	SF	3.83 DU
R-51	P10-0808 / P10-0708	RC	2.36 KSF
R-52	19811 Lurin Avenue	SF	32 DU
R-53	P06-1404 / Lurin Avenue / TM 33482	SF	29 DU
R-54	P06-1396 / Mariposa Avenue / TM 33481	SF	25 DU
R-55	P06-0900 / P08- 0269 / P08-0270 / TTM 32301	SF	20 DU
R-56	Office, Magnon & Panattoni	OG	131 KSF
R-57	SEC Sycamore Canyon Boulevard & Box Springs Road	LI	171.62 KSF
R-58	Canyon / Valley Springs Parkway	RC	2.75 KSF
R-59	Alessandro and Gorgonio	RC	4.05 KSF
R-6	2450 Market Street	MF	77 DU
R-60	Alessandro Bl.	BP	101.58 KSF
R-61	Gless Ranch	RC	425.45 KSF
R-62	6091 Victoria Avenue (P13-0432)	RC	1.83 KSF
R-63	8616 California Avenue (P08-0084; PM 35852)	MF	21 DU
R-64	P13-0389 / TM 36579	SF	5 DU
R-65	P13-0723; P13-0724; P13-0725; TM 36654	SF	62 DU
R-66	Azar Plaza	RC	6.15 KSF
R-7	2861 Mary Street	RC	56.10 KSF

Project ID	Project Name	Land Use[1]	Size[2]
R-8	5938-5944 Grand Avenue	SR	37 KSF
R-9	Magnolia Avenue Specific Plan	RC	8,777.62 KSF
RC-1	TR35530 / Quail Ranch Specific Plan	SF	1,251 DU
RC-10	Majestic Freeway Business Center	LI	6,200 KSF
RC-11	Alessandro Commerce Center	WH	814 KSF
RC-12	Cores Industrial Partners	LI	423.67 KSF
RC-13	Sunny-Cal Specific Plan (#40)	SF	497 DU
RC-14	University Highlands	MF	320 DU
RC-15	TTM 33410 Box Springs	SF	142 DU
RC-16	Sycamore Canyon Specific Plan	**	**
RC-17	PP 24608	RC	9.28 KSF
RC-18	TR 32406	SF	15 DU
RC-19	CUP 03599	RC	52.80 KSF
RC-2	Jack Rabbit Trail	SF	2,000 DU
RC-20	PP 25699	RC	2.8 KSF
RC-21	CUP 03527	WH	8 KSF
RC-22	TR 30592	SF	131 DU
RC-23	PP 25768	LI	52.45 KSF
RC-24	PP 21144	LI	190.80 KSF
RC-25	PP 16976	LI	85 KSF
RC-26	PM 32699	SF	2 DU
RC-27	Yocum Baldwin	LI	188.70 KSF
RC-28	CUP 03315	RC	5.6 KSF
RC-29	18580 Van Buren Boulevard	RC	8.14 KSF
RC-3	The Preserve / Legacy Highlands SP - Commercial and Residential	SF	3,412 DU
RC-30	Knox Logistics	WH	1,259.05 KSF
RC-31	PP 23342	LI	180.6 KSF
RC-32	TTM 31537	SF	726 DU
RC-33	TTM 34130	SF	384 DU
RC-34	Emerald Acres SP #381	SF	432 DU
RC-35	TR 34677,31100,32391,33448,31101,31009,32282	OG	80 KSF
RC-36	TR36478, TR36480, PP25219	SF	468 DU
RC-37	TR 36504	SF	562 DU
RC-38	San Gorgonio Crossings	WH	1,823.76 KSF
RC-39	Tract 33869	SF	39 DU
RC-4	Badlands Sanitary Landfill	**	**
RC-5	Villages of Lakeview - Commercial Development and Residential Development	SF	750 DU
RC-6	Rider Business Center (Core 5 Industrial Partners)	BP	600 KSF
RC-7	Nuevo Distribution Center	WH	1,586.65 KSF
RC-8	Trucking DC (Central Freight, LLC)	**	**
RC-9	Oleander Business Park PP20699	OG	34 KSF

Project ID	Project Name	Land Use[1]	Size[2]
RD-1	Tract 18988	SF	82 DU
RD-10	Park Ave Industrial Center	LI	145.26 KSF
RD-11	Marriott Springhill Suites	RC	55.47 KSF
RD-12	I-10 Redlands LC - B	WH	601.29 KSF
RD-13	Ashley Furniture	WH	1,013 KSF
RD-14	Redlands DC 772,000 SF	WH	772 KSF
RD-15	2220 Almond Ave	WH	423 KSF
RD-16	APL Logistics	WH	714.73 KSF
RD-2	Redlands Pioneer Tract	SF	55 DU
RD-3	Newland Homes Tract	SF	103 DU
RD-4	Redlands Pennsylvania Tract	SF	67 DU
RD-5	I-10 Redlands LC - A	WH	500.60 KSF
RD-6	Woodsprings Hotel	RC	48.22 KSF
RD-7	RV Storage Facility	RC	127.75 KSF
RD-8	Liberty Lane Apartments	MF	80 DU
RD-9	Hilton Home2 Suites	RC	43.80 KSF
SB-1	Redlands Gateway Logistics - B	WH	614.33 KSF
SB-2	Redlands Gateway Logistics - A	WH	313.47 KSF
SB-3	Prologis 12	WH	593.56 KSF
SB-4	Prologis 17	WH	777.62 KSF
SB-5	Prologis #13	WH	282 KSF
SB-6	Prologis #8	WH	542.98 KSF
SB-7	Sam Redlands Tract	SF	34 DU
SB-8	Jacinto Tract	SF	40 DU
SJ-1	Gateway Area Specific Plan	RC	1,678.24 KSF
SJ-2	TR 31886	SF	321 DU
SJ-3	TR 30598	SF	580 DU
SJ-4	TR 32955	SF	613 DU
SJWA-1	San Jacinto Wildlife Land Management Plan	**	**

1 BP Business Park
HI Heavy Industrial
LI Light Industrial
MF Multifamily Residential
MO Medical Office
OG General Office
RC Retail/Unspecified Commercial
SF Single Family Residential
SR Senior Residential
WH Warehouse-Logistics

2 DU Dwelling Units
KSF Thousand Square Feet

** Project information not available or planning level document with no direct development proposed.

6.7.3 Cumulative Evaluation

Bearing in mind that CEQA does not require "perfection" but instead "adequacy, completeness, and a good faith effort at full disclosure," the analysis of project GHG emissions and climate change is based on methodologies and information available at the time this Draft Recirculated RSFEIR was prepared. While information is presented below to assist the public and the City's decision-makers in understanding the project's potential contribution to global climate change impacts, the information available to the City is not sufficiently detailed to allow a direct comparison between particular project characteristics and particular climate change impacts, nor between any particular proposed mitigation measure and any reduction in climate change impacts.

6.7.3.1 Greenhouse Gas Emissions

Impact: *The project's contribution to the generation of cumulative greenhouse gas emissions would not be cumulatively considerable.*

Threshold:	Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Cumulative Impact Analysis

During construction, the project would emit GHGs mainly from direct sources such as combustion of fuels from worker, vendor, haul vehicles and construction equipment. Section 4.7.6.1 Greenhouse Gas Emissions, found that construction of the project would contribute approximately from 18,783 metric tons of CO_2e in its first year of construction and up to approximately 23,521 mt CO_2e per year of construction during the 15-year construction period. Over the 15-year construction period the project would emit a total of 221,853 mt CO_2e. The SCAQMD recommends that construction emissions be averaged over a 30-year period. Average over a 30-year period results in approximately 7,395 mt CO_2e.

In addition, out of the 359 cumulative projects that were evaluated during preparation of the Revised Sections of the FEIR in 2018, 68 were found to be completed with construction or currently undergoing construction as of November 2019. Therefore, 291 potentially cumulative projects are located within the Basin that could undergo construction activities during the project's 15-year construction period.

The SCAQMD recommends that construction-related GHG emissions be amortized over a project's 30-year lifetime in order to include these emissions as part of a project's annualized lifetime total emissions, so that GHG reduction measures will address construction GHG emissions as part of a project's overall GHG reduction strategies. In accordance with this methodology, the estimated construction GHG emissions have been amortized over a 30-year period and are included in the annualized operational GHG emissions.

Operational or long-term emissions occur over the life of the project. CARB has designed a California cap-and-trade program that is enforceable and meets the requirements of AB 32 and SB 32. The program began on January 1, 2012, placing GHG emissions limits on capped sectors (e.g., electricity generation, petroleum refining, cement production, and large industrial facilities that emit more than 25,000 MT CO2e per year), and enforcing compliance obligations beginning with 2013 emissions. Vehicle fuels were placed under the cap in 2015, and with the passage of AB 398, the program was extended through 2030. The Cap-and-Trade Program allocates emissions permits across covered entities in each sector. As shown in Section 4.7.6.1 Greenhouse Gas Emissions, the project's unmitigated uncapped emissions at full buildout in 2035 are approximately 22,974 mt CO_2e per year which are over the SCAQMD's significance threshold of 10,000 mt CO_2e per year.

The quantitative analysis of operation and construction emissions utilized the SCAQMD's Interim CEQA GHG Significance Thresholds to determine the respective project's level of significance. Significance thresholds for each project were determined based on land use. The projects that were identified as either residential or commercial projects are considered part of the SCAQMD's draft threshold for

residential/commercial projects and 3,000 mt CO_2e per year was used in each of the greenhouse assessments. The projects that were identified as industrial/warehouses were compared against a threshold of 10,000 mt CO_2e for industrial projects. Of the 359 projects analyzed, 94 projects exceeded their given threshold and 261 projects were below threshold. Given that the unmitigated project and 94 of the cumulative projects are over threshold, impacts would be potentially significant and cumulatively considerable.

Significance Level Before Mitigation: Cumulatively considerable significant impact.

Mitigation Measures: As identified in Section 4.7.6.1, **Mitigation Measures 4.7.6.1A, 4.7.6.1B, 4.7.6.1C, 4.7.6.1D, and 4.7.6.1E.1 or 4.7.6.1E.2** are required to reduce solid waste and greenhouse gas emissions from construction and operation of project development, and the purchase of credits to offset emissions and reach net-zero GHG emissions.

Significance Level After Mitigation: The Project's mitigated uncapped emissions total 8,563 $MTCO_2e$ at buildout in 2035, would not exceed the SCAQMD's significance threshold of 10,000 mt CO_2e per year, and would be less than significant. As shown in Table 6.7-2, it is estimated that 94 projects would exceed the applicable numeric threshold, contributing to a potentially significant cumulative impact. When considered with the other projects' significant impacts, the Project would not contribute to a significant cumulative impact given that the project would generate uncapped emissions that are less than the 10,000 $MTCO_2e$ significance threshold.

Table 6.7-2: Cumulative Annual GHG Emissions

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
B-001	SF Res	183,838	6,128	38,700	44,828	3,000	Yes
B-002	MF Res	0	0	4,793	4,793	3,000	Yes
B-003	SF Res	24,210	807	10,813	11,620	3,000	Yes
B-004	Light Industrial	5,622	187	15,860	16,047	10,000	Yes
B-005	Heavy Industrial	0	0	20,269	20,269	10,000	Yes
B-006	Business Park	6,618	221	24,215	24,436	3,000	Yes
B-007	SF Res	8,185	273	4,726	4,999	3,000	Yes
B-008	SF Res	19,952	665	7,599	8,264	3,000	Yes
B-009	SF Res	317,101	10,570	52,187	62,757	3,000	Yes
B-010	SF Res	1,014	34	1,114	1,148	3,000	No
B-011	Retail-Commercial	552	18	7,249	7,268	3,000	Yes
B-012	MF Res	0	0	2,342	2,342	3,000	No
B-013	SF Res	78,595	2,620	22,165	24,785	3,000	Yes
B-014	SF Res	20,714	690	8,209	8,900	3,000	Yes
C-001	Retail-Commercial	511	17	6,444	6,461	3,000	Yes
C-002	Business Park	11,613	387	52,851	53,238	3,000	Yes
C-003	Retail-Commercial	334	11	2,342	2,353	3,000	No
H-001	SF Res	9,602	320	6,896	7,216	3,000	Yes
H-002	SF Res	8,472	282	5,160	5,442	3,000	Yes
H-003	SF Res	24,373	812	10,918	11,731	3,000	Yes
H-004	Business Park	6,321	211	19,725	19,936	3,000	Yes
H-005	Retail-Commercial	67	2	674	676	3,000	No
H-006	Retail-Commercial	1,361	45	21,934	21,980	3,000	Yes
H-007	Senior Res	3,522	117	1,839	1,956	3,000	No

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
H-008	SF Res	11,597	387	3,961	4,347	3,000	Yes
H-009	Senior Res	0	0	3,077	3,077	3,000	Yes
M-001	Heavy Industrial	1,598	53	6,548	6,602	10,000	No
M-002	Light Industrial	0	0	44,681	44,681	10,000	Yes
M-003	Warehouse	12,706	424	22,741	23,164	10,000	Yes
M-004	Retail-Commercial	361	12	3,509	3,521	3,000	Yes
M-005	Light Industrial	50,188	1,673	36,068	37,741	10,000	Yes
M-006	Business Park	572	19	2,866	2,885	3,000	No
M-007	Warehouse	1,228	41	5,297	5,338	10,000	No
M-008	Medical Office	21,328	711	97,194	97,905	3,000	Yes
M-009	SF Res	1,456	49	1,583	1,632	3,000	No
M-010	Warehouse	1,069	36	4,383	4,419	10,000	No
M-011	Retail-Commercial	305	10	2,159	2,169	3,000	No
MV-001	Retail-Commercial	647	22	9,811	9,832	3,000	Yes
MV-002	MF Res	5,432	181	4,886	5,067	3,000	Yes
MV-003	Light Industrial	10,213	340	18,264	18,604	10,000	Yes
MV-004	Light Industrial	0	0	8,572	8,572	10,000	No
MV-005	Retail-Commercial	370	12	3,749	3,761	3,000	Yes
MV-006	Warehouse	1,302	43	5,881	5,925	10,000	No
MV-007	SF Res	387	13	364	376	3,000	No
MV-008	SF Res	554	18	680	699	3,000	No
MV-009	SF Res	317	11	129	140	3,000	No
MV-010	SF Res	546	18	551	569	3,000	No
MV-011	SF Res	380	13	281	294	3,000	No
MV-012	Medical Office	0	0	2,104	2,104	3,000	No

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
MV-013	Office	71	2	303	305	3,000	No
MV-014	SF Res	1,555	52	1,255	1,307	3,000	No
MV-015	SF Res	698	23	739	762	3,000	No
MV-016	SF Res	534	18	375	393	3,000	No
MV-017	SF Res	1,014	34	1,126	1,160	3,000	No
MV-018	Retail-Commercial	0	0	177	177	3,000	No
MV-019	Senior Res	0	0	714	714	3,000	No
MV-020	Retail-Commercial	0	0	3,022	3,022	3,000	Yes
MV-021	Medical Office	349	12	2,104	2,116	3,000	No
MV-022	SF Res	0	0	469	469	3,000	No
MV-023	MF Res	1,552	52	3,501	3,552	3,000	Yes
MV-024	SF Res	2,224	74	1,865	1,939	3,000	No
MV-025	SF Res	912	30	950	980	3,000	No
MV-026	SF Res	1,016	34	1,173	1,207	3,000	No
MV-027	MF Res	367	12	453	466	3,000	No
MV-028	MF Res	462	15	756	771	3,000	No
MV-029	SF Res	3,582	119	3,225	3,344	3,000	Yes
MV-030	SF Res	912	30	973	1,004	3,000	No
MV-031	SF Res	549	18	622	640	3,000	No
MV-032	SF Res	1,571	52	1,349	1,401	3,000	No
MV-033	SF Res	549	18	633	652	3,000	No
MV-034	SF Res	548	18	610	628	3,000	No
MV-035	SF Res	380	13	293	306	3,000	No
MV-036	MF Res	0	0	470	470	3,000	No
MV-037	Heavy Industrial	0	0	12,768	12,768	10,000	Yes

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
MV-038	Light Industrial	0	0	3,970	3,970	10,000	No
MV-039	Light Industrial	0	0	14,634	14,634	10,000	Yes
MV-040	Warehouse	342	11	772	783	10,000	No
MV-041	Warehouse	3,320	111	11,370	11,481	10,000	Yes
MV-042	Warehouse	958	32	3,500	3,532	10,000	No
MV-043	Heavy Industrial	0	0	4,390	4,390	10,000	No
MV-044	Warehouse	2,554	85	8,699	8,785	10,000	No
MV-045	Retail-Commercial	346	12	2,807	2,818	3,000	No
MV-046	Warehouse	0	0	2,998	2,998	10,000	No
MV-047	SF Res	374	12	188	200	3,000	No
MV-048	Business Park	0	0	19,397	19,397	3,000	Yes
MV-049	Business Park	0	0	20,384	20,384	3,000	Yes
MV-050	Light Industrial	0	0	3,245	3,245	10,000	No
MV-051	Light Industrial	0	0	7,036	7,036	10,000	No
MV-052	Light Industrial	0	0	8,039	8,039	10,000	No
MV-053	Warehouse	0	0	9,802	9,802	10,000	No
MV-054	Warehouse	5,625	187	13,629	13,816	10,000	Yes
MV-056	SF Res	374	12	188	200	3,000	No
MV-057	SF Res	536	18	434	452	3,000	No
MV-058	SF Res	0	0	94	94	3,000	No
MV-059	SF Res	698	23	739	762	3,000	No
MV-060	SF Res	923	31	1,079	1,110	3,000	No
MV-061	Retail-Commercial	496	17	5,799	5,816	3,000	Yes
MV-062	SF Res	9,278	309	6,368	6,677	3,000	Yes
MV-063	SF Res	2,401	80	2,592	2,672	3,000	No

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
MV-064	SF Res	920	31	1,020	1,051	3,000	No
MV-065	MF Res	366	12	437	449	3,000	No
MV-066	MF Res	807	27	2,107	2,134	3,000	No
MV-067	SF Res	2,236	75	1,888	1,963	3,000	No
MV-068	Heavy Industrial	533	18	1,636	1,654	10,000	No
MV-069	Heavy Industrial	0	0	3,236	3,236	10,000	No
MV-070	MF Res	795	27	2,023	2,050	3,000	No
MV-071	MF Res	363	12	411	423	3,000	No
MV-072	MF Res	275	9	201	211	3,000	No
MV-073	MF Res	470	16	806	822	3,000	No
MV-074	Senior Res	1,763	59	971	1,030	3,000	No
MV-075	Senior Res	45,745	1,525	7,505	9,030	3,000	Yes
MV-076	Retail-Commercial	655	22	10,041	10,062	3,000	Yes
MV-077	Light Industrial	1,086	36	4,875	4,911	10,000	No
MV-078	Light Industrial	0	0	4,756	4,756	10,000	No
MV-079	Warehouse	711	24	2,878	2,902	10,000	No
MV-080	Retail-Commercial	290	10	1,427	1,437	3,000	No
MV-081	Warehouse	0	0	5,489	5,489	10,000	No
MV-082	Warehouse	0	0	3,921	3,921	10,000	No
MV-083	Light Industrial	0	0	3,256	3,256	10,000	No
MV-084	Light Industrial	0	0	914	914	10,000	No
MV-085	Retail-Commercial	462	15	4,511	4,526	3,000	Yes
MV-086	SF Res	0	0	833	833	3,000	No
MV-087	MF Res	375	12	504	516	3,000	No
MV-088	MF Res	62	2	101	103	3,000	No

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
MV-089	MF Res	62	2	101	103	3,000	No
MV-090	Retail-Commercial	59	2	236	237	3,000	No
MV-091	SF Res	920	31	1,020	1,051	3,000	No
MV-092	SF Res	0	0	1,161	1,161	3,000	No
MV-093	MF Res	0	0	940	940	3,000	No
MV-094	MF Res	868	29	2,233	2,262	3,000	No
MV-095	Retail-Commercial	491	16	5,638	5,655	3,000	Yes
MV-096	SF Res	714	24	915	939	3,000	No
MV-097	SF Res	2,381	79	2,510	2,589	3,000	No
MV-098	SF Res	374	12	188	200	3,000	No
MV-099	MF Res	470	16	806	822	3,000	No
MV-100	MF Res	739	25	1,629	1,653	3,000	No
MV-101	Retail-Commercial	59	2	290	292	3,000	No
MV-102	Office	352	12	848	860	3,000	No
MV-103	Light Industrial	515	17	1,683	1,700	10,000	No
MV-104	Warehouse	716	24	2,925	2,949	10,000	No
MV-105	MF Res	62	2	101	103	3,000	No
MV-106	MF Res	62	2	101	103	3,000	No
MV-107	SF Res	255	9	106	114	3,000	No
MV-108	Retail-Commercial	57	2	96	98	3,000	No
MV-109	SF Res	27,106	904	12,959	13,862	3,000	Yes
MV-110	MF Res	375	12	504	516	3,000	No
MV-111	MF Res	266	9	134	143	3,000	No
MV-112	MF Res	66	2	126	128	3,000	No
MV-113	SF Res	1,473	49	1,689	1,738	3,000	No

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
MV-114	Retail-Commercial	58	2	184	186	3,000	No
MV-115	Office	57	2	0	2	3,000	No
MV-116	SF Res	380	13	293	306	3,000	No
MV-117	Office	300	10	525	535	3,000	No
MV-118	SF Res	255	9	106	114	3,000	No
MV-119	SF Res	535	18	410	428	3,000	No
MV-120	Retail-Commercial	505	17	6,106	6,123	3,000	Yes
MV-121	Retail-Commercial	58	2	140	142	3,000	No
MV-123	Retail-Commercial	64	2	451	453	3,000	No
MV-124	Retail-Commercial	462	15	4,511	4,526	3,000	Yes
MV-125	MF Res	275	9	201	211	3,000	No
MV-126	SF Res	3,432	114	2,756	2,870	3,000	No
MV-127	Warehouse	684	23	2,666	2,689	10,000	No
MV-129	Light Industrial	5,234	174	14,451	14,626	10,000	Yes
MV-130	Warehouse	570	19	1,740	1,759	10,000	No
MV-131	Warehouse	4,916	164	11,762	11,926	10,000	Yes
MV-132	Warehouse	2,443	81	8,626	8,707	10,000	No
P-001	SF Res	0	0	1,607	1,607	3,000	No
P-002	Warehouse	0	0	4,705	4,705	10,000	No
P-003	Warehouse	0	0	3,625	3,625	10,000	No
P-004	Light Industrial	503	17	1,573	1,590	10,000	No
P-005	Warehouse	971	32	3,607	3,640	10,000	No
P-006	Light Industrial	1,201	40	5,488	5,528	10,000	No
P-007	Light Industrial	2,702	90	10,883	10,973	10,000	Yes
P-008	Light Industrial	594	20	2,204	2,224	10,000	No

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
P-009	Heavy Industrial	1,244	41	5,072	5,113	10,000	No
P-010	Warehouse	0	0	13,331	13,331	10,000	Yes
P-011	Heavy Industrial	0	0	9,678	9,678	10,000	No
P-012	Light Industrial	965	32	4,153	4,185	10,000	No
P-014	Warehouse	2,688	90	9,410	9,500	10,000	No
P-015	Warehouse	0	0	6,123	6,123	10,000	No
P-016	Warehouse	0	0	10,273	10,273	10,000	Yes
P-017	Warehouse	0	0	4,548	4,548	10,000	No
P-018	Warehouse	0	0	12,131	12,131	10,000	Yes
P-019	Warehouse	0	0	5,470	5,470	10,000	No
P-020	Warehouse	0	0	6,834	6,834	10,000	No
P-021	Warehouse	0	0	1,333	1,333	10,000	No
P-022	Warehouse	722	24	2,980	3,004	10,000	No
P-023	Warehouse	510	17	1,411	1,428	10,000	No
P-024	Warehouse	3,343	111	11,480	11,592	10,000	Yes
P-025	Warehouse	1,969	66	8,140	8,205	10,000	No
P-026	Light Industrial	1,514	50	7,423	7,474	10,000	No
P-027	Warehouse	0	0	6,775	6,775	10,000	No
P-028	Light Industrial	1,271	42	6,128	6,170	10,000	No
P-030	SF Res	8,865	296	5,770	6,065	3,000	Yes
P-031	MF Res	426	14	630	644	3,000	No
P-032	Retail-Commercial	1,209	40	20,717	20,757	3,000	Yes
P-033	SF Res	58,216	1,941	21,813	23,754	3,000	Yes
P-034	Warehouse	13,703	457	24,833	25,290	10,000	Yes
P-035	MF Res	296	10	336	346	3,000	No

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
P-036	Retail-Commercial	21,179	706	28,655	29,361	3,000	Yes
P-037	SF Res	0	0	2,146	2,146	3,000	No
P-038	SF Res	0	0	2,615	2,615	3,000	No
P-039	Warehouse	1,338	45	6,146	6,190	10,000	No
P-040	SF Res	1,585	53	1,431	1,484	3,000	No
P-041	Light Industrial	481	16	1,370	1,386	10,000	No
P-042	SF Res	555	18	715	734	3,000	No
P-043	SF Res	554	18	668	687	3,000	No
P-044	MF Res	468	16	789	805	3,000	No
P-045	MF Res	426	14	630	644	3,000	No
P-046	Senior Res	5,138	171	2,204	2,375	3,000	No
P-047	SF Res	9,084	303	6,110	6,413	3,000	Yes
P-048	SF Res	711	24	880	903	3,000	No
P-049	SF Res	1,571	52	1,337	1,389	3,000	No
P-050	Retail-Commercial	341	11	2,578	2,589	3,000	No
P-051	SF Res	535	18	410	428	3,000	No
P-052	SF Res	912	30	962	992	3,000	No
P-053	SF Res	2,236	75	1,888	1,963	3,000	No
P-054	SF Res	3,438	115	2,791	2,906	3,000	No
P-055	Retail-Commercial	995	33	14,499	14,532	3,000	Yes
P-056	Light Industrial	60	2	90	92	10,000	No
P-057	Warehouse	76	3	327	329	10,000	No
P-058	Heavy Industrial	718	24	2,986	3,010	10,000	No
P-059	SF Res	3,450	115	2,850	2,965	3,000	No
P-060	Retail-Commercial	58	2	145	147	3,000	No

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
P-061	Warehouse	0	0	2,745	2,745	10,000	No
R-001	Business Park	0	0	17,968	17,968	3,000	Yes
R-002	Warehouse	0	0	4,570	4,570	10,000	No
R-003	Light Industrial	0	0	5,964	5,964	10,000	No
R-004	MF Res	768	26	1,813	1,839	3,000	No
R-005	Medical Office	1,198	40	13,150	13,190	3,000	Yes
R-006	MF Res	429	14	646	661	3,000	No
R-007	Retail-Commercial	298	10	1,808	1,817	3,000	No
R-008	Senior Res	403	13	190	204	3,000	No
R-009	Retail-Commercial	170,897	5,697	282,806	288,503	3,000	Yes
R-010	Retail-Commercial	67	2	759	761	3,000	No
R-011	Business Park	715	24	4,451	4,475	3,000	Yes
R-012	Retail-Commercial	303	10	1,978	1,988	3,000	No
R-013	SF Res	58	2	35	37	3,000	No
R-014	Retail-Commercial	58	2	124	126	3,000	No
R-015	SF Res	2,265	75	2,014	2,089	3,000	No
R-016	SF Res	57	2	18	20	3,000	No
R-017	MF Res	879	29	2,309	2,338	3,000	No
R-018	Light Industrial	197,176	6,573	82,663	89,235	10,000	Yes
R-019	MF Res	368	12	462	474	3,000	No
R-020	Warehouse	3,341	111	11,460	11,572	10,000	Yes
R-021	SF Res	319	11	176	187	3,000	No
R-022	SF Res	255	9	106	114	3,000	No
R-023	Retail-Commercial	59	2	259	261	3,000	No
R-024	SF Res	351,603	11,720	58,637	70,357	3,000	Yes

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
R-025	MF Res	757	25	1,746	1,771	3,000	No
R-026	Business Park	5,336	178	22,771	22,949	3,000	Yes
R-027	Retail-Commercial	58	2	117	118	3,000	No
R-028	Senior Res	1,057	35	688	724	3,000	No
R-029	Retail-Commercial	58	2	122	124	3,000	No
R-030	Retail-Commercial	520	17	6,720	6,737	3,000	Yes
R-031	MF Res	287	10	302	312	3,000	No
R-032	Retail-Commercial	67	2	718	720	3,000	No
R-033	MF Res	282	9	252	261	3,000	No
R-034	Office	61	2	123	125	3,000	No
R-035	MF Res	475	16	856	872	3,000	No
R-036	MF Res	376	13	520	533	3,000	No
R-037	Retail-Commercial	58	2	193	195	3,000	No
R-038	Retail-Commercial	58	2	113	115	3,000	No
R-039	SF Res	8,141	271	4,714	4,986	3,000	Yes
R-040	Retail-Commercial	57	2	77	79	3,000	No
R-041	Office	68	2	234	236	3,000	No
R-042	SF Res	9,683	323	7,013	7,336	3,000	Yes
R-043	SF Res	547	18	586	605	3,000	No
R-044	Retail-Commercial	58	2	129	131	3,000	No
R-045	Office	75	2	383	386	3,000	No
R-046	SF Res	535	18	420	438	3,000	No
R-047	Warehouse	349	12	845	856	10,000	No
R-048	Retail-Commercial	337	11	2,426	2,437	3,000	No
R-049	Senior Res	3,154	105	1,592	1,698	3,000	No

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
R-050	SF Res	253	8	45	53	3,000	No
R-051	Retail-Commercial	57	2	76	78	3,000	No
R-052	SF Res	534	18	375	393	3,000	No
R-053	SF Res	386	13	340	353	3,000	No
R-054	SF Res	380	13	293	306	3,000	No
R-055	SF Res	379	13	235	247	3,000	No
R-056	Office	465	16	1,323	1,338	3,000	No
R-057	Light Industrial	503	17	1,570	1,586	10,000	No
R-058	Retail-Commercial	57	2	88	90	3,000	No
R-059	Retail-Commercial	58	2	130	132	3,000	No
R-060	Business Park	367	12	1,327	1,340	3,000	No
R-061	Retail-Commercial	775	26	13,707	13,733	3,000	Yes
R-062	Retail-Commercial	57	2	59	61	3,000	No
R-063	MF Res	273	9	176	185	3,000	No
R-064	SF Res	253	8	59	67	3,000	No
R-065	SF Res	556	19	727	746	3,000	No
R-066	Retail-Commercial	59	2	198	200	3,000	No
RC-001	SF Res	43,931	1,464	14,671	16,135	3,000	Yes
RC-002	SF Res	81,912	2,730	23,455	26,185	3,000	Yes
RC-003	SF Res	189,155	6,305	40,014	46,319	3,000	Yes
RC-005	SF Res	21,537	718	8,796	9,513	3,000	Yes
RC-006	Business Park	1,243	41	7,840	7,881	3,000	Yes
RC-007	Warehouse	5,138	171	12,442	12,613	10,000	Yes
RC-009	Heavy Industrial	2,729	91	9,608	9,699	10,000	No
RC-010	Light Industrial	69,526	2,318	56,707	59,025	10,000	Yes

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
RC-011	Warehouse	1,368	46	6,383	6,429	10,000	No
RC-012	Light Industrial	762	25	3,875	3,900	10,000	No
RC-013	SF Res	8,909	297	5,829	6,125	3,000	Yes
RC-014	MF Res	1,109	37	2,686	2,723	3,000	No
RC-015	SF Res	1,473	49	1,665	1,714	3,000	No
RC-017	Retail-Commercial	59	2	299	301	3,000	No
RC-018	SF Res	319	11	176	187	3,000	No
RC-019	Retail-Commercial	294	10	1,701	1,711	3,000	No
RC-020	Retail-Commercial	57	2	90	92	3,000	No
RC-021	Warehouse	60	2	63	65	10,000	No
RC-022	SF Res	1,453	48	1,536	1,585	3,000	No
RC-023	Light Industrial	297	10	480	490	10,000	No
RC-024	Light Industrial	521	17	1,745	1,762	10,000	No
RC-025	Light Industrial	328	11	777	788	10,000	No
RC-026	SF Res	57	2	23	25	3,000	No
RC-027	Light Industrial	517	17	1,726	1,743	10,000	No
RC-028	Retail-Commercial	58	2	180	182	3,000	No
RC-029	Retail-Commercial	59	2	262	264	3,000	No
RC-030	Warehouse	2,777	93	9,873	9,966	10,000	No
RC-031	Light Industrial	510	17	1,652	1,669	10,000	No
RC-032	SF Res	21,151	705	8,514	9,219	3,000	Yes
RC-033	SF Res	8,035	268	4,503	4,771	3,000	Yes
RC-034	SF Res	8,404	280	5,066	5,346	3,000	Yes
RC-035	MF Res	143,338	4,778	34,208	38,986	3,000	Yes
RC-036	SF Res	8,690	290	5,488	5,778	3,000	Yes

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
RC-037	SF Res	9,427	314	6,591	6,905	3,000	Yes
RC-038	Warehouse	5,837	195	14,301	14,496	10,000	Yes
RC-039	SF Res	540	18	457	475	3,000	No
RD-001	SF Res	0	0	962	962	3,000	No
RD-002	SF Res	0	0	645	645	3,000	No
RD-003	SF Res	1,025	34	1,208	1,242	3,000	No
RD-004	SF Res	704	23	786	809	3,000	No
RD-005	Warehouse	0	0	3,926	3,926	10,000	No
RD-006	Retail-Commercial	291	10	1,554	1,563	3,000	No
RD-007	Retail-Commercial	376	13	4,116	4,128	3,000	Yes
RD-008	MF Res	452	15	672	687	3,000	No
RD-009	Retail-Commercial	290	10	1,411	1,421	3,000	No
RD-010	Light Industrial	477	16	1,329	1,344	10,000	No
RD-011	Retail-Commercial	298	10	1,787	1,797	3,000	No
RD-012	Warehouse	0	0	4,715	4,715	10,000	No
RD-013	Warehouse	0	0	7,944	7,944	10,000	No
RD-014	Warehouse	0	0	6,054	6,054	10,000	No
RD-015	Warehouse	0	0	3,317	3,317	10,000	No
RD-016	Warehouse	0	0	5,605	5,605	10,000	No
SB-001	Warehouse	0	0	4,817	4,817	10,000	No
SB-002	Warehouse	0	0	2,458	2,458	10,000	No
SB-003	Warehouse	0	0	4,655	4,655	10,000	No
SB-004	Warehouse	0	0	6,098	6,098	10,000	No
SB-005	Warehouse	0	0	2,211	2,211	10,000	No
SB-006	Warehouse	0	0	4,258	4,258	10,000	No

		Emissions ($MTCO_2e$)					
Project ID	**Land Use**	**Total Construction Emissions**	**Amortized Construction Emissions**	**Total Operational Emissions**	**Total Amortized Construction and Operational Emissions**	**Threshold**	**Impact?**
SB-007	SF Res	535	18	399	417	3,000	No
SB-008	SF Res	540	18	469	487	3,000	No
SJ-001	Retail-Commercial	5,692	190	54,071	54,261	3,000	Yes
SJ-002	SF Res	7,530	251	3,764	4,015	3,000	Yes
SJ-003	SF Res	9,564	319	6,802	7,121	3,000	Yes
SJ-004	SF Res	9,808	327	7,189	7,516	3,000	Yes
Total	**-**	**2,626,148**	**87,538**	**2,324,161**	**2,411,700**	**-**	**-**

6.7.3.2 Greenhouse Gas Plan, Policy, Regulation Consistency

Impact: *The project, together with cumulative projects, would not cumulatively contribute to conflicts with applicable plans, policies and regulations to reduce greenhouse gas emissions. The project would not be cumulatively considerable.*

Threshold:	Would the project conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?

Cumulative Impact Analysis

Section 4.7.6.2 Greenhouse Gas Plan, Policy, Regulation Consistency, assesses the project's consistency with applicable federal, state, regional, and local GHG reduction strategies. The project would comply with all mandatory reduction strategies such as water conservation, energy efficiency, solid waste reduction, and efficiency measures related to transportation and motor vehicles. In addition, the project would go beyond energy conservation measures and exceed minimum compliance with 2019 Title 24 requirements.

Although all cumulative projects are required to comply with mandatory federal, state, regional, and applicable local GHG reduction measures, it would be speculative to assume that all cumulative projects would be consistent with all applicable plans, policies, and regulations related to the reduction of GHG emissions. However, as discussed in Section 4.7.6.2, the project would comply with and would not conflict with applicable GHG reduction measures. Additionally, the project would contribute to further reductions by exceeding minimum compliance with Title 24 requirements, incorporating an alternative fuel service station, and supporting infrastructure to accommodate future electric vehicle populations. Therefore, the project's contribution to cumulative impacts would not be cumulatively considerable.

Significance Level Before Mitigation: Cumulatively considerable significant impact.

Mitigation Measures: Implementation of previously referenced **Mitigation Measures 4.3.6.2A, 4.3.6.3B, 4.3.6.4A, 4.3.6.3C, 4.3.6.3D, 4.7.6.1A, 4.7.6.1B, 4.7.6.1C**, **4.7.6.1D, 4.7.6.1E, 4.16.1.6.1A, 4.16.1.6.1B,** and **4.16.1.6.1C** will help reduce project-related GHG emissions and therefore make it more consistent with GHG reduction plans, policies, and/or regulations.

Significance Level After Mitigation: As mentioned above, it would be speculative to assume that all 359 listed cumulative projects would be consistent with all applicable plans, policies, and regulations related to the reduction of GHG emissions. Therefore, it is possible that any of the cumulative projects are inconsistent with any plans, policies, and regulations and would result in a potentially significant impact. Therefore, the cumulative impact would be potentially significant. However, because the project's impact would be less than significant with mitigation, the project is not contributing to cumulatively considerable impacts.

NOTE TO READERS: Section 6.17, below, of this Draft Recirculated Revised Sections of the FEIR replaces Section 6.17 of the Revised Sections of the FEIR, circulated in July 2018 ("RSFEIR"). Section 6.17 replaces the cumulative analysis provided in Section 4.16.4.7 of the FEIR prepared in 2015.

6.17 Energy

Cumulative effects to energy are described in this section. A summary of the project's incremental contribution to potential cumulative impacts to energy issues is provided in Section 6.17.1. The geographic and temporal scopes of the cumulative analysis are described in Section 6.17.2. The potential cumulative impacts and the project's contribution to cumulative impacts to each of the energy issues are discussed in Section 6.17.3. In addition, a brief summary of the impact significance of the project's contribution to cumulative impacts for each issue is also provided in Section 6.17.3 as well as applicable mitigation measures and significance determination after mitigation. Cumulative emissions calculations are included as Appendix E.6 of this Draft Recirculated RSFEIR.

The cumulative projects identified in Table 6.17-1 and their respective CEQA documents (if available) have been reviewed and evaluated in conjunction with the project to determine if they could contribute to a cumulatively considerable impact to energy. These potentially cumulative impacts are documented in the following section.

6.17.1 Project Impact Findings

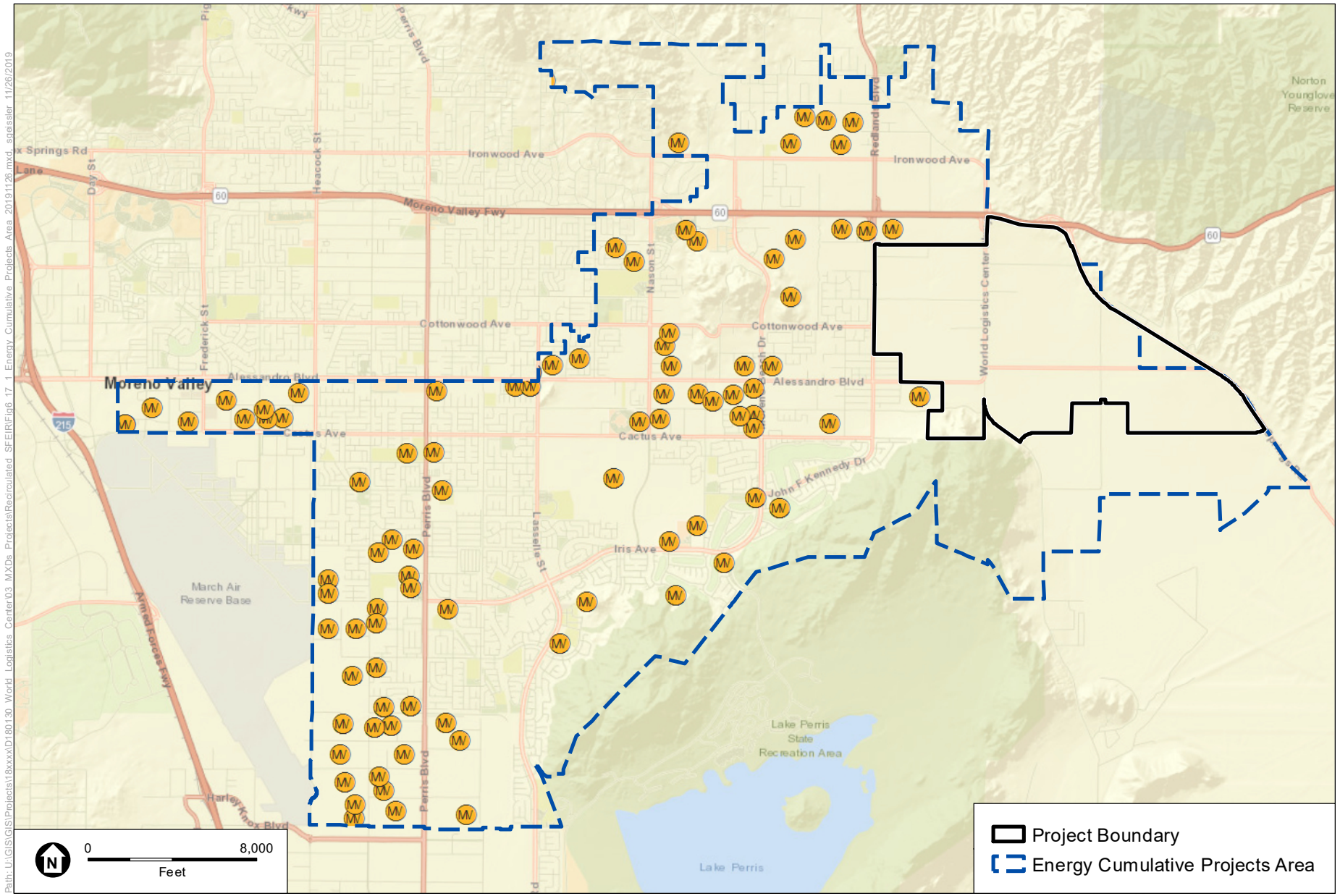
The project's effects to energy are summarized in this section, and the impacts have been evaluated against the following thresholds that were developed based on the CEQA Guidelines Appendix G thresholds, as modified to address potential project impacts. After each threshold, a significance determination for the project impacts is provided as well as a reference to the specific section and impact number if the impact determination is significant.

Would the project:

- Result in energy use and consumption that would cause wasteful, inefficient, and unnecessary consumption of energy? **Less than Significant, Section 4.17.7.1.**
- Require the construction of new electrical and/or natural gas facilities or expansion of existing facilities, the construction of which would cause significant environmental effects? **Less than Significant, Section 4.17.7.2.**
- Complies with Existing Energy Standards. **Less than Significant, Section 4.17.7.2.**

6.17.2 Geographic and Temporal Scope

The geographic area for evaluating potential cumulative energy impacts is the Moreno Valley Electric Utility (MVU) service area for electricity (shown on Figure 6.17-1), the Southern California Gas Company service area for natural gas, and the State for transportation fuel use, Cumulative impacts to energy could result from the project in conjunction with other past, present and future projects located within the applicable service area for each energy sector. The MVU service area covers over half of the City of Moreno Valley and follows the southern, eastern, and portions of the northern city boundary. The MVU service boundary is the appropriate cumulative project area boundary for electricity as the project is located within the MVU service area. Cumulative projects within the MVU service area has been evaluated with the Project to determine if any cumulative electricity impact would occur. All other cumulative projects identified in the Traffic Impact Assessment (TIA) have been included in the analysis of cumulative natural gas and transportation fuel impacts. The project would contribute to cumulative impacts to energy starting when the project begins to demand energy resources and would last for the duration of the project.



SOURCE: ESRI; ESA; Highland Fairview 3/29/2018

World Logistics Center

Figure 6.17-1

Energy Cumulative Projects Area

ESA

Electrical and natural gas use for the cumulative projects was calculated using the land use size and type along with CalEEMod default energy use and intensity rates for each project. Electricity and Natural gas consumption from building operations was calculated using the default Title 24, non-title 24 and lighting use rates for each project based on the default 2016 Title 24 values. Electricity use from the supply, treatment and distribution of water and wastewater was also calculated based on CalEEMod's water use rates and electricity intensities.

Gallons of transportation fuel (diesel and natural gas) was quantified for each project as a result of construction and operational mobile source activities. Construction consumption was quantified for onsite construction equipment (assumed all diesel), as well as on-road diesel (haul and vendor trips) and gasoline (worker commute trips). Operational consumption was quantified for on-road diesel, gasoline, and natural gas vehicle use. Transportation fuel consumption for the cumulative projects was calculated using the annual metric tons of CO_2e and the energy per gallon of fuel from the EIA for gasoline and diesel and per thousand cubic feet for natural gas. Diesel and gasoline consumption is reported as gallons of fuel whereas natural gas is reported in million British Thermal Units.

Table 6.17-1: Energy Cumulative Projects Summary

Project ID	Project Name	Land Use[1]	Size[2]
B-1	Fairway Canyon SCPGA Tract Nos. 31462, 36558, and 36783 (#29)	SF	3,300 DU
B-10	Tract No. 32850 (#39)	SF	95 DU
B-11	San Gorgonio Village, Phase 2 (#45)	RC	225 KSF
B-12	Beaumont Commercial Center	MF	279 DU
B-13	Four Seasons (#23) Tract Nos. 32260 and 33096	SF	1,890 DU
B-14	Potrero Creek Estates (#26)	SF	700 DU
B-2	Tournament Hills 3, TM 36307	MF	571 DU
B-3	Heartland	SF	922 DU
B-4	Hidden Canyon	LI	1,734 KSF
B-5	ProLogis/Rolling Hills Ranch	HI	2,565.68 KSF
B-6	Mountain Bridge Regional Commercial Planned Community*	BP	1,853.25 KSF
B-7	Kirkwood Ranch (#14)	SF	403 DU
B-8	Noble Creek Vistas (#10)	SF	648 DU
B-9	Sundance (#17)	SF	4,450 DU
C-1	TTM 33931 Fiesta Oak Valley/Mesa Verde Estates	RC	200 KSF
C-2	Summerwind Ranch	BP	1,579 KSF
C-2	Summerwind Ranch	BP	1,000 KSF
C-3	JP Ranch	RC	72.7 KSF
H-1	TTM 36841	SF	588 DU
H-10	Downtown Hemet Specific Plan	**	**
H-2	Rancho Diamante	SF	440 DU
H-3	Tres Cerritos Specific Plan	SF	931 DU
H-4	Sanderson Square	LI	734.98 KSF
H-4	Sanderson Square	LI	995.15 KSF
H-5	Mc Sweeny Farms SP	RC	20.90 KSF
H-6	Ramona Creek	RC	680.788 KSF
H-7	Peppertree Specific Plan	SR	358 KSF
H-8	Florida Promenade Residential SP	SF	145 DU
H-9	TTM 31807 / 31808	SR	599 KSF
M-1	Amstar/Kaliber Development PP22925	HI	409.312 KSF
M-10	Airport Master Plan	WH	559 KSF
M-11	PA 06-0014 (Pierce Hardy Limited Partnership)	RC	67 KSF
M-2	Meridian Business Park	LI	487.8 KSF
M-3	Meridian Business Park – Phase 3	WH	2,900 KSF
M-4	March Business Center – South Campus	RC	108.9 KSF
M-5	Meridian LNR	OG	232.76 KSF
M-6	Ben Clark Training Facility	BP	219.35 KSF
M-7	Meridian Business Park – Phase K4	WH	675.5 KSF
M-8	March LifeCare Campus Specific Plan	MO	2,930 KSF

Table 6.17-1: Energy Cumulative Projects Summary

Project ID	Project Name	Land Use[1]	Size[2]
M-9	TM 34748	SF	135 DU
MV-1	Auto Mall SP	RC	304.5 KSF
MV-10	TR30998 / Pacific Communities	SF	47 DU
MV-100	Scottish Village	MF	194 DU
MV-101	Restaurant	RC	9 KSF
MV-102	Moreno Valley Professional Center	OG	84 KSF
MV-103	Gateway Business Park	LI	184 KSF
MV-104	373K Industrial Facility	WH	373.03 KSF
MV-105	35369 Tason Myers Property	MF	12 DU
MV-106	35304 Jimmy Lee	MF	12 DU
MV-107	32711 Isaac Genah	SF	9 DU
MV-108	O'Reilly Automotive	RC	2.97 KSF
MV-109	Quail Ranch	SF	1,105 DU
MV-11	TR30411 / Pacific Communities	SF	24 DU
MV-110	TM 33417	MF	60 DU
MV-111	35769 Michael Chen	MF	16 DU
MV-112	PA09-0006 Jim Nydam	MF	15 DU
MV-113	Ironwood Residential	SF	144 DU
MV-114	Stoneridge Town Centre – Vacant Restaurant	RC	5.7 KSF
MV-115	Olivewood Plaza – Office Building	OG	0.02 KSF
MV-116	31621 Peter Sanchez	SF	25 DU
MV-117	MV-101	OG	52 KSF
MV-118	28860 Professor's Fun IV	SF	9 DU
MV-119	32126 Salvador Torres	SF	35 DU
MV-12	Moreno Medical Campus	MO	80 KSF
MV-120	Moreno Valley Shopping Center	RC	189.52 KSF
MV-121	Yum Donut Shop	RC	4.35 KSF
MV-122	Centerpointe Business Park	**	**
MV-123	Rancho Belago Plaza – Retail	RC	14 KSF
MV-124	Alessandro & Lasselle	RC	140 KSF
MV-125	32756 Jimmy Lee	MF	24 DU
MV-126	TTM 33222	SF	235 DU
MV-13	Cresta Bella	OG	30 KSF
MV-14	TR32548 / Gabel, Cook & Assoc.	SF	107 DU
MV-15	TR32218 / Whitney	SF	63 DU
MV-16	TR32284 / 26th Corporation & Granite Capitol	SF	32 DU
MV-17	TR31590 / Winchester Associates	SF	96 DU
MV-18	Convenience Store / Fueling Station	RC	5.5 KSF
MV-19	Senior Assisted Living	SR	139 KSF
MV-2	TR35823 / Stowe Passco Devel.	SF	262 DU
MV-20	Moreno Marketplace	RC	93.79 KSF
MV-21	PEN16-0053 Medical Center	MO	80 KSF
MV-22	TR36882 (PA15-0010) SFR	SF	40 DU
MV-23	PEN16-0129/0130 MV Ranch Apartments	MF	417 DU
MV-24	TM 36436 (PA12-0005)	SF	159 DU
MV-25	TR32142	SF	81 DU
MV-26	TR 30268 (PA01-0072) Pacific Communities	SF	100 DU
MV-27	TR32917 / Empire land	MF	54 DU
MV-28	TR34329 / Granite Capitol	MF	90 DU
MV-29	TR36340	SF	275 DU
MV-3	ProLogis	WH	1,901 KSF
MV-30	PA03-0168 TR 31517	SF	83 DU
MV-31	PA15-0034 TR 36983	SF	53 DU
MV-32	TTM 31592 (P13-078) SFR	SF	115 DU
MV-33	TR32645 / Winchester Assoc.	SF	54 DU
MV-34	TR34397/Winchester Assoc.	SF	52 DU
MV-35	TR31771 / Sanchez	SF	25 DU

Table 6.17-1: Energy Cumulative Projects Summary

Project ID	Project Name	Land Use[1]	Size[2]
MV-36	TM 31618 (PA03-0106)	MF	56 DU
MV-37	Vogel /PA09-004	HI	1,616.13 KSF
MV-38	Vogel Properties	LI	434 KSF
MV-39	VIP Moreno Valley (SaresRegis/Vogel)	LI	1,600 KSF
MV-4	Westridge Commerce Center	LI	937.26 KSF
MV-40	PEN17-0036 Warehouse	WH	98.40 KSF
MV-41	First Nandina Logistics Center	WH	1,450 KSF
MV-42	Indian Street Commerce Center	WH	446.35 KSF
MV-43	Ivan Devries / PA06-0017	HI	555.67 KSF
MV-44	Modular Logistics Center (Kearny RE Co)	WH	1,109.38 KSF
MV-45	Iris Plaza	RC	87.12 KSF
MV-46	Harley Knox/Redlands Development	WH	382.28 KSF
MV-47	PA07-0129 TR 35606 SFR	SF	16 DU
MV-48	PA11-001 thru 007 March Business Center	BP	1484.50 KSF
MV-49	Indian Business Park	BP	1,560.05 KSF
MV-5	P06-158 / Gascon	RC	116.36 KSF
MV-50	San Michele Industrial Center	LI	354.81 KSF
MV-51	PA07-0165 thru 01667 First Industrial I & II	LI	769.32 KSF
MV-52	First Industrial III & IV	LI	878.96 KSF
MV-53	I-215 Logistics Center	WH	1,250 KSF
MV-54	Moreno Valley Logistics Center (Prologis)	WH	1,738 KSF
MV-55	MV Commerce Park II (Alere) – Built before 2012	**	**
MV-56	Tract Map 33810	SF	16 DU
MV-57	Tract Map 34151	SF	37 DU
MV-58	Tract Map 33024	SF	8 DU
MV-59	Tract Map 31442	SF	63 DU
MV-6	Highland Fairview Corporate Park	WH	750 KSF
MV-60	Tract Map 36401	SF	92 DU
MV-61	Walmart & Gas Station	RC	180 KSF
MV-62	Tract Map 22180	SF	543 DU
MV-63	PA14-0053 (TTM 36760) Legacy Park	SF	221 DU
MV-64	TR22180 / Young Homes	SF	87 DU
MV-65	TR33607 / TL Group	MF	52 DU
MV-66	TR34988 / Stratus Properties	MF	251 DU
MV-67	TR32515	SF	161 DU
MV-68	PA07-0035	HI	207.09 KSF
MV-69	PA07-0039 (Industrial Area SP)	HI	409.60 KSF
MV-7	TR33962 / Pacific Scene Homes	SF	31 DU
MV-70	TR32756 / CTK, Inc.	MF	241 DU
MV-71	TR34681 / Perris Pacific Co.	MF	49 DU
MV-72	35861 Frederick Homes	MF	24 DU
MV-73	TR36038 / Alessandro Village Plaza LLC	MF	96 DU
MV-74	TR34216 / Creative Design Assoc.	SR	189 KSF
MV-75	Aqua Bella Specific Plan	SR	1,461 KSF
MV-76	Commercial Medical Plaza PA09-0033 thru 0039, and*	RC	311.63 KSF
MV-77	Minka Lighting	LI	533 KSF
MV-78	Overton Moore Properties PA08-0072	LI	520 KSF
MV-79	Shaw Development	WH	367 KSF
MV-8	TR32460 / Sussex Capital	SF	58 DU
MV-80	PA15-0032 MV Cactus Center	RC	44.3 KSF
MV-81	Ridge Property Trust PA07-0147 & PA 07-0157	WH	700 KSF
MV-82	Centerpointe Bus. Ctr.	WH	500 KSF
MV-83	Centerpointe Business Park	LI	356 KSF
MV-84	PA16-0075 Brodiaea Business Center	LI	99.98 KSF
MV-85	Retail Center / Winco Foods	RC	140 KSF
MV-86	TR32505 / DR Horton	SF	71 DU
MV-87	TR31814 / Moreno Valley Investors	MF	60 DU

Table 6.17-1: Energy Cumulative Projects Summary

Project ID	Project Name	Land Use[1]	Size[2]
MV-88	TR33771 / Creative Design Assoc.	MF	12 DU
MV-89	TR35663 / Kha	MF	12 DU
MV-9	TR32459 / Sussex Capital	SF	11 DU
MV-90	PEN16-0110 Commercial Pad H	RC	7.31 KSF
MV-91	TR31305 / Richmond American	SF	87 DU
MV-92	TR 33256	SF	99 DU
MV-93	PA14-0042 Edgemont Apartments	MF	112 DU
MV-94	PA15-0002 Box Springs Apartments	MF	266 DU
MV-95	Moreno Beach Market Place/Lowes	RC	175 KSF
MV-96	31394 Pigeon Pass, Ltd.	SF	78 DU
MV-97	32005 Red Hill Village, LLC	SF	214 DU
MV-98	33388 SCH Development, LLC	SF	16 DU
MV-99	36038 Alessandro Village Plaza, LLC	MF	96 DU
P-1	TR32707	SF	137 DU
P-10	IDS	WH	1,700 KSF
P-11	Ridge II	HI	1,224.99 KSF
P-12	Starcrest P011-0005; 08-11-0006	LI	454.09 KSF
P-13	Ridge	**	**
P-14	Rados Distribution Center	WH	1,200 KSF
P-15	Duke Perris Logistics Center	WH	780.82 KSF
P-16	Perris Ridge Commerce Center I	WH	1,310 KSF
P-17	SRG Perris LC	WH	580 KSF
P-18	P07-07-0029	WH	1,547 KSF
P-19	P05-0192	WH	697.6 KSF
P-2	TR34716	WH	600 KSF
P-20	P05-0113	WH	871.5 KSF
P-21	P07-09-0018	WH	170 KSF
P-22	NICOL	WH	380 KSF
P-23	Westcoast Textiles	WH	180 KSF
P-24	Optimus Logistics Center 1	WH	1,464 KSF
P-25	Optimus Logistics Center 2	WH	1,038 KSF
P-26	Duke Warehouse	LI	811.62 KSF
P-27	Perris DC (Industrial Property Trust)	WH	864 KSF
P-28	Duke Warehouse	LI	670 KSF
P-29	P06-0411	**	**
P-3	P05-0477	WH	462.3 KSF
P-30	Avelina	SF	492 DU
P-31	Perris Family Apartments	MF	75 DU
P-32	Lewis Retail Center	RC	643 KSF
P-33	Harvest Landing Specific Plan	SF	1,860 DU
P-34	South Perris Industrial Phase 3	WH	3,166.86 KSF
P-35	Verano Apartments	MF	40 DU
P-36	South Perris Industrial Phase 2	WH	3,448.73 KSF
P-37	Cabrillo	SF	183 DU
P-38	Sequoia	SF	223 DU
P-39	South Perris Industrial Phase 1	WH	783.7 KSF
P-4	Bookend	LI	172 KSF
P-40	TR 32041	SF	122 DU
P-41	P 06-0228	LI	149.74 KSF
P-42	TR 31650	SF	61 DU
P-43	TR 31225	SF	57 DU
P-44	TR 33193	MF	94 DU
P-45	P 12-05-0013	MF	75 DU
P-46	P 06-0378	SR	429 KSF
P-47	Park West Specific Plan	SF	521 DU
P-48	TR 33338	SF	75 DU
P-49	TR 31240	SF	114 DU

Table 6.17-1: Energy Cumulative Projects Summary

Project ID	Project Name	Land Use[1]	Size[2]
P-5	Markham East	WH	460 KSF
P-50	P 11-09-0011	RC	80 KSF
P-51	TR 30973	SF	35 DU
P-52	TR 31226	SF	82 DU
P-53	TR 31659	SF	161 DU
P-54	TTM 32708	SF	238 DU
P-55	Perris Marketplace	RC	450 KSF
P-56	PM 34199 / TPM 34697	LI	9.85 KSF
P-57	P 04-0343	WH	41.65 KSF
P-58	Jordan Distribution	HI	378 KSF
P-59	TR 31407	SF	243 DU
P-6	Perris Circle Industrial Park	LI	600 KSF
P-60	Retail on Redlands	RC	4.5 KSF
P-61	TR32707	WH	350 KSF
P-7	Duke Warehouse	LI	1,189.9 KSF
P-8	First Perry Logistics Project	LI	241 KSF
P-9	Aiere	HI	642 KSF
R-1	Sycamore Canyon Business Park – Bldgs 1&2	BP	1,375.17 KSF
R-10	SR-91/ Van Buren Commercial	RC	23.57 KSF
R-11	Citrus Business Park Specific Plan	BP	340.66 KSF
R-12	Sycamore Canyon Business Park Specific Plan	RC	61.38 KSF
R-13	14601 Dauchy Av. – TM 36370	SF	3 DU
R-14	360 Alessandro Boulevard	RC	3.86 KSF
R-15	Mission Grove Specific Plan	SF	171.70 DU
R-16	Sycamore Canyon Specific Plan	SF	1.53 DU
R-17	5940-5980 Sycamore Canyon Boulevard	MF	275 DU
R-18	Hunter Business Park	LI	9,037.83 KSF
R-19	807 Blaine Street	MF	55 DU
R-2	Alessandro Business Center (Western Realco)	WH	582.77 KSF
R-20	474 Palmyrita Avenue	WH	1,461.45 KSF
R-21	1006 & 1008 Clark Street	SF	15 DU
R-22	3719 Strong Street	SF	9 DU
R-23	1710 Main Street (P12-0717)	RC	8.04KSF
R-24	Downtown Specific Plan	SF	5,000 DU
R-25	P14-0045 thru -0048	MF	208 DU
R-26	Marketplace Specific Plan	LI	943.51 KSF
R-27	2586 University Avenue	RC	3.62 KSF
R-28	2340 Fourteenth Street	SR	134 KSF
R-29	6570 Magnolia Avenue; 3739 & 3747 Central Avenue	RC	3.80 KSF
R-3	P07-1028, -0102; and P09-0416, -0418, -0419	LI	652.02 KSF
R-30	3545 Central Avenue	RC	208.57 KSF
R-31	P08- 0396 / P08-0397 Thru -0399 / TM 35620	MF	36 DU
R-32	Walmart Expansion	RC	22.27 KSF
R-33	5731, 5741, 5761, & 5797 Pickler Street	MF	30 DU
R-34	4247 Van Buren Boulevard	OG	12.17 KSF
R-35	3990 Reynolds Road	MF	102 DU
R-36	Magnolia Garden Condominiums	MF	62 DU
R-37	3705 Tyler Street	RC	6 KSF
R-38	Park Sierra Avenue	RC	3.5 KSF
R-39	Riverwalk Vista Specific Plan	SF	402 DU
R-4	Quail Run	MF	216 DU
R-40	P12- 0019 / P12-0156 / P12-0158	RC	2.4 KSF
R-41	4824 Jones Avenue	OG	23.12 KSF
R-42	Rancho La Sierra Specific Plan	SF	598 DU
R-43	P05-1528 / P09-0087 / TM 34509	SF	50 DU
R-44	6465 Sycamore Canyon Boulevard	RC	4 KSF
R-45	P06-0591	OG	37.94 KSF

Table 6.17-1: Energy Cumulative Projects Summary

Project ID	Project Name	Land Use[1]	Size[2]
R-46	Sycamore-Highlands Specific Plan	SF	35.84 DU
R-47	P06-0160 / P06-1281	WH	107.73 KSF
R-48	P06-1408	RC	75.3 KSF
R-49	Canyon Springs Specific Plan	SR	310 KSF
R-5	Canyon Springs Healthcare Campus	MO	500 KSF
R-50	Orangecrest Specific Plan	SF	3.83 DU
R-51	P10-0808 / P10-0708	RC	2.36 KSF
R-52	19811 Lurin Avenue	SF	32 DU
R-53	P06-1404 / Lurin Avenue / TM 33482	SF	29 DU
R-54	P06-1396 / Mariposa Avenue / TM 33481	SF	25 DU
R-55	P06-0900 / P08- 0269 / P08-0270 / TTM 32301	SF	20 DU
R-56	Office, Magnon & Panattoni	OG	131 KSF
R-57	SEC Sycamore Canyon Boulevard & Box Springs Road	LI	171.62 KSF
R-58	Canyon / Valley Springs Parkway	RC	2.75 KSF
R-59	Alessandro and Gorgonio	RC	4.05 KSF
R-6	2450 Market Street	MF	77 DU
R-60	Alessandro Bl.	BP	101.58 KSF
R-61	Gless Ranch	RC	425.45 KSF
R-62	6091 Victoria Avenue (P13-0432)	RC	1.83 KSF
R-63	8616 California Avenue (P08-0084; PM 35852)	MF	21 DU
R-64	P13-0389 / TM 36579	SF	5 DU
R-65	P13-0723; P13-0724; P13-0725; TM 36654	SF	62 DU
R-66	Azar Plaza	RC	6.15 KSF
R-7	2861 Mary Street	RC	56.10 KSF
R-8	5938-5944 Grand Avenue	SR	37 KSF
R-9	Magnolia Avenue Specific Plan	RC	8,777.62 KSF
RC-1	TR35530 / Quail Ranch Specific Plan	SF	1,251 DU
RC-10	Majestic Freeway Business Center	LI	6,200 KSF
RC-11	Alessandro Commerce Center	WH	814 KSF
RC-12	Cores Industrial Partners	LI	423.67 KSF
RC-13	Sunny-Cal Specific Plan (#40)	SF	497 DU
RC-14	University Highlands	MF	320 DU
RC-15	TTM 33410 Box Springs	SF	142 DU
RC-16	Sycamore Canyon Specific Plan	**	**
RC-17	PP 24608	RC	9.28 KSF
RC-18	TR 32406	SF	15 DU
RC-19	CUP 03599	RC	52.80 KSF
RC-2	Jack Rabbit Trail	SF	2,000 DU
RC-20	PP 25699	RC	2.8 KSF
RC-21	CUP 03527	WH	8 KSF
RC-22	TR 30592	SF	131 DU
RC-23	PP 25768	LI	52.45 KSF
RC-24	PP 21144	LI	190.80 KSF
RC-25	PP 16976	LI	85 KSF
RC-26	PM 32699	SF	2 DU
RC-27	Yocum Baldwin	LI	188.70 KSF
RC-28	CUP 03315	RC	5.6 KSF
RC-29	18580 Van Buren Boulevard	RC	8.14 KSF
RC-3	The Preserve / Legacy Highlands SP – Commercial and Residential	SF	3,412 DU
RC-30	Knox Logistics	WH	1,259.05 KSF
RC-31	PP 23342	LI	180.6 KSF
RC-32	TTM 31537	SF	726 DU
RC-33	TTM 34130	SF	384 DU
RC-34	Emerald Acres SP #381	SF	432 DU
RC-35	TR 34677, 31100, 32391, 33448, 31101, 31009, 32282	OG	80 KSF
RC-36	TR36478, TR36480, PP25219	SF	468 DU
RC-37	TR 36504	SF	562 DU

Table 6.17-1: Energy Cumulative Projects Summary

Project ID	Project Name	Land Use[1]	Size[2]
RC-38	San Gorgonio Crossings	WH	1,823.76 KSF
RC-39	Tract 33869	SF	39 DU
RC-4	Badlands Sanitary Landfill	**	**
RC-5	Villages of Lakeview – Commercial Development and Residential Development	SF	750 DU
RC-6	Rider Business Center (Core 5 Industrial Partners)	BP	600 KSF
RC-7	Nuevo Distribution Center	WH	1,586.65 KSF
RC-8	Trucking DC (Central Freight LLC)	**	**
RC-9	Oleander Business Park PP20699	OG	34 KSF
RD-1	Tract 18988	SF	82 DU
RD-10	Park Ave Industrial Center	LI	145.26 KSF
RD-11	Marriott Springhill Suites	RC	55.47 KSF
RD-12	I-10 Redlands LC – B	WH	601.29 KSF
RD-13	Ashley Furniture	WH	1,013 KSF
RD-14	Redlands DC 772,000 SF	WH	772 KSF
RD-15	2220 Almond Ave	WH	423 KSF
RD-16	APL Logistics	WH	714.73 KSF
RD-2	Redlands Pioneer Tract	SF	55 DU
RD-3	Newland Homes Tract	SF	103 DU
RD-4	Redlands Pennsylvania Tract	SF	67 DU
RD-5	I-10 Redlands LC – A	WH	500.60 KSF
RD-6	Woodsprings Hotel	RC	48.22 KSF
RD-7	RV Storage Facility	RC	127.75 KSF
RD-8	Liberty Lane Apartments	MF	80 DU
RD-9	Hilton Home2 Suites	RC	43.80 KSF
SB-1	Redlands Gateway Logistics – B	WH	614.33 KSF
SB-2	Redlands Gateway Logistics – A	WH	313.47 KSF
SB-3	Prologis 12	WH	593.56 KSF
SB-4	Prologis 17	WH	777.62 KSF
SB-5	Prologis #13	WH	282 KSF
SB-6	Prologis #8	WH	542.98 KSF
SB-7	Sam Redlands Tract	SF	34 DU
SB-8	Jacinto Tract	SF	40 DU
SJ-1	Gateway Area Specific Plan	RC	1,678.24 KSF
SJ-2	TR 31886	SF	321 DU
SJ-3	TR 30598	SF	580 DU
SJ-4	TR 32955	SF	613 DU
SJWA-1	San Jacinto Wildlife Land Management Plan	**	**

Notes:

[1] BP: Business Park
HI: Heavy Industrial
LI: Light Industrial
MF: Multifamily Residential
MO: Medical Office
OG: General Office
RC: Retail/Unspecified Commercial
SF: Single Family Residential
SR: Senior Residential
WH: Warehouse-Logistics

** Project information not available or planning level document with no direct development proposed.
DU = dwelling units; KSF = thousand square feet

6.17.3 Cumulative Impact Evaluation

6.17.3.1 Cumulative Energy Consumption

Impact: *The Project would not result in environmental impacts related to energy consumption, supply, energy standards and expansion of facilities.*

Threshold:	Would the project result in energy use and consumption that would cause wasteful, inefficient, and unnecessary consumption of energy? Would the project require the construction of new electrical and/or natural gas facilities or expansion of existing facilities, the construction of which would cause significant environmental effects? Would the project comply with Existing Energy Standards?

Electricity

The geographic context for the cumulative analysis of electricity is MVU's service area. Electricity demand for all cumulative projects located in within the MVU's service area has been estimated. Growth within this geography is anticipated to increase the demand for electricity and the need for infrastructure, such as new or expanded facilities.

The cumulative projects would require electricity for water conveyance during ground-moving activities. would require a relatively large amount of water to cover the affected construction areas. Electrical consumption due to the conveyance of water used for dust control is presented in Table 6.17-2.

Buildout of the Project, the cumulative projects, and additional growth forecasted to occur in the City would increase electricity consumption during Project construction and operation, and may cumulatively increase the need for electricity supplies. The cumulative projects do not take into account electricity use from electric vehicle charging stations as the specifics of EV stations are not known for the cumulative projects. Table 6.17-2 provides a project by project summary of electrical needs in MWh.

Water use related to dust control is regulated under SCAQMD's Rules 402 and 403 and is required to limit fugitive particulate matter generated by construction activities. The project would be in compliance with Rules 402 and 403 and would require a relatively large amount of water to cover the entire acreage of the project site. The expected electricity consumption associated with water use during construction equates to only 0.43 percent of MVU's forecasted sales for 2020 (expected starting year of construction).

MVU forecasts that its peak demand in 2037, the latest available forecast from the Integrated Resource Plan (IRP), would be approximately 231,555 MWh/year. The Project's estimated net new electrical consumption would account for between 74 to 113 percent of MVU's projected electricity sales in 2024 depending on the electric vehicle (EV) penetration scenario. Total energy consumption from all cumulative projects is estimated at 592,748 MWh annually and is 256 percent of MVU's forecasted sales in 2037. The utility has a considerable amount of time to procure energy resources in anticipation of the Project's development, and has committed to taking the Project's needs into consideration in future IRP development.

Table 6.17-2: Cumulative Electrical Consumption within MVU Service Area

Project ID	Annual Construction (MWh)	Annual Operation (MWh)	Project ID	Annual Construction (MWh)	Annual Operation (MWh)
MV-001	0.86	4,293	MV-052	—	11,568
MV-002	0.63	3,694	MV-053	—	6,714
MV-003	0.73	15,041	MV-054	0.74	9,335
MV-004	—	12,335	MV-056	0.20	148

Table 6.17-2: Cumulative Electrical Consumption within MVU Service Area

Project ID	Annual Construction (MWh)	Annual Operation (MWh)	Project ID	Annual Construction (MWh)	Annual Operation (MWh)
MV-005	0.37	1,641	MV-057	0.43	342
MV-006	0.83	4,028	MV-058	—	74
MV-007	0.39	287	MV-059	0.62	583
MV-008	0.68	537	MV-060	0.70	852
MV-009	0.15	102	MV-061	0.52	2,538
MV-010	0.55	435	MV-062	0.60	5,026
MV-011	0.30	222	MV-063	0.69	2,046
MV-012	—	914	MV-064	0.67	805
MV-013	0.21	391	MV-065	0.17	305
MV-014	0.49	990	MV-066	0.70	1,474
MV-015	0.62	583	MV-068	0.36	2,725
MV-016	0.37	296	MV-069	—	5,391
MV-017	0.67	889	MV-070	0.68	1,415
MV-018	—	78	MV-071	0.16	288
MV-019	—	777	MV-074	0.58	1,057
MV-020	—	1,322	MV-075	1.09	8,168
MV-021	0.24	914	MV-076	0.88	4,394
MV-022	—	370	MV-077	0.82	7,015
MV-023	0.77	2,449	MV-078	—	6,844
MV-024	0.50	1,472	MV-079	0.44	1,971
MV-025	0.62	750	MV-080	0.15	625
MV-026	0.69	926	MV-081	—	3,760
MV-027	0.18	317	MV-082	—	2,686
MV-028	0.27	529	MV-083	—	4,685
MV-029	0.61	2,545	MV-084	—	1,316
MV-033	0.63	500	MV-089	0.10	70
MV-034	0.61	481	MV-090	0.06	103
MV-035	0.32	231	MV-093	—	658
MV-036	—	329	MV-102	0.25	1,096
MV-037	—	21,270	MV-105	0.10	70
MV-038	—	5,712	MV-106	0.10	70
MV-039	—	21,058	MV-108	0.02	42
MV-040	0.14	528	MV-111	0.06	94
MV-041	0.91	7,788	MV-112	0.11	88
MV-042	0.50	2,397	MV-118	0.14	83
MV-043	—	7,313	MV-121	0.03	61
MV-044	0.76	5,959	MV-123	0.10	197
MV-045	0.28	1,228	MV-124	0.40	1,974
MV-046	—	2,053	MV-126	0.52	2,175
MV-048	—	19,944	**Cum Project Total**	**29**	**290,603**
MV-049	—	20,959	***Net Project***	***1,496***	***302,145***
MV-050	—	4,670	***Total***	***1,525***	***592,748***
MV-051	—	10,125	MVU	231,555	231,555
			%MVU	0.66%	256%

Source: ESA, 2019

As the utility provider for the Project and cumulative projects, MVU has determined that the increased electricity demand would be minor compared to existing supply and infrastructure within its service area and would be consistent with growth expectations for its service area. MVU's 2018 IRP predicts an increase in electricity demand over a 10-year period that is planned to be met by increasing solar, wind, and geothermal power, and supplementing with natural gas as needed. MVU's IRP specifically mentions World Logistics Center and states that, "a portion of the anticipated demand [of the Project] is incorporated in MVU's load forecast. MVU will monitor development progress at the World Logistics

Center and other local projects to determine potential impacts to customer energy requirements".[1] MVU forecasts projected growth in the region and with its 2018 IRP already has plans in place that account for future development including the Project and cumulative projects.

Furthermore, like the Project, other future development projects would be expected to incorporate energy conservation features, comply with applicable regulations including CALGreen and State energy standards under Title 24, and incorporate mitigation measures, as necessary. Although the phrase "rolling blackouts" is a household phrase and heat waves in 2017 registered record-setting elevated temperatures, the electrical grid largely holds strong. As discussed above and based on evidence from MVU, the Project would not have a cumulatively considerable impact on existing energy resources either individually or incrementally when considering the anticipated growth in the service area. Accordingly, the impacts related to electricity consumption would not be cumulatively considerable, and thus would be less than significant.

Natural Gas

The geographic context for the cumulative analysis of natural gas is Southern California Gas's (So Cal Gas) service area. All of the cumulative projects identified by the TIA and listed below are in So Cal Gas' service area. Growth within this geography is not anticipated to increase the demand for natural gas and the need for infrastructure, such as new or expanded facilities.

Buildout of the Project, the cumulative projects, and additional growth forecasted to occur in the City could increase natural gas consumption during Project construction and operation, and may cumulatively increase the need for natural gas supplies. Table 6.17-3 provides a project by project summary of natural gas needs in MMBTU.

Table 6.17-3: Cumulative Natural Gas Consumption

Project ID	Annual MMBtu	Project ID	Annual MMBtu	Project ID	Annual MMBtu
B-001	100,967	MV-078	16,640	R-015	5,253
B-002	8,447	MV-079	734	R-016	47
B-003	28,210	MV-080	89	R-017	4,068
B-004	55,488	MV-081	1,400	R-018	289,211
B-005	82,102	MV-082	1,000	R-019	814
B-006	5,560	MV-083	11,392	R-020	2,923
B-007	12,330	MV-084	3,199	R-021	459
B-008	19,826	MV-085	280	R-022	275
B-009	136,152	MV-086	2,172	R-023	16
B-010	2,907	MV-087	888	R-024	152,980
B-011	450	MV-088	178	R-025	3,077
B-012	4,128	MV-089	178	R-026	596
B-013	57,826	MV-090	15	R-026	30,192
B-014	21,417	MV-091	2,662	R-026	1,043
C-001	400	MV-093	1,657	R-027	7
C-002	2,000	MV-094	3,935	R-028	2,087
C-002	4,737	MV-095	350	R-029	8
C-003	145	MV-096	2,386	R-030	417
H-001	17,990	MV-097	6,548	R-031	533
H-002	13,462	MV-098	490	R-032	45
H-003	28,485	MV-099	1,420	R-033	444
H-004	23,519	MV-100	2,870	R-034	36
H-004	2,985	MV-101	18	R-035	1,509
H-005	42	MV-102	252	R-036	917
H-006	1,362	MV-103	5,888	R-037	12
H-007	5,575	MV-104	746	R-038	7

[1] Moreno Valley Utility, Integrated Resource Plan (2015).

Table 6.17-3: Cumulative Natural Gas Consumption

Project ID	Annual MMBtu	Project ID	Annual MMBtu	Project ID	Annual MMBtu
H-008	6,853	MV-105	178	R-039	12,300
H-008	4,436	MV-106	178	R-040	5
H-009	9,329	MV-107	275	R-041	69
M-001	20	MV-108	6	R-042	18,296
M-001	774	MV-109	33,809	R-043	1,530
M-001	1,351	MV-110	888	R-044	8
M-001	13,098	MV-111	237	R-045	114
M-002	9,050	MV-112	222	R-046	1,097
M-002	1,407	MV-113	4,406	R-047	215
M-002	15,610	MV-114	11	R-048	151
M-003	5,800	MV-115	0	R-049	4,828
M-004	218	MV-116	765	R-050	117
M-005	6,124	MV-117	156	R-051	5
M-005	698	MV-118	275	R-052	979
M-005	33,966	MV-119	1,071	R-053	887
M-006	658	MV-120	379	R-054	765
M-007	1,351	MV-121	9	R-055	612
M-008	1,250	MV-123	28	R-056	393
M-008	8,790	MV-124	280	R-057	5,492
M-009	4,130	MV-125	355	R-058	5
M-010	1,118	MV-126	7,190	R-059	8
M-011	134	MV-127	680	R-060	305
MV-001	609	MV-129	50,560	R-061	851
MV-002	8,016	MV-130	444	R-062	4
MV-002	3,196	MV-131	3,000	R-063	311
MV-003	3,802	MV-132	2,200	R-064	153
MV-003	11,744	P-001	4,192	R-065	1,897
MV-004	29,992	P-002	1,200	R-066	12
MV-005	233	P-003	925	RC-001	38,276
MV-006	1,500	P-004	5,504	RC-002	61,192
MV-007	948	P-005	920	RC-003	104,394
MV-008	1,775	P-006	19,200	RC-005	22,947
MV-009	337	P-007	38,076	RC-006	1,800
MV-010	1,438	P-008	7,712	RC-007	3,173
MV-011	734	P-009	20,544	RC-009	102
MV-012	240	P-010	3,400	RC-009	37,527
MV-013	90	P-011	39,200	RC-010	198,400
MV-014	3,274	P-012	14,531	RC-011	1,628
MV-015	1,928	P-014	2,400	RC-012	13,557
MV-016	979	P-015	1,562	RC-013	15,206
MV-017	2,937	P-016	2,620	RC-014	4,734
MV-018	11	P-017	1,160	RC-015	4,345
MV-019	2,165	P-018	3,094	RC-017	19
MV-020	188	P-019	1,395	RC-018	459
MV-021	240	P-020	1,743	RC-019	106
MV-022	1,224	P-021	340	RC-020	6
MV-023	6,169	P-022	760	RC-021	16
MV-024	4,865	P-023	360	RC-022	4,008
MV-025	2,478	P-024	2,928	RC-023	1,678
MV-026	3,060	P-025	2,076	RC-024	6,106
MV-027	799	P-026	25,972	RC-025	2,720
MV-028	1,331	P-027	1,728	RC-026	61
MV-029	8,414	P-028	21,440	RC-027	6,038
MV-030	2,539	P-030	15,053	RC-028	11
MV-031	1,622	P-031	1,110	RC-029	16
MV-032	3,519	P-032	1,286	RC-030	2,518

Table 6.17-3: Cumulative Natural Gas Consumption

Project ID	Annual MMBtu	Project ID	Annual MMBtu	Project ID	Annual MMBtu
MV-033	1,652	P-033	56,909	RC-031	5,779
MV-034	1,591	P-034	6,334	RC-032	22,213
MV-035	765	P-035	592	RC-033	11,749
MV-036	828	P-036	6,897	RC-034	13,217
MV-037	51,716	P-036	100	RC-035	84,904
MV-038	13,888	P-037	5,599	RC-035	240
MV-039	51,200	P-038	6,823	RC-035	1,509
MV-040	197	P-039	1,567	RC-036	14,319
MV-041	2,900	P-040	3,733	RC-037	17,195
MV-042	893	P-041	4,792	RC-038	3,648
MV-043	17,781	P-042	1,866	RC-039	1,193
MV-044	2,219	P-043	1,744	RD-001	2,509
MV-045	174	P-044	1,391	RD-002	1,683
MV-046	765	P-045	1,110	RD-003	3,151
MV-047	490	P-046	6,681	RD-004	2,050
MV-048	4,453	P-047	15,941	RD-005	1,001
MV-049	4,680	P-048	2,295	RD-006	96
MV-050	11,354	P-049	3,488	RD-007	255
MV-051	24,618	P-050	160	RD-008	1,184
MV-052	28,127	P-051	1,071	RD-009	88
MV-053	2,500	P-052	2,509	RD-010	4,648
MV-054	3,476	P-053	4,926	RD-011	111
MV-056	490	P-054	7,282	RD-012	1,203
MV-057	1,132	P-055	900	RD-013	2,026
MV-058	245	P-056	315	RD-014	1,544
MV-059	1,928	P-057	83	RD-015	846
MV-060	2,815	P-058	12,096	RD-016	1,429
MV-061	360	P-059	7,435	SB-001	1,229
MV-062	16,614	P-060	9	SB-002	627
MV-063	6,762	P-061	700	SB-003	1,187
MV-064	2,662	R-001	4,126	SB-004	1,555
MV-065	769	R-002	1,166	SB-005	564
MV-066	3,713	R-003	20,865	SB-006	1,086
MV-067	4,926	R-004	3,196	SB-007	1,040
MV-068	6,627	R-005	1,500	SB-008	1,224
MV-069	13,107	R-006	1,139	SJ-001	3
MV-070	3,565	R-007	112	SJ-002	9,821
MV-071	725	R-008	576	SJ-003	17,746
MV-072	355	R-009	17,555	SJ-004	18,755
MV-073	1,420	R-010	47		
MV-074	2,943	R-011	1,022	**Total Cum.**	**3,181,269**
MV-075	22,754	R-012	123	**Net Project (Building Energy)**	**0**
MV-076	623	R-013	92	***Total***	***3,181,269***
MV-077	17,056	R-014	8	SoCalGas	873,793,575
				%SoCalGas	0.36%

Source: ESA, 2019

Though electricity usage is predicted to rise, natural gas demand is expected to decline overall from 2016-2035 accounting for population and economic growth as well as efficiency improvements and the State's transition away from fossil fuel-generated electricity to increased renewable energy. SoCalGas predicts a decline in every sector (residential, industrial, commercial, electricity generation, and vehicular), with the exception of wholesale and international gas sales to Mexico. The 2016 California Gas Report states, "SoCalGas projects total gas demand to decline at an annual rate of 0.6% from 2016 to 2035. The decline in throughput demand is due to modest economic growth, CPUC-mandated

energy efficiency (EE) standards and programs, renewable electricity goals, the decline in commercial and industrial demand, and conservation savings linked to Advanced Metering Infrastructure (AMI)."[2] Buildout of the Project and cumulative projects in the Statewide service area is not expected to increase natural gas consumption and the need for natural gas supplies from building energy.

Natural gas consumption from the Project was compared to Statewide natural gas fuel consumption since natural gas as a fuel can be procured from anywhere and is not limited to the service provider's resources. The Project would not generate any natural gas use for building operations, as shown in Table 6.17-3, above. Natural gas consumption would primarily be from operation of on-site equipment and the planned CNG/LNG fueling station which will be publicly accessible and are included as transportation fuels in Table 6.17-4, below. From a cumulative standpoint, natural gas consumption from all cumulative projects (including the proposed Project) would be 3,181,269 MMBtu or 0.36 percent of the SoCalGas's total natural gas use.

Although future development projects would result in use of nonrenewable natural gas resources which could limit future availability, the use of such resources would be on a relatively small scale and would be consistent with regional and local growth expectations for SoCal Gas's service area and would not strain Statewide natural gas resources. Further, like the Project, other future development projects would be expected to incorporate energy conservation features, comply with applicable regulations including CALGreen and State energy standards in Title 24, and incorporate mitigation measures, as necessary. While initially the Project and cumulative projects could result in increased natural gas demand compared to existing uses on each specific project site, the overall demand for natural gas over time is expected to decline due to increases in regional natural gas efficiencies and the transition to renewable energy on a statewide basis displacing fossil fuels including natural gas. Therefore, the Project would not have a cumulatively considerable impact related to natural gas consumption, and impacts would be less than significant.

Transportation Energy

Buildout of the Project, the cumulative projects, and additional growth forecasted to occur in the City could increase gasoline, diesel, and natural gas consumption during Project construction and operation, and may cumulatively increase the need for supplies. Table 6.17-4 provides a project by project summary of transportation fuel needs.

Table 6.17-4: Cumulative Transportation Fuel Consumption (Annual Average)

	Construction		Operational		
Project ID	Diesel Gallons	Gasoline Gallons	Diesel Gallons	Gasoline Gallons	Natural Gas (MMBTU)
B-001	811,945	886,209	1,993,672	17,519,159	1,625
B-002	—	—	267,495	2,350,577	218
B-003	136,884	83,203	557,020	4,894,747	454
B-004	120,158	90,274	711,650	6,253,541	580
B-005	—	—	834,317	7,331,468	680
B-006	134,044	96,431	1,458,987	12,820,679	1,189
B-007	54,788	18,615	243,470	2,139,461	198
B-008	121,463	58,888	391,485	3,440,126	319
B-009	1,343,552	1,592,304	2,688,436	23,624,320	2,192
B-010	50,691	4,861	57,394	504,339	47
B-011	45,372	9,446	305,089	2,680,936	249
B-012	—	—	130,702	1,148,531	107
B-013	382,424	339,379	1,141,830	10,033,700	931
B-014	124,123	63,361	422,900	3,716,185	345
C-001	43,602	8,938	271,190	2,383,054	221
C-002	163,552	123,557	2,599,032	22,838,694	2,119

[2] California Gas and Electric Utilities, *2016 California Gas Report.* https://www.socalgas.com/regulatory/documents/cgr/2016-cgr.pdf. Accessed May 2018.

Table 6.17-4: Cumulative Transportation Fuel Consumption (Annual Average)

	Construction		Operational		
Project ID	Diesel Gallons	Gasoline Gallons	Diesel Gallons	Gasoline Gallons	Natural Gas (MMBTU)
C-003	33,981	3,590	98,578	866,240	80
H-001	59,841	26,798	355,236	3,121,596	290
H-002	55,851	20,221	265,823	2,335,888	217
H-003	137,416	84,199	562,457	4,942,526	459
H-004	129,039	90,032	1,085,086	9,535,072	885
H-005	15,668	1,173	28,351	249,134	23
H-006	83,134	27,853	923,116	8,111,773	753
H-007	55,570	32,744	84,772	744,924	69
H-008	60,183	46,385	191,790	1,685,330	156
H-009	—	—	141,839	1,246,395	116
M-001	101,761	38,543	315,755	2,774,658	257
M-002	—	—	2,647,578	23,265,282	2,158
M-003	172,547	152,814	1,391,747	12,229,816	1,135
M-004	35,832	5,164	147,663	1,297,573	120
M-005	232,896	227,504	2,041,886	17,942,835	1,665
M-006	45,116	12,072	172,683	1,517,435	141
M-007	78,878	36,132	324,181	2,848,704	264
M-008	205,511	178,369	5,816,670	51,113,311	4,742
M-009	46,928	6,545	81,559	716,693	66
M-010	70,532	29,978	268,271	2,357,402	219
M-011	32,882	3,305	90,849	798,323	74
MV-001	51,273	12,703	412,887	3,628,200	337
MV-002	61,451	31,634	259,474	2,280,100	212
MV-003	143,133	119,796	1,062,934	9,340,413	867
MV-004	—	—	384,660	3,380,158	314
MV-005	36,448	5,596	157,779	1,386,461	129
MV-006	82,104	40,030	359,935	3,162,883	293
MV-007	36,444	1,929	18,728	164,574	15
MV-008	47,680	3,129	35,040	307,912	29
MV-009	32,920	868	6,646	58,397	5
MV-010	47,410	2,625	28,395	249,515	23
MV-011	36,176	1,549	14,499	127,412	12
MV-012	—	—	135,678	1,192,253	111
MV-013	15,979	2,032	17,640	155,011	14
MV-014	51,404	5,319	64,643	568,045	53
MV-015	50,266	3,424	38,061	334,457	31
MV-016	46,873	1,998	19,333	169,883	16
MV-017	50,691	4,861	57,998	509,648	47
MV-018	—	—	7,458	65,534	6
MV-019	—	—	32,914	289,230	27
MV-020	—	—	127,172	1,117,509	104
MV-021	34,602	5,021	135,678	1,192,253	111
MV-022	—	—	24,166	212,353	20
MV-023	60,143	37,050	195,351	1,716,621	159
MV-024	47,781	7,746	96,059	844,105	78
MV-025	50,727	4,177	48,936	430,016	40
MV-026	50,691	4,994	60,414	530,884	49
MV-027	34,085	5,571	25,297	222,296	21
MV-028	38,070	8,557	42,162	370,494	34
MV-029	51,067	12,781	166,139	1,459,930	135
MV-030	50,727	4,177	50,144	440,633	41
MV-031	47,412	2,996	32,020	281,368	26
MV-032	51,667	5,692	69,476	610,516	57
MV-033	47,412	2,996	32,624	286,677	27
MV-034	47,411	2,872	31,415	276,059	26

Table 6.17-4: Cumulative Transportation Fuel Consumption (Annual Average)

	Construction		Operational		
Project ID	Diesel Gallons	Gasoline Gallons	Diesel Gallons	Gasoline Gallons	Natural Gas (MMBTU)
MV-035	36,176	1,549	15,104	132,721	12
MV-036	—	—	26,234	230,529	21
MV-037	—	—	525,539	4,618,116	428
MV-038	—	—	178,118	1,565,188	145
MV-039	—	—	656,655	5,770,280	535
MV-040	34,737	6,168	47,221	414,949	38
MV-041	108,981	76,567	695,873	6,114,908	567
MV-042	65,692	24,084	214,209	1,882,337	175
MV-043	—	—	180,695	1,587,833	147
MV-044	98,367	57,085	532,405	4,678,444	434
MV-045	34,906	4,164	118,131	1,038,058	96
MV-046	—	—	183,461	1,612,143	150
MV-047	35,907	1,179	9,666	84,941	8
MV-048	—	—	1,168,682	10,269,659	953
MV-049	—	—	1,228,159	10,792,302	1,001
MV-050	—	—	145,617	1,279,596	119
MV-051	—	—	315,736	2,774,495	257
MV-052	—	—	360,733	3,169,903	294
MV-053	—	—	599,891	5,271,472	489
MV-054	120,158	90,395	834,088	7,329,455	680
MV-056	35,907	1,179	9,666	84,941	8
MV-057	46,874	2,245	22,353	196,427	18
MV-058	—	—	4,833	42,471	4
MV-059	50,266	3,424	38,061	334,457	31
MV-060	50,987	4,665	55,581	488,413	45
MV-061	42,739	8,133	244,071	2,144,749	199
MV-062	58,776	24,816	328,050	2,882,698	267
MV-063	49,658	10,493	133,516	1,173,253	109
MV-064	50,986	4,427	52,560	461,869	43
MV-065	34,085	5,439	24,360	214,063	20
MV-066	53,112	23,199	117,585	1,033,266	96
MV-067	48,047	7,746	97,267	854,723	79
MV-068	43,801	12,032	67,341	591,750	55
MV-069	—	—	133,194	1,170,430	109
MV-070	52,840	22,315	112,900	992,100	92
MV-071	34,084	5,174	22,955	201,713	19
MV-072	30,418	2,729	11,243	98,798	9
MV-073	38,339	9,183	44,973	395,193	37
MV-074	48,543	17,378	44,754	393,270	36
MV-075	168,241	261,706	345,955	3,040,040	282
MV-076	51,807	12,950	422,559	3,713,191	345
MV-077	72,693	28,602	218,748	1,922,224	178
MV-078	—	—	213,413	1,875,341	174
MV-079	51,814	19,833	176,128	1,547,704	144
MV-080	31,956	2,299	60,069	527,846	49
MV-081	—	—	335,939	2,952,024	274
MV-082	—	—	239,956	2,108,589	196
MV-083	—	—	146,106	1,283,887	119
MV-084	—	—	41,032	360,563	33
MV-085	40,724	6,380	189,833	1,668,138	155
MV-086	—	—	42,894	376,927	35
MV-087	34,375	6,243	28,108	246,996	23
MV-088	15,044	1,456	5,622	49,399	5
MV-089	15,044	1,456	5,622	49,399	5
MV-090	15,041	597	9,912	87,101	8

Table 6.17-4: Cumulative Transportation Fuel Consumption (Annual Average)

	Construction		Operational		
Project ID	Diesel Gallons	Gasoline Gallons	Diesel Gallons	Gasoline Gallons	Natural Gas (MMBTU)
MV-091	50,986	4,427	52,560	461,869	43
MV-093	—	—	52,468	461,059	43
MV-094	56,890	24,579	124,612	1,095,015	102
MV-095	42,451	7,868	237,292	2,085,172	193
MV-096	50,823	4,199	47,123	414,089	38
MV-097	49,390	10,247	129,287	1,136,091	105
MV-098	35,907	1,179	9,666	84,941	8
MV-099	38,339	9,183	44,973	395,193	37
MV-100	51,486	18,048	90,883	798,620	74
MV-101	15,041	597	12,204	107,237	10
MV-102	34,603	5,311	49,392	434,031	40
MV-103	42,935	10,820	75,515	663,582	62
MV-104	52,082	20,090	179,022	1,573,134	146
MV-105	15,044	1,456	5,622	49,399	5
MV-106	15,044	1,456	5,622	49,399	5
MV-107	29,796	725	5,437	47,780	4
MV-108	14,732	313	4,031	35,424	3
MV-109	147,517	99,569	667,578	5,866,264	544
MV-110	34,375	6,243	28,108	246,996	23
MV-111	30,107	1,872	7,495	65,866	6
MV-112	15,055	1,747	7,027	61,749	6
MV-113	47,191	6,919	86,997	764,472	71
MV-114	14,732	455	7,729	67,917	6
MV-115	14,732	313	14	119	0
MV-116	36,176	1,549	15,104	132,721	12
MV-117	32,267	3,304	30,576	268,686	25
MV-118	29,796	725	5,437	47,780	4
MV-119	46,873	2,121	21,145	185,809	17
MV-120	43,314	8,541	256,980	2,258,182	210
MV-121	14,732	455	5,900	51,843	5
MV-123	15,359	881	18,983	166,814	15
MV-124	40,724	6,380	189,833	1,668,138	155
MV-125	30,418	2,729	11,243	98,798	9
MV-126	50,003	11,043	141,974	1,247,576	116
MV-127	50,475	18,335	163,175	1,433,883	133
MV-129	113,312	82,271	648,447	5,698,151	529
MV-130	45,286	12,195	106,473	935,619	87
MV-131	107,750	78,093	719,869	6,325,767	587
MV-132	95,297	56,598	527,904	4,638,896	430
P-001	—	—	82,768	727,311	67
P-002	—	—	287,948	2,530,307	235
P-003	—	—	221,864	1,949,601	181
P-004	42,359	10,148	70,590	620,305	58
P-005	66,230	24,835	220,760	1,939,902	180
P-006	77,321	32,120	246,246	2,163,855	201
P-007	99,537	61,196	488,330	4,291,141	398
P-008	46,187	13,201	98,909	869,148	81
P-009	79,203	34,373	208,768	1,834,521	170
P-010	—	—	815,852	7,169,202	665
P-011	—	—	398,347	3,500,430	325
P-012	65,961	24,464	186,362	1,637,634	152
P-014	102,254	61,689	575,895	5,060,613	470
P-015	—	—	374,723	3,292,836	306
P-016	—	—	628,686	5,524,503	513
P-017	—	—	278,349	2,445,963	227

Table 6.17-4: Cumulative Transportation Fuel Consumption (Annual Average)

	Construction		Operational		
Project ID	Diesel Gallons	Gasoline Gallons	Diesel Gallons	Gasoline Gallons	Natural Gas (MMBTU)
P-018	—	—	742,425	6,523,974	605
P-019	—	—	334,787	2,941,903	273
P-020	—	—	418,244	3,675,270	341
P-021	—	—	81,585	716,920	67
P-022	52,350	20,460	182,367	1,602,528	149
P-023	42,648	10,555	86,384	759,092	70
P-024	109,516	77,315	702,592	6,173,948	573
P-025	97,333	56,895	498,149	4,377,431	406
P-026	90,377	43,292	333,096	2,927,047	272
P-027	—	—	414,645	3,643,642	338
P-028	80,280	35,885	274,974	2,416,305	224
P-030	57,182	22,579	297,238	2,611,947	242
P-031	36,614	7,588	35,135	308,745	29
P-032	77,768	26,351	871,877	7,661,519	711
P-033	284,116	250,456	1,123,706	9,874,435	916
P-034	184,333	166,949	1,519,815	13,355,199	1,239
P-035	31,042	4,302	18,739	164,664	15
P-036	199,973	182,238	1,722,889	15,139,688	1,405
P-037	—	—	110,558	971,517	90
P-038	—	—	134,724	1,183,870	110
P-039	83,717	41,903	376,108	3,305,002	307
P-040	51,931	5,934	73,705	647,678	60
P-041	41,207	8,803	61,454	540,019	50
P-042	47,680	3,253	36,853	323,839	30
P-043	47,680	3,129	34,436	302,604	28
P-044	38,338	8,937	44,036	386,960	36
P-045	36,614	7,588	35,135	308,745	29
P-046	55,398	38,815	101,584	892,661	83
P-047	57,979	23,819	314,758	2,765,904	257
P-048	50,822	3,944	45,311	398,163	37
P-049	51,667	5,692	68,872	605,207	56
P-050	34,597	3,880	108,476	953,222	88
P-051	46,873	2,121	21,145	185,809	17
P-052	50,727	4,177	49,540	435,325	40
P-053	48,047	7,746	97,267	854,723	79
P-054	50,003	11,175	143,786	1,263,503	117
P-055	70,577	18,567	610,178	5,361,871	497
P-056	15,042	881	4,044	35,538	3
P-057	16,598	2,750	19,988	175,645	16
P-058	52,083	20,336	122,919	1,080,139	100
P-059	50,004	11,419	146,807	1,290,047	120
P-060	14,732	455	6,102	53,619	5
P-061	—	—	167,969	1,476,012	137
R-001	—	—	1,082,613	9,513,334	883
R-002	—	—	279,680	2,457,653	228
R-003	—	—	267,594	2,351,454	218
R-004	52,296	20,063	101,189	889,185	82
R-005	76,397	26,843	847,986	7,451,581	691
R-006	36,615	7,863	36,072	316,978	29
R-007	32,572	2,731	76,070	668,459	62
R-008	36,451	3,806	8,761	76,989	7
R-009	854,784	698,839	11,902,028	104,587,698	9,703
R-010	15,669	1,315	31,953	280,783	26
R-011	52,896	18,460	268,185	2,356,641	219
R-012	32,881	3,015	83,225	731,333	68

Table 6.17-4: Cumulative Transportation Fuel Consumption (Annual Average)

	Construction		Operational		
Project ID	Diesel Gallons	Gasoline Gallons	Diesel Gallons	Gasoline Gallons	Natural Gas (MMBTU)
R-013	14,732	455	1,812	15,927	1
R-014	14,732	455	5,231	45,969	4
R-015	48,316	8,248	103,729	911,506	85
R-016	14,732	313	922	8,100	1
R-017	57,160	25,330	128,828	1,132,064	105
R-018	871,072	942,530	3,709,210	32,594,251	3,024
R-019	34,086	5,703	25,766	226,413	21
R-020	109,516	77,192	701,368	6,163,190	572
R-021	32,921	1,143	9,062	79,633	7
R-022	29,796	725	5,437	47,780	4
R-023	15,041	597	10,900	95,787	9
R-024	1,469,035	1,788,690	3,020,715	26,544,180	2,463
R-025	52,026	19,302	97,441	856,252	79
R-026	116,224	79,217	1,064,889	9,357,592	868
R-027	14,732	455	4,906	43,109	4
R-028	52,307	12,308	31,730	278,826	26
R-029	14,732	455	5,146	45,218	4
R-030	44,177	9,345	282,804	2,485,112	231
R-031	30,730	3,877	16,865	148,198	14
R-032	15,669	1,315	30,200	265,377	25
R-033	30,728	3,303	14,054	123,498	11
R-034	15,042	1,030	7,154	62,862	6
R-035	38,341	9,686	47,784	419,893	39
R-036	34,375	6,375	29,045	255,229	24
R-037	14,732	455	8,136	71,492	7
R-038	14,732	455	4,746	41,703	4
R-039	54,524	18,483	242,865	2,134,152	198
R-040	14,732	313	3,254	28,597	3
R-041	15,670	1,599	13,597	119,482	11
R-042	60,107	27,296	361,277	3,174,684	295
R-043	47,411	2,749	30,207	265,442	25
R-044	14,732	455	5,424	47,661	4
R-045	16,597	2,466	22,308	196,032	18
R-046	46,873	2,121	21,654	190,285	18
R-047	35,047	6,742	51,702	454,325	42
R-048	34,289	3,732	102,103	897,220	83
R-049	52,395	28,492	73,406	645,046	60
R-050	29,794	441	2,315	20,346	2
R-051	14,732	313	3,201	28,132	3
R-052	46,873	1,998	19,333	169,883	16
R-053	36,443	1,806	17,520	153,956	14
R-054	36,176	1,549	15,104	132,721	12
R-055	36,175	1,426	12,083	106,177	10
R-056	40,343	7,866	77,029	676,881	63
R-057	42,359	10,148	70,433	618,920	57
R-058	14,732	313	3,723	32,719	3
R-059	14,732	455	5,492	48,257	4
R-060	35,529	6,310	79,970	702,724	65
R-061	57,297	17,591	576,886	5,069,316	470
R-062	14,732	313	2,483	21,817	2
R-063	30,417	2,446	9,838	86,449	8
R-064	29,794	441	3,021	26,544	2
R-065	47,681	3,376	37,457	329,148	31
R-066	15,040	455	8,339	73,279	7
RC-001	232,273	169,005	755,783	6,641,354	616

Table 6.17-4: Cumulative Transportation Fuel Consumption (Annual Average)

	Construction		Operational		
Project ID	Diesel Gallons	Gasoline Gallons	Diesel Gallons	Gasoline Gallons	Natural Gas (MMBTU)
RC-002	394,126	358,691	1,208,286	10,617,672	985
RC-003	831,089	916,704	2,061,336	18,113,748	1,681
RC-005	127,311	67,813	453,107	3,981,627	369
RC-006	75,918	32,116	472,355	4,150,763	385
RC-007	111,699	82,645	761,451	6,691,164	621
RC-009	100,314	62,171	401,338	3,526,710	327
RC-010	314,831	323,833	2,544,538	22,359,835	2,074
RC-011	85,061	43,415	390,649	3,432,783	318
RC-012	54,226	22,718	173,876	1,527,916	142
RC-013	57,446	22,701	300,259	2,638,491	245
RC-014	58,125	30,342	149,909	1,317,311	122
RC-015	47,191	6,919	85,788	753,855	70
RC-017	15,041	597	12,583	110,574	10
RC-018	32,921	1,143	9,062	79,633	7
RC-019	32,264	2,589	71,592	629,102	58
RC-020	14,732	313	3,797	33,363	3
RC-021	15,041	739	3,839	33,737	3
RC-022	46,927	6,424	79,143	695,458	65
RC-023	32,265	3,446	21,526	189,157	18
RC-024	43,224	11,228	78,307	688,113	64
RC-025	33,812	5,310	34,885	306,546	28
RC-026	14,732	313	1,208	10,618	1
RC-027	42,936	11,085	77,445	680,539	63
RC-028	14,732	455	7,593	66,726	6
RC-029	15,041	597	11,040	97,014	9
RC-030	104,845	64,722	604,234	5,309,638	493
RC-031	42,648	10,555	74,120	651,320	60
RC-032	125,718	65,841	438,608	3,854,215	358
RC-033	54,256	17,741	231,991	2,038,593	189
RC-034	55,586	19,855	260,990	2,293,417	213
RC-035	635,794	688,311	1,771,321	15,565,275	1,444
RC-036	56,649	21,461	282,739	2,484,535	231
RC-037	59,308	25,680	339,528	2,983,566	277
RC-038	123,845	94,836	875,246	7,691,120	714
RC-039	47,142	2,368	23,562	207,045	19
RD-001	—	—	49,540	435,325	40
RD-002	—	—	33,228	291,986	27
RD-003	50,958	5,240	62,227	546,810	51
RD-004	50,544	3,680	40,478	355,692	33
RD-005	—	—	240,245	2,111,128	196
RD-006	31,956	2,447	65,389	574,602	53
RD-007	36,757	6,028	173,217	1,522,128	141
RD-008	37,800	7,685	37,477	329,328	31
RD-009	31,956	2,299	59,393	521,913	48
RD-010	40,919	8,671	59,614	523,851	49
RD-011	32,572	2,731	75,208	660,880	61
RD-012	—	—	288,565	2,535,734	235
RD-013	—	—	486,152	4,272,001	396
RD-014	—	—	370,493	3,255,661	302
RD-015	—	—	203,003	1,783,866	166
RD-016	—	—	343,009	3,014,156	280
SB-001	—	—	294,824	2,590,730	240
SB-002	—	—	150,438	1,321,959	123
SB-003	—	—	284,858	2,503,161	232
SB-004	—	—	373,190	3,279,362	304

Table 6.17-4: Cumulative Transportation Fuel Consumption (Annual Average)

	Construction		Operational		
Project ID	**Diesel Gallons**	**Gasoline Gallons**	**Diesel Gallons**	**Gasoline Gallons**	**Natural Gas (MMBTU)**
SB-005	—	—	135,335	1,189,244	110
SB-006	—	—	260,582	2,289,831	212
SB-007	46,873	2,121	20,541	180,500	17
SB-008	47,142	2,368	24,166	212,353	20
SJ-001	126,588	66,774	2,275,619	19,996,740	1,855
SJ-002	52,396	14,895	193,930	1,704,136	158
SJ-003	59,839	26,422	350,403	3,079,125	286
SJ-004	60,638	27,916	370,340	3,254,316	302
Total Cum.	**23,156,749**	**14,740,889**	**118,637,945**	**1,042,517,233**	**96,722**
Net Project	**1,553,812**	**54,103**	**45,345**	**30,327**	**821,523**
Total	***24,710,561***	***14,794,992***	***118,683,290***	***1,042,547,560***	***918,245***
County/SoCalGas	275,000,000	1,052,000,000	275,000,000	1,052,000,000	873,793,575
%County/SoCalGas	9%	1%	43%	99%	0.11%

Source: ESA, 2019

Buildout of the Project and cumulative projects in the region would be expected to increase overall VMT; however, the effect on transportation fuel demand would be minimized by future improvements to vehicle fuel economy pursuant to federal and state regulations. By 2025, vehicles are required to achieve 54.5 mpg (based on USEPA measurements), which is a 54 percent increase from the 2012-2016 standard of 35.5 mpg. As discussed in detail in Section 4.07, *Greenhous Gas Emissions*, the Project would be consistent with the 2016 RTP/SCS for the region. Cumulative projects would need to demonstrate consistency with the goals in the 2016 RTP/SCS and incorporate project design features or mitigation measures as required under CEQA, which would also ensure cumulative projects contribute to transportation energy efficiency.

According to the USEIA's International Energy Outlook 2016, the global supply of crude oil, other liquid hydrocarbons, and biofuels is expected to be adequate to meet the world's demand for liquid fuels through 2040.[3] CARB's analyses and the State's 2017 Climate Change Scoping Plan show a 45 percent decrease in fossil fuel demand by 2030.[4] The State's Mobile Source Strategy aims to displace fossil fuel reliant vehicles with 1.5 million zero emission vehicles (ZEVs) by 2025 and 4.2 million ZEVs by 2030.[5] Considering the State's goals of displacing transportation fuels, overall fossil fuel use will decrease and the current refining capacity would be sufficient to support the demand of the Project and cumulative projects. The Project's annual gas and diesel consumption from construction would represent approximately 0.57 percent of County diesel sales and 0.005 percent of County gasoline sales in 2018.[6] Cumulative construction consumption for diesel and gasoline would result in 25 million gallons of diesel and 15 million gallons of gasoline representing approximately 9 percent of county diesel and 1 percent of county gasoline respectively. The Project's annual gas and diesel consumption from operational activities would represent approximately 0.02 percent of county diesel sales and 0.003 percent of county gasoline sales in 2018.[7] Cumulative construction operational consumption for diesel and gasoline would result in 119 million gallons of diesel and 1,043 million

[3] EIA, International Energy Outlook 2016, https://www.eia.gov/outlooks/ieo/pdf/0484(2016).pdf; Accessed April 2018.

[4] CARB, *California's 2017 Climate Change Scoping Plan: The strategy for achieving California's 2030 greenhouse gas target*, November, 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf; Accessed May 2018.

[5] CARB, *California's 2017 Climate Change Scoping Plan: The strategy for achieving California's 2030 greenhouse gas target*, November, 2017, https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf; Accessed May 2018.

[6] California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2018. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed September 2019. Diesel is adjusted to account for retail (52%) and non-retail (48%) diesel sales.

[7] California Energy Commission, California Retail Fuel Outlet Annual Reporting (CEC-A15) Results, 2018. Available at: https://ww2.energy.ca.gov/almanac/transportation_data/gasoline/piira_retail_survey.html. Accessed September 2019. Diesel is adjusted to account for retail (52%) and non-retail (48%) diesel sales.

gallons of gasoline representing approximately 43 percent of county diesel and 99 percent of county gasoline respectively. The Project's transportation fuel consumption from construction and operations consists of 0.14 percent of the total overall cumulative consumption of projects listed in Table 6.17-4 (total consumption of cumulative projects plus the proposed Project). Therefore, as the Project would incorporate land use characteristics consistent with state goals for reducing VMT and would represent a small fraction of transportation sales, the Project would not have a cumulatively considerable impact related to transportation energy, and impacts would be less than significant.

Conclusion

The cumulative condition related to the wasteful, inefficient, and unnecessary consumption of energy during construction or operation does not reflect a significant adverse cumulative impact. As detailed above, the Project's incremental contribution to the cumulative condition would not cause or contribute to a significant impact. Accordingly, the Project would not result in cumulative environmental impacts related to energy consumption, supply, energy standards and expansion of facilities, and the cumulative energy impacts would be less than significant.

Significance Level Before Mitigation: Less than significant impact.

Mitigation Measures: No mitigation measures required.

Significant Level After Mitigation: Less than significant impact.

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